

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

400 kV Post Insulators:

- The installation of **12 × 400 kV (C10-1550)** post insulators will be on prepared steel structures, the contractor will install as specified in the specification **240-82736997 Rev 2 Section 3.2.5: Stringing, Cabling, Earthing and Erection specification for Transmission substation.**
- The contractor is to supply all plant and tools to ensure the completion of works.

400kV Tubular Aluminium conductors:

- The supply, delivery, off-loading and installation of the 400 kV tubular aluminium conductors.
- The levelling and trimming of tubular aluminium conductors and insertion/installation of the busbar clamps, end caps, damping conductors and conductor end sleeves (ferrules).
- The contractor will supply the 400 kV aluminium conductors as specified in the specification **240-122922610 Rev 2 – Specification for substation tubular conductors. Refer to Annexure C: Schedule of Quantities as reference in the specification.**
- The contractor will install the 400 kV tubular aluminium conductors as specified in the specification **240-89926574 Rev 2 – Specification for the installation of Tubular Aluminium Conductors. Refer to Schedule A: Quantities as reference in the specification.**
- Evaluation criteria for Supply of tubular aluminium conductors as specified in the specification **240-122922894 Rev 4 – Technical Evaluation standard for substation Tubular Conductors.**
- Evaluation criteria for Installation of tubular aluminium conductors as specified in the specification **Pem13P01-SE-E87 Rev1-Technical Tender Evaluation for the Installation of Tubular Aluminium Conductors at Pembroke Substation.**
- The contractor is to supply all plant and tools to ensure the completion of works.

Free issue materials: Damping aluminium conductors, Endcaps, conductor end sleeves (Ferrules) and busbar clamps shall be supplied by Eskom. Contractor will take full responsibility of the free issue material

1.2 Employer's objectives and purpose of the works

The purpose of this project is to construct and equip a new 400kV yard below at Pembroke substation.

- Install 400kV busbar at Pembroke,
- Install 1x 500MVA 400/132kV transformer at Pembroke and
- Install a 400 kV Feeder 2 bay at Pembroke.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
PM	Project Manager
QS	Quantity Surveyor
EA	Engineering Assistant
HV	High Voltage
kV	Kilo volt

ORHVS	Operating Regulations for High Voltage Systems
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2 Management and start up.

2.1 Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Inaugural meeting	Before or after safety and environmental files have been assessed and approved.	Pembroke Substation	<i>PM, QS, Site Supervisor, EA, Grid safety and environmental representatives and the Contractor.</i>
Toolbox talk and risk assessment	Daily before work begins.	Pembroke Substation	<i>Contractor and Site Supervisor.</i>
Risk register and compensation events	As necessary.	Pembroke Substation	<i>PM, Contractor and Site Supervisor.</i>
Overall contract progress and feedback	Once a month on site.	Pembroke Substation	<i>PM, QS, Contractor, Site Supervisor, and Grid representatives.</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 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 correspondence is to be addressed to the Project Manager with a sequential numbering system. Documents will be stored on Hyperwave.

2.3 Health and safety risk management

NO WORK ON SITE WILL BE ALLOWED TO COMMENCE BEFORE ALL THE ACCESS PERMITS AND THE RELEVANT HEALTH AND SAFETY FILES ARE IN PLACE AND APPROVED– ACCORDING TO THE ESKOM STANDARD TST41-61, as amended.

The Contractor shall control his activities and processes in accordance with the Occupational Health & Safety Act No. 85 of 1993 and Eskom's Contractor Health and Safety Requirements 32-136, as amended. The contractor when on site shall adhere to all of Eskom standards and procedures listed in the **Safety, Health and Environmental specification 240-166910358 Rev 1.**

The Contractor is to compile a complete environmental file 3 weeks before commencement. The file needs to be audited and approved by Transmission, Southern Portfolio, Safety Department. Contact persons is Rapelang Laduma, contact number 011 800 8509.

