

## 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

Design, manufacture, factory inspection, delivery to site, offloading, removal of existing tiers/panels, moving new fixed pattern tiers/panels into position, site testing, cable joints and rerouting of the small functional units to alternate tiers/panels, cable & busbar connections, commissioning and completion of fixed pattern switchgear tiers/panels on units Boiler and Turbine Boards low voltage switchgear at Arnot power station (including all documentation required).

The scope executable at Arnot power station on Units 1 - 6 comprise of the following Tiers/Panels:

Turbine Non-essential Board 1, 2 & 3

- 1x Tier for Turbine Non-essential Board 1
- 1x Tier for Turbine Non-essential Board 2
- 1x Tier for Turbine Non-essential Board 3

Unit 4

- 2x Tiers for Boiler Board A
- 1x Tiers for Boiler Board B
- 2x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

Unit 5

- 1x Tiers for Boiler Board A
- 2x Tiers for Boiler Board B
- 2x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

Unit 6

- 2x Tiers for Boiler Board A
- 2x Tiers for Boiler Board B
- 3x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

## 1.2 Employer's objectives and purpose of the works

The purpose of the works is to retrofit the identified withdrawable tiers/panels with fixed pattern type switchgear of similar make on the Boiler, Turbine Essential & Non-essential Boards in Arnot power station.

## 1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits
kW	Kilowatt
LV	Low Voltage
QCP	Quality Control Plan

## 2 Management and start up.

### 2.1 Management meetings

After contract award, Project Manager schedules a kick-off meeting to discuss the execution requirements.

Kick off meeting specifies how the Contractor will meet the project objectives and confirm Contractor understands the required works, and programme to execute the scope of work

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Overall contract progress and feedback	Every second week on a day and time agreed upon by Parties. This is subject to change depending on the requirement.	To be confirmed by the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others</i>
Risk register and compensation events	As and when required	To be confirmed by the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others</i>
Interfacing meetings	As and when required	To be confirmed by the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others</i>
Outage meetings	Daily when there is an outage	To be confirmed by the <i>Project Manager</i>	<i>Employer, Contractor, Supervisor, and Others</i>
Toolbox sessions	Every-day before commencing with work	Site	<i>Contractor</i>

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

All meetings shall be recorded using Microsoft Teams or minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming

actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

## 2.2 Documentation control

All documentation to be sent to the employer's representative who will then distribute to all stakeholders involved in the project. Drawings shall be in the approved Eskom format, electronic (soft copy) and editable for furnishing the title block with Eskom detail.

## 2.3 Health and safety risk management

The Contractor shall comply with the health and safety requirements contained in this Works Information.

- The Contractor shall comply with the Occupational Health and Safety Act Number 85 of 1993 and its regulations, and Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations.
- The Contractor always ensures safety awareness through continuous training.
- The Contractor shall always be responsible for the supervision of his employees, agents and sub-Contractors, and shall take full responsibility and accountability in ensuring that they are competent, compliant and aware of the legal requirements and other applicable requirements and shall execute the works accordingly.
- The Contractor shall ensure that all statutory appointments, and appointments required by any Eskom Policy, standard and Procedure, are recorded in writing and that all its appointees and/or agents fully understand their responsibilities and are trained and competent to execute their duties.

The Employer, or any person appointed by the Employer, may, at any stage during the term of the contract:

- Conduct health and safety audits by a competent person regarding all aspects of compliance with the SHEQ requirements, at any off-Site place of work, or the Site establishment of the Contractor.
- Refuse any employee, sub-Contractor or agent of the Contractor access to the premises if such person has been found to commit an unsafe act or if any work is found not to be compliant or authorized.
- Issue the Contractor with a STOP WORK ORDER should the Employer become aware of any unsafe working procedure or condition, or any non-compliance.
- The Contractor shall immediately report all incidents as well as any threat to safety and health of which he becomes aware at the Site, to the Project Manager.
- The Contractor agrees that the Employer is relieved of all of its responsibilities and liabilities in terms of the Occupational Health and Safety Act no 85 of 1993 in respect of any acts or omissions of the Contractor, and the Contractor's employees, agents or sub-Contractors, to the extent permitted by the Occupational Health and Safety Act no 85 of 1993.
- The Contractor shall provide a health and safety plan based on the Employer's Safety, Health and Environmental Specification,
- All persons entering the Site shall undergo the Employer's safety induction course.
- The *Contractor* takes every precaution to ensure safety and to protect the *works* and temporary *works*. The *Contractor* is responsible for the safety and security of his personnel, materials on site and the *works* at all times. The *Contractor* adheres to the safety regulations pertaining to the power station and Sub-Contractors.
- The *Contractor* provides all the required safety and personal protective Equipment to his staff for the duration of the contract. Safety barriers and access scaffolding is deemed as Equipment and is the responsibility of the *Contractor*.

The *Contractor* complies with the requirements of the Construction Regulation, 2014. R1010 of the Act and forwards proof of Notification of Construction Works to the Department of Labour as required in the Construction Regulations.

Without prejudice to any other requirements of this Works Information or the Conditions of Contract, the *Contractor* complies with the following:

- a. Eskom Plant Safety Regulations 36-681
- b. Eskom Operating Regulations for High Voltage Systems, 32-846
- c. The Occupational Health and Safety Act No. 85 of 1993 and Regulations
- d. The Compensation for Occupational Injuries and Diseases Act No.130 of 1993, amended by government notices to 30 April 2004 or Equivalent
- e. Eskom Life-saving Rules

The Eskom Life-saving Rules complement our existing safety best practices and address safety procedures are followed at all locations. Five Life-saving rules developed apply to all Eskom employees, agents, consultants, and *Contractors*.

