



## NEC3 Engineering & Construction Contract

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

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

for Civil structures upgrades for the replacement of  
battery chargers at Lethabo Power Station for a  
period of three (03) years

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CONTRACT No. [Insert at award stage]

## Part C1: Agreements & Contract Data

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## 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:

### Civil structures upgrades for the replacement of battery chargers at Lethabo Power Station for a period of three (03) years

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 <sup>1</sup>	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)

<sup>1</sup> 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	<b>General</b>	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
		<b>A: Priced contract with activity schedule</b>
	dispute resolution Option	<b>W1: Dispute resolution procedure</b>
	and secondary Options	
		<b>X1: Price adjustment for inflation</b>
		<b>X2: Changes in the law</b>
		<b>X5: Sectional Completion</b>
		<b>X7: Delay damages</b>
		<b>X15: Limitation of <i>Contractor's</i> liability for his design to reasonable skill and care</b>
		<b>X16: Retention</b>
		<b>X18: Limitation of liability</b>
		<b>Z: <i>Additional conditions of contract</i></b>
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	<b>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</b>
	Address	<b>Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg</b>
10.1	The <i>Project Manager</i> is: (Name)	
	Address	<b>Lethabo Power Station Deneysville Rd</b>

**Viljoensdrift**

Tel

Fax

e-mail

10.1 The *Supervisor* is: (Name)

Address

**Lethabo Power Station  
Deneysville Rd  
Viljoensdrift**

Tel No.

e-mail

11.2(13)	The <i>works</i> are	To ensure that the structural integrity of the individual substations/rooms are not compromised by the installation of the new electrical equipment (i.e. battery chargers). The appointed contractor will be responsible for design, supply, construct and handover of the complete works.
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11.2(14)	The following matters will be included in the Risk Register	<b>See risk management in part 3</b>
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11.2(15)	The <i>boundaries of the site</i> are	<b>Areas associated with the scope of work to be performed as per the works information.</b>
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11.2(16)	The Site Information is in	<b>Part 4: Site Information</b>
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11.2(19)	The Works Information is in	<b>Part 3: Scope of Work and all documents and drawings to which it makes reference.</b>
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12.2	The <i>law of the contract</i> is the law of	<b>the Republic of South Africa</b>
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13.1	The <i>language of this contract</i> is	<b>English</b>
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13.3	The <i>period for reply</i> is	<b>1 week</b>
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<b>2</b>	<b>The <i>Contractor's</i> main responsibilities</b>	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.
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<b>3</b>	<b>Time</b>
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11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	<b>36 months after <i>Starting date</i></b>
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11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	<b>Condition to be met</b>	<b>key date</b>
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**Detailed Design Freeze**

**3 months  
after *Starting date***

		Sectional Completion	As per X5.1 below
30.1	The <i>access dates</i> are:	Part of the Site - TBC	Date - TBC
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks after Contract award.	
31.2	The <i>starting date</i> is		
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	1 week during execution, monthly prior execution.	
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	As stated above and X5.1	
4	Testing and Defects		
42.2	The <i>defects date</i> is	52 weeks after Completion of the <i>works</i> .	
43.2	The <i>defect correction period</i> is	Two weeks	
5	Payment		
50.1	The <i>assessment interval</i> is	The 25 <sup>th</sup> 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	4 weeks.	
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	Lethabo Power Station	



is:

**Deneysville Rd  
Viljoensdrift**

The *weather measurements* to be recorded for each calendar month are,

**the cumulative rainfall (mm)**

**the number of days with rainfall more than 10 mm**

**the number of days with minimum air temperature less than 0 degrees Celsius**

**the number of days with snow lying at 09:00 hours South African Time**

The *weather measurements* are supplied by

**South African Weather Bureau**

The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:

**Vaal triangle**

and which are available from:

**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***

60.1(13)

Assumed values for the ten year return *weather data* for each *weather measurement* for each calendar month are:

**As stated in Annexure A to this Contract Data provided by the *Employer*.**

**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 *Employer's* risks

**Refer to risk register**

84.1

The *Employer* provides these insurances from the Insurance Table

**as stated for "Format A"**  
[http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS\\_Policies\\_From\\_1\\_April\\_2014\\_To\\_31\\_March\\_2015.aspx](http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx)  
**(See Annexure B for basic guidance)**  
**The *Contractor's* liability for payment of the *Employer's* insurance deductible shall be limited to the relevant deductibles payable in terms of the relevant insurance policy as at Contract Date.**

84.1

The *Contractor* provides these additional insurances:

**as stated for "Format A"**  
[http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS\\_Policies\\_From\\_1\\_April\\_2014\\_To\\_31\\_March\\_2015.aspx](http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx)  
**(See Annexure B for basic guidance)**  
**The *Contractor's* liability for payment of the *Employer's* insurance deductible shall be limited to the relevant deductibles payable in terms of the relevant insurance policy as at**

		Contract Date.
84.2	The insurance against loss of or damage to the <i>works</i> , Plant and Materials is to include cover for Plant and Materials provided by the <i>Employer</i> for an amount of	Replacement including the amount stated in the contract data for the replacement of any plant and materials provided by the <i>Employer</i>
84.2	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the <i>works</i> , Plant, 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 for any one event is	Whatever the <i>Contractor</i> deems necessary in addition to that provided by the <i>Employer</i> .
84.2	The minimum limit of indemnity for insurance in respect of 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 for any one event is	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the <i>Contractor's</i> common law liability for people falling outside the scope of the Act with a limit of Indemnity of not less than R500 000 (Five hundred thousand Rands).
9	<b>Termination</b>	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	<b>Data for main Option clause</b>	
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	<b>Data for Option W1</b>	
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 <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a> ). 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 Civil Engineering and the London Institution of Civil Engineers. (See <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a> ) 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	<b>South Africa</b>
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	<b>The Chairman for the time being or his</b>
	- if the arbitration procedure does not state who selects an arbitrator, is	<b>nominee of the Association of Arbitrators (Southern Africa) or its successor body.</b>

## 12 Data for secondary Option clauses

<b>X1</b>	<b>Price adjustment for inflation</b>			
X1.1(a)	The <i>base date</i> for indices is	<b>15 October 2022</b>		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	<b>proportion</b>	<b>linked to index for</b>	<b>Index prepared by</b>
		<b>0.1</b>	<b>non-adjustable</b>	
	Total	<b>1.00</b>		

<b>X2</b>	<b>Changes in the law</b>	<b>There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.</b>
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<b>X5</b>	<b>Sectional Completion</b>			
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	<b>Section</b>	<b>Description</b>	<b>Completion date</b>
		<b>1</b>	<b>Completion</b>	<b>4 months after Detailed Design Freeze</b>
		<b>2</b>	<b>Completion</b>	<b>4 months after Section 1 completion</b>
		<b>3</b>	<b>Completion</b>	<b>4 months after Section 2 completion</b>
		<b>4</b>	<b>Completion</b>	<b>4 months after Section 3 completion</b>
		<b>5</b>	<b>Completion</b>	<b>4 months after Section 4 completion</b>

		6	Completion	4 months after Section 5 completion
		7	Completion	4 months after Section 6 completion
X7	Delay damages (but not if Option X5 is also used)			
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	05% of the total order value of the delay per day up to the maximum of 15%		
X15	Limitation of the <i>Contractor's</i> liability for his design to reasonable skill & care	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
X16	Retention			
X16.1	The <i>retention free amount</i> is	R0.00		
	The <i>retention percentage</i> is	5% of every payment made		
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 described in the insurance policy format selected in the data for clause 84.1 above, which policy is available on <a href="http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx">http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx</a>		
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"><li>the total of the Prices at the Contract Date and</li></ul>		
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"><li>Defects due to his design which arise before the Defects Certificate is issued,</li></ul>		

		<ul style="list-style-type: none"> <li>• Defects due to manufacture and fabrication outside the Site,</li> <li>• loss of or damage to property (other than the <i>works</i>, Plant and Materials),</li> <li>• death of or injury to a person and</li> <li>• infringement of an intellectual property right.</li> </ul>
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>

<b>Z</b>	<b>The <i>Additional conditions of contract</i> are</b>	<b>Z1 to Z15 always apply.</b>
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**Z1 Cession delegation and assignment**

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* 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 *Contractor* 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 *Employer* for the performance of this contract.
- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind

the *Contractor* on their behalf.

- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* 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 *Contractor* 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 *Contractor*, 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 works, 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 works, 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	<b><u>Loss of or damage to property</u></b> <b><u>Employer's property</u></b> 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  <b><u>Other property</u></b> The replacement cost  <b><u>Bodily injury to or death of a person</u></b> 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**

<b>Insurance against or name of policy</b>	<b>Minimum amount of cover or minimum of indemnity</b>
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 47 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 47 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:

<b>AAIA</b>	means approved asbestos inspection authority.
<b>ACM</b>	means asbestos containing materials.
<b>AL</b>	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.
<b>Ambient Air</b>	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.
<b>Compliance Monitoring</b>	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.
<b>OEL</b>	means occupational exposure limit.
<b>Parallel Measurements</b>	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
<b>Safe Levels</b>	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.
<b>Standard</b>	means the <i>Employer's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
<b>SANAS</b>	means the South African National Accreditation System.
<b>TWA</b>	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 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.

Month	Weather measurement				
	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	N/A	N/A	N/A	N/A	
February	N/A	N/A	N/A	N/A	
March	N/A	N/A	N/A	N/A	
April	N/A	N/A	N/A	N/A	
May	N/A	N/A	N/A	N/A	
June	N/A	N/A	N/A	N/A	
July	N/A	N/A	N/A	N/A	
August	N/A	N/A	N/A	N/A	
September	N/A	N/A	N/A	N/A	
October	N/A	N/A	N/A	N/A	
November	N/A	N/A	N/A	N/A	
December	N/A	N/A	N/A	N/A	

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

## **Annexure B: Insurance provided by the *Employer***

*These notes are provided as guidance to tendering contractors and the Contractor about the insurance provided by the Employer. The Contractor must obtain its own advice. Details of the insurance itself are available from the internet web link given below.*

1. For the purpose of *works* contracts, insurance provided by Eskom (the *Employer*) has been arranged on the basis of “project” or “contract” value, where the value is the total of the Prices at Completion of the whole of the *works* including VAT.

A “project” is a collection of contracts or work packages to be undertaken as part of a single identified capital expansion or refurbishment of a particular asset or facility.

A “contract” is a single contract not linked to or being part of a “project”.

2. For ECC3 there are three main “formats” of cover and deductible structure; Format A, Format B and Format Dx.

**Format A** is for a project or contract value less than or equal to R350M (three hundred and fifty million Rand) inclusive of VAT.

**Format B** is for a project or contract value greater than R350 M (three hundred and fifty million Rand) inclusive of VAT.

In the case of contracts / packages within a project:

- For a contract / package of R50M which is part of a R400M project, Format B will apply
- For a contract / package of R250M which is part of a R6 billion project, Format B will apply;
- For a contract / package of R120M which is part of a R350M project Format A will apply;

For a contract which is not part of a project the same limits apply:

- For a contract of R50M, Format A will apply
- For a contract of R355M, Format B will apply.

**Format Dx** applies only to Distribution Division projects and contracts. If a Distribution Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover. Cover and deductibles for Distribution Division are per the relevant policy available on the internet web link given below.

**Format A generally applies to Transmission Division** projects and contracts. If a Transmission Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover.

3. Tendering contractors should note that cover provided by the *Employer* is only per the policies available on the internet web link listed below and may not be the cover required by the tendering contractor or as intended by each of the listed insurances in the left hand column of the Insurance Table in clause 84.2. In terms of clause 84.1 “the *Contractor* provides the insurances stated in the Insurance Table except any insurance which the *Employer* is to provide”. Hence the *Contractor* provides insurance which the *Employer* does not provide and in cases where the *Employer* does provide insurance the *Contractor* insures for the difference between what the Insurance Table requires and what the *Employer* provides.
4. When the Marine Insurance is required the *Contractor* needs to obtain a copy of the latest edition of Eskom’s Marine Policies Procedures found at internet website given below.

- 5. Further information and full details of all Eskom provided policies and procedures may be obtained from:**

**[http://www.eskom.co.za/live/content.php?Item\\_ID=9248](http://www.eskom.co.za/live/content.php?Item_ID=9248)**

## C1.2 Contract Data

### Part two - Data provided by the *Contractor*

#### Notes to a tendering contractor:

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)<sup>2</sup> in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 (April 2013) Guidance Notes.
2. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data
3. Where a form field like this [ ] appears, data is required to be inserted relevant to the option selected. Click on the form field **once** and type in the data. Otherwise complete by hand and in ink.

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:	

<sup>2</sup> Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see [www.ecs.co.za](http://www.ecs.co.za)

		<b>CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .</b>		
11.2(3)	The <i>completion date</i> for the whole of the works 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			
<b>A</b>	<b>Priced contract with activity schedule</b>			
11.2(20)	The <i>activity schedule</i> is in			
11.2(30)	The tendered total of the Prices is	<b>(in figures)</b> <b>(in words), excluding VAT</b>		
	<b>Data for Schedules of Cost Components</b>	<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>		
<b>A</b>	<b>Priced contract with activity schedule</b>	<b>Data for the Shorter Schedule of Cost Components</b>		
41 in SSCC	The percentage for people overheads is:	<b>%</b>		
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	<b>Minus %</b>		
22 in SSCC	The rates of other Equipment are:	<b>Equipment</b>	<b>Size or capacity</b>	<b>Rate</b>
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are  <b>Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates.</b> <b>Please insert another schedule if foreign resources may also be used</b>	<b>Category of employee</b>		<b>Hourly rate</b>
62 in SSCC	The percentage for design overheads is	<b>%</b>		



63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are include in Defined Cost are:	
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PART 2: PRICING DATA

ECC3 Option A

Document reference	Title	No of pages
	This cover page is	1
C2.1	Pricing assumptions: Option A	2
C2.2	The <i>activity schedule</i>	3
	Total number of pages	6

## 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:

<b>Identified and defined terms</b>	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 No	Activity Description	Qty (total)	Rands (each)	Rands (total)
<b>1</b>	<b>General</b>			
1.1	Site Establishment (considering weather conditions and storage)	Sum		
1.2	Compilation & Approval of Safety File prior to commencement of project	Sum		
1.3	Site de-establishment	Sum		
<b>2</b>	Weighting of the existing battery chargers.	Sum		
<b>3</b>	Structurally assessing/verifying the existing civil infrastructures.	Sum		
<b>4</b>	Performing of reinforcement scanning of the existing support structures	Sum		
<b>5</b>	<b>Design</b>	Sum		
<b>6</b>	<b>Installation and Commissioning</b>			
<b>6.1</b>	<b>Section 1 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
<b>6.2</b>	<b>Section 2 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
<b>6.3</b>	<b>Section 3 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
<b>6.4</b>	<b>Section 4 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			

	As-built documentation and data pack			
<b>6.5</b>	<b>Section 5 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
<b>6.6</b>	<b>Section 6 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
<b>6.7</b>	<b>Section 7 - Completion</b>	Sum		
	Supply/Delivery of new material			
	Installation			
	Decommissioning/Removal of old material			
	Safety clearance/hand over			
	As-built documentation and data pack			
7	Documentation			
	<b>TOTAL (excl. VAT)</b>			
<b>NOTES:</b>				
1. Please refer to minimum quantities in Part C3.1 (Appendix I) for base equipment requirements.				

