

PART 3: SCOPE OF WORK

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C3.1: EMPLOYER'S WORKS INFORMATION

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1 Description of the works

1.1 Executive overview

Put yourself in the position of the *Contractor's* senior management who need a high level overview of what is involved – the scope of work - so that they can decide when tendering whether they have the resources and capability to undertake the work. Include a description of the different services and disciplines of work involved within the *works* and the location where most of the work will be carried out

Kendal Power Station is currently in the process of replacing all boiler, passenger, goods and auxiliary bay lifts in all its 6 units. The goods lifts are used to lift equipment from the ground floor to any other floor for maintenance or replacement purposes. Each lift takes roughly 4 months to install. These new hoists will be used during the lift replacement project as well as after the replacement project, to lift goods between the different elevations. Similar hoists are installed at Majuba Power Station. Kendal will procure and install 6 (six) 5 tonne hoists derated to a maximum of 3.5 tonne in all the units as a means to ensure maintenance and outage personnel are still able to work while the goods lifts are down.

1.2 Employer's objectives and purpose of the works

Provide an outline of the *Employer's* business case for the delivered project / contract. Describe the purpose of the *works* in such a manner that a legal test of 'fitness for purpose' can be applied in the event of any dispute about overall performance of the *works*.

1.3 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Works Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
COTS	Commercial Off-The-Shelf
CRA	Concept Release Approval
DRA	Definition Release Approval
ERA	Execution Release Approval
FRA	Finalisation Release Approval
OEM	Original Equipment Manufacturer
PARICS	Participate, Accountable, Responsible, Inform, Consult, Sign-Off
RACI	Responsibility, Accountability, Consult and Inform
SHE	Safety, Health and Environmental
SRD	Stakeholders Requirements Definition
EDWL	Engineering Design Work Lead
ISO	International Standards Organisation

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LDE	Lead Design Engineer
OHS	Occupational Health and Safety
PS	Power Station
ROC	Required Operational Capability
SANS	South African National Standards
SWL	Safe Working Load

2 Management and start up.

2.1 Management meetings

The *conditions of contract* (e.g. Clause 16.2) require and other sections of the Works Information (e.g. safety risk management) may require (mandate) that a meeting shall be held. However the intention of all NEC contracts is that the Parties and their agents use the techniques of partnering to manage the contract by holding meetings designed to pro actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both Parties.

Depending on the size and complexity of the *works*, it is probably beneficial for the *Project Manager* to hold a weekly risk register meeting (Clause 16.2). This could be used to discuss safety, compensation events, subcontracting, overall co-ordination and other matters of a general nature. Separate meetings for specialist activities such as programming, engineering and design management, may also be warranted.

Describe here the general meetings and their purpose. Provide particulars of approximate times, days, location, and attendance requirements, stipulating that attendees shall have the necessary delegated authority to make decisions in respect of matters raised at such meetings.

The right to hold specialist meetings should be stated generically and in such a way that ambiguity with other parts of the Works Information is avoided.

The following text could be used as a model for this section:

- a) From the starting date until Completion of the whole of the works the Project Manager convenes and chairs a progress meeting on a daily basis or at such frequency as is deemed appropriate and mutually agreed with the Contractor. The Contractor is represented each meeting by the appropriate members of the staff. The venue for these meetings is as determined by the Project Manager.
- b) The Project Manager and the Contractor schedules meetings to discuss and resolve any technical or commercial matters on an as required basis.
- c) 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 are submitted to the Project Manager by the person convening the meeting within two (2) days of the meeting.
- d) All meetings are recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register is not used for confirming actions or instructions under the contract as these are done separately by the person identified in the conditions of contract to carry out such actions or instructions.
- e) Any action of the Project Manager, Supervisor, Contractor and Adjudicator implied in the minutes of meetings with contractual implications is confirmed by a separate communication given in accordance with this Works Information and NEC.
- d) The Contractor reports current the overall progress and as a minimum requirement, the following is addressed:
 1. Contractor's current activity progress and planned finish dates
 2. Contractor's to report on all items listed in the NEC core clause, 31.
 3. Contractor's and Project Manager's programme agenda compared for delays and milestones targets
 4. Current and projected manpower by class
 5. Health, safety and quality Management
 6. The progress of any other relevant activities
 7. To discuss any technical or commercial issues
 8. Procurement Process

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9. Problem areas or concerns

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

Title or purpose	Approximate time or interval		Location	Attendance by:
Planning meetings (including integration meetings with Others)	Within one week of contract start date		Kendal Power Station	<i>Employer, Contractor/s Planners and Others as determined by the Project Manager.</i>
Outage progress and feedback meeting	Daily		Kendal Power Station	<i>Employer, Contractor, Supervisor and Others as determined by the Project Manager.</i>
Risk register and compensation events	Bi-Weekly		Kendal Power Station	<i>Employer, Contractor, Supervisor, Contractor Manager and Others as determined by the Project Manager and Site Managers</i>
Kendal Contractor's Safety meetings	Fortnightly		Kendal Power Station	<i>Employer, Contractor, Supervisor, Safety Officer and Others as determined by the Project Manager and Site Managers</i>
Payment Assessment Meetings	Monthly		Kendal Power Station	<i>Employer, Contractor, Supervisor, Quantity Supervisors and Others as determined by the Project Manager and Site Managers</i>
Quality Meetings	Bi-weekly or as determined by Project Manager		Kendal Power Station	<i>Employer, Contractor, Supervisor, System Engineer, Quality Officer and Others as determined by the Project Manager and Site Managers</i>

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**2.2 Documentation control**

Specify how documentation will be identified with an alpha numeric which indicates source, recipient, communication number etc. Provide details of any particular format or other constraints; for example that 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. State any particular routing requirements but note from ECC who issues what to whom.

a) All communication is routed via the Project Manager. All contractual documentation bears the contract number. Email is accepted as a means of communication but all contractual communications are in the form of properly compiled NEC letters or forms attached to emails and not as a message in the email itself.

b) All correspondence between the Contractor and the Project Manager follows the following rules:

- 1) All letters bears the sender's signature.
- 2) Letters follows the numbering scheme described in point 8.
- 3) Correspondence sent via E-mail:

1.2 Sender

1.1.1. The letter is saved in PDF format and send as an attachment to the receiver.

1.1.2. The email Subject field contains only the doc reference number as described in point 8.

1.1.3. The e-mail body may contain informal text but is not contractually binding.

1.1.4. Only the letter saved in PDF format is regarded as formal communication and legally binding

1.2 Receiver

1.2.1. The receiver replies to the e-mail received, ensuring that the complete message from the sender is included in the message as an attachment. This attachment includes the Letter in PDF format.

1.2.2. In his reply the receiver includes the following text on the first line of the Message

Body: "Acknowledgement of receipt". This acknowledgement of receipt is contractually binding and serves as proof that the letter was delivered to the receiver's address (Core Clause 13.2).

1.2.3. When a reply to a letter is required, e.g. "Acceptance of documentation" the receiver now becomes the sender and the procedure under for 3.1 and 3.2 is followed with the receiver writing a new letter with a new reference number as described under point 8

4) Correspondence delivered by hand:

4.1. Sender - The sender prepares the letter with a space for the receiver to sign and date acknowledgement of acceptance. The sender signs the letter and prepares two copies of the letter for delivery.

4.2. Receiver - The receiver signs both copies of the letter upon receipt and returns a signed and dated copy to the sender.

5) Correspondence by fax:

5.1. Sender – The sender prepares the letter with a space for the receiver to sign and date acknowledgement of acceptance. The sender signs the letter and sends it to the receiver by fax.

5.2. Receiver - Upon receipt, the receiver signs and dates the letter and returns it to the sender by fax, acknowledging receipt.

6) Drawings and other technical document transmittals

6.1. Transmittals are numbered as described in point 8.

6.2. The same procedure as for letters described under point 4 is followed for transmittals

7) All correspondence not transmitted with one of the methods described above will be deemed as informal communication and not contractually binding. Only when a correspondence has been acknowledged for receipt by the receiver by way of points 3.2, 4.2 or 5.2 will it be deemed contractually binding.

2.3 Health and safety risk management

In addition to the requirements of the laws governing health and safety, Eskom may have some additional requirements particular to the *works* and the Working Areas for this contract. The text below provides for these being attached as an Annexure to this Works Information. PLEASE ALSO READ CORE CLAUSE 27.4 TOGETHER WITH Z7 IN THE ADDITIONAL CONDITIONS OF CONTRACT TO MAKE SURE THAT WHATEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.

The Divisional/Regional Safety Risk Manager or his representative having jurisdiction over the *works* must provide the relevant safety, health and environmental (SHE) criteria for incorporation into this Works Information. The SHE specification / scope must be signed off by the Divisional/Regional Safety Risk Manager or his representative confirming that the applicable safety criteria have been taken into account.

The Commodity Manager / Buyer must refer the tender to the Divisional/Regional Safety Risk Manager or his representative in order to evaluate against enquiry-specific safety criteria.

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The Divisional Safety Risk Managers who will be responsible for the allocation of resources to assist P&SCM with the above processes are as follows:

- Generation: Roley McIntyre
- Transmission: Tony Patterson
- Distribution: Alex Stramrood
- Enterprises: Jace Naidoo
- Corporate: Kerseri Pather

The Contractor shall comply with the following health and safety requirements:

- Occupational health and safety Act and Regulations
- Kendal P/Station Health & Safety for Contractors Work Instruction 1015696
- Eskom construction for Safety health and environmental procedure 32-136
- Compensation for occupational injuries and diseases Act
- Eskom SHEQ Policy 32-727
- Eskom life-saving rule procedure 240-62196227
- Eskom incident management procedure 32-95
- Vehicle and driver safety management procedure 32-93
- Eskom vehicle safety spec 32-345
- All Eskom procedures that are applicable to the scope of work
- All applicable SANS codes relevant to the scope of work

The Contractor/Supplier shall, at all times comply with the Employer's health and safety and legal requirements as amended for the duration of the contract. In addition, the Contractor/Supplier shall comply with the requirements contained in the SHE Specification. The Employer reserves the right to terminate the contract in the event that the contractor/supplier has built up a history of poor performance or non-conformance in relation to matters or aspects of compliance with health and safety regulations, policies and/or procedures

2.4 Environmental constraints and management

Describe or cross refer to environmental constraints applicable to the *Contractor's* design and his activities on Site and how they should be managed. Include here or cross refer to an Annexure to the Works Information.