2.4 Environmental constraints and management

The Contractor shall control his activities and processes in accordance with Eskom's Environmental Requirements TST41-120. The Eskom EMP provides the Aspects and Impacts that will require management and must be followed strictly for duration on site. For tendering purposes, the Contractor shall prepare a separate mitigation plan (method statement / EMP) for all environmental concerns raised through the EMP.

Any changes to the approved environmental mitigation plan (method statement / EMP) shall be reported and approved by the Grid Environmental Advisor and Project Manager, prior to the commencement of work and during construction. If applicable, the Principal Supplier must ensure that all sub-contractors' environmental mitigation plan comply with legal and other requirements and also include all the environmental risks associated with the scope of work. The main (principal) contract shall define the specific system elements applicable to the subcontractor's scope of work or supply.

In addition, the Contractor is required to ensure that all goods, services or works supplied in terms of this tender also conform to all applicable environment legislation(s), EPC32-727.

The Contractor is to send a flash report for any environmental incidents that have occurred on site as soon as possible or within 24 hours to the Grid Environmental Advisor and PM, clearly stating any impact to the environment.

No environmental records shall be destroyed or discarded by the Supplier. Eskom and the Supplier shall agree that the Supplier retains certain environmental records.

Waste generated during project must be disposed of at a registered site and Contractor shall retain records of disposal. Contractor shall comply with **TDP Waste Management Plan TDPMAN-TN-53 Rev 5 and Eskom Waste Management Standard 32-245 Rev 5**.

Deviations from these requirements will be regarded as a non-conformance. Should there be concerns regarding Environmental performance and non-conformance to Environmental requirements, management engagements and interventions will be introduced to determine a means of addressing the shortfalls. Once these interventions have been explored and exhausted, then the Eskom Supplier disciplinary process will be followed.

NB: The Contractor is to compile a complete environmental file 3 weeks before commencement. The file needs to be audited and approved by Transmission Environmental Department, contact person: Nombulelo Mabena, Contact No. 011 800 6893 prior to commencement of work. The Contractor shall comply with the environmental criteria and constraints stated in the **Environmental Requirements for Contractor and/or Supplier – PDPMAN-ST-37 Rev 2**.

2.5 Quality assurance requirements

The Contractor shall comply with the quality specification, **QM 58:Supplier Quality Management specification**.

The Contractor shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of assets, goods & services, as amended.

2.6 Programming constraints

A comprehensive and fully detailed programme is to be submitted within seven (7) days after the inaugural meeting and should be in MS Project or Primavera format, indicating all milestones and critical dates. This programme must first be approved by the Project Manager and must be updated bi-weekly or as requested by the Project Manager. Only MS Projects or Primavera format will be allowed.

The following dates shall be clearly reflected on the programme:

Starting and completion dates for all activities as well as relevant key dates for holding or witness points. All relevant significant activities shall be shown in order to monitor the progress on site or in the workshop. The programme shall also reflect a 2-week period for inspection and correcting of Defects before the completion date.

Updated programmes must be available at all sites as well as at all site meetings, reflecting progress to date.

Return site visits may be necessary for connections.

2.7 Contractor's management, supervision and key people

The Contractor is to submit an organogram showing all key people involved in the contract 7 days after contract award. All key personnel must be appointed in writing, must be current for the specific site and area of work and must be kept on file.

2.8 Invoicing and payment

Local invoice:

The tax invoice should be submitted via e-invoice to: **Invoiceseskomlocal@eskom.co.za**

Invoices submitted in any other manner will not be considered for payment, for example, invoices sent directly to the Project Manager.