## PART 3: SCOPE OF WORK

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

## C3.1: EMPLOYER'S WORKS INFORMATION

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## 1. Description of the works

### Executive overview

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

The *Employer's* objectives for the *works* is to ensure that the structural integrity of the individual substations/rooms are not compromised by the installation of the new electrical equipment (i.e. battery chargers). This will be achieved by satisfy the following requirements, as a minimum:

- i. Weighting of the existing battery chargers.
- ii. Structurally assessing/verifying the existing civil infrastructures.
- iii. Performing of reinforcement scanning of the existing support structures.
- iv. All works to be done in accordance with the latest *Employer's* and SANS standards.

### Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits

## 2. Management and start up.

### Management meetings

Meetings will be held every week between the *Project Manager*, the *Contractor* and/or any person instructed by the *Project Manager* to attend. The *Contractor* is represented at each meeting by at least the Designer and Site Manager for the *Contractor*. It is noted that representatives of the *Contractor* and/or *Employer* attending the meetings must have the authority to make decisions and execute the decisions. Additional ad hoc meetings may also be scheduled by either the *Project Manager* and/or *Contractor* for urgent issues that may need to be addressed.

The *Project Manager* will, as and when necessary, require the *Contractor* to attend meetings with other *Contractors* on the Project. This requirement does not constitute a compensation event.

The venue for meetings is as determined by the *Project Manager*. The *Project Manager* writes the minutes of meetings and circulates to attendees, for comments and acceptance, within ten working days. Any actions from either the *Project Manager* and/or the *Contractor* implied in the minutes of meetings are to be confirmed by a separate formal communications (i.e. formal transmittal) between the *Project Manager* and the *Contractor*.

All meetings are recorded using minutes and attendance registers prepared and circulated by the person who convened the meeting.

During the weekly meetings, the *Contractor* reports the overall progress and the following as a minimum requirement:

- *Contractor's* current activity progress and planned finish dated

- *Contractor's* planned start and finish dates for the works
- Discussion on the *Contractor's* programme
- Health, safety and quality issues
- The progress of any other relevant activities
- Discussion on any technical and commercial issues
- Problem areas or concerns

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	As and when required	Project boardroom	<i>Employer, Contractor, Supervisor</i>
Overall contract progress and feedback	Weekly on Mondays	Project boardroom	<i>Employer, Contractor, Supervisor,</i>
Tool box sessions	Every-day before commence of work	Site	All the <i>Contractor's</i> employees.
Overall contract progress and feedback	Every Monday time to be agreed upon contract award	Projects Boardroom	<i>Employer's</i> and <i>Contractor's</i> Representatives
Kick off meeting	Once after contract award	Projects Boardroom	<i>Employer's</i> and <i>Contractor's</i> Representatives

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

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

## Documentation control

All documents and records management are performed according to Technical Document and Record Management Work Instruction (240-76992014). The *Project Manager* ensures that the *Contractor* is provided with the latest revision. Any uncertainty regarding the work instruction should be clarified with the *Project Manager* and clarification updates should be reflected in updated versions of the work instruction.

All documents, correspondence, certificates and all wording on drawings are to be in English. The *Project Manager* will not undertake any translation, and any errors or misunderstandings made by the *Contractor* or his sub-contractor and their agents and officers shall be deemed to be the responsibility of the *Contractor*.

Transmittal letters are provided with each document submittal. The transmittal letter must include the *Contractor's* drawing number, revision number, and title for each drawing attached. Each drawing title must be unique and must be descriptive of the specific drawing content. In addition, the *Contractor* is provided with the following standards which must be adhered to:

- Documentation Management Review and Handover Procedure for Gx Coal Projects (240-66920003).
- Project Document Deliverable Requirement Specification (240-65459834).
- Technical Document and Record Management Work Instruction (240-76992014).

## Change Management

Design change management is performed in accordance to the latest revision of the Eskom Project Change Management Procedure (240-53114026) and the *Employer* ensures that the *Contractor* is provided with latest revisions of the procedure. Any uncertainty regarding this procedure should be clarified with the *Project Manager* and clarification updates are reflected in updated versions of this procedure.

## Health and safety risk management

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

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

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

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

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

The *Contractor* shall comply with the health and safety requirements contained in Annexure \_\_\_\_\_ to this Works Information.

## Environmental constraints and management

The *Contractor* ensures that all goods, services or *works* supplied in terms of the Contract comply with all applicable environmental legislations. The *Contractor* is responsible for keeping the work area clean of any environmental waste. All waste introduced and/or produced on the *Employer's* premises by the *Contractor* for this Contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of the Government Legislation as proclaimed by the Department of Water Affairs and Forestry and *Employer's* environmental requirements (Waste Management Procedure [32-245] and Management of Waste at Lethab PS [240-65666252]).

All environmental incidents must be reported to the *Employer* within 24 hours of such occurrences. All environmental incidents occurring on the Project Site and/or on the *Employer's* property must be recorded detailing how each incident was dealt with in an Environmental Incident register.

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure \_\_\_\_\_

## Quality assurance requirements

### General

The *Contractor* complies with the *Employer's* quality and technical requirement as included in this works information.

### Quality Management Documents Requirements

The *Contractor* is required to compile and submit to the *Project Manager* all QCPs and ITPs for review and acceptance. The *Contractor* submits to the *Project Manager* with a detailed contract organogram showing the quality personnel to be used in the *contract*.

The *Contractor* submits as a minimum the following documents, as required by the *Project Manager*, which requirements does not constitute a compensation event, during the execution of the works:

- Updated QCP register including the *Client's* Intervention points.
- Inspection notifications accompanied by their inspection report.
- Non-conformance and Defect registers and reports.
- Updated site inspection schedules.
- Inspection and test reports.
- Monthly contract quality progress report.
- Data books for the completed *works*.

### Quality Responsibility

The *Contractor* is accountable for the quality of the output and liable for any failures. The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections. Such intervention points are to be in line with the *Employer's* requirements.

The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections to be imposed on all Sub-Contractor's, suppliers and sub-suppliers and must ensure that these are in line with the *Employer's* requirements.

The intervention requirements take into consideration the criticality of the *plant* and *materials*. The interventions points include all witness, hold, verification, review and approval points required by the *Employer*. Failure by the *Contractor* to allow for such intervention points will constitute a non-conformance.

### Inspections

The *Contractor* is required to conduct sufficient inspections and tests to satisfy himself that all requirements of the Works Information are being met and the results of inspections and tests shall be submitted to the *Project Manager* in accordance with the *Contractor's* Quality Management System (i.e. accepted QCP/ITP). The *Employer* only witnesses/verifies that the *works* is conducted as per the *contract*.

