



NEC3 Engineering & Construction Contract

Between ESKOM HOLDINGS SOC Ltd
(Reg No. 2002/015527/30)

and [Insert at award stage]
(Reg No. _____)

for REFURBISHMENT OF WORKSHOP AND STORE
ROOF CLADDING AT LETHABO POWER STATION

Contents:	No of pages
Part C1 Agreements & Contract Data	[•]
Part C2 Pricing Data	[•]
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Part C4 Site Information	[•]

CONTRACT No. [Insert at award stage]

Part C1: Agreements & Contract Data

Contents:	No of pages
C1.1 Form of Offer and Acceptance	[•]
[to be inserted from Returnable Documents at award stage]	
C1.2a Contract Data provided by the <i>Employer</i>	[•]
C1.2b Contract Data provided by the <i>Contractor</i>	[•]
[to be inserted from Returnable Documents at award stage]	

C1.1 Form of Offer & Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

Refurbishment of Workshop and Store Roof Cladding at Lethabo Power Station

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all of the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

Options A	The offered total of the Prices exclusive of VAT is	R [●]
	Sub total	R [●]
	Value Added Tax @ 15% is	R [●]
	The offered total of the amount due inclusive of VAT is ¹	R [●]
	(in words) [●]	

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the
tenderer:**

(Insert name and address of organisation)

Name &
signature of
witness

Date

Tenderer's CIDB registration number (if applicable)

¹ This total is required by the *Employer* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*.

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer's Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy signed between them of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

Signature(s)

Name(s)

Capacity

**for the
Employer**

(Insert name and address of organisation)

Name &
signature of
witness

Date

Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.

Schedule of Deviations to be completed by the *Employer* prior to contract award

Note:

1. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer's covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

No.	Subject	Details
1	[•]	[•]
2	[•]	[•]
3	[•]	[•]
4	[•]	[•]
5	[•]	[•]
6	[•]	[•]
7	[•]	[•]

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

For the tenderer:

For the Employer

Signature

Name

Capacity

On behalf
of

(Insert name and address of organisation)

(Insert name and address of organisation)

Name &
signature
of witness

Date

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option	A: Priced contract with activity schedule
	and secondary Options	W1: Dispute resolution procedure
		X1: Price adjustment for inflation
		X2: Changes in the law
		X7: Delay damages
		X5: Sectional Completion
		X16: Retention
		X18: Limitation of liability
		Z: Additional conditions of contract
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state-owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Project Manager</i> is: (Name)	
	Address	Lethabo Power Station Deneysville Rd Viljoensdrift
	Tel	
	Fax	Fax to email

e-mail

10.1	The <i>Supervisor</i> is: (Name)		
	Address	Lethabo Power Station Deneysville Rd Viljoensdrift	
	Tel No.		
	Fax No.	Fax to email	
	e-mail		
11.2(13)	The <i>works</i> are	Refurbishment of Workshop and Store Roof Cladding at Lethabo Power Station	
11.2(14)	The following matters will be included in the Risk Register	See risk management in part 3	
11.2(15)	The <i>boundaries of the site</i> are	Areas associated with the scope of work to be performed	
11.2(16)	The Site Information is in	Part 4: Site Information	
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	3 Days	
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the <i>Contractor</i> in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.	
3	Time		
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	31 August 2024	
30.1	The <i>access dates</i> are:	Part of the Site	Date
		All site	Once induction is conducted
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.	
31.2	The <i>starting date</i> is		
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	Every month.	
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	As stated above	

4	Testing and Defects	
42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the works.
43.2	The <i>defect correction period</i> is	2 days
5	Payment	
50.1	The <i>assessment interval</i> is	between the 25 day of each successive month.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	One calendar month
51.4	The <i>interest rate</i> is	<p>the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and</p> <p>(ii) the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment in question, adjusted <i>mutatis mutandis</i> every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.</p>
6	Compensation events	
60.1(13)	The place where weather is to be recorded is:	As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.
60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:	<p>As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.</p> <p>Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.</p>
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks and insurance	

80.1	These are additional <i>Employer's</i> risks	Refer to risk register		
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.		
10	Data for main Option clause			
A	Priced contract with activity schedule	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
11	Data for Option W1			
W1.1	The <i>Adjudicator</i> is	The person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).		
W1.2(3)	The <i>Adjudicator nominating body</i> is:	The Chairman of ICE-SA a joint Division of the South African Institution of Chemical Engineering and the London Institution of Chemical Engineers. (See www.ice-sa.org.za) or its successor body.		
W1.4(2)	The <i>tribunal</i> is:	Arbitration.		
W1.4(5)	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.		
	The place where arbitration is to be held is	South Africa		
	The person or organisation who will choose an arbitrator	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.		
	- if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is			
12	Data for secondary Option clauses			
X1	Price adjustment for inflation			
X1.1 (a)	The base date for indices is			
X1.1 (b)	The proportions used to calculate the price Adjustment Factor are:	Proportion	linked to index for	Index prepared by
		15% Total 100%	Non-Adjustable	

X2	Changes in the law	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
X5	Sectional Completion			
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description	Completion date
		1	[•]	[•]
		2	[•]	[•]
		3	[•]	[•]
X7	Delay damages			
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	2% of the total value of the delay per week up to a limit of 10% of the task order.		
X16	Retention			
X16.1	The <i>retention free amount</i> is	R		
	The <i>retention percentage</i> is	[•]%		
X18	Limitation of liability			
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	R0.0 (zero Rand)		
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event		
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	The greater of <ul style="list-style-type: none"> the total of the Prices at the Contract Date and The amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus R15M first amount payable in terms of the <i>Employer's</i> assets policy. 		
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	The total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited. The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for <ul style="list-style-type: none"> Defects due to his design which arise before the Defects Certificate is issued, 		

		<ul style="list-style-type: none"> • Defects due to manufacture and fabrication outside the Site, • loss of or damage to property (other than the <i>works</i>, Plant and Materials), • death of or injury to a person and • infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	<p>(i) Seven years after the <i>defects date</i> for latent Defects and</p> <p>(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.</p> <p>A latent Defect is a Defect which would not have been discovered on reasonable inspection by the <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i>, without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> during that period. If the <i>Employer</i> or the <i>Supervisor</i> do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the <i>Employer</i> or the <i>Supervisor</i> to have discovered the Defect.</p>
Z	The <i>Additional conditions of contract</i> are	Z1 to Z15 always apply.
Z1	Cession delegation and assignment	
	Z1.1	The <i>Contractor</i> does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .
	Z1.2	Notwithstanding the above, the <i>Employer</i> may on written notice to the <i>Contractor</i> cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.
Z2	Joint ventures	
	Z2.1	If the <i>Contractor</i> constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the <i>Employer</i> for the performance of this contract.
	Z2.2	Unless already notified to the <i>Employer</i> , the persons or organisations notify the <i>Project Manager</i> within two weeks of the Contract Date of the key person who has the authority to bind the <i>Contractor</i> on their behalf.
	Z2.3	The <i>Contractor</i> does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the <i>Employer</i> having been given to the <i>Contractor</i> in writing.
Z3	Change of Broad Based Black Economic Empowerment (B-BBEE) status	

- Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.
- Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.
- Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.
- Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

- Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.
- Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.
- Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.
- Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

- Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

Z6 Health, safety and the environment: Add to core clause 27.4

- Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:
- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational

Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;

- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

Z7 Provision of a Tax Invoice and interest. Add to core clause 51

- Z7.1 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 in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.
- Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.
- Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

- Z8.1 Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".

Z9 Employer's limitation of liability

- Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)
- Z9.2 The *Contractor's* entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer's* liability under the indemnity is limited.

Z10 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

- Z10.1 or had a business rescue order granted against it.

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

- Z11.1 If the amount due for the *Contractor's* payment of delay damages reaches the limits stated in

this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor's* obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

For the purposes of this Z-clause, the following definitions apply:

Affected Party	means, as the context requires, any party, irrespective of whether it is the <i>Contractor</i> or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
Coercive Action	means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
Collusive Action	means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
Committing Party	means, as the context requires, the <i>Contractor</i> , or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,
Corrupt Action	means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
Fraudulent Action	means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
Obstructive Action	means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
Prohibited Action	means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.
- Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

- 84.1** When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.
- 84.2** The *Contractor* provides the insurances stated in the Insurance Table A.
- 84.3** The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the <i>works</i> , Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the <i>works</i> , Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) caused by activity in connection with this contract	<u>Loss of or damage to property</u> <u>Employer's property</u> The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance <u>Other property</u> The replacement cost <u>Bodily injury to or death of a person</u> The amount required by applicable law
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2

Replace core clause 87 with the following:

The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum limit of indemnity
Assets All Risk	Per the insurance policy document

Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 44 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 44 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

For the purposes of this Z-clause, the following definitions apply:

- AAIA** means approved asbestos inspection authority.
- ACM** means asbestos containing materials.
- AL** means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
- Ambient Air** means breathable air in area of work with specific reference to breathing zone,

which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.

Compliance Monitoring means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

OEL means occupational exposure limit.

Parallel Measurements means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.

Safe Levels means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

Standard means the *Employer's Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles*.

SANAS means the South African National Accreditation System.

TWA means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z15.3 The *Employer* manages asbestos and ACM according to the Standard.

Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.

- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

Annexure A: One-in-ten-year-return

Annexure A: One-in-ten-year-return weather data obtained from SA Weather Bureau for [weather station]

If any one of these *weather measurements* recorded within a calendar month, before the Completion Date for the whole of the *works* and at the place stated in this Contract Data is shown to be more adverse than the amount stated below then the *Contractor* may notify a compensation event.