Once the invoice has been received by Accounts payable it will be paid in line with payment terms which will start to count from the date the invoice is submitted to the correct email address

Foreign invoices:

Foreign invoices should be also submitted via e-invoice to: **InvoicesgrpcapitalPDP@eskom.co.za**

The invoice should have the following details:

Addressed to:

Eskom Holdings SOC Limited

Department: Transmission Project Delivery

Physical address: Megawatt Park, 1 Maxwell Drive, Sunninghill, 2197

Other information to be reflected on the invoice:

- Name and address of the Contractor and the Service Manager,
- The contract number and title,
- Contractor's company registration number,
- Contractor's VAT number,
- The Employer's VAT registration number 47401015
- 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,
- Retention monies to be deducted from the invoice.
- Ensure that the Eskom order number is clearly indicated on your invoice together with the line number on the order you are billing for.

Method of sending the invoice:

- All electronic invoices must be sent in PDF format only.

- Each PDF file should contain one invoice; or one debit note; or one credit note only as Eskom's SAP system does not support more than one PDF being linked into workflow at a time.
- Your E-mail may not contain more than one PDF file.

Tax Requirement

- In case of a local invoice a PDF file that was created directly from a system meets the definition of original document and is allowed (including saving documents from excel to PDF, word to PDF etc.)
- An Invoice that was printed and then scanned to PDF by the Vendor is not acceptable as this is not an original tax invoice by SARS definition but a copy.
- The following wording needs to appear on the invoice: "Your invoice is encrypted in order to comply with SARS requirements that invoices and statements sent electronically are tamperproof."
- If there is Cost Price Adjustment (CPA) on your invoice we recommend that you issue a separate invoice for CPA so that if there are any issues on the CPA the rest of the invoice can be paid while resolving the CPA issues.
- Introduction of electronic invoicing does not guarantee payment but will ensure visibility of all invoices and ensure that no invoices get lost. If the goods receipt is not done the invoice will be parked and the system will automatically send an e-mail to the end user to do the goods receipt. This is also tracked by Eskom through the park invoice report.

All queries and follow up on local invoice payments should be made by contacting the Project Manager or FSS.

FSS Contact Centre:

- Tel: 011 800 5060
- e-mail: fss@eskom.co.za

2.9 Insurance provided by the *Employer*

Any queries can be directed to Eskom Insurance Management Services (EIMS). For general information from EIMS contract +27 11 800 4466.

2.10 Contract change management

Where standard forms are available, they should be used.

2.11 Provision of bonds and guarantees

Not applicable.

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

The Contractor is to keep proof/invoices of all costs incurred, that is people employed by the Contractor, Plant and Materials, work subcontracted by the Contractor and Equipment for a compensation event, and submit them to the Project Manager, if requested.

The contractor provides updated site records of people and equipment (including ownership) on a weekly basis and maintains daily rainfall and temperature measurements.

2.13 Training workshops and technology transfer

Not applicable.

3 Engineering and the *Contractor's* design

3.1 *Employer's* design

The following specifications and evaluation criteria are reference throughout the document. The revision as at the date of Contract placement is applicable. The *Contractor* is responsible for obtaining the latest revision of these documents.

Documents marked with an asterisk (*) are available from the *Employer* at no cost and are issued with this enquiry.

*	240-82736997 Rev 2 Section 3.2.5 Attached Annexure 2	Stringing, Cabling, Earthing and Erection specification for Transmission substation. (With regards to Post Insulators Installation see Section 3.2.5)
*	240-122922610 Rev 2 Attached Annexure 3	Specification for Substation Tubular Aluminium conductors.(Annexure C – Schedule of Quantities)
*	240-89926574 Rev 2 Attached Annexure 4	Specification for the Installation of Tubular Aluminium Conductors.
*	240-166910358 Rev 2 Attached Annexure 5	SHE specification Pembroke Substation Electrical works.
*	QM58 Rev 2 Attached Annexure 6	Supply quality Management specification.
*	PDPMAN-ST-37 Rev 2 Attached Annexure 7	Environmental Requirements for Contractors/Suppliers.
*	32 - 245 Rev 5 Attached Annexure 8	Eskom Waste management standard.
*	TDPMAN-TN-53 Rev 5 Attached Annexure 9	TDP Waste Management Plan.
*	ENV17-R249 Rev 2 Attached Annexure 10	Environmental Incident Procedure.
*	240-122922894 Rev 4 Attached Annexure 11	Technical Evaluation standard for substation Tubular Conductors.
*	Pem13P01-SE-E-87 Rev1 Attached Annexure 12	Technical Tender Evaluation for the Installation of Tubular Aluminium Conductors at Pembroke Substation.
*	Pem13P01-SE-E-98 Rev0 Attached Annexure 13	Schedule A: Quantities

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

Not applicable.