The service provider must comply with the following:

- Ensure that there is zero liquid discharge
- No chemicals dumped into the station
- No oil or waste will be dumped on or on the premises
- Ensure that no waste is dumped on an unauthorised area or unlicensed waste site
- Ensure that no materials or waste is burned on site. Hazardous substances shall be handled and stored according to the hazardous substances Act no 15 of 1973. No effluent shall be discharged into the public streams
- Ensure that all waste produced must be disposed in a licenced and complying landfill site and proof of disposal must be provided
- Comply with Environmental management work instruction for contractors (*1018332)
- Comply with Kendal Non-conformance, corrective and improvement work instruction (*1017357).
- Comply with Eskom SHEQ Policy
- Comply with Eskom Kendal Waste and recycling work instruction (*1024102)
- Conform to ISO 14001:2015 Environmental Management Systems
- Eskom Environmental incident management procedure (240-133087117)

2.5 Quality assurance requirements

Specify minimum requirements for the *Contractor's* Quality Plan and Work Procedures or provide the *Employer's* Quality Plan if that is to be used. Make sure witness and hold points are identified generally and

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describe any particular requirements for QA outside the *working areas*. Indicate how the *Contractor's* QA documentation is to be submitted for acceptance and any conditions that need to be imposed relating to acceptance. State whether ISO compliance is a condition and if so which ISO standard shall apply.

- The supplier shall complete and sign Form A (Enquiry/Contract/Quality Requirements for QM 58 and ISO 9001).
- The supplier shall submit a valid copy of ISO 9001:2015 **certificate** of a quality management system (The latest applicable revision ISO 9001:2015).
- The supplier shall submit the latest copy of an **internal** and **external** management system audit reports.
- The audit reports must include, if applicable, **nonconformity** identified, and the resulting remedial actions (correction and/ or corrective action reports).
- The supplier shall submit a draft **contract quality plan (CQP)** that is specific to the scope of work as described in the tender documents.
- The supplier shall submit an example of an inspection and test plan (ITP) or quality control plan (**QCP**) on similar as per the scope of work.
- The supplier shall submit documented information for **Control of Externally Provided Processes, Products and Services**.
- The supplier shall submit a copy of documented information for roles, responsibilities and authorities.

2.6 Programming constraints

Describe the programming system (application) to be used if it is necessary to dictate this for project coordination purposes. Read clause 31.2 first then state the work of the *Employer* and Others to be shown on the programme per 4th bullet of clause 31.2 and what additional information (if any) is to go in the programme per the last bullet of clause 31.2. Describe any particular constraints on the order and timing of the work which the *Contractor* must take into account in his programme.

2.6.1 Planning & Programming

- a) The Tenderer shall submit in his tender a detail programme of work, including all stages and clearly indicating milestones and how they intends to complete the work within the given completion period.
- b) The work shall be planned and executed in such a way that there will not be delays of one contractor that are attributable to any other contractor or subcontractor appointed for this project i.e. coordination of plans shall be ensued and maintained at all times, as necessary.

2.6.2 2.6.2 Accepted Programme / project network

- a) The *Contractor* submits a single programme that incorporates the services and work (programmes) of all his Subcontractors. All contractual dates are integrated into the *Contractor's* programme. The programme includes the activities performed by Subcontractor(s), the interface points between different Subcontractor's work, the *Employer's* operations, the work of others as well as the interface points between the *Contractor's* work and the individual Subcontractor's work.
- b) The following reports are required as supporting documentation to the Accepted Programme:
 - i. Time analysis print-out
 - ii. Critical activities report
 - iii. Key event report
 - iv. Resource schedules and histograms
- c) All programmes and reports are computer generated (MS project).
- d) The first Accepted Programme (at the Contract Date) serves as a baseline for the Provision of the Works until the *defects date*. This baseline is shown on all subsequent graphical presentations of revised programmes.
- e) The *Contractor*, with each revision, submits a synopsis of all changes to the Accepted Programme. Each revision is uniquely identified by a revision number, which is agreed with the *Project Manager* prior to submission of the first revised programme.
- f) The *Contractor* assesses the available data and knowledge explicitly. Any technical detail, policies, imposed organisational conditions, contract conditions, specifications, overall programme constraints, resource availability, long delivery items or any other factor of significance to Provide the Works, are considered by the *Contractor* in his planning.

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- g) The *Contractor* provides work planning bar charts and resource schedules as agreed with the *Project Manager*.
- h) The *Contractor* submits a revised program to the *Project Manager* for acceptance at the interval stated in the Contract Data.
- i) The *Contractor* uses Microsoft Project 2010 to perform all his planning.

NB: Programme must be submitted in MS projects

Programme must be submitted and be accepted within two days after Contract award

Programme must be updated daily and Submitted to the Employer

2.6.3 2.6.3 Sequence of the works

- a) Planned sequence of works should be such that no other parties are delayed.

2.6.4 2.6.4 Procurement and Manufacturing Programme

The Contractor is required to submit a procurement and manufacturing programme for review by the Project Manager, which identifies as a minimum:

- a) Details of orders and target dates for placing subcontracts
- Long Lead delivery items
- b) Hold-points and witness-points for inspection and tests for acceptance and release.

This programme is in sufficient detail to enable the work to be adequately tracked and progressed.

2.6.5 2.6.5 Construction Programme

The Contractor is required to submit a construction programme that is resource loaded for review by the Project Manager. This programme includes the following criteria:

- a) Full details of all civil/mechanical/electrical/C&I terminal point release requirements
- b) Identify any erection or commissioning activities that may affect other construction activities
- c) Identify when services are required for commissioning purposes.

This programme meets the requirements of the Contractor and others engaged on the project.

The programme shall be based on the following working hours: where applicable

- a) Twenty four (24) hours per day
- b) Seven(7) days per week
- c) Holidays included as working days
- d) Pay weekends to be negotiated(if working 7 day work week)

The Contractor to take into consideration of permit change, rest period, work stoppage when develop construction programme, and shall no warrant any financial compensation claim lodged against Eskom.

Financial penalties shall be enforced on the main contractors for non-conformance/s(identified for the main contractor and/ or its sub-contractor) pertaining to Eskom and/or Statutory SHE requirement/s.

2.6.6 2.6.6 Commissioning Programme

During the progress of the works, the Contractor develops a detailed commissioning programme with sufficient details to enable the work to be adequately progressed and tracked to meet the commissioning key dates.

Training programme to be incorporated into the commissioning programme.

The commissioning programme is detailed to sub-system level and is fully integrated with the Construction Programme.

2.6.7 2.6.7 Reporting and Data requirements for Contractors Document number 240-83561037

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This specification is included as an Annexure to the Works Information. This specification lists all the data and reporting that must be submitted by the Contractor on a weekly/monthly basis to the Project Manager. The purpose of this information is to implement proper project controls on this project.

2.7 Contractor's management, supervision and key people

State any additional constraining requirements on *Contractor's* supervision and key people that are not already stated in other sections such as for Health and Safety. This section could be used to solicit an organogramme from the *Contractor* showing his people and their lines of authority / communication. This would be essential if the *Contractor* is a Joint Venture.

The Contractor provides the Project Manager with a detailed project organisation structure, showing the roles and responsibilities. It must show clear reporting lines between individuals, including individuals from subcontractors or joint ventures.

- a) The Contractor provides the following key personnel as a minimum
 - i. Dedicated Project manager
 - ii. Dedicated Project Planner
 - iii. Dedicated Site Manager
 - iv. Dedicated Quality Manager
 - v. Dedicated Site Safety Manager
 - vi. The contractor to submit brief CV's and certified copies of qualifications of the above key persons including Supervisors (Welding Supervisors, Welders, Boiler Makers, Artisans, Artisans, and Riggers that are used on this project.
- b) The Contractor submits the project organisation structure to the Project Manager for acceptance within two (2) weeks of the Contract Date.
- c) The Contractor ensures that his workforce is trained and competent to perform their respective duties and that a formal health and safety induction-training programme is provided.
- d) The Contractor's inspection personnel familiarise themselves with the content of the Works Information and the Contractor ensure consistency in interpretation and decision-making.
- e) Any new foremen/supervisors appointed by the Contractor after the starting date or during the project are fully conversant with the details of the Contractor's methodology and communication process in use, prior to accessing the working areas.
- f) The Contractor ensures that the rigging personnel are qualified with operating the chain blocks and handling of other related lifting equipment to ensure personnel safety, productivity and prevention of plant damage.
- g) The Contractor employs, in and about the Provision of the Works, only such persons that are careful, competent and efficient in their several trades and callings.
- h) The Contractor ensures that his co-ordinators and employees are fluent in the language of the contract.
- i) Employer working hours: Monday to Thursday 07h15 to 16h30 and Fridays 07h15 to 12h15.
- j) Abnormal working hours are pre-arranged with the Project Manager.
- k) Kendal emergency preparedness (e.g. evacuation, etc.) procedures are obtained from the Project Manager and adherence by the Contractor and his employees is mandatory.
- m) No recruiting of casual labour is done on the Employer's premises, including the area outside the Kendal Power Station Security gate

2.8 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Service Information. Also include a list of information which is to be shown on an invoice.

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.