	<i>Weather measurement</i>				
Month	Cumulative rainfall (mm)	Number of days with rain more than 10mm	Number of days with min air temp < 0 deg.C	Number of days with snow lying at 08:00 CAT	[Other measurements if applicable]
January	[•]	[•]	[•]	[•]	
February	[•]	[•]	[•]	[•]	
March	[•]	[•]	[•]	[•]	
April	[•]	[•]	[•]	[•]	
May	[•]	[•]	[•]	[•]	
June	[•]	[•]	[•]	[•]	
July	[•]	[•]	[•]	[•]	
August	[•]	[•]	[•]	[•]	
September	[•]	[•]	[•]	[•]	
October	[•]	[•]	[•]	[•]	
November	[•]	[•]	[•]	[•]	
December	[•]	[•]	[•]	[•]	

Only the difference between the more adverse recorded weather and the equivalent measurement given above is taken into account in assessing a compensation event.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	% %
11.2(18)	The <i>working areas</i> are the Site and	
24.1	The <i>Contractor's</i> key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job: Responsibilities: Qualifications: Experience:	CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:	
31.1	The programme identified in the Contract Data is	
A	Priced contract with activity schedule	

11.2(20)	The <i>activity schedule</i> is in	(in figures) (in words), excluding VAT		
11.2(30)	The tendered total of the Prices is			
	Data for Schedules of Cost Components	<i>Note “SCC” means Schedule of Cost Components starting on page 60, and “SSCC” means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).</i>		
A	Priced contract with activity schedule	Data for the Shorter Schedule of Cost Components		
41 in SSCC	The percentage for people overheads is:	%		
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	Minus %		
22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated ‘cost to company of the employee’ and not selling rates. Please insert another schedule if foreign resources may also be used	Category of employee		Hourly rate
62 in SSCC	The percentage for design overheads is			
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:			

PART 2: PRICING DATA

ECC3 Option A

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	
C2.2	The <i>activity schedule</i>	

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, (ECC3) Option A states:

Identified and defined terms	11	
	11.2	(20) The Activity Schedule is the <i>activity schedule</i> unless later changed in accordance with this contract.

(27) The Price for Work Done to Date is the total of the Prices for

- each group of completed activities and
- each completed activity which is not in a group.

A completed activity is one which is without Defects which would either delay or be covered by immediately following work.

(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

This confirms that Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

Function of the Activity Schedule

Clause 54.1 in Option A states: "Information in the Activity Schedule is not Works Information or Site Information". This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Activity Schedule but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Activity Schedule. The Activity Schedule is only a pricing document.

Link to the programme

Clause 31.4 states that "The *Contractor* provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance". Ideally the tendering contractor will develop a high level programme first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

Preparing the *activity schedule*

Generally it is the tendering contractor who prepares the *activity schedule* by breaking down the work described within the Works Information into suitable activities which can be well defined, shown on a programme and priced as a lump sum.

The *Employer*, in his Instructions to Tenderers or in a Tender Schedule, may have listed some items that he requires the *Contractor* to include in his *activity schedule* and be priced accordingly.

It is assumed that in preparing his *activity schedule* the *Contractor*:

- Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
- Understands the function of the Activity Schedule and how work is priced and paid for;
- Is aware of the need to link the Activity Schedule to activities shown on his programme;
- Has listed and priced activities in the *activity schedule* which are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an *Employer's* risk;
- Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.
- Understands there is no adjustment to the lump sum Activity Schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event.

An activity schedule could have the following format:

C2.2 the *activity schedule*

Item	Description	Unit	Quantity	Rate	Amount
1	PRELIMINARY AND GENERAL	sum	1		
1.1	Health and Safety, Management Cost and Establishment, and Scaffolding				
2	REMOVAL OF EXISTING WORK				
2.1	Take out and remove roof coverings:				
2.1.1	Metal roof sheeting	m ²	15172		
2.1.2	Side Cladding	m ²	2620		
2.2	Take out and remove gutters and downpipes:				
2.2.1	Galvanised steel gutter including brackets and making good all work disturbed	m	511		
2.3	Servicing existing items				
2.3.1	Carefully examine the rainwater downpipes cast in the concrete and unblock the pipes, to be used in part or in whole at the discretion of the engineer	item	1		
3	ROOF COVERINGS: PROFILED METAL SHEETING AND ACCESSORIES				
3.1	Roofing/Side Cladding shall be Klip-Lok 700™ profile roll-formed in continuous lengths from certified Galvanized steel Z450 0.8mm (Light Industrial) complying with ISQ 550 (3T) (A653) with a Chromadek® finish to one side and standard backing coat, Pebble Grey to other and fixed to steel/timber purlins/girts using KL700 clips and class 3 fasteners, in strict accordance with manufacturer's specifications by a GRS Approved Contractor. A written and approved five year guarantee of watertightness shall be issued after approval of roofs by the manufacturer Global Roofing Solutions or similar approved. Note: All steel framework to be well fabricated and fixed according to engineers specification and detail as per SANS 10400 & 2001.				
3.1.1	Sheet steel roof covering not exceeding 5 degree pitch	m2	15172		
3.1.2	Side cladding sheet	m2	2620		
3.2	Flashings shall be manufactured from Galvanized steel Z450 0.8mm with a Chromadek® finish to one side with a Pebble Grey backing coat and fixed by way of S10 brackets or, Sliding brackets at apex where roof sheets are 30m or longer, all in strict accordance with manufacturer's specification using the appropriate tools available from Global Roofing Solutions or similar approved				
3.2.1	Bull nose flashing	m	198		
3.2.2	Gable Trim (Barge Flash) 580mm girth 3 times bent	m	160		
4	ROOF INSULATION				
4.1	Alucushion Bubblefoil FR or similar approved				
4.1.1	Double-sided aluminium foil insulation (code: 1983), laid taut over purlins and fixed concurrent with roof covering including white PVC coated straining wires at 383mm centres, ensuring subsequent sheets overlap the previous sheet by 100mm all in accordance to the manufacturer's	m2	17792		

	recommendations				
5	RAINWATER DISPOSAL				
5.1	0.6mm Galvanised mild steel:				
5.1.1	125 x 100mm galvanised industrial mild steel gutters with galvanised fixing brackets	m	511		
	Total				

.....
Contractor - Print name.....
Signature.....
Date

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
	This cover page	1
C3.1	<i>Employer's Works</i> Information	
C3.2	<i>Contractor's Works</i> Information	
	Total number of pages	

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Figure 3: Cross sectional view of the workshop and stores building (extract from drawing no. 0.63/1234)... 11

Part C 3.1: Scope of Work

1. INTRODUCTION

Lethabo Power Station is a coal fired power plant, which is situated in the Northern Free State. The station comprises of six of 618 MW Units. All equipment and materials required to maintain the operations of the station are stored in the main Workshop and Store building. Due to the inconsistent maintenance of this building, the existing Trisomet roof cladding and drainage system has deteriorated which has resulted in water leaks through the roof during the rainy season. This has compromised the stored equipment and materials as well as the safety of the employees using this building.

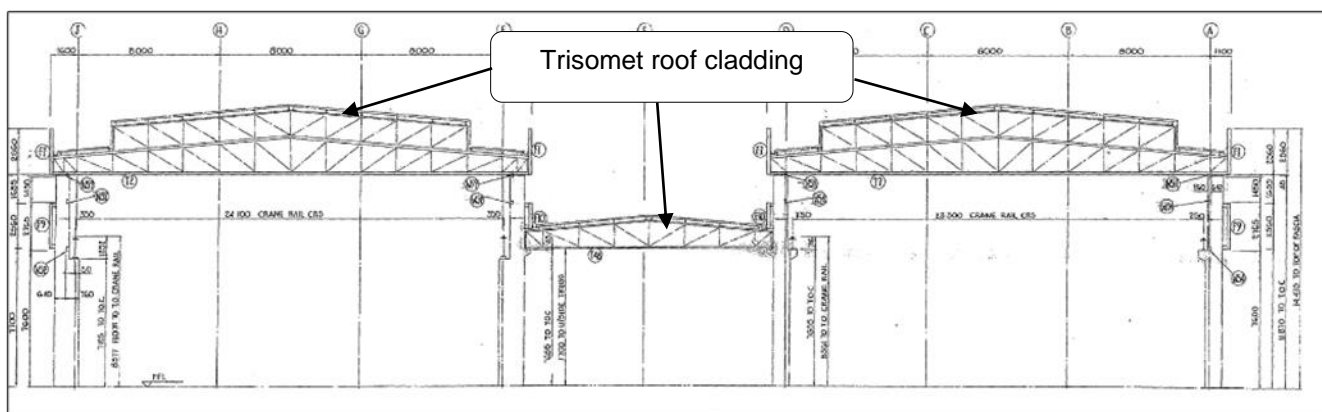


Figure 1: Cross sectional view of the workshop and stores building (extract from drawing no. 0.63/1234)

This document provides the technical specification that would form part of the contract for Lethabo Power Station. It provides the necessary details outlined in the scope of work for the refurbishment of the roof cladding and drainage system at the Workshop and Stores building. The *works* will be undertaken by the appointed *Contractor*.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the minimum scope of works relating to the replacement/refurbishment of the roof cladding and drainage system, at the Workshop and Stores building. The *works* are to be performed by the appointed *Contractor*. This report outlines all the requirements that are to be completed by the *Contractor*. The scope of works includes the following:

- Safe removal and disposal of the existing roof cladding and drainage system.
- Installation of a new roof cladding and drainage system for the building.
- Procurement of all materials required to complete the installation of the new roof cladding and drainage system.
- Provide all necessary equipment, including safety equipment, tools and materials required for the works.

- Ensure that surrounding equipment and structures are not damaged during execution.

Note; Lethabo Power Station will provide access in the form of scaffolding to reach all levels of the roof surfaces. The *Contractor* is required to develop a layout drawing indicating the exact location and construction sequence for the erection of scaffoldings. This layout drawing is to be submitted to the *Project Manager* for review and acceptance. The timelines, as indicated by the *Project Manager*, to erect the scaffolding will be incorporated into the project schedule.

2.1.1 Purpose

The purpose of this document is to outline the technical requirements to be undertaken by the appointed *Contractor*.

2.1.2 Applicability

This document is applicable to Lethabo Power Station and all other stakeholders involved on the project.