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

Not applicable.

3.4 Other requirements of the *Contractor's* design

Not applicable.

3.5 Use of *Contractor's* design

Not applicable.

3.6 Design of Equipment

Not applicable.

3.7 Equipment required to be included in the *works*

Transport, lifting and installation of the 400 kV busbar post insulators.

Transport, lifting and installation of the 400 kV tubular aluminium conductors

3.8 As-built drawings, operating manuals and maintenance schedules

The Contractor is to provide Eskom with detailed "As-built" records where deviations have been made from construction drawings within 14 days after completion.

4 Procurement

4.1.1 Minimum requirements of people employed on the Site

All people employed on site by the Contractor shall have Police clearance before work on site can commence. The Contractor's employees shall be sober on site and may be subjected to random breathalyser tests.

4.1.2 BBBEE and preferencing scheme

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2011

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all tenders:

- the 80/20 system for requirements with a Rand value of up to R1 000 000 (all applicable taxes included);
and

1.3 Preference points for this tender shall be awarded for:

(a) Price; and

(b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this tender are allocated as follows:

POINTS

1.3.1.1 PRICE

1.3.1.2 B-BBEE STATUS LEVEL OF CONTRIBUTION

Total points for Price and B-BBEE must not exceed 100

1.4 Failure on the part of a tenderer to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the tender, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5. The purchaser reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

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

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. 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 submits the names of each proposed subcontractor to the Employer for acceptance. The Contractor does not appoint a subcontractor until the Employer has accepted him.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The NEC system is compulsory for all subcontract documentation.

4.2.3 Limitations on subcontracting

Compile with SD&L requirements.

4.2.4 Attendance on subcontractors

The Contractor is responsible for providing the Works as if he had not subcontracted.

4.3 Plant and Materials

4.3.1 Quality

The Contractor shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of assets, goods & services PDPMAN-SP-28, as amended, and project quality plan.

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

Item	Date by which it will be provided
Free issue Busbar Clamps.	01 June 2023
Free issue Conductor Sleeves (Ferrules)	01 June 2023
Free issue End Caps.	01 June 2023
Damping Conductors (Centipede conductor)	01 June 2023
Free issue Post Insulators	01 June 2023

4.3.3 *Contractor's* procurement of Plant and Materials

Contractor is to provide all plant and materials to ensue completion of works.

4.3.4 Spares and consumables

Not applicable.

4.4 Tests and inspections before delivery

Test results must be send to project manager and Eskom subject matter expert.

4.5 Marking Plant and Materials outside the Working Areas

Not applicable.

4.6 Contractor's Equipment (including temporary works).

Contractor to provide all equipment to ensure completion of works.

4.7 Cataloguing requirements by the Contractor

Not applicable.

5 Construction

5.1 Temporary works, Site services & construction constraints

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

The Contractor is to have an Eskom certified and authorized, Operating Regulation for High Voltage Systems (ORHVS), person available on site at all times in accordance with Eskom Transmission Standard. Occupational Health and Safety Requirements to be met by Contractors and Sub-contractors employed by Eskom. ORHVS authorisation is done by the Eastern Cape Grid GMR 2.1 and the Grid Safety Advisor for work in the region. Also, one of the workers must be a first aider level 2 certified. All workers to have police clearance (No criminal record)

It is the Contractors responsibility to ensure that a permit to work is obtained before access to the work can be given.