Where the *Contractor's* or *Employer's* inspections and/or tests reveal that the requirements of the Works Information have not been attained, the *Contractor* is required, at his expense, to rectify the work to the extent that it does conform with the Works Information.

The *Contractor* drafts a QCP or ITP which shows each activity from the Works Information and submits to the *Project Manager* for acceptance. The *Contractor* provides suitably qualified personnel to conduct onsite inspections.

The *Contractor* ensures that all *works* are inspected and approved before the *Employer* is invited for witnessing/verification.

The *Contractor* provides a minimum of 2 working days' notice when inviting the *Employer* to verify/inspect the *works*. The notice to the *Employer* is to contain as a minimum the type of inspection to be conducted, structure/component to be inspected and all relevant QC report and/or documents to be filled/completed.

Damages as a result of the *Contract's* failure to comply with the inspection notice period as specified in the above paragraph will be borne by the *Contractor* and no compensation events will arise out of this.

### Non-Conformance and Defects

Where NCR's and defects notifications are issued, the *Contractor* acknowledges receipt within 48 hours and proposes corrective and preventive actions to the *Project Manager* as per the *contract* response period. The

corrective and preventive actions will include the implementation and completion dates. Progress on all NCR's and defect notifications issued to the *Contractor* must be report the *Project Manager* on a weekly basis.

The *Contractor's* quality manager keeps a register of all NCR's and defect notifications issued. Deviations from the *contract* are treated as a non-conformance. Records of NCRs and Defect Notifications are kept and form part of the data book records.

### Quality Reporting

The *Contractor* submits a monthly quality report, on the last working day of the month, to the *Project Manager*. The report includes nut not limited to the following:

- A register of NCRs and defects
- Updated QCP/ITP register
- QA monthly report summary
- Planned and completed local inspection dates
- Completed and outstanding inspections
- Principal material orders and stocks on site
- *Contractor's* equipment, plant and temporary works on the site or due to be delivered to or removed from the site.

### Preservation and transportation Requirements

The *Contractor* is responsible for ensuring 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 *Project Manager* may choose to witness the packaging, loading and offloading of the products depending on their criticality, this will be indicated in the intervention points on the QCP/ITP documents.

The *Contractor* also 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 *Project Manager* for review and acceptance. The *Project Manager* may request to inspect the stored products at any given point during the storage period of the product.

## Programming constraints

### Methods and Procedures

#### General

Construction methods must be of such a nature that no person, property or improvements in the vicinity of the works is endangered. The *Project Manager* accepts no responsibility for any *works* executed without written permission outside the site of *works*.

#### Method Statement

The *Contractor* submits a detailed Construction Method Statements for each activity of his work, together with activity durations, to the *Project Manager* for review and acceptance prior to starting any work. As a minimum, the following requirements are to be included in the method statement:

- The scope of the particular Method Statement
- Activity:  
The Contractor illustrates the description of the major activities as of the construction programme.
- Quantity:

The method statement shows the quantity of that particular activity taken from the Bill of Quantities with its unit of measurement which is directly influenced by the method to be used.

- **Method**  
The Method Statement provides a short but complete description of how the activity will be executed and highlighting the risks associated with the method to be used.
- **Sequence**  
The Method Statement shows the sequence of the activities that will be required to perform a particular task taking into consideration access restrictions and safety requirements.
- **Resource**  
All necessary plant, equipment and labour required to complete a particular activity must be indicated. The Method Statement is to include a clear description of the responsibilities of the *Contractor's* personnel involved in the activity, including (where applicable) his Project Manager, Site Quality Manager, Site Engineer, Health and Safety Manager, Technical Office Manager, Production Manager, Supervisor, Environmental Officer and other personnel required for the activity work.
- **Duration**  
The duration of the activity will be indicated in the Method Statement.
- **Quality control points as accepted by the *Project Manager*.**
- **Temporary works to be used including *Project Manager's* acceptance where such is supported off existing structures.**
- **Rigging studies and design calculations where applicable.**
- **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 broken concrete and other waste materials as a result of removal operations, where applicable.**
- **Works required to safeguard existing infrastructure and services.**
- **Risk assessments associated with shutdown of plant/ equipment where deemed necessary, in order to execute the works.**

All work Method Statements include the name and qualification of the personnel working in the specified activity in conjunction with the requirements as set out in Supplier Quality Management Specification (240-105658000).

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

- (1) The *Contractor* provides a detailed organogram to the *Project Manager* that clearly indicates the employee's details. In the event of any person within the *Contractor's* organogram changing, the *Contractor* is to obtain acceptance for the replacement from the *Project Manager*.
- (2) The *Contractor* shall provide his own Responsible Person(s) and or Authorised Supervisor(s) as required by the Permit to Work system on site during the execution of *works*.

### **Invoicing and payment**



- (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 showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.
- (2) The *Contractor* shall address the tax invoice to:  
Lethabo accounts payable section (APS).  
Private Bag x 415  
Vereeniging  
1930  
E-mail their pdf format to [Invoiceseskomlocal@eskom.co.za](mailto:Invoiceseskomlocal@eskom.co.za)

and include on each invoice the following information:

- (2.1) Name and address of the *Contractor*.
- (2.2) The contract number and title;
- (2.3) *Contractor's* VAT registration number;
- (2.4) The *Employer's* VAT registration number 4740101508;
- (2.5) The total Price for Work Done to Date which the *Contractor* has completed;
- (2.6) Other amounts to be paid to the *Contractor*;
- (2.7) Less amounts to be paid by or retained from the *Contractor*;
- (2.8) The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT;
- (2.9) The original invoice together with the *Project Manager's* payment certificate shall be emailed to [Invoiceseskomlocal@eskom.co.za](mailto:Invoiceseskomlocal@eskom.co.za)

#### **Insurance provided by the *Employer***

- (1) Refer to Part C1.

#### **Contract change management**

- (1) The change management process for addressing changes on the contract will be as follows;
  - (1.1) All requests for contract changes shall be submitted in writing by the *Contractor* to the *Project Manager* as per the terms and condition of the contract.
  - (1.2) The *Project Manager* will follow the prescribed requirements for managing contract changes as per his/her delegation of authority.
  - (1.3) The *Contractor* shall ensure that all changes accepted by the *Project Manager* are documented and kept as record.

#### **Contractor Requirements**

- (1) All scaffolding as well as rigging requirements where applicable shall be the responsibility of the *Contractor*.
- (2) The *Contractor* shall be responsible for supply of all the equipment and tools to conduct the *works*.
- (3) The construction price on the price list should cater for Equipment, tools and scaffolding and rigging cost.
- (4) The *Contractor* shall ensure that the permit to work system used at Lethabo is adhered to prior commencement of any work in a specific area covered under this scope of work.
- (5) The *Contractor* shall appoint one or more competent person(s) as Authorized Supervisor(s) who shall undergo 5 days authorized supervisor training.