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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)

Add procedures for invoice submission and payment (e. g. electronic payment instructions)

2.9 Insurance provided by the *Employer*

First read ECC3 Core Clause 87.1 and then add anything necessary for the management of insurance related issues such as a cross reference to where procedures for making claims can be found. Also provide contact details for persons capable of being able to answer any insurance related queries the *Contractor* may have, as well as to whom the information required by Marine Insurance may be addressed.

There are no additional requirements to the risk and insurance clause in section 8 of the core clauses

2.10 Contract change management

This section is intended to deal with any additional requirements to the compensation event clauses in section 6 of the core clauses; such as the use of standard forms. Not the same thing as documentation control.

The Contract management changes notes depicted below are at all times subjected to NEC3 ECC core clauses 16 and 60 and all clauses referring to the change to the contract. These clauses supersede the notes below:

- Changes to this contract do not automatically grant the Contractor legitimate right to compensation events, claims or proceedings
- Either party may request a contract change provided that such changes are formally communicated prior to implementation
- The Project Manager assesses and documents the potential impact of a proposed contract change before presenting it to the Compensation Events Committee
- The Project Manager has the right to request the Contractor to make reasonable amendments to a contract change request
- The Project Manager has the right to reject a change and specify his reasons
- No proposed contract change will be implemented by the Contractor without prior approval of the Project Manager
- Unless the Project Manager expressly agrees otherwise in writing the Contractor continues to provide the works in accordance with the Works Information and this contract as if the proposed contract change does not apply
- Any discussions, negotiations or other communications which may take place between the Project Manager and Contractor in connection with any proposed contract change, including submission of any change communications is without prejudice to the Employer other rights under this Contract.
- Each party bears its own costs in relation to the preparation and agreement of each change request and impact assessment

Contracts changes executed by any State Owned Enterprise are subjected to control by the Department of National Treasury. The lead-time associated with this department will not justify claim for standing time from the Contractor

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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 & assessments of compensation events to be kept by the Contractor

If Option C, D, E or F applies first read clause 52.2 and then state whether the *Contractor* is required to keep any other records. Include any other constraint which may be required in regard to format and filing of the records, and whether access for the *Project Manager* shall be provided in hard copy or electronically.

Could delete if Options A & B apply unless the *Employer* requires some form of control over the *Contractor's* record keeping.

There are no additional requirements to the compensation event clauses in Section 6 of the core clauses.

2.13 Training workshops and technology transfer

Describe type and frequency of on job training workshops, as well as any obligation for technology transfer being included as part of the contract on Completion of the *works*.

The Contractor provides training on the Plant regarding operating, maintenance and engineering aspects. The Contractor provides training material and a separate training course for operating, maintenance and engineering personnel

3 Engineering and the *Contractor's* design

The content of this section will depend on whether the contract is for construction only with most of the design done by (or for) the *Employer* or whether it is a 'design and construct' contract. ECC provides for design by either Party in any proportion, which proportion done by the *Contractor* must be stated in this part of the Works Information.

3.1 DETAILS OF PLANT

3.1.1 System Description

- 5T hoist derated to 3.5T boiler hoists due to site limitations.

3.1.2 Site Characteristics

The following site characteristics have been identified:

- **Relative Humidity: 10 to 70%**
- **Maximum Ambient Temperature: 53**
- **Minimum Ambient Temperature: 0**
- **Dust Content: High**
- **Altitude: 1 800 [m].**

3.1.3 Required Operating Conditions

Operating Description for Normal Operations:

a. Hoist Start-up

Whenever hoist operation is required, the hoist operator shall switch on the main electrical contact of the hoist by pushing the "on" switch on the wireless controller.

b. Hoist Operation

A trained operator shall operate the hoist via a wireless controller or a pendant. The controller shall control motion in the long travel. There will be no cross travel. The hoist shall also be controlled by the operator via the wireless controller or pendant.

c. Parking the hoist:

The hoist operator shall switch off the hoist, by pushing the "off" switch on the wireless controller and the main electrical contact shall open.

Operating Description for Abnormal Operations:

a. Overload

In the case of overloading the hoist an overload device shall stop all hoist operations except those required to reduce the load. The wireless controller shall indicate that the hoist is overloaded.

b. Moving past limits

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If any component of the hoist moves past its set limits, all hoist motions shall cease and the crane shall switch off. The operator has to manually reset the crane controller after the fault has been fixed to return the crane to normal operations.

Control Room Concept:

The hoists will be controlled and monitored locally. No interface with a control room is required. Each of the hoists will be controlled independently, each on its own wireless frequency. The contractor shall ensure that the new remote controls do not interfere with existing control and instrumentation signals and frequencies in the boiler house area.

3.2 Scope Of work**3.2.1 Scope overview**

1. The Contractor designs, procures or supplies material, manufactures, testing and delivery to site, including transportation, rigging and off-loading at site, installation, site testing, load testing and commissioning of the boiler goods hoists.
2. Contractor provides their own housekeeping and ensures the area in which they are working is kept neat and tidy at all times.
3. Method statements and designs to be developed by the contractor and submitted to Eskom Engineering via the project manager for approval prior to commencement of work.
4. The Contractor ensures that all interfaces whether civil, mechanical or electrical, are fully compatible with the existing plant and systems in use at Kendal Power Station.

3.2.2 Internal Interfaces

The contractor ensures that hoists have the following internal interfaces:

- Hoists will be installed on existing beams.

3.2.3 External interfaces

The contractor ensures that the hoists have the following external interfaces.

- The hoists shall interface with the equipment in the boiler house when in operation.

3.2.4 General Requirements

1. Tenderers shall make themselves thoroughly acquainted with the site conditions under which the work is to be carried out at
2. The Contractor to comply to PSR and life saving rules at all times.
3. The Contractor remains responsible to measure the physical dimensions from site i.e. dimensions of rails and beams.
4. The total mass of the new hoists may not exceed the safe working load of the beam.
5. The contractor ensures that the new hoist components should interface to the existing beams without any modifications necessary.

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6. The *contractor* ensures that the installed comply with the OSHAct: Act 85 of 1993, BS EN 15011, Driven machinery regulations and all relevant standards.

3.3 Design Requirements**3.3.1 Mechanical Design**

The cage shall be a 3X2m cage with a link to link onto the hoist. Contractor shall make sure that the cage does not interfere with any of the existing boiler house structures during lifting or lowering of the cage. The cage is to have a fork lift modification to allow for ease of transportation.

3.3.2 Patform

A platform shall be fitted on top of the hoist area to provide ease of access for maintenance.

3.3.3 Limit Switches

The contractor ensures that the limit switches are adequate to perform the following functions:

- Prevent over travel of the hoist past the limits of the beams
- Prevent over travel past the upper and lower limits of the hoists.

If the hoists are unable to perform one or more of the functions listed above, the contractor is responsible to add additional limit switches to ensure that the hoists are able to perform the above functions as a minimum.

3.3.4 Motors and Gearboxes

Motors and drives to be selected based on boiler house plant conditions as per section 2.1.2

3.3.5 Beams

The existing beams will be used. The contractor ensures, after all the electrical and mechanical components of the hoist have been load tested according to SANS 10375. The load test shall be performed to confirm that the deflection of the structural members of the hoist is within specification and to confirm the performance of the motors and gearboxes of the hoist. After the hoist passed the load test, the hoist shall be certified fit for use by a registered lifting machinery inspector. It is the contractor's responsibility to arrange a registered lifting machinery inspector to certify the hoist.

3.3.6 Brakes

The contractor ensures that the brakes are covered to prevent any dust ingress. Testing of the brakes to be done acroding to the OSHAct. The brakes shall be designed to be failsafe and engage whenever there is a loss of power to the hoists. After the fault has been corrected the operator has to manually reset the hoist controller before continuing with normal operations

3.3.7 Controller

Control box shall be wall mounted next to the power supply board for ease of access during maintenance.

The controller shall control the motions of the hoist. The hoist operator shall communicate with the controller via a remote wireless controller (primary) and interlocked with the pendant.

Each remote control will be kept at the respective control room where a sign in book will be kept. Only authorised hoist drivers will be allowed to sign out the remote. The pendant will be locked to prevent unauthorised use of the hoist. The key to the hoist will be kept at the unit control room.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**3.3.8 Hoist**

New hoist equipment is required to be standard, type-tested and fit for use in the boiler house environment.

The rated SWL of the hoist shall be a maximum of 3.5 Tonnes.

3.3.8.1 Wire Ropes

Wire ropes to comply with SANS 2408. The ropes are required to have a minimum factor of safety of 5 with respect to the lifting capacity of the machine as stated in the Driven Machinery Regulations Part 18.

3.3.8.2 Hook

Hook should allow for a 3X2m cage to be safely hooked onto it. The hook shall be supplied with an NDT test certificate.

3.3.9 Markings

The hoists shall be clearly marked with their rated capacities as specified by BS EN 15011.

The wireless controller and pendant should have corresponding markings to ensure that the lifting and travel direction is known.

3.3.10 Paint

All painted equipment shall have corrosion resistant paint suitable for the Boiler hoist environment in line with the industry standard for hoists.

The *contractor* to ensure that the hoists are clearly marked as per the requirements of BS EN 12644 – 2.

3.3.11 Corrosion Protection

All new equipment shall have corrosion protection according to the Eskom Corrosion Protection Standard for new Indoor and Outdoor Eskom Equipment, Components, Materials and Structures Manufactured from Steel Standard (240-75655504)**Error! Reference source not found..**

3.3.12 Safety Devices**3.3.12.1 Alarms**

An audible alarm shall sound for whenever the hoist is switched on and when movement of the hoist starts in any direction.