2.2 NORMATIVE / INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following sections.

2.2.1 Normative

- [1] 375-LET-AABZ4-D00221-5: Lethabo Power Station Root Cause Analysis for the Refurbishment of the Workshop and Stores Roof Cladding
- [2] 375-LET-AABZ28-SP0010-2: Required Operational Capability for the Refurbishment of the Workshop and Stores Roof Cladding
- [3] 375-LET-AABZ18-PN0009-2: Stakeholder Requirements Definition for the Refurbishment of the Workshop and Stores Roof Cladding
- [4] 375-LET-AABZ18-PN0012-11: Engineering Management Plan for the Refurbishment of the Workshop and Stores Roof Cladding Project
- [5] 375-LET-AABZ18-PN0017-3: Technical Specification for the Refurbishment of the Workshop and Stores Roof Cladding Project
- [6] 240-56364545: Structural Design and Engineering Standard
- [7] 240-82526527 Managing of Fire Protection System impairments

2.2.2 Informative

- [8] SANS 10400: The application of the National Building Regulation
- [9] SANS 10160-1: 2011: Basis of structural design and actions for buildings and industrial structures, Part 1: Basis of structural design
- [10] SANS 10160-2: 2011: Basis of structural design and actions for buildings and industrial structures, Part 2: Self-weight and imposed
- [11] SANS 10162: The structural use of steel
- [12] 240-53113685: Design Review Procedure
- [13] 474-58 (Rev1): Document and Records Management

[14] 240-53114002 Engineering Change Management Procedure

[15] 240-43898151: Perform verification and validation PCM

2.3 DEFINITIONS

2.3.1 Disclosure Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Abbreviation	Description
BOQ	Bill of Quantity
ECSA	Engineering Council of South Africa
ERA	Engineering Risk Assessment
ITP	Inspection Test Plan
NCR	Non-conformance Report
NOD	Notice of Defect
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
SANS	South African National Standards
VDSS	Vendor Document Submission Schedule

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities shall be as per *The Employer's Design Review Procedure* [8].

Contractor

The Contractor will play the role of the design authority ensuring the following:

- The proposed materials and tools used for the works satisfies the Employer's requirements.
- Conduct the relevant designs, construction/installations, inspections and analysis as detailed in the works information.
- All relevant Eskom design standards, procedures and guidelines have been adhered to;
- The assessment is suitable and correct (calculations, philosophy, functionality, etc.);

Eskom Engineering

Eskom Engineering will play the role of architect engineer and ensure that:

- The assessment satisfies the stakeholder requirements (i.e. validation of design deliverables against stakeholder requirements).
- Reviews all submissions made by the Contractor.
- Foreseen technical risks are identified and addressed/challenged with the Design Authority.
- General technical oversight is provided over the design and construction.

Design Review Committee

Establish agreed acquisition requirements baseline by:

- Verifying whether Works Information/Employers Requirements comply with previously set baseline
- Verifying that deviations from previously set baseline were identified and managed by means of formal Engineering Change Management.
- Reviewing complete scope of supply/services/extent of work
- Reviewing all requirements (such as system operating philosophies, performance requirements, and all particular system requirements)
- Reviewing the applicability of all specified codes, standards and procedures (internal and external).
- Reviewing technical schedules.
- Reviewing technical tender returnables.
- Reviewing referenced drawings in Works Information/Employers Requirements.
- Reviewing Bill of Quantities (BOQ) as applicable.
- Reviewing tender technical evaluation strategy.
- Reviewing all detailed system/package boundaries and interfaces.
- Reviewing the technical contents of the contract strategy

2.6 RELATED /SUPPORTING DOCUMENTS

Refer to Section **Error! Reference source not found.** for associated drawings and standards related to the *works*.

2.7 PROCESS FOR MONITORING

The process will be monitored via the Engineering Change Management process [14]. This process will allow relevant stakeholders and management to be informed of all decisions made in the design and construction phases by the relevant system engineer. The maintenance actions of the new structures and systems will be added to the relevant Plant Maintenance Strategies.

3. EMPLOYER'S OBJECTIVES AND PURPOSE OF THE WORKS

The objective and purpose of the works is to:

- Regain the overall integrity of the roof cladding and drainage system for the workshop and stores building.
- Prevent further water leaks and damage to the stored materials and equipment

4. SCOPE OF WORKS

4.1 DESCRIPTION OF THE WORKS

The Workshop and Stores facility is a multi-storey building comprising of various office facilities, workshops and storage areas. This building consists of a reinforced concrete frame with masonry infill. The dimensions of the building is approximately 73 600mm x 178 200 mm (width x length). The roof structure for the building entails evenly space structural steel trusses, which are supported on concrete columns. The elevation of the roof differs throughout the length of the building. The Trisomet roof cladding is secured onto C-shaped steel purlins. Steel box gutters are provided to collect and drain rain water from the roof. The drainage pipe is casted inside the concrete columns which support the steel lattice truss.

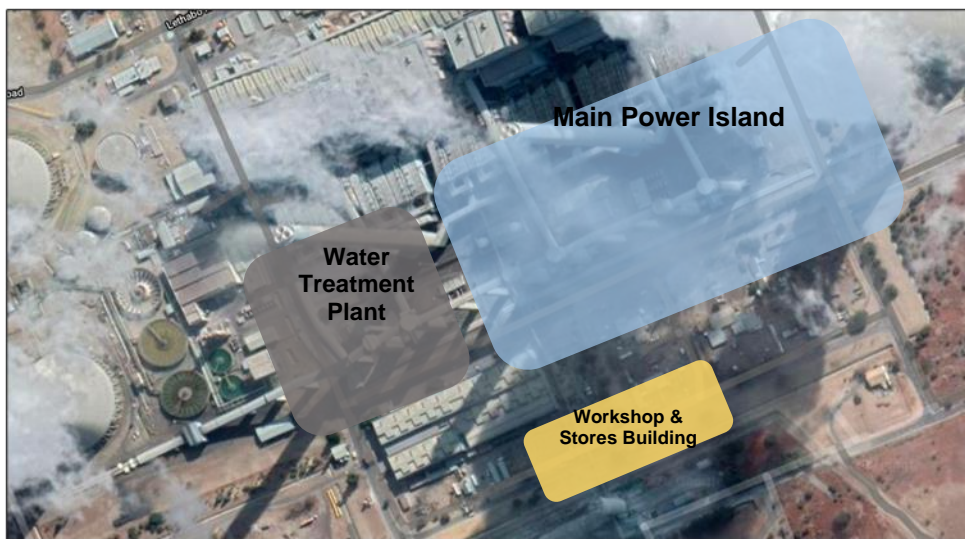


Figure 2: Location of the Workshop & Stores Building

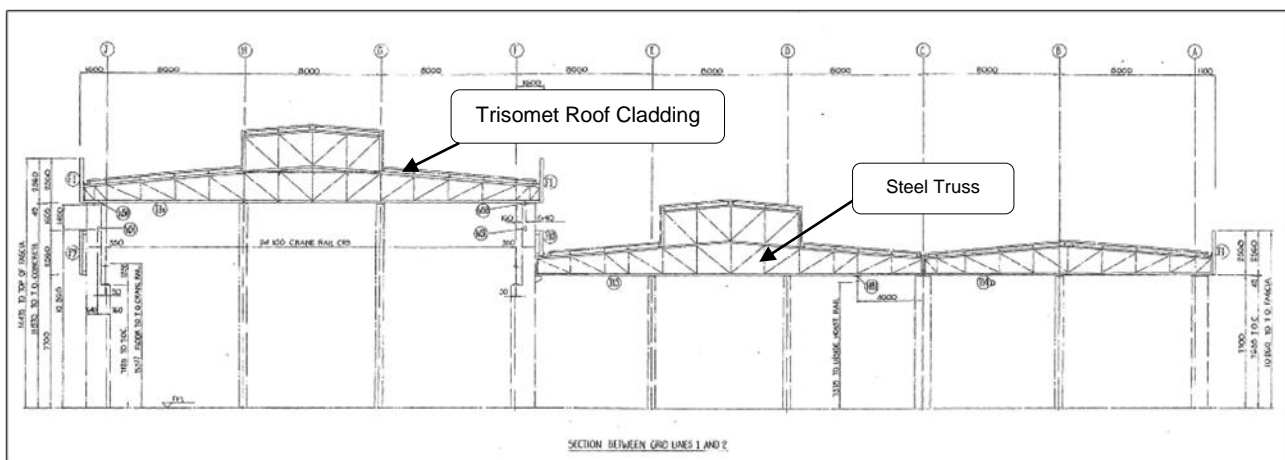


Figure 3: Cross sectional view of the workshop and stores building (extract from drawing no. 0.63/1234)

4.2 EMPLOYER'S DESIGN REQUIREMENTS

All designs and construction are required to be in accordance with the following Employer's Design Standards and relevant SANS standards:

- 240-56364545: Structural Design and Engineering Standard
- 240-107981296: Constructability Assessment Guideline
- 240-99527377: Inspection Manual for Civil Works at Eskom's Power Station
- 240-53113685: Design Review Procedure

4.3 EMPLOYER'S DESIGN

The *Employer* has conducted a high-level visual inspection, on a portion of the roof, to assess the extent of the deterioration of the Trisomet roof cladding. It was observed, near the box gutters, that the Trisomet roof cladding has deflected and the joints between the panels have opened-up. At specific locations of the roof, the metal sheeting of the Trisomet cladding is corroded as well as the box gutter. The insulating material between the metal sheeting has deteriorated.

During the visual inspection, the *Employer* makes the *Contractor* of the below risk regarding the small power lighting system within the building.

- Cable conduits or cable racks fitted with power cables are mounted on the walls and certain racks are running in parallel to the roof cladding. There are certain areas (mainly stores area) where the space between the cable racks and the roof cladding is smaller. In such areas, there is a risk of possible damage to the cable racks and cables when the roof is removed and re-installed. The Contractor is required to ensure that there are no damages that will occur on the cables and cable racks.

Refer to Appendix A for pictures regarding the damaged Trisomet roof cladding.

4.4 CONTRACTOR'S DESIGN

4.4.1 General

1. The Contractor takes full professional accountability and liability for the works as described in the Works Information.
2. The Contractor is required to confirm and verify all information supplied by the Employer prior to being use in the design and/or works.
3. It is the Contractor's responsibility to provide design and construction which is fit for purpose, in accordance with sound engineering principles and prudent industry practice. The Contractor and their subcontractors perform the works in compliance with legislation, rules and regulations, applicable national and international engineering codes, environmental standards, other applicable standards, statutory requirements and this Works Information.
4. No deviation from this works information and its referenced documents is permissible without documented acceptance from the Project Manager. The Contractor includes a list of exceptions

and/or clarifications as part of his tender. This list of exceptions and/or clarifications includes the section deviated from as reference number, the requirement in question and a detailed explanation of the deviation. In the event of conflicts or discrepancies between any of the specifications, the Contractor notifies the Project Manager for resolution in writing.