Life-saving rules are safety rules that describe such extreme behaviour that all reasonable employees agree that anyone knowingly and wilfully violating one of them are putting his/her life and any other lives in jeopardy and are dealt with seriously. The Life-saving rules are: Standard 240-62196227.

## 2.4 Environmental constraints and management

- The Contractor's attention is drawn to the fact that the Employer's Power Stations are situated in highly sensitive areas with respect to the environment.
- The Contractor acquaints himself with all statutory and local environment regulations and adheres to these without exception.
- The Contractor complies with the Hazardous Chemical Regulations, GNR. 1179 of 25 August 1995 as amended by GNR.930 of 25 June 2003 and GNR.683 of June 2008 when using any hazardous chemicals, as well as complying with the requirements of the National Environmental Management Act of 1988.
- The contractor and his employees are required to conduct themselves at all times in a proper and orderly manner while on the Employer's premises. The contractor and his/her employees will, in particular, be required to smoke in designated areas while on the Employer's premises. It must be noted that the Employer will take immediate steps to institute criminal investigation in the event of any suspected criminal acts e.g. theft, vandalism etc. Criminal acts by contractor staff will be grounds for the termination of this agreement.
- The Project Manager has the right to stop the contractor work activities, which, does not meet the requirements of the project plan. The contractor may only continue with work activities when all deficiencies has been corrected to the Project Manager's satisfaction. The contractor shall have no claim against the Employer in respect of delay due to the above.

## 2.5 Quality assurance requirements

The Contractor responsibilities include but are not limited to the following:

- The Contractor must supply an ISO 9001: 2008 compliant quality assurance plan.
- The quality assurance requirements must also be imposed on sub-Contractors and suppliers of material.



- Within four weeks of the Contract Date (date of contract award), the Contractor submits a fully detailed Quality Assurance Plan aligned to Eskom standard 39-59 and ISO 10005:2005 to the Project Manager for acceptance.
- No Site work is allowed unless the Employer accepts the Quality Management System.
- The Contractor utilizes their own quality documentation forms for requesting access, erection checks, etc. These request forms must be submitted to the Employers Quality department at least one week prior to the requested activity, or as agreed to by the Project Manager.
- Apart from any statutory data packages required, the Contractor also compiles a data package of the relevant drawings, test certificates, etc., should conform to what is specified in the works information.
- The Contractor will fully comply with the requirement of the Supplier Contract Quality Requirement Specification.
- The Contractor shall submit a first detailed quality plan to the Project Manager for acceptance (includes insertion of various hold, witness, and other points) within the period stated in the Contract Data.
- The Project Manager shall influence the Quality Plan with respect to the addition of hold and witness points.
- On agreement between the Contractor and the Project Manager, the Quality Plan shall be signed for acceptance.

## 2.6 Programming constraints

The *Contractor* provides a programme and resource schedule in MS Project within 2 weeks of the Contract Date for acceptance by the *Project Manager* which will provide details of the list of activities and the duration of each activity.

- A list of activities and duration of each shall be made available after an instruction to commence work is supplied to the Contractor by the Employer's Representative.
- The program shall be updated weekly and will be used to manage all installation activities.
- The Contractor submits a bar chart program one week after award of the contract showing the following:
  - The early start and early completion date of each activity.
  - The late start and late completion of each activity.
  - Planned completion.
- The order and planning of operations which the Contractor plans to do in order to provide the works.
- The Contractor prepares and submits an update, seven days after the start date, showing actual progress and the effect upon the remainder of the activities to be completed.

### Progress reporting:

- The Contractor submits, together with the progress reports, a written report which contains the following:
  - Statement and report on those sections of the works where delay against programme has occurred (if any), together with the reasons why delay has occurred and a plan denoting the action to be taken and the period of time necessary to recover such delay.
  - Statement and report on those sections of the works that are currently ahead of programme (If any).
  - The impact of any programming changes arising is reflected in revised forecast rate of invoicing schedules and resource schedules.

## 2.7 Contractor's management, supervision and key people

- Contractor submits an organogram to the Project Manager with key personnel. Contractor appoints qualified and competent site manager, technician/s, safety officer and foremen. Resource allocation abides to their respective function. These resources are present for the duration of the works. Daily site register to be signed with all the resources specified.

- *Contractor* complies with provision of key people required to successfully execute the *works*. Resource allocation is clearly reflected on the activity programme they are required to execute, and duration stipulated. During the execution of the *works*, registers or time sheets of the *Contractor's* employees is kept for contract records.
- Management indicated on the *Contractor's* organogram avail themselves immediately when required to resolve matters that may impact on the accomplishment of the *works*.

## 2.8 Invoicing and payment

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

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

- Name and address of the Contractor and the Project Manager.
- The contract number and title.
- Contractor's VAT registration number.
- The Employer's VAT registration number 4740101508.
- Description of service provided for each item invoiced based on the Price List.
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- Contractor's company registration number if applicable
- Contractor's banking details
- Name and address of recipient
- Tax invoice number and date of issue,
- Description of goods/service provided,
- Relevant Goods Receipt/ Service Entry number,
- Quantity or volume of goods/services
- Period time for which the Tax Invoice is being rendered,
- Relevant Task Order Number (commencing with a 45 prefix),
- Relevant line-item number,
- Statement whether value added tax is included or excluded.