- (6) The *Contractor's* Authorized Supervisor would be responsible to carry out duties outlined in the Eskom plant safety regulations.
- (7) The *Contractor* shall allow in his program, 4 weeks for the authorized supervisor training and panel interview prior commencing with the *works* on site.
- (8) During execution the *Supervisor* shall do random SHERQ audits.
- (9) The *Contractor* shall adhere to the agreed schedule and apply project management principles to avoid delays.
- (10) No work shall commence without the supervision and or availability of the key personnel on site as required by the legislation.
- (11) Tool box talk and risk assessment to be done every day prior work commencement.
- (12) Risk register to be signed by all personnel prior the work commencement.
- (13) The *Contractor* shall provide a site diary on site to keep record of all daily site activities/events and instructions by the *Project Manager*.
- (14) The *Contractor* shall not act or execute any instruction made by any person without the *Project Manager's* knowledge or input especially if that will have an impact on the triple constraints (scope, cost, time).

#### **Provision of bonds and guarantees**

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

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

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

- (1) To substantiate the Defined Cost of Compensation Events, the *Employer* may require the *Contractor* to keep records of amounts paid by him for people employed by the *Contractor*, Plant and Materials, work subcontracted by the *Contractor* and Equipment.

#### **Training workshops and technology transfer**

N/A

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

#### ***Employer's* design**

##### **Civil and Structural design**

The Employer has conducted a basic design to assess the structural integrity of installing the battery chargers and batteries within the various locations across the plant. During this assessment, it was discovered that in certain locations, the battery chargers can be installed without modifying the structure. However, for majority of the locations, weighing of the existing battery chargers will be required to confirm whether structural modifications will be required. These requirements are listed in Appendix E. The information below highlights the locations where structural modifications may or may not be required.

##### **Outside Plant Substations:**

At the Raw Water switchgear room and Ash Substation 5 and 6, the battery chargers can be installed without any structural modifications. For the Ash Substations 1, 2 & 5, modifications to the structure will be required prior to any installation of the battery chargers.

##### **Auxiliary bay & Outside Plant Substations:**

Weighing of the existing battery charger will be required to confirm whether the weight of the new battery chargers are less than the existing equipment. The weighing of battery chargers shall be conducted provided the Employer requests for it; which shall be determined by the availability of structural assessment report deeming the structure fit for the new equipment.

Battery chargers within the Station room 3, Units 1-6 DC Equipment rooms and Units 1-6 DC Switchgear rooms will not be installed until written instructions to install the new battery chargers are given from the *Employer* to the *Contractor*.

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

##### **Civil and Structural Requirements**

In order for the *Employer* to assess, verify and validate that the integrity of the civil infrastructures is not compromised by the mass of the new equipment installations, the *Contractor* is required to perform the Works detailed herein.

- i. On decommissioning of the equipment, the *Contractor* is required to weigh each battery charger type (i.e. existing equipment) and compares the existing/old battery charger weights to the new battery charger weights, which will be provided by the *Project Manager*. The assessment results/analysis is to be submitted to the *Project Manager* before any installation of new battery chargers is conducted.
- ii. In the event that the new battery chargers weight more than the existing equipment, the *Contractor* is required to conduct a structural assessment/verification on the supporting structures to confirm that the structural integrity of the civil infrastructures will not be compromised by the new equipment.
- iii. Due to the lack of reinforcement drawings, the *Contractor* is required to conducted reinforcement scans of the supporting structures, this will enable the *Contractor* to perform the structural assessment/verification. For detailed information on the requirements of the reinforcement scans, refer to Section 0.
- iv. Prior to conducting any structural assessment and reinforcement scans, the *Contractor* submits a report (inclusive of point i.), to the *Project Manager*, which highlights the rooms/area that will require reinforcement scans, structural verification, and potential risks. The *Project Manager* will review and provide written communication to the *Contractor* on whether or not to proceed with the reinforcement scans and structural verification.
- v. The *Contractor* is required to design all supporting structures (i.e., beams, column, etc.) to support the new battery chargers so that the new equipment is not supported by the cover gratings.

- vi. The Contractor is required to modify all cover gratings and vastrap for the installation of the new equipment. This may include as a minimum adding supports to stabilize the modified cover gratings or vastrap.
- vii. All exposed/uncovered cable slots, as a result of the new equipment, are to be covered by a 2 hour rated durable material which can resist corrosion and maintenance loading. Refer to Eskom Fire Protection & Life Safety Design Standard for more information of the fire rating.
- viii. In the event that modifications to the support structures are done, The Contractor is responsible for producing as-built drawings for such areas/locations.
- ix. The Contractor is required to ensure the structural integrity of all structural modifications and takes full accountability for any modifications made to the existing structure.
- x. The Contractor submits a detailed design report and finalised drawings for acceptance before any construction/modifications can take place.
- xi. All structural designs/modification are to be in accordance with 240-56364545 - Structural Design and Engineering Standard as well as all other standards and specifications referenced in this Works Information.
- xii. All designs or modifications are required to be designed for the remaining life of Lethabo Power Station, which is approximately 20 years to the end of 2039.
- xiii. All structural steel used is required to be grade S355JR in accordance with SANS 50025.
- xiv. Welded connections are required to be welded all around with a minimum of 6 mm fillet welds or the appropriately designed fillet weld size. Butt welds are required to be full penetration welds.
- xv. Grade 8.8 bolts are used throughout, as a minimum.

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

Specific information required from the *Contractor* during the tender phase and as part of the works are as set-out in the Vendor Document Submittal Schedule (VDSS). Upon contract approval, the *Contractor* is required to update the VDSS to reflect the timelines and specific documents to be submitted to the *Project Manager*. The VDSS is a live documents and is to be frequently updated as the project progresses.

Each document submitted to the *Project Manager* requires a transmittal note from the *Contractor* (refer to *Employer's* template 240-71448626 for minimum metadata requirements).

### Review of design documentation

The *Contractor* submits all documentation to the *Project Manager* for acceptance. The *Project Manager* reviews the *Contractor's* submitted documents in accordance to the *Employer's* Design Review Procedure (240-53113685).

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 Works Information and that a technically sound design approach is followed in carrying out the designs.

The designs submitted are complete packages with all elements (all related drawings and detailed design report) included in order for the *Employer* to review as a whole.

The *Contractor* takes note of the *Employer's* Design Review Procedure and participates in all design reviews as specified by the *Employer*. The *Employer* 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*. The *Contractor* includes these design reviews as part of the schedule. All designs must be reviewed, accepted and frozen before manufacturing and construction of the relevant plant item starts.

In terms of the Construction Regulations, the *Employer's* review of the *Contractor's* design does not influence the design as only the *Contractor* can amend, update and revise the design. The *Contractor* remains the "Designer" as per the Construction Regulations, the *Employer* is not the "Designer".

The *Employer*, as per the design review procedure, conducts the following design reviews below:

- Contract Award Review
- Design Freeze Review(s) (i.e. detail design)

- System Integrated Design Review (i.e. detail design)
- Pre-Commissioning Review (per unit)
- Hand-over Review
- Further reviews as specified in this Works Information

Design Freeze reviews can be conducted as End-of-Phase Design Reviews or as a series of Interim Design Reviews with the aim to design freeze a system or subsystem/asset in order to enable subsequent designs to progress. The number of design freeze reviews is proposed by the *Contractor* and accepted by the *Employer*.