5. The Contractor adheres to all design requirements, codes of standards and regulations stated in this scope of works.
6. Any discrepancy or ambiguity between the Employer's Specifications or requirements is to be immediately brought to the attention of the Project Manager for clarification.
7. Where the Contractor requires additional information to design or install certain components of the Plant, the Contractor notifies the Project Manager of the Contractor's requirements a minimum of one (1) week before continuing with the works.
8. All documentation, as specified in this Works Information, forms part of the works and is supplied to the Project Manager by the Contractor. The Employer reserves the right to issue the Contractor's design or drawings to other Contractors for purposes of maintenance, spares, verifications, modifications in future or any other purposes required by the Employer. The Employer has total rights to use the design as the Employer requires. The Contractor notes that all drawings and other documentation supplied to the Employer become the property of the Employer upon completion of the works.

4.4.2 Civil & Structural Requirements

4.4.2.1 Demolition Activities

1. The Contractor is required to safely strip, remove and dispose of the existing roof cladding (i.e. trisomet cladding) and drainage system (e.g. gutters, downpipes, etc.) for the Workshop and Stores Building.
2. The Contractor quantifies the limitations and risks in the form of a detailed risk assessment, which is reviewed and accepted by the Project Manager prior to commencing with the demolition of the roof cladding.
3. The Contractor may be required to install a temporary fall arrest system (e.g. safety life line or similar) during demolition and installation of the roof cladding. Currently, no safety life lines are installed on the roof of the building.
4. The Contractor is responsible in ensuring that the structural integrity and stability of the structure is not compromised during demolition and if required, additional temporary supports may need to be designed and installed to support any fixtures.
5. The Contractor takes reasonable care to prevent any damage to the surrounding infrastructure (e.g. structural steel truss, fire protection system, small power lighting, etc.) during demolition. The Contractor therefore plans the works taking into account any existing infrastructure and equipment.
6. Any damages to existing infrastructure and services resulting from the works is repaired/ made good by the Contractor at his own expense. This is subject to the Contractor supplying a method statement for the repair works to the Project Manager for review and acceptance prior to conducting the repair works.
7. The Contractor develops a demolition and dismantling method statement complete with drawings that clearly indicate the various demolition phases. Full details of the demolition procedures and

methods (including calculations) are to be provided to the Project Manager for review and acceptance prior to any demolition activities.

8. Within the demolition and dismantling method statement, the Contractor accounts for the general operations of the building and the safety of occupancy utilizing the building. Occupancy utilizing the building will not be relocated due to space constraints on site. However, sections of the building will be isolated to facilitate the installation and dismantling process.
9. The Contractor may be required to remove architectural features and/or fixtures on the roof (i.e. louvers, light fittings, etc.) to facilitate the removal of the roof cladding. In such a case, the Contractor submits a list of existing features/components that require removal in the method statement/methodology for the Project Manager's acceptance. The Contractor is responsible for the removal, preservation and re-installation of the identified fixtures/components.
10. The Contractor disposes of all rubble at a waste disposal facility on site as instructed by the Project Manager.

4.4.2.2 Roof cladding and Drainage Design

1. The Contractor installs a new roof and overhang cladding material/system, including a stormwater drainage system, for the Workshop and Stores building.
2. The roof and overhang cladding material/system is to be similar in properties and functions to the existing roof cladding. The weight of the new cladding panels and drainage system must be adequately supported by the existing roof structure (i.e., no modifications to the steel trusses, beams etc.) and where modifications are required these must be properly motivated to the Project Manager for acceptance.
3. The roof and overhang cladding materials/systems is to comply with the applicable Eskom standards, SANS standard and the Application of the National Building Regulations (e.g. Part L: Roofs; Part T: Fire Protection and etc.).
4. The Contractor designs and installs a new stormwater drainage system, including supporting infrastructure, for the roof in accordance with the Application of the National Building Regulations; Part R: Stormwater Disposal. The downpipes of the new drainage system is to connect with the existing downpipes imbedded in the concrete column.
5. The Contractor is required to inspect and confirm (e.g. water test) that all existing downpipes embedded in the concrete columns are not blocked/clogged prior to connect the new stormwater drainage system. In the event that such pipes are blocked/clogged, the Contractor cleans/unblocked the downpipes.
6. The Contractor notifies the Project Manager of the location and quantity of all blocked/clogged downpipes prior to cleaning.
7. The colour of the new roof cladding panels is to match the surrounding buildings.
8. The roof cladding panels are to be fixed/secured onto the steel purlins of the building. The Contractor ensure that all panels are adequately secured and the appropriate fasteners, sealants and fillers are used in accordance to the manufactures specification.
9. Storage and handling of the roof cladding panels are to be in accordance to manufacturer's specification.
10. The Contractor is required to obtain approval from the Project Manager for the proposed roof and overhang cladding material/system and the stormwater drainage system prior to installation

11. The Contractor develops and submits an approved report by a professionally ECSA registered engineer/technologist, to the Project Manager for review and acceptance, containing the following information as a minimum:

- Properties of the proposed material to be used for the roof and overhang cladding material/system (e.g. datasheets).
- Anchorage system to be used for the roof and overhang cladding material/system.
- Stormwater drainage system, including supports, to be installed for the building.
- Signed/approved construction drawings (where applicable) by a professionally ECSA registered engineer/technologist.

4.4.3 Production of As-Built Information required for the Works

1. If the existing baselined designs for the Workshop and Stores building has been altered/modified during the project, the Contractor is required to produce as-built drawings indicating all modifications and replacements which have occurred. This entails, but is not limited to the roof cladding supports, reinstalled steel members, louvers etc.
2. As-built drawings must indicate member sizes, connection details as well as details of any supports.
3. Refer to Section 4.6.7 for documentation and drawing requirements
4. All as-built drawings issued to the Project Manager will be a minimum of one (1) hard copy (A0 in size) signed by the responsible professionally registered structural engineer/technician and in electronic format. The Contractor submits electronic drawings in AUTOCAD or MicroStation (DGN) format and scanned drawings in pdf format. Drawings issued to the Employer may not be "Right Protected" or encrypted.

4.5 CONSTRUCTION

4.5.1 General

The Contractor:

1. Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 and Waste Management Procedure, as well as the National Building Regulations and SANS 10400 for all works.
2. Submits a comprehensive method statement (including a comprehensive risk assessment) detailing the proposed methods for the entire works to the Project Manager for acceptance prior to the start of the works. Refer to Section 4.6.4 for method statement requirements.
3. Submits a project specific safety file to the Project Manager for comments / acceptance.

4. Submits a detailed level 3 schedule for the works to the Project Manager for acceptance after contract award.
5. Takes all necessary precautions to ensure that none of the existing structures / facilities not forming part of the works is damaged during the assessment/inspection. The Contractor is liable for all damages that may occur and repairs are to be done at no additional cost to the Employer.
6. The Contractor disposes of all waste material at the waste disposal facility on site as per the instruction and direction of the Project Manager.
7. Continuously monitors the conditions within the working and surrounding areas for any hazardous substances or situations, and in such case, the Contractor is required to take necessary precautionary measures.
8. The Contractor ensures that a complete QCP, risk assessment, method statement and ITP's, temporary works calculations, where applicable are submitted to the Project Manager for review and acceptance before the works can commence. During reviews of the ITP's, the Project Manager provides the necessary intervention points.
9. All items that are assembled and constructed off site are listed and provided to the Project Manager. From this, an ITP is developed between the Project Manager and the Contractor to determine the intervention points.
10. Manages access to the working areas and the Site.
11. Manages activities on Site to ensure that no interference takes place between the works and that of others.
12. Liaises with the Project Manager regarding the location of waste disposal sites and rubbish dumps.
13. The Contractor is responsible for the design and erection of all the temporary supports required for the works. In addition to the aforementioned, the Contractor adheres to the following:
 - The Contractor is restricted to the designated working areas
 - The Contractor is not to enter any other areas and ensures that his employees abide by the applicable regulations
 - The Contractor's Equipment does not impair the operation or access to the plant/building
 - The Contractor provides any temporary or expendable materials required for the storage of materials
 - The Contractor safeguards and secures all items whilst in the Contractor's custody and control, until completion of the works;
 - Plant and equipment not forming part of the works are not to be modified without written permission from the Project Manager. Modification in this sense includes, but is not limited to the following:
 - Welding onto existing plant,
 - Drilling into structural steel or concrete,
 - Cutting or removing
 - Loading adjacent structures.

4.5.2 Construction, Erection and Monitoring

1. The Contractor is responsible for the construction of all works in accordance with the accepted designs, drawings and specifications.
2. The Contractor is responsible for the safety of all personnel involved in the works as well as the safety of all personnel at Lethabo Power Station affected by the construction of the works.
3. The Contractor is required to confirm all site dimensions, levels and cast-in items positions on site prior to any fabrication of steel members.
4. The Contractor notifies the Project Manager of any defects that have occurred or are foreseen in order to reduce further damages that may occur.
5. The Contractor is responsible for the design, erection, maintenance and removal of all temporary works required for the execution of the works. Refer to Section 4.6.1 for requirements for temporary works.
6. The Contractor provides the required level of construction monitoring in order to ensure that the construction is completed in accordance with the approved designs, drawings and specifications.
 - Technical quality assurance during construction to ensure that the construction is executed as per the approved design, specifications and procedures
 - Witnessing and approval (by signature) of intervention points where applicable to Engineering
 - Review and acceptance by signature of construction data books, as-built drawings and Operations and Maintenance manuals (where applicable) developed by the Contractor
 - Responding to technical queries and clarifications from the Contractor utilising documentation templates provided by the Employer
7. The Contractor takes full professional accountability and liability for all temporary items required for the execution of the works.

4.6 OTHER REQUIREMENTS OF THE **CONTRACTOR'S** DESIGN

4.6.1 Temporary Works

1. The Contractor designs all temporary works necessary to execute the works in accordance with the applicable codes and standards as stated in this document and as required by good engineering practices.
2. The Contractor's appointed ECSA professionally registered engineer/technologist:
 - Reviews and approves (by signature) the designs and drawings of all temporary works and additional supports and method statements produced by the *Contractor*; and
 - Supervises, inspects and approves the works as per such.
3. All temporary works designs, where existing infrastructure are impacted by the works, are submitted to the Project Manager for review and acceptance, to prove that the existing infrastructure can withstand the induced load. The Contractor therefore submits all design calculations, in a design

report, which includes, but is not limited to, all inspection reports, survey data, design analysis models, assumptions, drawings/sketches, etc.