Electronic Invoices in PDF format are submitted to [Invoiceseskomlocal@eskom.co.za](mailto:Invoiceseskomlocal@eskom.co.za)

The Project Manager to be copied in on all electronic invoices emailed.

Failure to submit the invoice to the correct address could result in delays in payment.

It is recommended that a copy of the assessment certificate is submitted with the invoice

The Contractor's Tax Invoices comply with the requirements as stated in clause Z7 of the Contract Data

Any CPA applicable is reflected as a separate line item or invoiced separately with breakdown of CPA formula attached

## 2.9 Insurance provided by the *Employer*

No additional insurances provided by the *Employer*

## 2.10 Contract change management

Contract change management is managed in accordance with section 6 of the core clauses in ECC3. In summary, in the event that the Employer/Contractor notices a change, an event register is issued. If the event/change has cost implications, then a quotation is submitted with the event register. The Project Manager assesses the quotation and gives an instruction in writing to the Contractor.

## 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*

The *Contractor* maintains all records of Defined Costs on site stored in a file and accessible to the *Employer* for the purpose of determining the defined cost. The contractor allows the employer full access to the information and provides explanations where required

## 2.13 Training workshops and technology transfer

Not required on this contract.

### 3 Engineering and the *Contractor's* design

Design, manufacture, factory inspection, delivery to site, offloading, removal of existing tiers/panels, moving new fixed pattern tiers/panels into position, site testing, cable & busbar connections, commissioning and completion of fixed pattern switchgear tiers/panels on units Boiler and Turbine Boards low voltage switchgear at Arnot power station (including all documentation required).

#### 3.1 *Employer's* design

The contractor shall submit general arrangement drawings to reflect the upgraded tiers/panels if required.

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

- Design and manufacturing of LV switchgear panels/tiers to be retrofitted in the existing LV switchgear assemblies rated 400V, 50kA fault rating
- Existing withdrawable functional units shall be retrofitted with fixed pattern functional units of the same rating
- Dismantle the identified existing tiers/panels, remove and store them in a safe place for future use
- The position vacated by the withdrawable tiers/panels is then used for the new fixed pattern ones
- Schematic diagrams of the new fixed pattern functional units shall be as per schematic diagrams provided
- Smaller functional units (as listed) that need not be replaced of the tier/panel to be retrofitted shall be migrated to another tier/panel by the successful *Contractor* including cable re-routing and jointing
- Completed tiers/panels shall be tested at the factory for acceptance prior to shipping to site

The scope executable at Arnot power station on Units 1 - 6 comprise of the following Tiers/Panels:

Turbine Non-essential Board 1, 2 & 3

- 1x Tier for Turbine Non-essential Board 1
- 1x Tier for Turbine Non-essential Board 2
- 1x Tier for Turbine Non-essential Board 3

Unit 4

- 2x Tiers for Boiler Board A
- 1x Tier for Boiler Board B
- 2x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

Unit 5

- 1x Tier for Boiler Board A
- 2x Tiers for Boiler Board B
- 2x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

Unit 6

- 2x Tiers for Boiler Board A
- 2x Tiers for Boiler Board B
- 3x Tiers for Turbine Essential Board
- 2x Tier for Turbine Non-essential Board

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

- a) The bidder shall provide evidence in a form of type test report for AEG/GE SA plus LV Switchgear and proof of evidence for similar work done by means of referrals.
- b) The retrofitting of new tiers/panels shall not compromise the integrity of type test particularly temperature test limits and short time withstand.
- c) Switchgear and controlgear shall comply with the relevant parts of SANS 60947. All components and electric conductors fitted to the ASSEMBLY shall be certified as safe by means of a valid Regulatory Certificate of Compliance (RCC) in accordance with SANS 10142-1 Table 4.2.
- d) The assembly (tier/panel) shall be of front operation with rear cable-access, and cable entry from below.
- e) ASSEMBLIES's main circuit shall have a minimum rated insulation voltage of 1 000 V except for MCB's, MCCB's and Fuses.
- f) Power-frequency withstand voltage for main circuits as well as auxiliary and control circuits that are connected to the main circuit shall be subjected to the test voltage of 2.2kV (a.c) or 3.3kV (d.c) in accordance with Table 8 of SANS 61439-1.
- g) Power-frequency withstand voltage for auxiliary and control circuits (a.c. or d.c.) that are not connected to the main circuit shall be subjected to the test voltage in accordance with Table 9 of SANS 61439-1.
- h) Rated impulse withstand voltage shall be 8 kV for main circuits and the verification shall be made by test or by assessment.
- i) Minimum creepage distances shall be for Pollution Degree 3, material group IIIa with the specified insulation voltage in accordance with Table 2 of SANS 61439-1 (latest edition).
- j) Minimum clearance shall be 8mm, which corresponds to 8kV impulse, withstand voltage.
- k) The ASSEMBLY's metal enclosure shall have a minimum external degree of protection of IP3X in accordance with SANS 60529 or same as the existing Assembly.
- l) The ASSEMBLY's internal barriers or distances shall have degree of protection of at least IP XXB in terms of SANS 60529 and shall be provided to prevent accidental contact with live conducting parts of the circuit.
- m) Forms of separation for all outgoing functional units shall have a minimum of Form 3b.
- n) The finished external colour of the AC ASSEMBLIES shall be G29: LIGHT GREY to SANS 1091 except for mounting plates and other support structures, which can be galvanized, or alloy cold rolled zinc steel.
- o) Door latches shall be of robust construction. At least the centre square key latch shall be pad-lockable.
- p) Conductors installed in the "fault-free" zone (non-protected live conductors) to reduce the possibility of shorts circuits:
  - Conductors installed in the 'fault-free-zone' shall be braced at intervals not exceeding 300 mm.
  - The conductors used in the "fault-free" zones for outgoing functional units shall be double insulated.
  - The conductor size selection and installation shall be in accordance with Table 4 of SANS 61439-1 latest edition