The contractor's trucks must have a valid and current crane test certificate with the truck driver and crane operator's certificate. All slings, shackles and crimping tools must have valid and current test certificates, which must be produced on site establishment.

The contractor will only leave site once a written site instruction has been issued by an Eskom site representative.

Working hours will be from 07h30 to 16h30 during weekdays, weekend work to be carried out only on request from Project manager.

Before any work is commenced, it will be the responsibility of the contractor to ascertain from the "engineering assistant or site supervisor" the position of any existing services on site. Once these are indicated to the contractor they shall be deemed "known". Any costs incurred for repairs to any "known" services shall be for the contractor's account

The contractor shall make his own arrangements for the provision of accommodation for his employees.

The contractor shall control his activities and processes in accordance with the Occupational Health & Safety Act no. 85 of 1993 and Eskom Safety Standard. The contractor shall control his activities and processes in accordance PDPMAN-ST-37: Environmental Requirements for Contractors and Supplies ,PDPMAN-PN-53:Waste Management Plan and PDPMAN-SP-28: Quality requirements for the organisation.

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

Please note: If the employer cannot give access for installation on the date specified on the contract due to COVID-19 Pandemic, the employer should give an early warning to the contractor two weeks prior and the contractor will not be entitled to claim any standing time and cost.

Access on site is restricted to the area in which the Contractor is working, and which has been barricaded. Strictly no movement outside the barricaded working area, unless escorted by authorized HV Plant personnel. The majority of the work is to be performed in the live HV Yard and the Contractor will take all necessary precautions and work in conjunction with Eskom personnel.

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

The Contractor is to supply Eskom with Police clearances for all the employees on site before work commences. The normal working hours shall be from 07:30 am to 04:30 pm. Any work done outside this duration must be arranged through the Project Manager. The maximum speed limit on site is 40 km/h. All time sheets must be signed off by Eskom site supervisor.

5.1.4 Health and safety facilities on Site

There are no toilet facilities available on site. The Contractor is to provide his own toilet facilities on site and ensure that these facilities are kept in clean condition, to Eskom's satisfaction. No work on site will be allowed to commence before the toilet facilities are available on site.

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

The Contractor shall control his activities and processes in accordance with Eskom's Environmental Requirements TST41-120, as amended. The Contractor shall establish a refuse control system. All waste is to be collected and disposed of as required by Eskom and the Local Authority.

5.1.6 Title to materials from demolition and excavation

All the materials from excavation and demolition must be disposed of by the Contractor, except where expressly stated by the PM or the relevant staff from the Grid. All rubble and other materials must be classified, weighed and transported to a registered dumping site. The Contractor should supply the Project Manager with the certificate that validates the legality of the dump site.

5.1.7 Cooperating with and obtaining acceptance of Others

The Contractor's attention is drawn to the fact that other Contractors may be on site and access and interfacing with them will be required. The Contractor shall allow safe access for other Contractors and Eskom personnel when required.

5.1.8 Publicity and progress photographs

Warning signs and notices must be clearly displayed at all sites where work is taking place. It is the responsibility of the Contractor to ensure that all his/her workers and visitors adhere to all signs. No photographs are to be taken without the permission of the employer.

5.1.9 Contractor's Equipment

All equipment must be registered in the equipment register and as per 32-136. The Contractor is responsible for his own insurance of his equipment. The Contractor is to take stock of his material and equipment on a regular basis and any shortage to be reported to the Project Manager immediately, stating if it is hired or owned.

5.1.10 Equipment provided by the *Employer*

No equipment ,other than the free issue items ,will be provided by the Employer.

5.1.11 Site services and facilities

All the water necessary for construction purposes must be provided for by the Contractor. It is the Contractor's responsibility to test any water before using it for construction purposes. The Contractor is to submit a Test Certificate for the water used on site.