### ***Contractor's responsibility during the Employer's Design Review Process***

The *Project Manager* conducts Design Reviews as per the *Employer's* design review procedure; participation of the *Contractor* in the *Employer's* Design Reviews consists of:

- The *Contractor* presents (the design developed by him) and participates in the design review.
- If any fundamental errors are found in the designs or further actions are required, the *Contractor* addresses all concerns raised and revises the designs.
- The *Contractor* submits the documents for another design review once all designs are revised according to the concerns raised by the *Project Manager*.
- If no fundamental errors are found in the designs during the design review session, the *Project Manager* compiles the design review meeting minutes and report.
- The *Contractor* reviews the report and minutes. If the report/minutes are not acceptable, the *Contractor* submits comments to the *Project Manager*.

The *Project Manager* accepts the *Contractor's* design once the report is accepted and signed by the *Employer's* project team.

### **Time required for acceptance of designs**

Not later than 21 days after receipt, the *Project Manager* returns a comment log to the *Contractor* that contains the review comments for the *Contractor's* design.

### **Engineering Change Procedure**

The *Contractor* takes note of the *Employer's* Engineering Change Procedure. An engineering change includes any proposed engineering change originating from the *Contractor* or *Employer* from an established design baseline in the design review procedure.

### **Documentation and Configuration Management**

#### **Document identification**

All documents supplied by the *Contractor* are subject to the *Employer's* approval. The language of all documentation is required to be in English. The *Contractor* includes the *Employer's* drawing number in the drawing title block. This requirement only applies to design drawings developed by the *Contractor* and his *Subcontractors*. Drawing numbers are assigned by the *Employer* as drawings are developed.

The *Contractor* is required to submit the Vendor Document Submission Schedule (VDSS) as per agreed dates to the *Project Manager*. The *Project Manager* pre-allocates document numbers on the VDSS and sends back to the *Contractor*. The VDSS is revisable and changes must be discussed and agreed upon by all parties. The *Contractor's* VDSS indicates the format of documents to be submitted. A VDSS template will be provide to the *Contractor*.

#### **Document Submission**

All project documents must be submitted to the *Project Manager* with a 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.

The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the *Project Manager* with a transmittal note.

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)

### Email Subject

The *Contractor* submits all documentation to the *Project Manager* in the following media:

- Electronic copies are submitted to Eskom Documentation Centre through generic email address ([drmservices@eskom.co.za](mailto:drmservices@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 *Project Manager* is copied on the email as well.
- Hard copies are submitted to the *Project Manager* accompanied by the Transmittal Note.

### Drawings Format and Layout

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

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

### Additional Civil and Structural design requirements

#### General

- i. The *Contractor* takes full professional accountability and liability for the *Works* and provides the following for review and acceptance:
  - A Level 3 schedule (schedule with defined activities) for the design verification scope clearly highlighting all activities involved, major milestones and provision.
  - Consolidated detailed design report signed by a Professional Civil Engineer which includes:
    - Design criteria/parameters, specifications and standards used, loadings, assumptions, calculation results including detailed design calculations, design models, sources of information and any record of other information associated with the completed *works*.
  - Detailed drawings for construction. All drawings are required to be submitted in CAD formats. All submitted drawings to be signed by a Professional Civil Engineer with ECSA registration number stated on drawing.
  - Construction Specifications for the *Works* including measurement and payment items.
- ii. Any discrepancy or ambiguity between the *Employer's* Specifications or requirements is immediately brought to the attention of the *Project Manager* for clarification.
- iii. The *Contractor* is mandated in terms of Construction Regulations 2014: Duties of Designer, 6(1) g to fulfil the duties described therein for the detailed designs done by the *Contractor*. Any risk associated with the *Contractor's* design is highlighted to the *Employer* together with mitigation measures.

### Reinforcement/structural Scans

- i. Due to the lack of design baseline information on the existing civil infrastructures, the *Contractor* is required to conduct reinforcement scans on the concrete floors and supporting members (e.g. concrete beams) in order to complete the structural assessments/verification.

- ii. The list of substations/rooms that will require reinforcement scanning is illustrated in Table 1. This table excludes the areas/rooms recommended by the *Contractor* as per Section 0; (iv).

**1. Table 1: List of substations/rooms to be scanned**

Substations/rooms
Unit 1-6 DC Equipment room
Workshop & Stores substation
Fuel Oil Plant West Substation
OPCR Substation
Water Treatment Plant West
Ash dam pumphouse
Substation North
LP services

- iii. The structural survey/scans are to include, but is not limited to, each aspect listed below:
- Wall thickness
  - Slab thickness
  - Structural member sizes and positions (beams, columns etc.)
  - Reinforcement details (e.g., size, number and positioning of reinforcement) for all beams, columns, walls and slabs
  - Testing of the concrete strength for the different members.
- iv. Non-destructive tests methods including the use of Ground-Penetrating Radar (GPR) scanning, or similar, are required to detail the reinforcement of the slabs and members in all areas/rooms.
- v. In order to verify the results of the GPR, the Contractor is required to conduct, as a minimum, two destructive testing on the concrete floor slabs and one destructive testing on the concrete beams and columns. The location of the test points will be determined by the Contractor by taking into account the GPR results. Such test points are to be accepted by the Project Manager prior to commencement.
- vi. Prior to any destructive testing, the Contractor submits a method statement and a risk register, for acceptance, to the Project Manager. As a minimum, the method statement is required to entail test locations, method of testing, repair method which is in accordance to Standard for Eskom Power Station Concrete Remedial Work (240-144332407) and precaution measures to prevent damage to the surrounding equipment.
- vii. The Contractor is required to submit a consolidated report discussing the methodology used to conduct the structural survey and highlighting any risks and limitations encountered during execution of the works.
- viii. Drawings of each structure/location is to be generated based on the information gathered during the survey.
- ix. Drawing issued will be a minimum of one (1) hardcopy (A0 Sheet) and an electronic copy (Microstation format) of each drawing.
- x. Drawings issued may not be "Right Protected" or encrypted.
- xi. Based on the results obtained from the scanning's, the Contractor is required to conduct structural assessment/verification to confirm that the addition equipment to be added will not compromise the structural integrity of the structure.
- xii. The Contractor submits a detailed design report for each component of the works for review and acceptance by the Project Manager. The detail design report is to include as a minimum the following:
- Survey drawings, design criteria/parameters, specifications and standards that were used, loadings, assumptions, methodology, calculations and results including detailed design calculations, design models, sources of information and any record of other information associated with the completed works.
- xiii. All designs, detailed structural drawings and specifications are to be submitted in a design pack and are reviewed and approved by the Contractor's responsible Professional Engineer/Technologist prior to submission to the Project Manager for acceptance.

## Use of *Contractor's* design

As per Core clause 22.1 the *Employer* may use and copy the *Contractor's* design for any purpose connected with construction, use, alteration, or demolition of the *works* unless otherwise stated in the Works Information and for other purposes as stated in the Works Information.

## Design of Equipment

N/A

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

N/A

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

### Production of As-Built information required for the design

The *Contractor* is required to produce as-built drawings for all modifications and/or components of the *works* which he constructed.

All as-built drawings issued to the *Employer* will be a minimum of 1 hard copy (A0 in size) signed by the responsible professional registered structural engineer 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.