- Conductors installed within a “fault-free” zone where they could come in contact with conducting parts shall be protected by supplementary insulation.
- q) Multi-strand cable with conductors of 1.5 mm<sup>2</sup> cross sectional area shall be used for control circuits.
- r) Control conductor sheath shall be coloured as follows: BLACK for AC circuits and GREY for DC circuits.
- s) Conductors of up to and including 6 mm<sup>2</sup> cross sectional area shall be terminated with pre-insulated compression type lugs and when used with stud type terminals; shall be terminated with compression type lugs.

### 3.4 Other requirements of the *Contractor's* design

- a) Plant labelling to be done in accordance to the KKS Codification Label Layout Specification for Electrical Panel Labels
- b) All circuits moved to alternate tiers/panels shall bear the destination panel KKS
- c) All new tiers supplied shall bear circuit descriptions & KKS labelling as per the supplied list

### 3.5 Use of *Contractor's* design

### 3.6 Design of Equipment

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 Provides 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.

### 3.7 Equipment required to be included in the works

**Turbine Non-Essential Board 1**

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable size	Comments
12.5kW	Gland Steam Vent Fan	+11BFB08AA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump A	+11BFB08BA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump B	+11BFB08CA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Suction Valve	+11BFB08DA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Discharge Valve	+11BFB08EA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type

**Turbine Non-Essential Board 2**

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable size	Comments
12.5kW	Gland Steam Vent Fan	+21BFB08AA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump A	+21BFB08BA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump B	+21BFB08CA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Suction Valve	+21BFB08DA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Discharge Valve	+21BFB08EA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type

### Turbine Non-Essential Board 3

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
12.5kW	Gland Steam Vent Fan	+31BFB08AA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump A	+31BFB08BA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
10.1kW	Make-up Water Pump B	+31BFB08CA001	H1-SC7-SC48	25 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Suction Valve	+31BFB08DA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type
2.2kW	Extraction Pump A Discharge Valve	+31BFB08EA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Change to fix type

### Boiler Board 4A

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
2.2kW	Equipped Spare	+41BFA07AA001	H1-SC7-SC48		New Equipped Spare Circuit
7.5kW	Air Heater LH	+41BFA07BA001	H1-SC8-SC48	16 mm <sup>2</sup>	Change to fix type
30kW	Auxiliary Seal Air Fan A	+41BFA07CA001	H1-SC7-SC16A	70 mm <sup>2</sup>	Change to fix type
30kW	Auxiliary Seal Air Fan B	+41BFA07DA001	H1-SC7-SC16A	70 mm <sup>2</sup>	Change to fix type
30kW	Auxiliary Seal Air Fan C	+41BFA07EA001	H1-SC7-SC16A	70 mm <sup>2</sup>	Change to fix type
2.2kW	Mill Gearbox Oil Pump A	+41BFA08AA001	H1-SC7-SC48	4 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan A	+41BFA08BA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan B	+41BFA08CA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan C	+41BFA08DA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
55kW	HP Fuel Oil Pump A	+41BFA08EA001	H1-SC7-SC14	70 mm <sup>2</sup>	Change to fix type

#### Boiler Board 4B

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
18.5kW	Seal Air Fan D	+42BFA05AA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan E	+42BFA05BA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan F	+42BFA05CA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
12.5kW	Air Heater RH	+42BFA05DA001	H1-SC8-SC48	16 mm <sup>2</sup>	Change to fix type
70kW	Unit Compressor	+42BFA05EA001	H1-SC8-SC14	240 mm <sup>2</sup>	Change to fix type