4. The Contractor takes full professional accountability and liability for all temporary items required for the execution of the works.
5. The Contractor designs, procures, manufactures and constructs all temporary works required for the execution of the works. The Contractor dismantles/demolishes temporary works when such works are no longer required.
6. The Contractor takes note that review and acceptance of any document/ drawing/ design calculations by the Project Manager in no way relieves the Contractor of his liability for the works. The Contractor remains liable for all works conducted as per this Works Information.

4.6.2 Plant and Material Supply

1. The Contractor provides all tools and equipment for the handling of material and the proper execution of the works.
2. The Contractor takes reasonable care to ensure that equipment used does not cause damage to any existing infrastructure. In the event that such damages do occur to the surrounding infrastructures, the Contractor is responsible for repairing such damages and is liable for all costs associated with the repairs.
3. The Contractor is to supply, deliver, offload and temporarily store (as may be required) all materials needed to carry out the works.

4.6.3 Storage Facilities

1. The Contractor is to make his own arrangements with regard to storage facilities and laydown areas that are required to complete the works. All laydown areas on Site are as per agreement with the Project Manager.
2. All storage facilities (Plant, Material and Equipment) will be within the boundaries of the Site in order not to affect the operations of Others.

4.6.4 Method Statement

1. As a tender returnable, the Contractor submits a general Method Statement taking into consideration the various phases of the project.
2. This Method Statement clearly illustrates how the Contractor accounts for the risks of this project and is tailored to address the specified project objectives and requirements.
3. The Method Statement includes, as a minimum and where applicable, the following:
 - Constraints identified and considered by the Contractor.
 - Interfacing with Others; the Contractor illustrates an understanding of the work that is to be completed by Others and accommodates for the completion of such work in his methodology.
 - Description and illustrations of a construction traffic plan, use of laydown areas and plot plan.

- Shifts and hand overs for the various sections of the works, this information is to enable the Employer to integrate the programmes of the various contractors.
- Design tools and systems that the Contractor plans to use.
- Construction methodology and sequence of construction taking into consideration access restrictions and safety requirements.
- Detailed risk assessment which lists risks specific to the works and is accompanied with associated proposed mitigations.
- List and description of plant and machinery required to carry out the civil and structural components of the works.
- Inspection and quality control plan.
- A clear description of the responsibilities of the Contractor's personnel involved with the works, including (where applicable) his Project Manager, Site Quality Manager, Site Engineer, Health and Safety Manager, Technical Office Manager, Production Manager, Supervisor, Environmental Officer, Fabricator, Erection Engineer, Shop detailer, Transporter and other personnel required for the civil and structural works.
- Construction sequencing considerations, which take into account any constraints.
- Health, safety and quality control for the activity.
- All plant, equipment and machinery required to complete activity.
- Manufacturer's literature/ Technical Data Sheets for all materials used including product description, composition, material and performance properties, installation and application procedures, use limitations and recommendations.
- Plan for confining, collecting and disposing of waste materials as a result of removal operations, where applicable.
- Works required to safeguard existing infrastructure and services.
- A method statement detailing the preparation and operational works required to divert the flow of water in the pipeline, removal of obstructions and the CCTV camera inspection. As a minimum, the method statement is to contain the following:
 - List of equipment to be used
 - Health and safety protocols in place (e.g. traffic control, PPE, etc.)
 - Method to be used to divert the flow of water (e.g. pipe plugging, bypass system, etc.)
 - Operations and monitoring measures to control/divert the flow
 - Risks and concerns
- A method statement detailing the installation of the CIPP system. As a minimum, the method statement is to contain the following:
 - Type of CIPP system to be installed
 - The method of installation and curing the liner
 - List of equipment and manpower to be used
 - Risks and concerns
 - Health and safety protocols in place

4.6.5 Constructability Analysis

1. The Contractor uses the Employer's standard: 240-107981296, Constructability Assessment Guideline to perform the constructability analysis.
2. The Contractor has a structured process in place for constructability analysis, for the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the Employer's objectives.
3. Qualified people with adequate skills in construction knowledge and experience are involved from the beginning of the project, to maximize the benefits of the constructability analysis. This process includes examining design options, where applicable, that minimize construction costs while maintaining standards of safety, security, quality, cost and schedule, and is initiated in the front end planning process. The Contractor considers various phases of the project and demolition activities, where applicable, that includes manpower plans, organization, construction equipment usage, material storage and handling and preparation of construction facilities.
4. The Contractor submits a Constructability Analysis Report, based on the Method Statement, to the Project Manager for review and acceptance. The report is to clearly indicate how the Contractor takes into account interfaces with other Contractors where applicable, together with the Site and time constraints. This report clearly illustrates how the construction would be completed within the allowable timeframes and highlights the risks of meeting this requirement. The Contractor is required to plan his activities to avoid the following interface risks and any other risks relevant to the works:
 - Interface issues arising from working in close proximity to Others.
 - Access to Site.
 - Material storage.
 - Delivery.
 - Other Works related risks.
5. This report clearly illustrates the construction sequencing and durations for the completion of the works within the contract period. The Contractor submits a risk assessment as part of the Work Method Statement, which is informed by the Constructability Analysis Report that advises on a proposed approach and methodology to mitigate risks described above and any other risks, which may impede successful execution of the works.

4.6.6 Construction Programme

1. As part of the Method Statement and as a tender returnable, the Contractor submits a Level 3 construction programme considering all the interfaces and time constraints.
2. This programme does not omit key activities. Timing of the activities is consistent with the Construction Work Method Statement.
3. The programme is to show that the Contractor has a clear understanding of the full scope of works, including the accompanying risks. The programme is to be logical and realistic.

4. The Contractor submits a Programme for all the phases of the works to the Project Manager for his acceptance.
5. This programme is accompanied with the following:
 - A comprehensive narrative which describes the basis of the programme.
 - A list of assumptions that the programme was based on.
6. The programme clearly indicates the following:
 - Activities of all the project work to be done by the *Contractor* and the other work covered by the contract that is being done by the sub-contractors.
 - Logical links/ sequence/ relationships that connect the various activities together (showing all hold points);
 - Master schedule is to show Links/logic, the CPM (Critical Path Method) technique is used for programme and planning. The critical path is clearly illustrated.
 - The works is completed within accepted durations that are in consistence with key dates provided in the Contract Data. Milestone dates in line with Key Date/Contract Data shown on the schedule.
 - Schedule Work Package Classifications (Deliverable, Engineering, Procurement, Manufacturing, Supply, Construction and Installation Work Packages)
 - The number of shifts planned per day for each section of the works.
 - The way in which the *Contractor* plans to interface with Others. Interface points with Others are identified in the programme.
 - A comprehensive description of each activity, including the name and designation of the responsible person.
 - Full details of all terminal point release requirements.
 - Any erection or commissioning activities that may affect other maintenance and construction activities on Site.
 - Identifies when services are required for commissioning purposes.
 - Sufficient information with regard to the activity duration and a description to enable measurement of the progress of the activity within the required update period.
 - Each description in the programme explains and represents the performance of the activity, including tangible deliverables or products.
 - Resources required to perform an activity for each activity that requires resource assignment.
 - Single source of responsibility or ownership per activity.

4.6.7 Documentation and Configuration Management

a. Document identification

1. All documents supplied by the Contractor are subject to the Employer's approval. The language of all documentation is required to be in English.

b. Document Submission

1. All project documents must be submitted to the delegated Employer's Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014). In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction.
2. The Contractor is required to submit documents as electronic and hard copies and both copies must be delivered to the Employer's Representative with a transmittal note.
3. In addition, the Contractor adheres to the following standards:
 - Documentation Management Review and Handover Procedure for Gx Coal Projects (240-66920003).
 - Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014)

c. Email Subject

1. The Contractor submits all documentation to the Employer's Representative in the following media:
 - Electronic copies are submitted to Eskom Documentation Centre through generic email address (drmsharingservices@eskom.co.za). The email subject as a minimum has the following: (Station_Project Name_Discipline_Subject). Electronic copies that are too large for email are delivered on CD/DVD, large file transfer protocol and/or hard drives to the Project Documentation Centre. In a case where CD has been submitted, a notification email, with the transmittal note attached, is sent to the project generic email address. The Representative is copied on the email as well.

Hard copies are submitted to the Employer's Representative accompanied by the Transmittal Note.

d. Drawings Format and Layout

1. The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of 240-86973501 - Engineering drawing Standard.
2. Drawings issued will be a minimum of one hardcopy and an electronic copy in both pdf and DGN format.
3. Drawings issued may not be "Right Protected" or encrypted.

4.6.8 Documentation Review Requirements

1. The Contractor submits all documentation to the Project Manager for acceptance. The Project Manager reviews the Contractor's submitted documents in accordance with the Employer's Design Review Procedure (240-53113685).
2. The Contractor conducts design reviews of the Contractor's design as per the Contractor's official design review procedure. The Contractor ensures adherence to the Scope of Work and that a technically sound design approach is followed in carrying out the designs.
3. The designs submitted are complete packages with all elements (all related drawings and design reports) included in order for the Project Manager to review as a whole.

4. The Contractor takes note of the Employer's Design Review Procedure (240-53113685) and participates in all design reviews as specified by the Project Manager. The Project Manager may "Accept"; "Accepted with Comments" or "Not Accepted with Comments". If required, the Contractor makes the necessary revisions on the documentation and ensures acceptance is obtained from the Project Manager. All designs, drawings and specifications must be reviewed, accepted and frozen before manufacturing and construction of the relevant plant item starts.

4.7 Quality and project handover requirements

4.7.1 Quality Management

1. The *Contractor* submits a fully detailed Quality Control Plan (QCP) for acceptance within three (3) weeks of the Contract Date, which details all the aspects of the quality management system to be applied. It includes the methods that will be utilized to ensure quality assurance, control and improvement of the identified activities as stated in the Scope of Works.
2. The *Contractor* submits a schedule of unpriced orders to be placed and this is updated regularly.
3. The *Contractor* is responsible for defining the level of QA/QC (Intervention Points) or inspection to be imposed on his *sub-Contractors* and suppliers of material in the Quality Control Plans (QCPs). This level is based on the criticality of equipment and must be submitted to the *Project Manager* for acceptance.
4. Product data sheets, product samples, and any other documents are submitted for review and acceptance by the *Project Manager* after contract award and prior to the commencement of work.
5. All quality control documentation is submitted to the *Project Manager* within seven (7) days of Contract date.