## Deliverables

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

### Planning phase

- i. A Level 3 schedule (schedule with defined activities) for the design scope clearly highlighting all activities involved, major milestones and provision.
- ii. Detailed Engineering Execution Plan

### Design Phase

- i. Initial report highlighting the weight of the new and existing equipment and areas/locations that will require structural verification/assessment and reinforcement scanning.
- ii. Consolidated detailed design report signed by a Professional Civil Engineer which includes:
  - Survey drawings, design criteria/parameters, specifications and standards that were used, loadings, assumptions, methodology, calculations and results including detailed design calculations, design models, sources of information and any record of other information associated with the completed works.
- iii. Detailed drawings for construction signed by a Professional Civil Engineer. Drawings are to be submitted in CAD formats (.DGN).
- iv. Architectural schedule for all rooms/areas and a construction bill of quantities.
- v. Detailed constructability analysis for the execution of the works.
- vi. Design certification, signed by Professional Civil Engineer, declaring that the design is "fit for purpose" in terms of the relevant design codes and the OHS Act.

### Before Fabrication & Construction

- i. Detailed method statements for the construction of the *works*
- ii. Inspection and Test Plans (ITP's) indicating all intervention points
- iii. Quality Control Plans (QCP's)



- iv. Workshop/fabrication drawings

#### **After construction**

- i. As-Built drawings.
- ii. Data books as detailed in Section 0.
- iii. Structural Certificate signed by Professional Civil Engineer confirming that *works* have been constructed in accordance with the design.

## **4. Procurement**

### **4.1 People**

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

- (1) It is the *Contractor's* sole responsibility to ensure all its employees have permits to perform work in the Republic of South Africa.

#### **BBBEE and preferencing scheme**

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

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

N/A

### **4.2 Subcontracting**

#### **Preferred subcontractors**

- (1) The *Contractor* will be required to provide the *Employer* with all information regarding his Subcontractors. The *Employer* will need to accept all Subcontractors to be used by the *Contractor*.
- (2) The *Contractor* shall be responsible for all the activities performed by the Subcontractors

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

- (1) The *Contractor* shall be responsible for all documentation and work performed by Subcontractors.
- (2) The *Contractor* shall ensure that all work performed by his Subcontractor is in accordance to the *Employer's* Works Information and meet all quality requirements.
- (3) The *Project Manager* may make use of his quality control officers to conduct audits on work performed by the Subcontractor.

#### **Limitations on subcontracting**

- (1) The *Contractor* may not subcontract 100% of the scope of work.

#### **Attendance on subcontractors**

N/A

## **Plant and Materials**

### **Quality**

- (1) *Contractor* to submit QCP's to the *Project Manager* for review and acceptance within two weeks after the contract start date.

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

- (1) All Plant and Materials are to be provided by the *Contractor*.

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

N/A

**Spares and consumables**

- (1) The *Contractor* shall submit, on completion of the design, a detailed listing of the recommended spares and prices for the *Project Manager's* review and acceptance to comply with the requirement. The prices quoted shall include for packing, delivery to and off-loading at site, inspection and testing and adequate protection against corrosion, damage and weathering during transit and storage.

**Tests and inspections before delivery**

- (1) The *Supervisor* carries out quality inspections at his discretion.
- (2) All inspections and testing to be performed in accordance with the Quality Control Procedure developed by the *Contractor*.
- (3) The *Project Manager and Supervisor* shall be provided access to the *Contractor's* premises for the purpose of:
  - (3.1) Establishing compliance with the contractual requirements by means of inspections, surveillance and audits.
  - (3.2) Witnessing the performance of any tests.
- (4) The *Contractor* shall obtain clearance from the *Project Manager* before despatching of the equipment. This factory release inspection does not release the *Contractor* of any of his obligations under the contract.
- (5) No Plant shall be released for dispatch without the AS MANUFACTURED documentation and drawings accompanying them.

**1.1.1 Quality and Inspection Requirements**

- (1) The *Contractor* shall exercise strict and adequate quality control during all phases of the *works*.
- (2) The *Contractor* shall prepare suitable quality control plans (QCP's) and Inspection and Test Plans (ITP's) for all work carried out.
- (3) The *Project Manager* and the *Contractor* shall review these QCP's/ITP's jointly and the actual scope of quality control and inspection required for the Contract agreed upon.
- (4) The QCP's/ITP's shall be subject to the *Project Manager's* review and acceptance and shall indicate all inspection and test points, the methods and procedures to be used and the acceptance criteria to be applied.
- (5) The *Contractor* is required to notify the *Project Manager* 24 hours in advance of witness and hold intervention points.

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

N/A

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

N/A

## **Cataloguing requirements by the Contractor**

N/A

## **5. Construction**

### **Civil and Structural works**

#### **General**

The *Contractor*:

- i. Adheres 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 for all *works*.
- ii. Submits a comprehensive method statement detailing the proposed methods of construction including fabrication, corrosion protection and erection of the entire *works* to the *Project Manager* for acceptance prior to the start of the *works*
- iii. Submits a project specific safety file to the *Employer* for comments / acceptance.
- iv. Submits a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance after contract award.
- v. Takes all necessary precautions to ensure that none of the existing structures / facilities not forming part of the *works* is damaged during construction.
- vi. The *Contractor* disposes of all rubble at a waste disposal site to be approved by the *Employer*. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the *Employer*.
- vii. Stores salvaged plant/materials/components elevated off the ground to protect from ingress of dust and rainwater, etc.
- viii. 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.
- ix. Manages his access to the working areas and the Site.
- x. Manages his activities on Site to ensure that no interference takes place between his work and that of others.
- xi. Completes "Contract Activities Daily Reports".
- xii. Liaises with the *Supervisor* regarding utilities and telephone facilities required for his Site establishment.
- xiii. Liaises with the *Supervisor* regarding the location of waste disposal sites and rubbish dumps.

#### **Construction and Erection**

- i. The *Contractor* is responsible for the construction of the facility and all associated services in accordance with the accepted detailed drawings and specifications.
- ii. The *Contractor* disposes of all construction waste at a licenced waste disposal site to be accepted by the *Project Manager*. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the *Project Manager*.
- iii. 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*.
- iv. The *Contractor* is responsible for the design and erection of all the temporary supports required on site.

## Handover

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

- QCP's & ITP's
- Fabrication drawings
- NCR's
- NOD's
- Welding procedure specifications
- Welder qualifications
- Non-destructive weld test results
- Weld test certificates
- Steel grade certificates
- Bolt grade certificates
- As-built data and drawings of the completed *works* upon handover. As-built drawings are submitted in PDF and native CAD/DGN formats
- Structural Certificate signed by the *Contractor's* Professional Civil Engineer confirming that structure has been constructed in accordance with the design

## Temporary works, Site services & construction constraints

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

Refer to C4 Site information

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

- (1) The *Contractor* shall comply to the restrictions as per site rules relating to roads, walkways and barricades. There are areas marked as red zones at which the *Contractor* should comply to.
- (2) Access to danger zones is done using handrail type guards of at least 1,2 meters high, able to block access to the danger zone. Symbolic safety signs depicting "Danger" and "No entry" are attached to the guards.

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

- (1) Normal working hours must be maintained as far as possible. The normal working hours on site will be from 07:15am to 16:30pm Monday to Thursday and 07:15am to 12:00pm on Fridays.
- (2) There are areas which will not be accessed during normal working hours, the *Contractor* should notify the *Project Manager* in writing of the days he will be working outside the normal working hours. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* has access to at any time.

### Health and safety facilities on Site

- (1) It is required, for the proper co-ordination and execution of the *works* that the *Contractor* (if required) has an office on site for the duration of the installation. A site will be made available to the *Contractor* for his yard within the power station security area. The yard is a raw site and will be used by the *Contractor* for the establishment of his offices, workshop and stores.
- (2) The *Contractor's* yard is subject to periodic inspection by the *Supervisor*. The location of the nearest sewer manhole, power distribution point, portable water connection storm water channel and road access point is indicated by the *Supervisor*. The *Contractor* is responsible for connection to the closest point of supply.