3.3.12.2 Load limiter

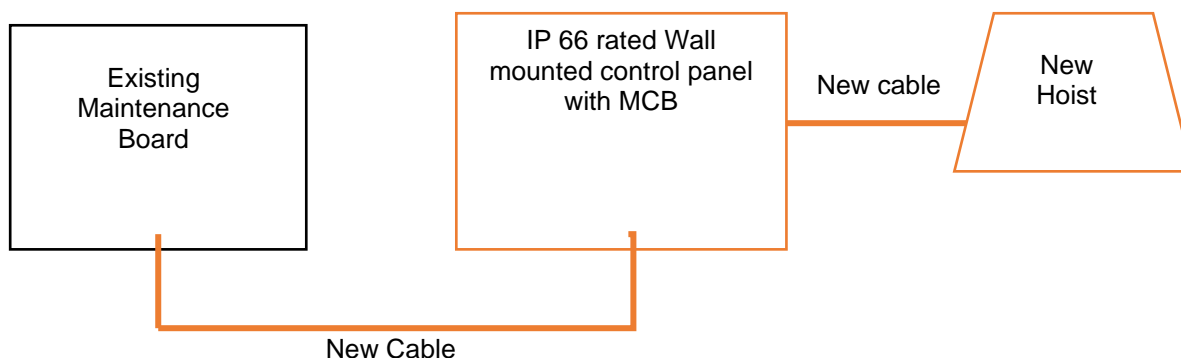
The hoists will have a load limiting device. Whenever the load is more than 100% of the SWL of a hoist, the load limiter will restrict all motions of the hoist to minimum speed only and send a signal to the wireless controller to indicate that the SWL has been exceeded.

Whenever the SWL of a hoist has been exceeded by more than 110%, the load limiter will cause all motions of the hoist to cease except those required to reduce the load. This will be indicated on the wireless controller and an audible alarm will sound.

The load limiter is required to have a test load setting to allow for load testing with test loads of up to 110% of the SWL. Access to the test load setting should be restricted by means of an activation key. All testing is to be done according to the OSHAct.

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3.4 Electrical Design



The new hoists will be supplied from the existing maintenance boards at the 82 meter level. A new distribution board is to be mounted adjacent the existing maintenance board with an MCB installed as in the schematic above. The DB is to have a lockable fusse isolator as per Eskom PSR. A COC must be provided by the contractor for the installation. The main power supply systems to the hoists shall be of a low halogen type as per Eskom Cabling Standard 240-56227443. The connection from the power source to the hoist shall be rated for the capacity required. It shall be durable and rated for the maximum power requirements of the hoisting and cross travel requirements. The hoists will be supplied from the existing boards represented in the table below. Safety clearance for the installation must be done prior to commissioning of the system. Safety clearance will be done by Kendal Electrical Engineering.

Table 1: Point of supply and cable specification

Description	Power Supply (3 Phase + Neutral)			Cable			
		Switch	Isolator	Quantity	Cores	Core Area	Type
Unit 1 Boiler Hoist	1 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC
Unit 2 Boiler Hoist	2 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC
Unit 3 Boiler Hoist	3 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC

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Unit 4 Boiler Hoist	4 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC
Unit 5 Boiler Hoist	5 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC
Unit 6 Boiler Hoist	6 0BFB07 GA501 380V Maintenance Board 81m LVL	32A	32A	1	4	4mm ²	PVC

3.4.1 General

The Contractor ensures:

- The electrical equipment conforms to OHS Act, SANS 7363, SANS 10375, SANS 7752-1, SANS 7752-5 and using BS EN 60204-32 as a guideline should the SANS standards be inadequate. The electrical subsystems adhere to the Eskom standards defined in Appendix A.
- Short circuit, overload, over-current and under-voltage protection exists on all motors;
- Auxiliary circuits are provided with protective devices such as fuses.
- The electrical control equipment is enclosed in an IP66 (minimum) dust proof housing with non-lockable handles.
- All equipment and materials be heavy duty, manufacturer's standard design, suitable for unattended continuous operation, ensuring a high degree of reliability and safe operation
- The hoists shall have an availability of 95%.
- The hoist are capable of intermittent on-off operation as required
- All moving parts of equipment are adequately guarded. Access to lubrication points must be provided without the removal of the guards.
- Measures be taken to prevent slippage during all load conditions including start-up and stopping
- All materials are suitable for their purpose and are in accordance with the relevant specifications
- Provision is made for maintenance access and commissioning activities.

3.4.2 Electric Motors

The Contractor ensures:

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- Motor supply voltage must be 380 V, 3 phase, 50 hertz. The *Contractor* provides all field mounted reticulation. Hoist and travel motors must be totally enclosed, IP 66 minimum, and designed for plugging, instant reversing at full load hoist duty.
- All motors must be designed specifically for hoist duty. All motors be high efficiency motors.

3.4.2.1 Fire Barrier Requirements

Fire barriers are installed wherever electrical cables pass through wall, floors and ceilings, inside low and medium voltage switchboards, transformers, battery chargers, UPSs' which are boundary elements of a specified fire zone. Fire barriers have a fire rating of 2 hours minimum in compliance with the fire resistance criteria for insulation, stability and integrity as specified by recognised testing institutions and their standards.

The *Contractor* ensures that wherever cables pass through holes or slots in floors and walls or enter or leave sleeve pipes in floors or walls; the openings should be sealed with the approved material. This material is domed or slightly raised towards the centre to prevent the accumulation of water or oil in the seal. The sealing material should be water resistant and provides a barrier for smoke and toxic fumes.

Test certificates are provided with fire barriers in accordance with:

- SANS 10177-2: Fire testing of materials, components and elements used in buildings Part 2: Fire resistance test for building elements.
- BS 479, Part 8: 1972, Test methods and Criteria for the Fire Resistance of Building Construction Elements.
- IEEE 634: 1978, Testing for Fire Rated Penetration Seals
- ASTM E814: Fire Test of through Penetration Fire Stops

3.4.3 Labels

The *Contractor* ensures:

All isolating switches, contactors, relays etc., are labelled to correspond with the wiring diagram. The handle positions of all isolating switches to be labelled "on" and "off".

3.4.4 Power Distribution

The *Contractor* ensures:

All components operate at an operating voltage available at the plant i.e. 380V, 230V etc. Should the hoist and auxiliaries operate at a different voltage, the additional converters/inverters are provided to manipulate the bulk supply.

The following requirements are adhered to with respect to power control:

- Isolation means are provided on the hoist for isolating the hoist from the power supply close to the collectors or other means of power pick-up. This takes the form of isolating devices fed in parallel:
 - a) for the motion drives;
 - b) for the auxiliary circuits;

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- c) for the lifting magnet if fitted.

Provision is made for locking each of these isolating devices in the off position.

- Short circuit protection. Short circuit protection is provided at each of the isolator positions.
- Main contactor. A main contactor capable of cutting off the power supply to the motion drives is provided and accessible. This contactor shall be operated from the control position by reset/stop device(s).
- Emergency stop device. An emergency stop device is provided at each control facility to de-energize the main contactor for the motion drives.

3.4.5 Motor Starters and Cabling

The *Contractor* ensures:

All motor starters are to be located inside the control cabinets. The supply of power and control cabling from the motor control cabinets to motors and equipment are done by the *Contractor*.

3.4.6 Earthing

The *Contractor* ensures:

The hoists structure is connected to existing earth mat. The motor frames and metal cases of all electrical equipment including metal conduit and cable guards are bonded to earth or the hoist structure by a protective conductor. The hoist wheels are not used as the means of earthing. Earthing shall be done according to the Eskom Earthing and Lightning Protection Standard (240-56356396).

3.4.7 Corrosion Protection

The Contractor ensures:

- All equipment is adequately protected against corrosion.
- Box sections are painted on the inside and are accessible for maintenance and for inspection. If sections are not accessible, means are provided to prevent penetration of moisture so as to ensure that no corrosion can take place inside the box section.

3.4.8 Documentation

The tender includes submission of the respective system technical schedules and templates which includes:

- 240-56176097: Electrical Cable Schedule Template
- 240-56227927 Electrical Load List Template
- 240-56356421 Electrical LV Switchgear Schedule Template
- 240-56227516: LV Switchgear Cntr Gear Assembly Associated Equipment for Voltage 1000V AC and 1500V Standard - Appendix A – Technical Schedule B
- 240-77301384 Electrical LV Load Schedule Template
- 240-77100923 New LV Motor Technical Schedule AB Template

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- LV VSD Technical Schedule
- 240-56356396: Earthing and Lightning Protection Standard – Appendix A
- Single Line Diagrams

3.5 CIVIL AND STRUCTURAL DESIGN**3.5.1 General**

This section describes the civil and structural technical specification which includes structural design and all necessary interface requirements that are provided by the *Contractor*.

3.5.2 Structural Assessment of the Crane beam

The *Contractor* performs his own site investigations that he considers necessary to assist in the design of his *works*. The *Contractor* identifies and specifies all work and tests to be done. The *Contractor* appoints a competent qualified Professional Engineer/s (professionally registered with ECSA) and experienced in the design of steel structures and crane beams, to be fully responsible and accountable for the design.

The *Contractor* performs a detail design assessment to determine the actual Safe Work Load of the existing crane beams taking into consideration the localized stress on the bottom flange including the connection design of the beam and also performs a feasibility study report including all structural modifications in order to mitigate the risks and concerns mentioned below and ensures that the selected concept can be operated safely and that possible safety hazards are identified and addressed accordingly.

The *Contractor* verifies the proposed hoists for the calculated SWL of the beams and ensures that the chosen hoist is functionally and efficiently located and that it is sized for optimum space usage. The *Contractor* is responsible and accountable for the detailed design of the *works* and is responsible for ensuring that the design satisfies the structural, dynamic, seismic, acoustic, hydraulic, safety and environmental requirements of all permits and statutory obligations, as applicable in South African laws.

3.5.3 Risks and Concerns

The following risks and concerns were identified by Kendal Civil engineering and needs to be addressed and mitigated by the Contractor through a feasibility study report;

- If you lift the cage up, it will clash with the walkway on boiler house.
- Handrail on 82m level will have to be removed in order for cage to pass through. If cage is pulled toward the platform for loading and offloading purposes, it will induce a torsional force on the beam which will need to be catered for.
- The actual method of getting the motor out of the building and onto the grating at the bottom is a concern. There are suggestions of installing a beam on the platform to move the motor, but once you modify platforms there won't be safety platforms to move on.
- In order to lower motor, you have to cut through existing platforms which is a safety risk
- Staircases are in the way, too much congestion in the area.