Electricity is available on site but on request from the Contractor. The Contractor shall provide all connections, extensions and additional supply points necessary for the works. Any measures which the Contractor may require to maintain continuity and quality of supply shall be arranged by him/her at his/her own expense.

The Contractor shall provide everything else necessary for providing the works.

5.1.12 Facilities provided by the *Contractor*

The Contractor supplies all plant and materials required for providing the works.

There are no office or telephone facilities available on site. The Contractor is to provide his own facilities on site and ensure that these facilities are kept in clean condition, to Eskom's satisfaction.

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

The work is to be carried out next to an existing HV yard and the Contractor is to take note of the surrounding foundations, equipment and buildings.

5.1.14 Survey control and setting out of the *works*

The Contractor is responsible for setting out the works as shown on the drawings.

5.1.15 Excavations and associated water control

Not applicable

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

The Contractor shall take extra precautions when working next to any existing plant, buildings extra.

5.1.17 Control of noise, dust, water and waste

The Contractor shall control his processes and procedures so as to minimise noise and dust. All waste is to be collected and disposed of as required by Eskom and the Local Authority.

5.1.18 Sequences of construction or installation

The installation of the 400 kV post insulators and then the installation of the 400 kV tubular aluminium conductors as well as the levelling/trimming of the 400 kV tubular aluminium conductor tubes. Installation of the busbar clamps, insertion of damping conductors, conductor end sleeves (ferrules) and endcaps.

Also, sequence can be discussed and changed after contract placement depending on progress /circumstances on site.

5.1.19 Giving notice of work to be covered up

Contractor will submit schedule of works to be done to the project PM. The project PM will forward the schedule to the site supervisor as notice of work to be covered up. The Contractor is to give the Site Supervisor at least 3 days' notice before covering up the work.

5.1.20 Hook ups to existing works

The Contractor will work in the existing yards, installing equipment as per the specifications

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* 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, in his opinion, prevent the *Employer* from using the *works* and others from doing their work.

	Item of work	To be completed by
	As per the installation drawings	Within 14 days after Completion

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

To allow for the erection of electrical equipment, some parts of the bays may need to be made available to the equipment Suppliers before the works are completed. This will be managed by the Site Supervisor to ensure harmony and coordination of all on-going works.

5.2.3 Materials facilities and samples for tests and inspections

Not applicable.

5.2.4 Commissioning

Not applicable.

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

Work permit to be obtained prior installation of the equipment on site.

5.2.6 Take over procedures

The Contractor is to arrange an inspection at least 2 weeks before completion to inspect and identify any outstanding or incorrect items.

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

The Contractor will be responsible for ensuring that the area to be worked in is barricaded before correcting any defects

5.2.8 Performance tests after Completion

Not applicable.

5.2.9 Training and technology transfer

Not applicable.

5.2.10 Operational maintenance after Completion

Not applicable.

6 Plant and Materials standards and workmanship

6.1 Investigation, survey and Site clearance

The Contractor is to ensure that the site is cleared after completion of works, as per the Site Supervisor

6.2 Building works

Not applicable

6.3 Civil engineering and structural works

400 kV Post Insulators will be installed on prepared steel structures.

6.4 Electrical & mechanical engineering works

400 kV Post Insulators:

- The installation of the post insulators will be on prepared steel structures, the contractor will install as specified in the specification.

400kV Tubular Aluminium conductors:

- The contractor will supply the 400 kV tubular aluminium conductors as specified in the specification.
- The contractor will install the 400 kV tubular aluminium conductors as specified in the specification.
- The technical evaluation for the tubular aluminium conductors will be done as specified in the technical evaluation standard.

6.5 Process control and IT works

Not applicable.

6.6 Other [as required]

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
Pem13P01-SE-E3-0	Latest	STATION ELECTRIC DIAGRAM
Pem13P01-SE-E4-0	Latest	KEY PLAN
Pem13P01-SE-E9-0	Latest	400kV TUBULAR BUSBAR LAYOUT

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.