#### Turbine Essential Board 4

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
2.2kW	KSB Oil Pump A	+42BFB04AA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB06BA001
2.2kW	KSB Oil Pump B	+42BFB04BA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB06CA001
3kW	SFPT Turning Gear	+42BFB04CA001	H1-SC8-SC48	25 mm <sup>2</sup>	Change to fix type
2.2kW	Vacuum Pump A	+42BFB04DA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB06JA001
2.2kW	Vacuum Pump B	+42BFB04EA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB06KA001
15kW	SFPT Auxiliary Oil Pump A	+42BFB04FA001	H1-SC8-SC48	70 mm <sup>2</sup>	Change to fix type
18.5kW	IPB Cooling Fan A	+42BFB04GA001	H1-SC8-SC48	70 mm <sup>2</sup>	Change to fix type
42.5kW	Bearing Oil Pump A	+42BFB04HA001	H1-SC8-SC14	70 mm <sup>2</sup>	Change to fix type
5.5kW	Seal Oil Pump A	+42BFB05AA001	H1-SC8-SC48	16 mm <sup>2</sup>	Move circuit to +42BFB08KA001
5.5kW	Seal Oil Pump B	+42BFB05BA001	H1-SC8-SC48	16 mm <sup>2</sup>	Move circuit to +42BFB08LA001
5.5kW	Jacking Oil Pump 1	+42BFB05CA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB09AA001
5.5kW	Jacking Oil Pump 2	+42BFB05DA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB09BA001
5.5kW	Jacking Oil Pump 3	+42BFB05EA001	H1-SC8-SC48	2.5 mm <sup>2</sup>	Move circuit to +42BFB09CA001
15kW	SFPT Auxiliary Oil Pump B	+42BFB05FA001	H1-SC8-SC48	70 mm <sup>2</sup>	Change to fix type
18.5kW	IPB Cooling Fan B	+42BFB05GA001	H1-SC8-SC48	70 mm <sup>2</sup>	Change to fix type
42.5kW	Bearing Oil Pump B	+42BFB05HA001	H1-SC8-SC14	70 mm <sup>2</sup>	Change to fix type
5.5kW	Equipped Spare	+42BFB05**001	H1-SC8-SC48		New Equipped Spare Circuit
5.5kW	Equipped Spare	+42BFB05**001	H1-SC8-SC48		New Equipped Spare Circuit



#### Turbine Non-Essential Board 4

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
27 kW	CO <sub>2</sub> Heater	+41BFB07AA001	H7-SC7	70 mm <sup>2</sup>	Change to fix type
30kW	CW Pump A	+41BFB07BA001	H1-SC7-SC48	95 mm <sup>2</sup>	Change to fix type
30 kW	CW Pump B	+41BFB07CA001	H1-SC7-SC48	95 mm <sup>2</sup>	Change to fix type
18.5 kW	Equipped Spare	+41BFB07DA001	H1-SC7-SC48		New Equipped Spare Circuit
10.1 kW	Make-up Water Pump A	+41BFB08AA001	H1-SC7-SC48	70 mm <sup>2</sup>	Change to fix type
10.1 kW	Make-up Water Pump B	+41BFB08BA001	H1-SC7-SC48	70 mm <sup>2</sup>	Change to fix type
15 kW	Gland Steam Vent Fan	+41BFB08CA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
15 kW	Equipped Spare	+41BFB04DA001	H1-SC7-SC48		New Equipped Spare Circuit
18.5 kW	Equipped Spare	+41BFB04EA001	H1-SC8-SC48		New Equipped Spare Circuit

#### Boiler Board 5A

Cct Rating	Circuit Description	Tier No	Circuit Type	Load Cable Size	Comments
2.2kW	Mill Gearbox Oil Pump A	+51BFA08BA001	H1-SC7-SC48	4 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan A	+51BFA08CA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan B	+51BFA08DA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
18.5kW	Seal Air Fan C	+51BFA08EA001	H1-SC7-SC48	16 mm <sup>2</sup>	Change to fix type
55kW	HP Fuel Oil Pump A	+51BFA08FA001	H1B-SC7-SC14	70 mm <sup>2</sup>	Change to fix type

### 3.8 As-built drawings, operating manuals and maintenance schedules

All the *Contractor's* designs and drawings are to be reviewed and approved by the Employer's respective departments before the commencement of any construction/installation work on site. Documentation shall be submitted to the *Project Manager*.

Drawings are to be provided in Auto Cad DGN Format software used by the Employer.

## 4 Procurement

### 4.1 People

#### 4.1.1 Minimum requirements of people employed on the Site

General workers or assistants shall be employed from the local community, there are local structures that can be contacted through the security office to access the database of the locals.

The people who are executing the work onsite need to be reflected in the safety file. New people to be approved by the safety officer and safety file to be revised.

#### 4.1.2 BBBEE and preferencing scheme

Refer to conditions of tendering

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

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

The *Contractor* will be required to provide the *Employer* with all information regarding his *Subcontractors*. The *Employer* will need to approve all *Subcontractors* to be used by the *Contractor*. The *Contractor* shall be responsible for all the *activities* performed by the *Subcontractors*.

#### 4.2.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* shall be responsible for all documentation and work performed by *Subcontractors*. The *Contractor* ensures that all work performed by the *Subcontractor* is in accordance to the *Employer's* Works Information and meet all quality requirements. The *Employer* makes use of his quality control officers to conduct audits on work performed by the *Subcontractor*.

#### 4.2.3 Limitations on subcontracting

Appointment and managing the sub-contractor is the full responsibility of the Principal contractor.

#### **4.2.4 Attendance on subcontractors**

Not applicable to this contract document

### **4.3 Plant and Materials**

#### **4.3.1 Quality**

An activities schedule QCP must be provided with hold points to be signed off by the Employers' representatives.

The Contractor complies with the Employer Quality Requirements and ISO 9001

#### **4.3.2 Plant & Materials provided "free issue" by the *Employer***

No Plant and Materials will be free issued by the Employer.

#### **4.3.3 *Contractor's* procurement of Plant and Materials**

The Employer requires warranties from suppliers to be in favour of the Employer. Also include requirements for vendor data which the Employer may need after Completion of the whole of the works.

#### **4.3.4 Spares and consumables**

Not Applicable

### **4.4 Tests and inspections before delivery**

FAT for tier panels shall be done before delivery.

### **4.5 Marking Plant and Materials outside the Working Areas**

Mark as per drawing supplied to the *Employer*.