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The grating platforms are not strong enough to handle the loads from the motor even when dismantled into two or three pieces and will need to be replaced and strengthened accordingly. See drawings in appendix A.

3.5.4 Applicable Standards and guidelines for Civil and Structural Works

All structures are designed in accordance with the 240-56364545- Structural Design and Engineering Standard. The *Contractor* complies with the South African standards for all the works within his scope of Works as well as the standards listed in this document. Where the Eskom standards are limited on information, the *Contractor* is required to use the relevant *SANS standards*.

3.5.5 Procedure for submission and acceptance of Contractor's design

Details and drawings of any civil and structural works which are not expressly included in this Contract but which, in the opinion of the *Contractor*, will be necessary for the completion and proper execution of the project are included by the *Contractor* and submitted to the *Project Manager* for acceptance. The *Contractor* indicates clearly his proposed scope regarding these additional items. The *Contractor* submits the detail design assessment and feasibility study report which are signed by the Professional Engineer to the *Project Manager* for acceptance. The *Contractor* submits the design calculations and drawings of the design which are within this scope of work for review, acceptance and comments by the *Project Manager*.

All calculations within the *Contractor's* scope of works and all drawings are prepared and submitted to the *Project Manager* for acceptance. Calculations are arranged in a logical sequence and include such sketches and annotations as may be required to make them self-explanatory.

Calculations clearly identify the subject of the calculations and include, but are not be limited to the following information:

- a. Project name.
- b. *Contractor's* name.
- c. Contract No.
- d. Date of calculation
- e. Revision No.
- f. Name of the item.
- g. Page No.
- h. Assumptions used for design purposes.
- i. Codes and standards used.
- j. Computer programmes used.
- k. Loading imposed by structures, plant and equipment during the erection, commissioning, operation and maintenance.
- l. Safety factors and combinations of loads used.

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- m. Calculations of all components.
- n. Reference sources (including text books and design manuals used).
- o. Reference to the appropriate drawing.
- p. Selected materials and finishes.
- q. Manufacturer's technical specifications.
- r. All calculations are submitted in electronic format.

The *Contractor* supplies details of the computer programs used and any certification of approval by independent authorities are given for the programs used.

Drawings prepared by the *Contractor* include complete construction details including:

- a. General arrangement layouts.
- b. Layouts and sections of the different components.
- c. Details of Bolted connections and other miscellaneous parts.
- d. Details of the hoist and cage.
- e. Details of the new beams or structures.
- f. Details of the modifications to the Boiler houses.
- g. Reinforcement steel detailing and schedule.
- h. Details of all openings, holding down arrangements, welding and bolted connections etc. required for plant and equipment.

Drawings are signed by the Professional Engineer and are submitted in a format compatible with Bentley MicroStation software.

No construction is started prior to acceptance by the *Project Manager*.

The *Project Manager* requires 14 days for review. The review date however will depend on the amount of work supplied in line with the programme.

3.6 QUALITY AND INSPECTION REQUIREMENTS

1. The *Contractor* exercises strict and adequate quality control during all phases of the work.
2. The *Contractor* prepares suitable quality control plans (QCP's) and Inspection and Test Plans (ITP's) for all work carried out.
3. The Employer, the Inspection Authority, the Employer QC Representative and the *Contractor* reviews these QCP's/ITP's jointly and the actual scope of quality control and inspection required for the Contract agreed upon.
4. The QCP's/ITP's shall be subject to the Employer's approval and shall indicate all inspection and test points, the methods and procedures to be used and the acceptance criteria to be applied.

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5. The Contractor is required to notify the Employer 48 hours in advance of witness and hold intervention points.

3.7 MATERIAL

1. All materials and apparatus that is used for the erection of the installation shall be new and of a good quality. The *Contractor* presents technical information and brochures for equipment and finishes
2. All materials shall be new, undamaged, free of rust or other defects and shall be of the best quality. Materials shall comply with the relevant SANS 50081(1) specifications where applicable.
3. The *contractor* upon the request of the Employer, furnishes him with documentary proof to his satisfaction that the materials are of the quality specified. Samples of materials for testing, if required, shall be supplied by the *Contractor*, free of charge.
4. Where applicable the material and apparatus shall in terms of quality, manufacture testing and performance comply with the relevant specifications of the following:
 - a. *The South African Bureau of Standards (SANS)*
 - b. *Eskom Standards and procedures*
5. Where material or apparatus that are used comply with the standard of any other recognised standards organisation, this should be clearly stated to avoid any ambiguity.
6. The *Contractor* provides a certificate from a recognised bureau of standards (SANS50081) for material that is used in the contract.
7. All exposed equipment and finishes shall be submitted to the Employer for approval in sample form. Samples of all equipment or material shall on request be made available to the Employer before they are installed.

3.8 WORK DONE

1. The *Contractor* is responsible for executing the required work in accordance with this tender specification and shall remain responsible for any discrepancies, errors or omissions of any sort on the submitted data, program, layouts or shop drawings, whether it has been approved or not approved.
2. Deviations from the work shall not be accepted. When the standards of the equipment specified cannot be met in terms of specific design requirements; substitution or alternative equipment may be considered provided that the substituted equipment does not reduce the intended performance, operation, duty-rate, and redundancy and reliability requirements of the specification.
3. Deviations or substituted equipment not clearly shown and detailed in the Deviation Schedule, shall not be considered or accepted and shall not limit the *Contractor's* responsibility to provide equipment in terms of the specification.
4. Should approval for the revised equipment not be obtained from the Employer, the *Contractor* is liable for all costs associated with providing equipment in terms of the specification.

3.9 TOOLS AND SPARES

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1. The *contractor* provides tools and spares as required to install the hoists.
2. The *Contractor* hands over any special tools, equipment, software and commissioning manuals to the Employer as required for maintaining or re-commissioning the hoists if necessary on completion of the project.

3.10 DOCUMENTATION REQUIREMENTS AND CONFIGURATION MANAGEMENT**3.10.1 General****3.10.1.1 Documents Submission**

The *Contractor* submits a comprehensive time schedule for submission of all documentation including drawings, design calculations, schematics, wiring tables/diagrams, manuals, procedures, quality control plans and any other information for the review and acceptance by the Project Manager. This document is referred to as the Vendor Document Submission Schedule (VDSS). As a general rule, all documents are to be submitted as early as possible to allow for comprehensive review. The Contractor submits a hard copy, 1 soft copy in PDF format and 1 native updatable copy. All design documentation is submitted before the commencement of construction, and also red line drawings and documentation is submitted prior to pre-commissioning to enable the Employer to perform the pre commissioning review as per the Employer's design review procedure (240-53113685). All documents are submitted to the centralised Employer's Documentation Centre, as well as the project representative

3.10.1.2 Transmittal

All documentation submitted, by the *Contractor*, is accompanied by an incoming transmittal note. Upon receipt of the transmittal, the Employer signs to indicate acknowledgement of receipt and returns this to the *Contractor*.

3.10.1.3 Email Subject

The email subject shall as a minimum, contain the following:

(Project Name_Discipline_Subject)

3.10.1.4 Format and Layout of Documents

For consistency it is important that all documents used within a specific domain follow the same layout, style and formatting standard.

3.10.1.5 Handover requirements

Contractor is required to handover documentation on the VDSS in such a way that it is compatible with Eskom systems.

3.10.1.6 Drawing and operational manuals requirements

The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of 240-86973501 Engineering drawing Standard. Drawings issued to Eskom will be a minimum of one hardcopy and an electronic copy. All *Contractors* are required to submit electronic drawings in Micro Station (DGN) format, and scanned drawings in pdf format. No drawings in TIFF, AUTOCAD or any other electronic format will be accepted. Drawings issued to Eskom may not be "Right Protected" or encrypted.

3.10.1.7 Manuals

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1. The *Contractor*, unless otherwise specified, provides three hard copies and three soft copies in CD-ROMs of approved software format of the operating & maintenance manual of the whole installation.
2. The structure and contents of the operation and maintenance manual shall be as specified in the Contract Preliminaries and approved by the Employer.
3. All commissioning and testing results, certificates and record, photographs as necessary, description of the hoist system and equipment detail, user operating instruction and safety procedures, “as build” drawings, electrical wiring diagrams, rope certificates and planned maintenance schedule shall be included in the final manuals.
4. Documentation proving that the control system has been subjected to extensive testing by an approved authority in contract to verify the design in terms of safe, redundancy, reliable. The manual should include the following topics:
 - a. *User Operating & maintenance manual for the hoist and safety procedures*
 - b. *Fault finding procedures*
 - c. *“as built” drawings*
 - d. *Electrical wiring diagrams*
 - e. *Planned maintenance schedule / procedures*
 - f. *All commissioning and testing results – Annexure A document*
 - g. *Annexure One (permission to install and use) and*
 - h. *Annexure B Compliance certificate*
 - i. *Certificates for ropes*
 - j. *Type test Certificates for the controller, drives, over-speed governors, buffers, wheels, girders, crab frame, runway beams and rails.*
 - k. *Certificates for IP Rated equipment*
 - l. *Emergency release instructions*
 - m. *Guarantee”s*
 - n. *Disposal certificates*
 - o. *Critical spare list for stock keeping*

3.10.1.8 Occupational Health and Safety Plan

The *Contractor* complies, procures and ensures the compliance by its Employees, Agents, Subcontractor’s and Mandatories with the provisions of the Occupational Health and Safety Act 85 of 1993 (as amended) and all regulations in force in terms of that Act.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**3.10.1.9 Plant Codification**

Allocation of codes will be done by the Design and Specification department at Kendal Power Station..