4.7.2 Handover

Apart from any statutory data packages required, the *Contractor* also submits a data package of the relevant drawings, test certificates etc. to the *Project Manager* for acceptance. These include, but are not limited to:

- Approved ITP's, QCP's
- Method statements and specifications adhered to
- Risk assessments
- Approved drawings
- Inspection reports
- Notifications
- Modifications
- Technical Queries, Engineering Responses and communications with *Project Manager/Employer*
- Non-conformance reports
- Transport notifications
- Calculations for any temporary works that may be required for the safe execution of the works
- Material certificates and datasheets
- As-built data and drawings of the completed works upon handover. As-built drawings are submitted in PDF and native CAD formats.

4.7.3 Quality

To ensure conformance to Quality Management Systems Standards the following standards must be followed:

To ensure conformance to Quality Management Systems Standards the following standards must be followed:

- ISO 9001:2015 Quality Management System requirements.
- ISO10005 – Quality Management System Guidelines for Quality Plans
- ISO10006 – Quality Management Systems Guidelines for Quality Management in Projects
- ISO10007 – Quality Management Systems Guidelines for Configuration Management
- ISO31000 – Risk Management Principles & Guideline

RISK	MITIGATING FACTORS	LEVEL OF IMPACT (H/M/L)
Quality requirements categorisation	Category 3 - Quality Requirements to be met	Medium
Any National and/or International Standards that the company is subjected to and the key internal controls that the company put in place to satisfy set standards	<ul style="list-style-type: none"> • 240-68099512 Form A: The tenderer must complete and sign this form to acknowledge and accept Eskom Supplier Quality Requirements as per QM 58 Specification and ISO 9001 Standard (category 3) • 240-12248652 List of Tender Returnables: comply with stipulated documented information for evaluation purposes (category 3) • 240-105658000 – Supplier Quality Management Specifications (QM 58) 	Medium
Quality Management Document Requirements	A fully detailed Method Statements for each activity of his work, together with activity durations, to the client for review. A detailed Quality Control Plan (QCP) for acceptance within three (3) weeks of the Contract Date, which details all the aspects of the quality management system to be applied. It includes the methods that will be utilized to ensure quality assurance, control and improvement of the identified activities as stated in the Scope of Works	Medium

Non-Conformance and Defects	<p>NCR's and defects notifications are issued, the Service provider will acknowledge the receipt within 48 hours and proposes corrective and preventive actions to the client as per the contract response period. The corrective and preventive actions will include the implementation and completion dates.</p> <p>Utilisation of approved Quality inspection method in the aim of non-conforming output detection, i.e., QCP, PM's, CM's, Check sheets</p>	Medium
Competence	Ensure adequately trained and skilled personnel to perform repairs and maintenance	Medium
Preservation and transportation Requirements	The service provider is to ensure that all products are preserved in their appropriate manner as described in their specifications or in Eskom's Preservation, Shipping and Transportation procedures as applicable. The service provider ensures that all storage requirements for products are properly implemented to preserve the products against adverse conditions, deterioration, damage, etc. Storage and preservation procedures for the different products must be submitted to the client for review and acceptance. The client may request to inspect the stored products at any given point during the storage period of the product	Medium

4.8 Specifications for the Works

4.8.1 Applicable Standards

All references to standard/codes/publications are to be the latest issue of each, together with the latest additions and/or amendments thereto, as of the date of contract, unless otherwise indicated. This list is not all-inclusive and shall not relieve the *Contractor* from complying with all applicable codes.

Number	Title
240-85549846	Standard for Design of Drainage and Sewerage Infrastructure
240-86973501	Engineering drawing Standard

Number	Title
240-107981296	Constructability Assessment Guideline
240-99527377	Inspection Manual for Civil Works at Eskom's Power Station
240-86973501	Engineering drawing Standard
240-53113685	Design Review Procedure
240-53665024	Engineering Quality Manual
240-53114186	Document and Records Management
240-105658000	Supplier Quality Management Specification
32-245	Eskom Waste Management Standard
32-727	Eskom Safety, Health, Environment and Quality (SHEQ) Policy
OHS Act 85 of 1993	Construction Regulations, 2014
SANS 10400	The Application of the National Building Regulations
SANS 791	Unplasticized poly (vinyl chloride) (PVC-U) sewer and drain pipes and pipe fittings
SANS 677	Concrete non-pressure pipes
-	SANRAL Drainage Manual
SANS 10400	Building Code
SANS 1273	Fasteners for roof and wall coverings in the form of sheeting
SANS 10044	Welding
SANS 10064	The preparation of steel surfaces for coating
SANS 10237	Roof and side cladding

4.8.2 Additional Requirements and Pre-requisites

4.8.2.1 General

1. The *Contractor* is required to confirm all site dimensions, levels and cast-in items positions on site prior to any fabrication of steel or casting of concrete
2. The *Contractor* is required to submit a comprehensive method statement of the works to the *Project Manager* for acceptance prior to the start of the works
3. Any request for deviation from specified requirements are submitted in writing and include the proposed deviation, rationale for the deviation, any technical data supporting the deviation, and historical experience supporting the deviation.
4. Combining or mixing of different codes is not permitted
5. The *Employer* will arrange a mandatory site clarification meeting with all tenderers so that tenderers are afforded the opportunity to visually inspect the works to be done

4.8.2.2 Cladding and Flashing

1. All roof sheeting and claddings, complete with all fixings, flashings and accessories, are to match existing conditions/surrounding buildings.

2. Protective primer coating on the reverse side (factory applied) and exterior paint system to match existing.
3. All sheeting and cladding are to be clearly marked on the reverse side at one-metre intervals indicating thickness, material quality, coating thickness and paint system which is to match existing conditions/surrounding buildings.

4.8.2.3 Corrosion Protection

1. Corrosion protection is required for all steelwork in accordance with 240-106365693: Standard for the External Corrosion Protection of Plant, Equipment and Associated Piping with Coatings.
2. The Contractor submits the proposed corrosion protection measures to the Employer for approval.

4.8.2.4 Safety

Contractor must ensure that:

1. Acknowledgement of Eskom's SHE rules, and requirements form (Annexure B) are signed and submitted during the tendering phase.
2. Additional requirement to be adhered to:

OHS plan (Applicable to high-risk work only)

- OHS organization within the Company-Responsibility & Accountability
- SHE Incident management
- Planning of conduct of work activities including planning for changes and emergency work
- PPE- Personal Protective Equipment
- Emergency planning and fire risk management
- Vehicle and driver behaviour safety
- Contractor or supplier selection and management
- Design and specifications
- Permits
- Competency, training, appointments

3. Communication and awareness Management commitment and visible felt leadership

Costing for Safety Health and Environmental management

1. SHE costing submitted must be in detailed (The cost should be broken down not provided as a lump sum).
 - Based on the overall scope of work/service to be performed.
 - The generic scope of work/service risk assessment may serve as a guideline.

Baseline Risk Assessment (BRA)

Identification, assessment and management of SHE risks related to the scope of work. The methodology used for the risk assessment must be provided together with the BRA

Valid Letter of standing (COIDA or equivalent)

1. SHE policy signed by CEO/ MD-
2. Comply to OHS Act Section 7 or OSHAS 18001
3. SHE Competency (Consider scope of work, risks, SHE plans and applicability) CVs, and qualifications / certificates e.g.

- First aiders
- Safety officer
- SHE Representative
- HCS Controller
- Incident investigator
- Organizational Site-Specific Organogram

Service Provider shall demonstrate compliance with the Act, Eskom Safety Standards and Specifications Act:

Occupational Health and Safety Act of 1993

Standard 32-136: Standard Contractor Health and Safety Requirements.

Health and safety specifications: LBS0067PC-H

Service Provider shall demonstrate compliance with the Act, Eskom Safety Standards and Specifications Act: Occupational Health and Safety Act of 1993

4.8.2.5 Environmental

No need for an EIA. Contractor to be ISO14001 Certified. To ensure compliance to environmental requirements ISO14001, the following Lethabo environmental procedures will be provided with tender documents.

1. LBE21001
2. LBE21002
3. LBE22001
4. LBE22002
5. LBE22004
6. LBE2205
7. LBE23001
8. LBE23003
9. LBE23004

4.9 DELIVERABLES

The *Contractor* provides the following document deliverables as part of the *works*.

4.9.1 Planning phase

1. A Level 3 schedule (schedule with defined activities) for the design scope clearly highlighting all activities involved, major milestones and provision.
2. Detailed Method Statement (including constructability analysis) for the execution of the works.
3. Risk Assessments.
4. Project specific safety file.
5. Project Quality Control Plan.

4.9.2 Demolition

1. Detailed method statements for the demolition/dismantling of the works.
2. Any temporary works required as part of demolition/dismantling signed by a professionally registered Structural Engineer/Technician.
3. Detailed Risk Assessments (updated)

4.9.3 Pre-Construction/Installation

1. Detailed method statements for the construction of the works (including Rigging Studies)
2. Detail report and drawings signed by a professionally ECSA registered Engineer/Technician
3. Inspection and Test Plans (ITP's) indicating all intervention points.
4. Quality Control Plans (QCP's)
5. Construction Programme
6. Project Specific Safety File (updated)
7. Any temporary works required as part of construction signed by a professionally registered Structural Engineer/Technician
8. Detailed Risk Assessments (updated)

4.9.4 Post Construction/Installation

1. QA returnables (monthly)
2. As-Built drawings
3. Data books as detailed in Section 4.7.2

5. INFORMATION ISSUED BY THE EMPLOYER

The following drawings and standards are issued to the *Contractor* for information.

Document Number / ID	Document Title	Revision
240-53113685	Design Review Procedure	3
240-56364545	Structural Design and Engineering Standard	
240-107981296	Constructability Assessment Guideline	1
240-86973501	Engineering drawing Standard	3
240-76992014	Project / Plant Specific Technical Documents and Records Management Work Instruction	1
0.63/12341	Workshop and Stores Structural Steel Section	0
0.63/11676	Workshop and Stores Detail Sections	0
0.63/12340	Workshop and Stores General Arrangement of Steelwork	0
0.63/11652	Workshop and Stores Section C-C	0
0.63/11654	Workshop and Stores Elevation	0
0.63/11653	Workshop and Stores Elevation	0

PART 4: SITE INFORMATION

Document reference	Title	No of pages
C4	This cover page Site Information	1
	Total number of pages	

C4 Site Information

Core clause 11.2(16) states

“Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information

C4.1: Information about the *site* at time of tender which may affect the work in this contract:

1. Site Procedures and Regulations

1.1 Health and Safety Requirements

The *Contractor* and his sub-*Contractors* ensure at all times compliance with safety regulations imposed by any Act of Parliament, ordinance or any regulation or by-law of any local or statutory authority.