*Contractor* marks Plant and Materials, which are stored outside the designated Working Area(s). Such storage spaces is clearly demarcated and include project/contract information and contract details of the *Project Manager*. *Project Manager* approves of such storage areas.

*Contractor* provides their own resources to secure security of machinery and equipment that may be stored on site. *Employer* is not liable to account for any costs related to damages or thief of machinery and equipment.

#### **4.6 *Contractor's* Equipment (including temporary works).**

Not Applicable

#### **4.7 Cataloguing requirements by the *Contractor***

Recommended spares list with pricing

## 5 Construction

### 5.1 Temporary works, Site services & construction constraints

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

All Site access is controlled through the designated access gate.

The *Contractor* is informed of the access procedures through Site regulations and that such procedures may change depending on the prevailing security situation.

The *Contractor* is to comply with all Site regulations and instructions. The onus is on the *Contractor* to ensure his familiarity with the Employer's Site regulations and inspections.

No person will be issued with an access permit without proof that the person did attend the Arnot Power Station induction course.

A one-day access permit will be issued for persons attending the induction course. It is the *Contractor's* responsibility to arrange with the Project Manager one week in advance for a course booking.

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

All vehicles must be driven with due consideration for personnel and property. A maximum speed limit of 40 kilometres per hour will be always adhered to on the premises. No personnel at the back of any vehicle.

The Contractor shall provide and install fixed barricades and warning devices to ensure that equipment and persons are not exposed to danger or to prevent access to dangerous areas.

The Contract must adhere to Eskom Life Saving Rules

All personnel on Site must sign a Worker's register and Limited Access Register daily to comply with Plant Safety Regulations of Permit to Work. The *Contractor* shall have a daily Toolbox talk, periodic site inspections, job observations, risk assessments, safety equipment checks and safety talks with all the employees.

All welding, flame cutting and grinding work shall be properly screened to protect persons from arc flashes or eye injuries.

All grating shall be covered with an adequate protective screening when welding or flame cutting.

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

The Contractor keeps records of his people and Subcontractors on Site. The *Project Manager* or *Supervisor* must have access to those records at any time. These records may be needed when assessing compensation events

#### 5.1.4 Health and safety facilities on Site

A SHEQ policy is a statement of intent and a commitment by the organisation's CE and senior management in relation to the relevant SHE roles and responsibilities, the achievement of their strategic objectives, values of integrity, customer satisfaction, excellence, and innovation.

Eskom COVID-19 Health and Safety Policy Statement, strive to ensure a COVID-19- free and safe working environment for all. As per the requirement of Section 8 of Occupational Health and Safety Act and based on

a COVID-19 specific risk assessment, Eskom has identified and implemented control measures to prevent the spread of the Coronavirus.

The contractor is required to provide Eskom with a detailed plan on how to prevent the spread of the virus and what control measures will be put in place when entering Eskom Arnot Power station in compliance with Covid-19 regulations.

The following should be in place as a minimum:

- COVID19 safe work plan
- COVID19 Risk assessment
- Daily check lists
- Transport arrangements/plans and accommodation
- An emergency plan
- A plan to sanitise facilities in case of possible contamination

The principal contractor and all appointed contractors, if already not in place, will be required to compile an organisational SHE policy in line with their SHE responsibilities. The policy must be signed by the organisation's CE or the appointed assistant to the CE OHS Act Section 16(2). The policy must be displayed in a prominent place within the workplace. A copy of the policy must be filed in all the contract SHE files and as an annexure of the SHE Plans

#### **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**

The *Contractor* has no title to materials from excavation and demolition.  
All reusable equipment will remain the property of the Employer.  
All scrap daily to the scrap yard.

#### **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**

No photographs may be taken on Site without the written permission of the Employer.

#### **5.1.9 *Contractor's* Equipment**

Equipment entering Arnot premises will be registered on the tool register at the security access gate.

Records are to be kept of Equipment on Site including whether it is owned or hired. The *Contractor* is responsible to provide his own scaffolding, lifting equipment, mobile cranes and fork lifts where required.

#### **5.1.10 Equipment provided by the *Employer***

No equipment for the works is provided by the Employer.

### **5.1.11 Site services and facilities**

#### **5.1.11.1 Contractor's Yard**

A site for the Contractor's yard is provided by the Employer. A written request, indicating the Contractor's requirements in locality and area of storage, office and Workshop sites is submitted to the Project Manager as soon as possible after the Contract Date.

#### **5.1.11.2 Potable water**

Potable water for construction purposes is also available free of charge. Any installation is for the Contractor's account. A site for the Contractor's yard is provided by the Employer. A written request, indicating the Contractor's requirements in locality and area of storage, office and Workshop sites is submitted to the Project Manager as soon as possible after the Contract Date.

#### **5.1.11.3 Sanitary Facilities**

The *Contractor* to provide his own sanitary facilities or use the existing facilities that the *Employer* already have on site

#### **5.1.11.4 Fire Protection**

The Contractor is to comply with requirements of Eskom Standard NWS 1494 Revision 4 "Fire prevention and protection of Contractor's premises on Engineering Sites" and of Site Regulations pertaining fire protection. (NWS1494 Revision 4).

Any tampering with the Employer's fire equipment is strictly forbidden. All exit doors, fire escape routes, walkways, stairways and stair landings must be kept free of obstruction, and not to be used for work or storage at any time. Firefighting equipment must remain accessible at all times.