3.10.1.10 Plant Labelling

The *Contractor* manufactures and installs labels according to the Kendal Functional Location KKS Coding and Labelling Standard (1017882).

3.10.1.11 Training and Manual Requirements

1. The operating and maintenance instruction manuals shall be prepared in accordance with the latest edition of the VGB-R 171e "Guideline for the supply of technical documentation for fossil-fired and regenerative power stations" including Appendixes 1-8. The instruction manuals are required to give a full technical description of the equipment concerned and to cover all aspects of erection, operation and maintenance.
2. Before the operation and maintenance manuals are handed over the *Contractor* must present a detailed training (inclusive of maintenance and operating) course to the Employer's staff. Any concerns omissions that are listed during such a training session must be incorporated before final submission.

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

This is a mandatory requirement of core clause 21.1 and must be addressed in detail. Even when the contract is a traditional 'construction only' contract, the *Contractor* is probably still required to carry out workshop details from overall drawings provided by the *Employer* and to design temporary works.

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

This is a mandatory requirement of core clause 21.2 and must be addressed. Identify the extent of detail (the particulars) of the *Contractor's* design which is to be submitted to the *Project Manager* for his acceptance. This procedure may also include a design stage activity matrix or requirements for co-operation with Others on a multi party project. State requirements for drawings to be prepared by the *Contractor*.

3.13 Other requirements of the *Contractor's* design

Use this section to describe any particulars which must be taken into account by the *Contractor* in his design; for example codification (configuration management) of Plant and Materials.

3.14 Use of *Contractor's* design

First read core clause 22.1 and then include here the exceptions and other purposes if applicable. If there are none this section could be deleted leaving the core clause to stand.

3.15 Design of Equipment

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On some complex projects requiring sophisticated temporary works, it could be in the Parties best interests that some details of the *Contractor's* design or proposed design of Equipment are shared with the *Project Manager*, not necessarily for his acceptance but as an assurance that the Equipment will be able to allow the *Contractor* to Provide the Works efficiently and without delay. For example a tunnel boring machine, or specialised shuttering for a bridge or caisson. Draft in such a way that there is no doubt that the liability for such design and use of the Equipment remains with the *Contractor*. Clause 23.1 is always available to the *Project Manager* if this section is not used.

3.16 Equipment required to be included in the works

The defined term 'Equipment' in core clause 11.2(7) makes a cross reference to the Works Information concerning any Equipment which the *Contractor* is required to include in the *works*. Complete here or if not applicable either delete the heading or retain the heading and state 'None'.

3.17 As-built drawings, operating manuals and maintenance schedules

Use this section to describe these requirements. Pay particular attention to when and in what form they are required. Consideration should be given to obtaining operating manuals and maintenance schedules before Completion of the whole of the *works* when there is still considerable financial incentive for the *Contractor* to do so.

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4 Procurement

There is a cross reference from the definition of Disallowed Cost in Options C D and E to the Works Information regarding procurement procedures. This part of the Works Information MUST include any such procedures to be able to administer this procedure. Options A & B may also require constraints on procurement procedures.

4.1 People

4.1.1 Minimum requirements of people employed on the Site

Specify any constraints relating to people employed to Provide the Works; for example permits for foreigners, training (other than H & S), use of labour from designated areas and industrial relations.

The Contractor ensures that his workforce is trained and competent to perform their respective duties.

The Contractor's inspection personnel familiarise themselves with the content of the work and the Contractor ensures consistency in interpretation and decision-making.

Any new foremen/supervisors appointed by the Contractor after Contract Award or during provision of the works are fully conversant with respect to details of the methodology and communication process existing, prior to accessing the Site.

4.1.2 BBBEE and preferencing scheme

Specify constraints which *Contractor* must comply with after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

The Contractor will be required to maintain or improve their B-BBEE Recognition Level for the duration of the contract, after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

4.1.3 Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

If the ASGI-SA requirements are to be included in this contract specify constraints which *Contractor* must comply with after contract award in regard to any ASGI-SA requirements. The ASGI-SA Compliance Schedule completed in the returnable tender schedules is reproduced here. If ASGI-SA does not apply, delete this paragraph.

The *Contractor* complies with and fulfils the *Contractor's* obligations in respect of the Accelerated and Shared Growth Initiative - South Africa in accordance with and as provided for in the *Contractor's* ASGI-SA Compliance Schedule stated below

[Insert the agreed ASGI-SA Compliance Schedule here]

The *Contractor* shall keep accurate records and provide the *Project Manager* with reports on the *Contractor's* actual delivery against the above stated ASGI-SA criteria. [Elaborate on access to and format of records and frequency of submission etc.]

The *Contractor's* failure to comply with his ASGI-SA obligations constitutes substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

4.2 Subcontracting

4.2.1 Preferred subcontractors

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ECC does not make use of nominated subcontracting, but the *Employer* may list which subcontractors or suppliers the *Contractor* is required to enter into subcontracts with. This is usually only required where Plant and Materials need to be obtained from a particular supplier or group of suppliers in order to comply with operational standards.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

Specify any constraints on how the *Contractor* is to prepare subcontract documentation, whether use of the NEC system is compulsory or not (compulsory is recommended) and how subcontract tenders are to be issued, received, assessed (using a joint report?) and awarded.

4.2.3 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

4.2.4 Attendance on subcontractors

State requirements for attendance on Subcontractors, if any

4.3 Plant and Materials**4.3.1 Quality**

Quality is usually designed in or specified in the technical specifications referred to in section 6 of this Works Information. However to cover circumstances where quality may not be prescribed, this sub-paragraph could be used as an overarching default requirement. It could also be used to deal with how repairs are carried out after a Defect has been notified; for example can the item be fixed up or must it be replaced by a new one. See also SANS 1200A, sub-paragraph 3.1

- All Plant and Materials are new. All New Plant and Materials will be free from defects. No Reconditioned Plant and/or Materials are regarded as new under any circumstances.
- The Contractor will not use Plant or Materials which are generally recognised as being unsuitable or otherwise to be avoided for the purpose for which they are intended.
- Only components of high reliability will be utilised, with a proven operating history, to enable the Plant to achieve required reliability and availability. Plant and Material design, engineering and manufacture will accord with the best modern practice applicable to high-grade products of the type to be furnished, so as to ensure the efficiency and reliability of the Works and the strength and suitability of the various parts for the Works.
- Plant and Materials withstands ambient conditions and the variations of temperature arising under working conditions without distortion, deterioration or undue strains in any part.
- All parts are made accurately, and where practicable, to standard gauges so as to facilitate replacement and repairs. Like parts are interchangeable.
- No repair of defective Plant and/or Materials will be permitted without the Project Manager's acceptance and any such repair, if accepted, will be carried out to the satisfaction of the Project Manager.
- The Contractor ensures that co-ordinated and formally documented management system is in place for the assurance of quality as specified in ISO 9001, Quality management Systems – Requirements.
- The Project Manager is free to specify hold and witness points during the installation and on site testing stages of the project. The Contractor issues preliminary notification of such hold and witness

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points by fifteen working days' advance notice to the Project Manager, and confirms such hold and witness points at least seven days prior to the activity.

4.3.2 Plant & Materials provided “free issue” by the *Employer*

State arrangements for collection by *Contractor* or delivery by others on behalf of the *Employer*, off loading, inspection, storage, care custody and control, return of unused Plant and Materials, etc. State whether any samples are to be provided by the *Employer* and if so how, where and when. Always include a statement to the effect that ‘all other Plant and Materials are to be provided by the *Contractor*’.

4.3.3 *Contractor's* procurement of Plant and Materials

Specify any constraints on how the *Contractor* is to order, codify, expedite, freight, import, transport to Site and any other requirements for delivery and storage before installation. The *Employer* may require warranties from suppliers to be in favour of the *Employer* and not just to the *Contractor* during the life of the contract. Also include requirements for vendor data which the *Employer* may need after Completion of the whole of the works. THIS IS A VERY IMPORTANT SECTION IN PROCESS PLANT AND UTILITY PROCUREMENT CONTRACTS.

- The functional unit is suitable for handling and removal to avoid damage to the functional unit. During transportation, packaging is done in such a way that damage is prevented. Components that are transported separately are marked accordingly and are easily identifiable.
- The Contractor supplies the labelling for the Plant that forms part of the works. The Contractor provides labels for the Plant according to Kendal label specification. The Contractor makes use of the KKS codes and descriptions provided by the Employer.
- The labels are affixed in such a way that they are easily legible and not obstructed by the wiring or by other components.
- Clamping methods applied to the labels ensures that removal of the labels requires force. The Project Manager will approve the proposed method of clamping prior to use.
- The Contractor supplies the Project Manager, for verification and acceptance purposes, with a label list showing the text only. The Project Manager will approve the positioning and designation of labels.
- The KKS codes are used accordingly on documentation (e.g. drawings, manuals, equipment lists, cable schedules etc.) as a unique identification means. References to plant are accompanied by the relevant KKS code for that item of plant.
- Abbreviations to descriptions on the labels are generally not acceptable. Where abbreviations are unavoidable, due to the limited number of characters that can be engraved/etched on labels, the abbreviations are submitted to the Project Manager for acceptance.

4.3.4 Spares and consumables

Some contracts may need to include provision for the supply of a minimum category of spares, fuel, oil or other feed stock and consumables which the *Employer* may need at or just after take over and that it is best the *Contractor* provide these initially as part of his Providing the Works.

- The Contractor provides list of critical spares as part of the Works.
- The Employer is responsible for purchasing of recommended spares.
- Each recommended spare is uniquely identified with a part number, detailed specification and respective supplier name, which can be cross referenced to a spares list and associated drawing.

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- The Project Manager prefers that support from the OEM or component supplier is available locally in South Africa. The Contractor is required to provide technical support for the compliance operating life of the Plant.