- The *Contractor* acts in accordance with the health and safety requirements stated in the Works Information.
- In carrying out its obligations to the *Employer* in terms of this contract; in providing the Works; in using Plant, Materials and Equipment; and while at the Site for any reason, the *Contractor* complies and procures and ensures the compliance by its employees, agents, Sub-*Contractors* and mandataries with:
- the provisions of the Occupational Health and Safety Act 85 of 1993 (as amended) and all regulations in force from time to time in terms of that Act (“the OHSA”); and the Eskom “Health, Safety and Environmental specifications for *Contractors*” document attached to the Works Information (as amended from time to time) and such other Eskom Safety Regulations as are applicable to the Works and are provided in writing to the *Contractor* (collectively “the Eskom Regulations”). The Eskom Regulations may be amended from time to time by the *Employer* and all amendments will be provided in writing to the *Contractor*. The *Contractor* complies with the provisions of the latest written version of the Eskom Regulations with which it has been provided; and the health and safety plan prepared by the *Contractor* in accordance with the SHEQ Requirements
(The OHSA and the Eskom Regulations are collectively referred to as the “SHEQ Requirements”).
- The *Contractor*, at all times, considers itself to be the “*Employer*” for the purposes of the OHSA and shall not consider itself under the supervision or management of the *Employer* with regard to compliance with the SHEQ Requirements, the *Contractor* shall furthermore not consider itself to be a subordinate or under the supervision of the *Employer* in respect of these matters. The *Contractor* is at all times responsible for the supervision of its employees, agents, Sub-*Contractors* and mandataries and takes full responsibility and accountability for ensuring they are competent, aware of the SHEQ Requirements and execute the Works in accordance with the SHEQ Requirements
- The *Contractor* acknowledges that it is fully aware of the requirements of all the above and undertakes to employ only people who have been duly authorized in terms thereof and who have received sufficient training to ensure that they can comply therewith.
- The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made and that all appointees fully understand their responsibilities and are trained

and competent to execute their duties. The *Contractor* supervises the execution of their duties by all such appointees.

- The *Contractor* shall appoint a person who will liaise with the Eskom Safety Officer responsible for the premises relevant to this contract. The person so appointed shall, on request: supply the Eskom Safety Officer with copies of minutes of all Health and Safety Committee meetings, whenever he is required to do so; supply the Eskom Safety Officer with copies of all appointments in respect of employees employed on this contract, in terms of the Act and Regulations and shall advise the Eskom Safety Officer of any changes thereto.

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

- conduct health and safety audits 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 any unsafe working practice or is found not to be qualified or authorised in terms of the SHEQ Requirements.
- issue the *Contractor* with a stop order should the *Employer* become aware of any unsafe working procedure or condition or any non-compliance with any provision of the SHEQ Requirements.
- The *Contractor* immediately reports any disabling injury as well as any threat to health or safety of which it becomes aware at the Works or on the Site to the *Employer's Representative*.
- The *Contractor* undertakes not to do, or not to allow anything to be done which will contravene any of the provisions of the Act, Regulations or Safety and Operating Procedures.
- The *Contractor* appoints a person, qualified in accordance with the SHEQ Requirements, as the liaison with the Eskom Safety Officer for all matters related to health and safety, this person shall be reachable 24 hours a day.
- The *Contractor* confirms that it has been provided with sufficient written information regarding the health and safety arrangements and procedures applicable to the Works to ensure compliance by it and all employees, agents, Sub-*Contractors* or mandataries with the SHEQ Requirements while providing the Works in terms of this contract. As such, the *Contractor* confirms that this contract and the relevant Eskom Regulations referred to in this contract constitute written arrangements and procedures between the *Contractor* and the *Employer* regarding health and safety for the purposes of section 37(2) of the OHSA.
- The *Contractor* agrees that the *Employer* is relieved of any and all of its responsibilities and liabilities in terms of Section 37(1) of OHSA 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 OHSA.
- The *Contractor* hereby indemnifies the *Employer* and holds the *Employer* harmless in respect of any and all loss, costs, claims, demands, liabilities, damage, penalties or expense that may be made against the *Employer* and/or suffered or incurred by the *Employer* (as the case may be) as a result of, any failure of the *Contractor*, its employees, agents, Sub-*Contractors* and/or mandataries to comply with their obligations in terms of clause 16, and/or the failure of the *Employer* to procure the compliance by the *Contractor*, its employees, agents, Sub *Contractors* and/or mandataries with their responsibilities and/or obligations in terms of or arising from the OHSA.
- In carrying out his obligation as the mandatory to the *Employer* for this contract in terms of the National Environmental Management Act No.107 of 1998, the *Contractor* ensures that he complies with the Act when Providing the Services or using plant, materials or equipment.

1.2 Permit to Work System

- NO work shall be carried out without a "PERMIT TO WORK"
- The *Contractor's* Responsible Person must satisfy himself that all sources of possible danger are

isolated. Details of the Permit to Work system can be found in the Plant Safety Regulations for Lethabo Power Station, Eskom OPR 3305. The *Contractor* must also make provision for a Authorise supervisor that is trained according to the procedure mentioned above.

- A Master Permit to Work is used on declared major outages, details can be found in local procedure LBA 00085. Permit changes are made during the dead time, if it is required by the *Contractor* that a certain supply be made available or plant tested than this can be applied for at the Outage Management Meeting at least 1 day in advance.
- Plant with a prohibitive sign attached may only be operated by appointed Eskom personnel. Any *Contractor* employee found tampering with such plant will be permanently removed from Site.

1.3 Safety Induction Course

- All the employees of the *Contractor* must attend a safety induction course before they will be allowed to work on the Site. It is the responsibility of the *Contractor* to ensure that all employees have attended the safety induction.
- A list of employees requiring safety induction must be submitted at least 2 days in advance of arrival on site with the date and time of arrival so that the safety induction can be arranged.

1.4 IBI Awareness Techniques

- "To prevent incidents and ensure continuous improvement of Lethabo Power Stations business performance in all areas affecting safety, reliability and production, it is expected of all **CONTRACTORS** service personnel, to attend a three(3) hour training session on Integrated Business Improvement Awareness, which has to be done as soon as work has commenced; This is to ensure familiarisation and use of error-prevention tools/techniques inclusive of, Pre and Post-job briefs, Risk Assessments, Self-checks(STAR principle), Job observations, Effective communications e.g.3- way, Questioning attitude, Procedural adherence, Hand overs and other related topics.
- A monthly IBI scorecard to be completed indicating the use of error prevention tools/ techniques; The assigned employee fulfilling the role of IBI representative has to attend the IBI representative's forum fortnightly, on Tuesdays, duration one hour.
- An IBI representative appointed by the *Contractor*/Supplier/Consultant to attend the IBI Representative Forum One (1) hour every Tuesday (forth nightly).
- IBI Awareness training will be provided by Lethabo Power Station personnel, free of charge, course bookings can be arranged by contacting Rabie Heymans on extension 5094".

1.5 Transportation of passengers: open LDV's:

No *Eskom* employee or *Contractor* would be allowed to transport passengers on the back of open light delivery vehicles (LDV's).

It is a legal requirement to provide safe transportation of *Eskom* and *Contractor* employees – therefore the following will be enforced:

- All passengers must be transported in a closed vehicle with proper and adequate seating, fitted with safety belt for the number of passengers to be transported. NO passengers may be transported on the back of a light delivery vehicle (LDV) whether open or closed.
- Tools and equipment must be properly secured.
- Only authorised drivers may transport passengers.
- Proof must be submitted on request in terms of valid roadworthiness of the vehicle/s.
- The above must apply to on site and off site transportation of passengers.

1.6 Eskom Live Rules:

Five Cardinal Rules have been developed that will apply to all Eskom employees, agents, consultants and *Contractors*.

- **Rule 1:** Open, Isolate, Test, Earth, Bond, and/or Insulate before touch - that is any plant operating above 1 000 V.
- **Rule 2:** Hook up at heights - no person may work at height where there is a risk of falling.
- **Rule 3:** Buckle up – no person may drive any vehicle on Eskom business and/or on Eskom premises: unless the driver and all passengers are wearing seat belts.
- **Rule 4:** Be sober (no person is allowed to work under the influence of drugs and alcohol.
- **Rule 5:** Use a permit to work – where an authorization limitation exists, no person shall work without the required permit to work.

1.7 Local Safety Procedures

- The *Contractor* adheres to all local procedures. A list of local procedures is available on request from the *Employer*.

1.8 Incidents / Accidents

- Incidents and accidents must be reported and investigated as detailed in LBA 00030. All incidents must also be reported to the *Employer* within 24 hours.
- First aid must be made available either by the *Contractor* or use can be made of the Lethabo medical centre at a fee. The availability of the *Contractor's* own first aid does not relieve the *Contractor* of his obligation to report and investigate the incident in accordance with Lethabo Procedure.

1.9 Fire Prevention

- Fire prevention and protection requirements to which *Contractors* must comply are detailed in LBA 00030.

1.10 Protective Equipment and Clothing

- The *Contractor* supplies his own personal protective equipment necessary to carry out the *works* and the *Contractor* shall ensure that all overalls for his staff have clearly identifying **company LOGO's**
- The *Contractor* is also responsible to inspect and maintain such equipment as required in terms of the OHS Act and local procedures.

1.11 Inspection of Equipment

- The *Contractor's* equipment is inspected by an authorised Eskom employee on arrival at the site.
- The following documentation is required to accompany the equipment where applicable: copies of all test certificates and maintenance records.
- Lifting equipment and electrical equipment must be marked with a unique number, code or colour code for identification. If the equipment is found to be in an unsatisfactory condition or if insufficient maintenance has been carried out on the equipment then it will not be approved for use on Site. A list of all lifting equipment and electrical equipment must be submitted to the *Employer* at least 2 days prior to the occupation date. This list must indicate the unique number and description of the equipment.

1.12 Documentation

The *Contractor* is responsible to have the following documentation available on site in accordance with LBA 00030:

- A copy of the OHS Act.
- Copies of all site accident report forms as required by the OHS Act.