#### **5.1.11.5 Conditions of Power supply for Erection**

The Employer makes available to the Contractor a temporary 220/230/380 Volt AC electricity supply free of charge from the closest existing point of supply. The cost of cabling from point of supply to the Contractor's yard/offices is borne by the Contractor. The cost of additional connection or points is borne by the Contractor. The Contractor makes provision for the necessary extensions and plug points. Any changes made to existing supplies are for the Contractor's account.

In order to comply with the Electrical Installation Regulations under the Occupational Health and Safety Act, no 85 of 1993 the following requirements are met before electricity is supplied it is expected that the Contractor is in possession of a valid certificate of compliance. Your electrical installation is inspected and tested by an accredited person to ensure that it complies with the requirements of the Occupational Health and Safety Act, 1993 and the code of Practice for wiring of premises, SABS 0142. After you have obtained the certificate of compliance, the Employer is to inspect your electrical installation and if satisfied, it is connected and supplied from the construction power supply.

### **5.1.12 Facilities provided by the *Contractor***

The Contractor provides facilities within his own yard, office, storeroom, canteen, etc. Contractor connects electricity to points supplied by the Employer.

The *Contractor* is to dismantle and clear off site all such temporary structures and associated foundations and infrastructure.

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

Not Applicable

#### **5.1.14 Survey control and setting out of the *works***

Not Applicable

#### **5.1.15 Excavations and associated water control**

Not Applicable

#### **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**

- Employee to wear the required personal protective equipment when going to the plant where there is noise and dust
- Waste must be managed according to Eskom management standard 32-245

#### **5.1.18 Sequences of construction or installation**

The *Contractor* must supply the sequence of installation to the *project manager* with the execution plan. Agreement will have to be reached between the two parties after consultation with adjacent crews working around.

#### **5.1.19 Giving notice of work to be covered up**

Not Applicable

#### **5.1.20 Hook ups to existing works**

Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into.

No person may work at height where there is a risk of falling unless:

- A pre-task risk assessment to identify all risks and hazards has been conducted prior to commencing any work at height.
- He/she is appropriately trained.
- He/she is appropriately secured during ascending and descending; and
- He/she is using an approved fall arrest system where applicable

## **5.2 Completion, testing, commissioning and correction of Defects**

### **5.2.1 Work to be done by the Completion Date**

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works Information.

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

The *Employer* takes over the *works* after successful commissioning of the *works*.

### **5.2.3 Materials facilities and samples for tests and inspections**

- The installation inspection and testing of all supplied items forming part of the works shall be agreed between a *Contractor* and *Employer* on and the philosophy and guarantee test parameter which includes all electrical and mechanical field equipment.
- The *Contractor* gives at least seven days in advance notification to the Supervisor /Project Manager or the Authority for inspection/test and hold or witness points, which require their attendance. The *Contractor* confirms readiness for inspection at least 24 hours prior to the test.
- The *Contractor* ensures that all work has been fully inspected, accepted, and documented prior to requesting any inspection by the Supervisor.

### **5.2.4 Commissioning**

- The Project Manager will make final arrangements with the Contractor 24 hours in advance, preliminary arrangements made at least a week in advance.
- Before equipment is placed in service the *Contractor* certifies that it is in a suitable and safe condition.
- Commissioning checks include verification of connections, configuration, integration, interfacing, and functionality.
- Prior to the time when commissioning checks are to commence, the System Engineer will co-ordinate the commissioning of all equipment forming an integral part of the plant being commissioned.
- In those cases where various components are connected to form an integrated system, the Contractors at the time of commissioning, carries the responsibility for the correct functioning, In the Event of incorrect functioning, the Contractor determines the cause and corrects the fault. If the trouble is within equipment supplied to the Contractor, The Project Manager is to rectify defects within the Employers equipment.
- Site Acceptance testing commences once the Project Manager has certified Installation and Commissioning as complete.

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

The *Contractor* will work with the Appointed Operator and engineering representative of the plant to put the Works into operation after it has been safety cleared.

### **5.2.6 Take over procedures**

Takeover is after or at the same time as completion. The Employer organise with the Contractor the final date of the handover.

### **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 *Contractor* will be required to follow the Plant Safety Regulation to work on the Works. He shall not work without a Work Permit to gain access to the plant.



### **5.2.8 Performance tests after Completion**

The constructor shall compile a check sheet to measure the criteria for performance testing of the whole system.

The *Contractor* has to demonstrate after completion of the *works* that *his* design and installation is compliant to the reference standard used in this specification.

### **5.2.9 Training and technology transfer**

Training for end users and support staff to be done as part of the contract where applicable

### **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*

## **5.3 Permit to work**

The Employer is responsible to take out all permits, and the Contractor will make available Authorised Supervisors for the duration of the works.

## **5.4 Scaffolding**

The Employer has an existing contract with a recognised scaffolding company on site. This scaffolding company will provide a free service to the Contractor provided that he is given at least 5 days' notice before a scaffold is required.

The Contractor's site manager needs to be in possession of a valid scaffolding inspector's certificate to enable him to inspect the scaffolding. This will enable him to accept the scaffolding Contractor's handing over certificate.

## 6 Plant and Materials standards and workmanship

### 6.1 Investigation, survey and Site clearance

Supplier is entitled to visit site to check the lay out and plan how to approach the work and for the purpose of tendering e.g., checking the source of power, water etc. Supplier will be able to determine the length of cable and pipes.