4.4 Tests and inspections before delivery

Core Clauses 40 and 41 both make reference to the Works Information regarding tests and inspections. Specify any requirements here for any tests and inspections that are to be done by the *Supervisor* or Others before delivery to the Working Areas, particularly if such tests and inspections are to be carried out by agents of the *Employer* overseas.

- The Contractor provides Quality Plan for all equipment to be repaired to the Project Manager for acceptance.
- The plan shall be reviewed and accepted to ensure all repaired items get to be checked prior to delivery and installation.
- For all items that require replacement, Contractor shall in writing inform the Project Manager and arrange for the Project Engineer to witness the equipment.

4.5 Marking Plant and Materials outside the Working Areas

Core clauses 70.1 and 71.1 require the Works Information to state how the *Contractor* is to “mark” Plant and Materials which is outside the Working Areas if they are to be paid for before delivery to the Working Areas. Specify here how the *Contractor* is to mark the Plant and Materials.

4.6 Contractor’s Equipment (including temporary works).

In contracts which require the *Contractor* to procure sophisticated or highly specialised Equipment that could have a major influence on the progress of the works, the *Employer* may wish to exercise constraints or include witness and hold points during manufacture, assembly or delivery of such Equipment. Include these constraints here taking care not to imply that the *Employer* or the *Project Manager* take on any liability as a result. See also section 3.6 above relating to the design phase of the *Contractor’s* Equipment.

4.7 Cataloguing requirements by the Contractor

State whether cataloguing is applicable, if it is, reference the requirements for cataloguing that need to be satisfied by the *Contractor* (consult Procurement Instruction Number 1 of 2018 – Incorporating Cataloguing into the Procurement Environment, Unique Identifier 240-1289988974).

5 Construction

This part of the Works Information addresses constraints, facilities, services and rules applicable to the *Contractor* whilst he is doing work on the Site during the construction and maintenance phase. It does not specify the work itself as that is included in Section 6 of the Works Information.

For contracts involving civil works the approach may be to incorporate SANS1200A or SANS 2000 into the contract. Whilst many of the headings below address the same issues, the list of headings below is more comprehensive. If the headings below are used, it may be prudent to delete paragraphs 3, 4 and 5 from 1200A after checking that their requirements have been included below as necessary. A similar approach can be used in contracts involving building works where the Model Trade Preambles are incorporated. Care should be taken to avoid inconsistency or ambiguity between this part of the Works Information and standard specifications incorporated by reference.

The Contractor is responsible for carrying out all activities and supplying everything necessary to provide the Works in accordance with the requirements of the Works Information. This includes clarifying and co-ordination with plant engineers, and the Project Manager. A fully integrated, working system is provided which meets safety, reliability and operability criteria and performs all control, safety and protection functions as detailed in the Works Information.

In accordance with the *Works* information, *the works* is completed by the *Completion Dates* as outlined on the project program.

5.1 Temporary works, Site services & construction constraints

5.1.1 *Employer's* Site entry and security control, permits, and Site regulations

Sites such as Sasol Secunda and Koeberg Nuclear Power Station have very strict entrance requirements which tenderers need to allow for in their prices, and the *Contractor* has to comply with. State these or similar requirements here.

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

In addition to the above there may be other restrictions once on the Site, plus rules relating to roads, walkways and the provision of barricades

5.1.3 People restrictions on Site; hours of work, conduct and records

Restrictions and hours of work may apply on some Sites. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records may be needed when assessing compensation events.

5.1.4 Health and safety facilities on Site

Section 2.3 deals with contractual H & S requirements in addition to those of the OHSA Act. This section allows the *Employer* to state what measures are to be taken on Site against disease and epidemics and in emergencies. Also describe where First Aid facilities provided by the *Employer* are located and any other emergency arrangements. Do not use if already addressed in 2.3. The cross reference from Clause 27.4 applies.

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

This sub-paragraph may not be required if these matters are dealt with in the general environmental requirements referred to in paragraph 2.4 above.

5.1.6 Title to materials from demolition and excavation

Clause 73.2 states that the *Contractor* has title to materials from excavation and demolition (e. g. copper) only as stated in the Works Information. Hence state here any special arrangements regarding such title. If nothing is stated then the default position is the *Contractor* has no such title.

5.1.7 Cooperating with and obtaining acceptance of Others

This sub-paragraph could be used to deal with two issues.

- 1) The cross reference from core clause 25.1 about cooperation generally as well as details about Others with whom the *Contractor* may be required to share the working areas. See clause 11.2(10) for the definition of Others.
- 2) Requirements for liaison with and acceptance from statutory authorities or land owners.

5.1.8 Publicity and progress photographs

State requirements for notice boards, advertising rights, media relations, photography and progress photographs if required.

5.1.9 *Contractor's* Equipment

This sub-paragraph is intended to address how records are to be kept of Equipment on Site including whether it is owned or hired. Include any constraints about scaffolding, rigs, heavy lifts and cranes, including removal from the Working Areas. Also silencing similar to Clause 4.1 in SANS 1200 A

5.1.10 Equipment provided by the *Employer*

Provide details of equipment made available for use by the employer and set out conditions relating thereto.

5.1.11 Site services and facilities

This is a mandatory cross reference from clause 25.2 in ECC3. State what the *Employer* will provide in the way of power, water, waste disposal, telecomms, ablutions, fire protection, lighting etc. Give hook up locations and any constraints on how the hook up is to be done. Always conclude by stating that the *Contractor* shall provide everything else necessary for Providing the Works.

5.1.12 Facilities provided by the *Contractor*

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Describe what the *Contractor* is to provide in the way of Site accommodation, laboratories, storage, vehicles and office equipment etc for the *Project Manager* and the *Supervisor*, and any restrictions or minimum requirements concerning the *Contractor's* own facilities. State requirements for facilities to be provided by the *Contractor* such as construction camps. Also state what happens to these facilities upon completion of the contract. Set out constraints, if any, as to the location by the *Contractor* of such facilities on the Site and requirements for drawings of Site facilities, as necessary.

5.1.13 Existing premises, inspection of adjoining properties and checking work of Others

Details under this sub-paragraph are very contract specific and may be quite extensive in some cases. State requirements for the inspection with the owners of adjacent buildings and properties and representatives of local authorities before commencing with the *works* that have the potential to damage surrounding buildings and property. State whether *Contractor* is required to inspect the work of Others to which he is required to connect and if so by when to avoid delays to his work.

5.1.14 Survey control and setting out of the works

Provide information on survey controls established by the *Employer*, if any, and state requirements for survey control and the setting out of the *works*.

5.1.15 Excavations and associated water control

State any particular requirements for handling deep foundations and controlling water from excavations.

5.1.16 Underground services, other existing services, cable and pipe trenches and covers

Describe known services making reference to drawings containing known services and state requirements for locating, marking and recording such services.
State requirements for the treatment of existing services i.e. their termination, diversion or continued use, either temporarily or permanently, and set out the procedures relating thereto.
State requirements, as necessary, for the use and availability of detection equipment for the location of underground services.
State responsibility for damage to services, known and unknown, and requirements for working in close proximity to services etc.
State requirements and reinstatement procedures for the notification and repair of damage to services and any penalties applicable to the damage of services.

5.1.17 Control of noise, dust, water and waste

State requirements, if any.

5.1.18 Sequences of construction or installation

Only prescribe sequences of work where absolutely necessary such as when *Contractor* has to give access to Others (without take over) and for technical reasons such as under tidal conditions and in rivers.

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5.1.19 Giving notice of work to be covered up

State the procedure for notifying the <i>Supervisor</i>

5.1.20 Hook ups to existing works

State any constraints

5.2 Completion, testing, commissioning and correction of Defects**5.2.1 Work to be done by the Completion Date**

<p>This is mandatory. Core clause 11.2(2) defines Completion as when the <i>Contractor</i> has done all the work which the Works Information states he is to do by the Completion Date. Rather than list all work to be done by the Completion Date, state that all work is to be done by the Completion Date except for [●]. For example:</p>

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	Within days after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph of this Works Information.	See performance testing requirements.

5.2.2 Use of the *works* before Completion has been certified

<p>Clause 35.2 in ECC3 provides that the <i>Employer</i> may use any part of the <i>works</i> before Completion has been certified but if he does so he takes over the part of the <i>works</i> except if the use is for a reason stated in the Works Information. State the reason here if this applies.</p>

5.2.3 Materials facilities and samples for tests and inspections

<p>State what materials facilities and samples for tests and inspections the <i>Contractor</i> and the <i>Employer</i> are to provide, per core clause 40.2.</p>
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5.2.4 Commissioning

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Required mainly for contracts including mechanical and electrical work. Would typically refer to detailed commissioning procedure attached as an Annexure. Confirm whether commissioning is to be done before or after Completion. If after Completion, include this item of work in the list in sub-paragraph 5.2.1 above.

5.2.5 Start-up procedures required to put the *works* into operation

In order to put the *works* into operation the *Employer* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person. State requirements of the *Contractor* here together with any special arrangements associated with operating plant and machinery.

5.2.6 Take over procedures

Take over is after or at the same time as Completion. The *Employer* may require the *Contractor* to provide assistance, security personnel on a temporary basis etc.

5.2.7 Access given by the *Employer* for correction of Defects

Clause 43.4 requires that the *Project Manager* arranges for the *Employer* to allow the *Contractor* access to and use of a part of the *works* which has been taken over if needed to correct a Defect. After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted (for example barricading a motorway or in a nuclear power station). Include these here.

5.2.8 Performance tests after Completion

Many design and build or turnkey projects require the *Contractor* to demonstrate that the *works* can operate as guaranteed by the *Contractor* (in *Contractor's Works Information*) or specified by the *Employer* either here or elsewhere in this *Works Information*. State here the procedures for carrying out such proving tests. These details should link up with any performance levels stated in Contract Data if secondary Option X17 in ECC3 applies.