- Copies of minutes of health and safety meetings held on site.
- Copies of inspection reports produced by the accident prevention officer

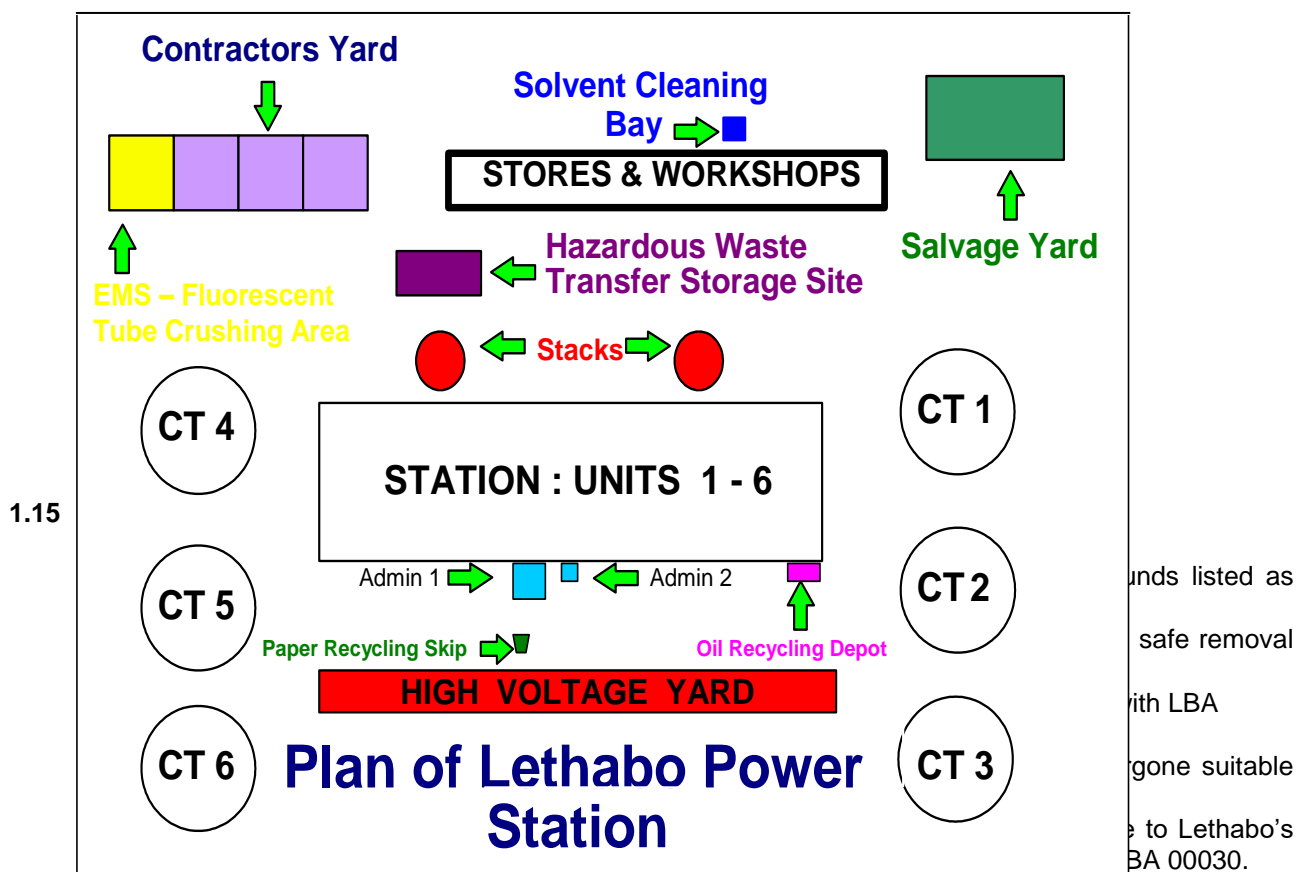
1.13 Environmental Policy and Waste Handling

Lethabo Environmental Statement of commitment must be adhered to.
The contractor shall submit to Eskom an EMP to be reviewed and approved by Eskom environmental officer, one week before the commencement of works.

1.14 Disposal of Waste

Waste shall be removed promptly to the designated disposal area. No stockpiling will be permitted.

- Domestic waste to the white waste bins
- Production waste in the marked bins i.e. coal and ash only
- Paper and cans to their respective recycling bins
- Contact Civil Engineering for the disposal of building rubble
- Scrap metal, Wood & Rubber, Redundant Valves, Pipes, and Equipment etc. to be placed in the marked bins in the new Salvage Yard. Solvents and cloths used to the Cleaning Bay.



- In order to ensure effective hazardous waste management, a copy of the *Contractors'* hazardous waste inventory must be supplied to the *Employer* at least 2 days prior to the occupation date.

Abbreviated list of Hazardous Materials

Acids and alkalis	Hydrocarbons	Pesticides & insecticides
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Antimony and its compounds	Inorganic cyanides	Pharmaceuticals
Arsenic compounds	Inorganic compounds containing halogens	Phosphorus and its compounds
Asbestos	Inorganic compounds containing sulphur	Selenium and its compounds
Barium compounds	Laboratory chemicals	Silver compounds
Beryllium compounds	Lead compounds	Tarry & petroleum products
Biocides & phytopharmaceuticals	Medical wastes	Tellurium and its compounds
Boron compounds	Mercury compounds	Thallium and its compounds
Cadmium and its compounds	Nickel and its compounds	Vanadium compounds
Chromium compounds	Organic halogen compounds	Zinc compounds
Copper compounds	Paints and paint sludges	Waste with flash point < 60°C
Heterocyclic organic compounds	Peroxides, chlorates	

1.16 Plant & Materials

- The *Employer* may at his own discretion, supply any Plant and Materials as may be required by the *Contractor* to Provide the Works.
- The *Contractor* is to notify the *Employer* in writing, 48 hrs in advance, of such Plant and Materials required.

1.17 Access to and Departure from the Site:

- The Site is at Lethabo Power Station situated \pm 18 km South of Vereeniging on the Viljoensdrift - Deneysville Road, Free State. Access to the site will be via the main security gate only. The *Employer* informs the *Contractor* of the access procedures, and it should be expected that such procedures may change depending on the prevailing security situation.
- The *Contractor* allows in his price and program for delays at the security gate. The *Employer* reserves the right for its Security personnel to search persons or vehicles entering or leaving the premises. This includes, but is not limited to briefcases and toolboxes.

1.18 Temporary Gate Permits

- The *Contractor* provides the *Employer* with the personal details of their staff at least two days prior to the occupation date. All names and details to be submitted to the *Employer* who arranges for all gate permits.

1.19 Equipment or Material Access and Removal

Access

- The *Contractor* ensures that all equipment and materials brought through the security gate is signed in at the main security gate on an OV18 form.

Removal

- The *Contractor* is not allowed to remove any equipment or materials from site without producing the relevant OV18 forms or the equipment lists.
- If the equipment or material is to be removed the same day, on which they were brought on to site, then the OV18 form will need to be produced at the gate when leaving the site.
- If the equipment or material is removed after this time then a Non-Returnable Gate Release will be provided by the *Employer's Representative*, on receipt of the original OV18, with which the *Contractor* brought the equipment on site.

1.20 Site or Area Establishment and Evacuation

Application for Site Establishment:

- Sites are allocated according to availability, the period for which the *Contractor* is going to be on site, or if special circumstances warrant the allocation of a site. Documentation to support this application can be submitted.
- The location of the site or area is indicated during the site or area take-over inspection.

Site Establishment:

- The *Contractor* does not occupy any site or area other than that allocated to him.
- The *Contractor* does not occupy the site or area prior to the take-over inspection.
- The *Contractor* maintains the site or area provided to him to the satisfaction of the *Employer*.
- The *Employer* subjects the *Contractor's* site or area to periodic inspection.

Site Evacuation:

- The *Contractor* advises the *Employer* in writing, five (5) days in advance of evacuation in accordance with LBA 00030. Immediately prior to evacuation the necessary take-over inspection must take place.

1.21 Electrical Equipment / Appliances, Lighting and Power:

- Any electrical equipment or appliances used by the *Contractor* must comply with all relevant safety regulations and requirements as detailed in LBA 00030, and be maintained in safe and proper working condition.
- The *Employer* has the right to stop the *Contractor's* use of any electrical equipment or appliance, which in the *Employer's* opinion does not conform to the foregoing.
- The *Contractor* provides at his own expense any temporary local lighting, and ensures that it is in accordance with the requirements of the Factories Inspector.
- The *Contractor* provides at his own expense, all temporary wiring and cabling to route power from the point of supply to the various points where it is required, maintain same and remove on completion.

1.22 Water

- The *Contractor* provides at his own cost, all connection fittings, pipe-work, temporary plumbing, and pumps necessary to lead the water from the point of supply to the various points where it is required, maintain same and remove on completion.
- Such fittings must be compatible with the *Employer's* fittings so that galvanic corrosion of pipe-work is prevented
- Water wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and will be for the cost of the *Contractor*.

1.23 Compressed Air

- The *Contractor* provides at his own cost, all connection fittings and pipe-work necessary to lead the compressed air from the point of supply to the various points where it is required, maintain same and

remove on completion. Such fittings must be compatible with the *Employer's* fittings so that galvanic corrosion of pipe-work is prevented

- Compressed air wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and will be for the cost of the *Contractor*.

1.24 Ventilation

- The *Contractor* is responsible for adequate ventilation of the works.

1.25 Security

- The *Contractor* is responsible for all security on *site*, fencing off, night watch and access control in order to secure all plant, materials and the *works* itself. All these measures must be in accordance with any relevant regulations and standards and subject to the *Employer's* approval.
- It is also the *Contractors* responsibility to ensure the security of all completed portions of the *works* prior to Completion.

1.26 Offices, Workshops and Stores

- The *Contractor* shall provide, erect and maintain for his own use, any additional office accommodation and stores he requires, together with drainage, lighting, heating, and hot and cold-water services as required.
- The *Contractor's* site establishment price includes all treatment of the site that he considers necessary for his entire operation throughout his period of occupation and under all weather conditions.
- The *Contractor* also includes for all security and access arrangements that he considers necessary.

1.27 Sanitary Facilities

- The *Contractor* shall provide service, maintain and remove on completion any additional facilities required and allow for it in his *Price*.
- The *Contractor's* employees who work with asbestos are not allowed to use the *Employer's* ablution or messing facilities at the workplace during and after stripping of lagging materials, for fibres that may be attached to workers clothing, or to any other article.