### 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.

### 6.4 Electrical & mechanical engineering works

Not Applicable

### 6.5 Process control and IT works

Not Applicable

### 6.6 Other

Not Applicable

## 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
0.41/24877 Sheet 50		Boiler Board 4A General Arrangement
0.41/24877 Sheet 70		Boiler Board 4A H1-SC7-SC48 Schematic
0.41/24877 Sheet 82		Boiler Board 4A H1-SC8-SC48 Schematic
0.41/24877 Sheet 80		Boiler Board 4A H1-SC7-SC16A Schematic
0.41/24877 Sheet 69		Boiler Board 4A H1-SC7-SC14 Schematic
0.41/24878 Sheet 50		Boiler Board 4B General Arrangement
0.41/24878 Sheet 63		Boiler Board 4B H1-SC7-SC48 Schematic
0.41/24878 Sheet 75		Boiler Board 4B H1-SC8-SC14 Schematic
0.41/24882 Sheet 50		Turbine Essential Board 4 General Arrangement
0.41/24882 Sheet 63		Turbine Essential Board 4 H1-SC8-SC48 Schematic
0.41/24882 Sheet 73		Turbine Essential Board 4 H1-SC8-SC14 Schematic
0.41/24883 Sheet 50		Turbine Non Essential Board 4 General Arrangement
0.41/24883 Sheet 64		Turbine Non-Essential Board 4 H7-SC7 Schematic
0.41/24883 Sheet 63		Turbine Non-Essential Board 4 H1-SC7-SC48 Schematic
0.41/24883 Sheet 79		Turbine Non-Essential Board 4 H1-SC8-SC48 Schematic
0.41/25475/Sheet 50		Boiler Board 5A General Arrangement
0.41/25475/Sheet 70		Boiler Board 5A H1-SC7-SC48 Schematic
0.41/25475/Sheet 70		Boiler Board 5A H1-SC7-SC48 Schematic
0.41/25475/Sheet 77		Boiler Board 5A H1B-SC7-SC14 Schematic
0.41/25476/Sheet 50		Boiler Board 5B General Arrangement
0.41/25476/Sheet 73		Boiler Board 5B H1-SC7-SC16A Schematic
0.41/25476/Sheet 62		Boiler Board 5B H1-SC7-SC14 Schematic
0.41/25476/Sheet 63		Boiler Board 5B H1-SC7-SC48 Schematic
0.41/25476/Sheet 77		Boiler Board 5B H1C-SC8-SC14 Schematic
0.41/25473 Sheet 50		Turbine Essential Board 5 General Arrangement
0.41/25473 Sheet 63		Turbine Essential Board 5 H1-SC8-SC48 Schematic

<b>0.41/25473 Sheet 73</b>		<b>Turbine Essential Board 5 H1-SC8-SC14 Schematic</b>
<b>0.41/25474 Sheet 50</b>		<b>Turbine Non Essential Board 5 General Arrangement</b>
<b>0.41/25474 Sheet 64</b>		<b>Turbine Non-Essential Board 5 H7-SC7 Schematic</b>
<b>0.41/25474 Sheet 63</b>		<b>Turbine Non-Essential Board 5 H1-SC7-SC48 Schematic</b>
<b>0.41/25474 Sheet 71</b>		<b>Turbine Non-Essential Board 5 H1-SC8-SC48 Schematic</b>
<b>0.41/25550 Sheet 50</b>		<b>Boiler Board 6A General Arrangement</b>
<b>0.41/25550 Sheet 71</b>		<b>Boiler Board 6A H1-SC8-SC48 Schematic</b>
<b>0.41/25550 Sheet 80</b>		<b>Boiler Board 6A H1-SC7-SC16A Schematic</b>
<b>0.41/25550 Sheet 69</b>		<b>Boiler Board 6A H1B-SC7-SC14 Schematic</b>
<b>0.41/25551 Sheet 50</b>		<b>Boiler Board 6B General Arrangement</b>
<b>0.41/25551 Sheet 73</b>		<b>Boiler Board 6B H1-SC7-SC16A Schematic</b>
<b>0.41/25551 Sheet 76</b>		<b>Boiler Board 6B H1B-SC7-SC14 Schematic</b>
<b>0.41/25551 Sheet 63</b>		<b>Boiler Board 6B H1-SC7-SC48 Schematic</b>
<b>0.41/25551 Sheet 77</b>		<b>Boiler Board 6B H1C-SC8-SC14 Schematic</b>
<b>0.41/25549 Sheet 50</b>		<b>Turbine Essential Board 6 General Arrangement</b>
<b>0.41/25549 Sheet 63</b>		<b>Turbine Essential Board 6 H1-SC8-SC48 Schematic</b>
<b>0.41/25549 Sheet 73</b>		<b>Turbine Essential Board 6 H1-SC8-SC14 Schematic</b>
<b>0.41/25548 Sheet 50</b>		<b>Turbine Non Essential Board 6 General Arrangement</b>
<b>0.41/25548 Sheet 64</b>		<b>Turbine Non-Essential Board 6 H7-SC7 Schematic</b>
<b>0.41/25548 Sheet 63</b>		<b>Turbine Non-Essential Board 6 H1-SC7-SC48 Schematic</b>
<b>0.41/25548 Sheet 71</b>		<b>Turbine Non-Essential Board 6 H1-SC8-SC48 Schematic</b>

## **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.

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