5.2.9 Training and technology transfer

Include if the *Employer* requires the *Contractor* to provide training in the use and maintenance of the *works* or any associated transfer of technology from him to the *Employer*.

5.2.10 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*. (Not to be confused with Defect correction) For example oil and filter changes

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6 Plant and Materials standards and workmanship

This section of the Works Information contains all the specifications for the work which is left behind; the permanent works. It is likely to be the largest section by far and may even be compiled in volumes, e. g. Section 6 Volume 1: Civil Engineering Works. In design and construct contracts, it may be compiled in accordance with systems within the *works*; e. g. Section 6 Volume 4: Crushers.

Because practice varies widely between employers it is not practical in a general template such as this to deal with all arrangements. Only the discipline based section subheadings are provided below in the order the *works* are likely to be constructed together with some notes of a general nature.

6.1 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design. There could be constraints on Site clearance especially in pipeline or transmission grid servitudes.

6.2 Building works

Reference could be made to the latest Model Trade Preambles published by the Association of South African Quantity Surveyors. However these have been developed for use with the JBCC series of contracts and an approach where description of the work is made part of the bill of quantities, which is not the case in other forms of contract. Only parts of the Model Trade Preambles could be referenced by an ECC contract, with a covering note dealing with the changes in terminology. Further changes are required depending on which parts are to be selected.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

6.3 Civil engineering and structural works

Reference could be made to the SANS1200 series of specifications developed and published by South African National Standards. However these are now very out of date and originally developed for use with SAICE general conditions of contract for works of civil engineering which have themselves been superseded twice.

All SANS 1200 specifications are in the process of being updated to make them more compatible with a wider range of contracts, including NEC, and users should check availability of the new SANS 2000 series of specifications.

Sections 3, 4 and 5 of SANS1200A are probably already covered in section 5 of this Works Information.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

If use is made of the 1200 series, users should include a covering note dealing with the changes in terminology, such as the one provided below. Further changes are required depending on which specifications in the 1200 series are selected.

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6.4 Electrical & mechanical engineering works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

6.5 Process control and IT works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

6.6 Other [as required]

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7 List of drawings

7.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title

8 Procurement

8.1 People

8.1.1 Minimum requirements of people employed on the Site

The *Contractor* ensures that his workforce is trained and competent to perform their respective duties.

The *Contractor's* inspection personnel familiarise themselves with the content of the work and the *Contractor* ensures consistency in interpretation and decision making.

Any new foremen/supervisors appointed by the *Contractor* after Contract Award or during provision of the *works* are fully conversant with respect to details of the methodology and communication process existing, prior to accessing the Site.

8.1.2 BBBEE and preferencing scheme

Tenderers will be required to maintain or improve their B-BBEE Recognition Level for the duration of the contract, after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

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9 SD&L Requirements

Section 1: Pre-qualification Criteria

Failure to meet Pre-qualification at tender stage will lead to disqualification

1.1 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"/>

1.2 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;

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

1.3 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;

- Letter of intent or any other requested document indicating commitment and the percentage required must be submitted as a tender returnable.
- Sub-contracting can only be concluded with 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

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Section 2: Mandatory Compliance for Contract Award

The following requirements are mandatory compliance for contract award and submissions can be clarified during evaluations or negotiated before contract is awarded

2.1 Local Content Designation

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:

Components	Components	Local Content Threshold
Cabling	Cable	90%
Bolt & Nuts	Steel	100%

NOTE 1: If applicable SBD 6.2 Declaration Form and Annex C (Local Content Declaration-Summary Schedule) are a tender returnable and will be mandatory for contract award.

2.2 CIDB Skills Development

a) Is there CIDB compulsory training?

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

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

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	N/A	
Description	N/A	

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

Mandatory Compliance for Contract Award continues.....

2.3 BBEE Compliance**Is there minimum BBEE level targeted?**

If Yes, what is the BBEE status targeted for this transaction (contractor/s will be required to submit plans to achieve the target level if not met at contract award)

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>
Successful tenderer to achieve, maintain or improved a B-BBEE Recognition Level 4 for the duration of the contract	

2.4 Subcontracting Requirements**Is there a requirement for subcontracting?**

If Yes, what is the targeted subcontracting percentage

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

2.5 Enterprise Development**Are there specific ED requirements?**

(This ED intervention can either be separate or additional to subcontracting requirements, but duplication should be avoided)

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

If Yes, the main contractor is required propose development in the following areas or against the following Eskom's targets:

Eskom's Target	Tenderer Proposal
100	

2.6 Skills Development**Are there Skills Development targets?**

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

If Yes, the contractors are required to propose skills development against Eskom's targets:

Eskom's Target			
Category	Number	Entry Level	Output
N/A	N/A	N/A	N/A

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

Section 3: SDL&I Penalty and Performance Security

Eskom will apply a penalty of 2.5% of the Contract Value for failure to meet SDL&I obligations.

One of the following options will apply for SDL&I performance security:

- 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.
- Panels- Eskom will apply 2.5% retention on every invoice (excluding VAT) after all cumulative task orders awarded to the Contractor/Service Provider that have reached a stipulated threshold as security for the fulfilment of the SDL&I obligations.

Section 4: 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 30 days after contract award.

Section 5: Market Research

The following information demonstrates market analysis and assisted in arriving at BBBEE targets above:

- N/A

- N/A

The following information demonstrates market analysis and assisted in arriving at Subcontracting targets above:

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

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.

9.2 Temporary works, Site services & Construction Constraints

Kendal Power Station Specific Constraints

Rev 10 August 2018

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BOILER HOIST INSTALLATION AT KENDAL POWER STATION

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	The <i>Employer</i>	The <i>Project Manager</i>	The <i>Contractor</i>	✓
ECSC3 – The Engineering and Construction Short Contract	The <i>Employer</i>	The <i>Employer's Representative</i>		
TSC3 – The Term Service Contract	The <i>Employer</i>	The <i>Employer's Representative</i>		
TSSC3 – The Term Service Short Contract	The <i>Employer</i>	The <i>Employer's Representative</i>	The <i>Contractor</i>	
PSC3 – The Professional Services Contract	The <i>Employer</i>	The <i>Employer's Agent</i>	The <i>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	The <i>Purchaser</i>	The <i>End user</i>	The <i>Supplier</i>	
SC3 – The Supply Contract	The <i>Purchaser</i>	The <i>Purchaser's Representative</i>	The <i>Supplier</i>	

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

- a) 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.
- b) Eskom Holdings SOC Limited reserves the right to request disciplinary/corrective action if, and when, required.
- c) 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.
- d) 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.
- e) The Contracting Party provides all overalls for his staff with clearly identifying motifs.
- f) The Contracting Party provides the necessary supervision to ensure that activities are conducted safely.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**2. Security Arrangements:**

- a) 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.
- b) 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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**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. Firefighting 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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

- v) The Contracting Party obtains a 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) All the Contracting Party's employees receive formal Safety Induction Training from SRM before commencement of work on site.
- 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 Lifesaving 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 lifesaving rules that may not be broken by the Team Leader and his/her team.

The five Eskom Lifesaving Rules are as follows:

Rule 1: Open, isolated, tests, earth, and bond and/or insulate before touch.

Rule 2: Hook up at height.

Rule 3: Buckle Up.

Rule 4: Be Sober.

Rule 5: Ensure that you have a permit to work.

2.8. Thermal and Flash Suits – Personal Protective Equipment

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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

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

FLASH PROTECTION BOUNDRY	
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 (Rev 0 - May 2008)

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 Mr Joseph Malaza (Legislation Instructor – Kendal Power Station).

He can be contacted at +27 13 647 6867, to arrange for training.

The costs will be handled as a compensation event.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**3.9.3.1 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.

3.9.3.2 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.

3.9.3.3 Contact Person - Kendal Power Station

Mr Joseph Malaza (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 6867.

No work will be done at Kendal Power Station by the Contracting Party if he 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.

2.10.1 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.

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 as per ESKADAAU4.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

- 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.

1. 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. Asbestos (if applicable):

- a) All stripping of asbestos material shall be undertaken strictly in accordance with the Eskom Holdings SOC Limited Procedure OVP76 HSPHRN 00 00 5 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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION

- 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:

- a) 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:

- a) 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

- a) 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.
- b) If any hazard is identified by the Contracting Party, he immediately informs the contract person representing Eskom Holdings SOC Limited.
- c) 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:

- a) Environmental Management System (ISO 14001, 2015)
- b) 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.
- c) Non-Conformance, corrective and preventive Action *1017357.
- d) Environmental Legal and other requirements *1015685.
- e) Environmental communication *1015692.
- f) Environmental Management procedure for contractors *1018332.
- g) The contractor must have an oil spill kit on site and a trained person in oil spillage management.
- h) 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.
- i) The contractor must report any Environmental incident immediately to environmental department.
- j) No water shall be drained into the clean water dam/ storm water drains.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**11. Contracting Party terms and conditions of employment**

a) 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

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:

a) 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:

a) 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:

- a) Eskom Kendal Power Station Medical Centre and Ambulance assistant facilities are available for incidents occurring within Kendal Power Station Boundaries.
- b) Eskom Kendal Power Station Medical Centre is entitled however to recover the reasonable costs incurred in respect thereof from the Contracting Party.
- c) After-hours all incident must be reported to Kendal Power Station Electrical Operating desk 013 647 6795, Internal Pax 7911.

16. Scrap Removal

a) 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.

BOILER HOIST INSTALLATION AT KENDAL POWER STATION**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
Mr Lukhanyo Ndube
Private Bag X7272
Witbank
1035 Mpumalanga
Tel: 017 799 2127

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.

BOILER HOIST INSTALLATION AT 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.

C3.2 ***CONTRACTOR'S*** WORKS INFORMATION

This section of the Works Information will always be contract specific depending on the nature of the *works*. It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

- a) *Contractor's* design
- b) Plant and Materials specifications and schedules
- c) Other

This section could also be compiled as a separate file.