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

- (1) The *Contractor's* complies with the requirements of section **Error! Reference source not found..**

### Title to materials from demolition and excavation

- (1) The *Contractor* has no title to materials from excavation and demolition. All reusable equipment will remain the property of the *Employer*. All identified scrap material to be scrapped daily and disposed at the *Employer's* scrap yard.

#### **Cooperating with and obtaining acceptance of Others**

- (1) The *Contractor* shall interface with *others* during execution, proper planning and communication should be effected to ensure smooth running of the project. In cases where there is an outage the activities shall be interfaced with *others* by arranging planning meetings.

#### **Publicity and progress photographs**

- (1) Lethabo Power Station is a national key point and taking of photos is not allowed onsite. Should there be a need to take pictures/photos on site permission should be requested in writing from the head of security.

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

- (1) *Contractor's* Equipment shall comply as prescribed on the SHE Specification. The *Contractor* shall provide all necessary equipment to execute the *works* i.e. scaffolding, lifting equipment, rigs and cranes.

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

- (1) The *Employer* will not provide any equipment. The *Contractor* shall ensure all equipment as per the scope of work is catered for.

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

- (1) The *Employer* will provide a tap off point for power, a tap off point for water, waste disposal, ablutions. The *Contractor* shall provide everything else necessary for providing the *works*. Upon acceptance of safety file, a site will be allocated to the *Contractor* for establishment.

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

- (1) Any electrical equipment or appliances used by the *Contractor* must comply with all relevant safety regulations and requirements as detailed in Eskom Procedures and be maintained in safe and proper working condition.
- (2) The *Project Manager* has the right to stop the *Contractor's* use of any electrical equipment or appliance which, in the *Project Manager'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.
- (3) The *Contractor* provides, at his own expense, all temporary wiring and cabling to lead power from the point of supply to the various points where it is required, maintain same and remove on completion.
- (4) Electricity will be made available for construction purposes free of charge from power points which will be indicated by the *Project Manager*.
- (5) The *Contractor* will be responsible for the provision of the reticulation system from the point of supply. Both 220 (AC) Volt and 380 (AC) Volt are available on request. All points of supply requested by the *Contractor* are provided in terms of quantity and location at the discretion of the *Project Manager*. No guarantees of power supply quality are given and power supply breaks of some duration may occur without warning.

The *Contractor* makes arrangements at his own expense to improve continuity and quality of power where necessary for any reason and no claim of any nature relating to power failures is considered. No connection is made to the permanent installation at the Power Station without the prior acceptance of the *Project*

*Manager*. The power supply is managed in accordance with the latest revision of the *Employer's* safety regulations, Operating Regulations for High-Voltage Systems and Plant Safety Regulations. The *Contractor* shall ensure that all electrical equipment are tested and accompanied by COC or proof of tests certificates before connections to Eskom supply is permitted

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

N/A

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

N/A

#### Excavations and associated water control

N/A Underground services, other existing services, cable and pipe trenches and covers

N/A

#### Control of noise, dust, water and waste

The *Contractor* shall comply with OHS Act for health and safety of the plant and personnel

#### Sequences of construction or installation

(1) The sequence of the *works* is to be accepted by the *Project Manager*.

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

N/A

#### Hook ups to existing works

The *Contractor* shall provide rigging that will be required for the *works*

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

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

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

	Item of work	To be completed by
	As built drawings of	Within                      days      after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph                      of this Works Information.	See      performance                      testing requirements.

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

N/A

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

- (1) The *Contractor* provides all test equipment and resources for site testing, inspection and commissioning.

### **Commissioning**

- (1) The *Contractor* complies with the commissioning requirements.
- (2) Commissioning is defined as bringing into service all items and meeting the functional requirements and performance criteria for the *works*.
- (3) The *Contractor* is responsible for co-ordinating and executing commissioning (including that of Subcontractors) activities in conjunction with the various departments of the *Employer* namely Operations, Engineering, Commissioning and QA/QC.
- (4) Commissioning includes testing and verification of the stated performance criteria with:
  - (4.1) Minimum Testing and Assessment criteria (as set out in previous sections of this Works Information document as well as supplementary requirements which will be discussed with the detailed QA/QC plan).
  - (4.2) Commissioning of the *works* will commence after the plant safety clearance (which includes all takeover packages from construction to commissioning and including submissions such as the *Contractor's* Completion Certificate to the *Project Manager*).
- (5) The *Contractor* submits a Commissioning and Testing Program to the *Project Manager* for Consideration and acceptance. The accepted schedule forms the basis of the commissioning and testing program that is implemented during the overall unit commissioning and testing program.
- (6) Any commissioning and testing activity is confirmed on the project schedule with the *Project Manager* and if necessary, rescheduled (and where requested, in writing) by the *Contractor* in the appropriate forum provided 48 hours in advance to allow for the release of the plant for operation.
- (7) The *Contractor* interfaces directly with the station's commissioning staff and other involved Contractors and is available on a 24-hour basis on site if required for specific activities until the commissioning phase is completed.
- (8) The *Contractor* prepares and submits the Commissioning and Testing Procedures two months before the installation phase commences, for review and acceptance by the *Project Manager*. The Commissioning and Testing Procedures contains all the commissioning and testing activities to be performed, detailing the methods, functionality checks, and acceptance criteria that are applicable.
- (9) The *Contractor* visually inspects the *works* and components to verify the placing of plant labels, for their correctness and completion.
- (10) The *Contractor* will provide sufficient skilled personnel for the satisfactory and timely commissioning of equipment; including the re-commissioning of existing equipment that will form part of the *works*. The *Contractor* also provides all the test equipment for commissioning of the *works*.
- (11) The *Contractor* must certify, in writing and in an official format (Certificate), to the *Project Manager* that equipment is in a suitable and safe condition for use before it is placed in service.
- (12) The *Contractor* submits to the *Project Manager* on the ITP/QCP and documented in the data book for review and acceptance of the following documents:
  - (12.1) All commissioning check sheets and tests
  - (12.2) Permits and Safety

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

- (1) The *works* shall be put into operation once Completion has been achieved. This shall be monitored in conjunction with signed off quality plans.
- (2) Where necessary the *Contractor* shall arrange with the *Project Manager* to test the plant installed.

**Take over procedures**

- (1) The *Project Manager* will take over the plant after he is satisfied with the optimisation.
- (2) The *Contractor* will need to be on standby for the first 14 days after hand over and must provide further telecommunication assistance for the whole testing duration.

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

- (1) After the *works* have been put into operation, the *Contractor* will be required to follow the Plant Safety Regulation to work on the *works*. He shall not work without a permit to work.

**Performance tests after Completion**

N/A

**Training and technology transfer**

N/A

**Operational maintenance after Completion**

N/A



## 6. Plant and Materials standards and workmanship

Number	Title
SANS 2394	General reliability of structures
SANS 10094	The use of high-strength friction-grip bolts
SANS 10109	Concrete Floors
SANS 10100	The structural use of concrete
SANS 10160	Basis of structural design and actions for buildings and industrial structures
SANS 10162	The structural use of steel
SANS 10164	The structural use of masonry
SANS 10400	The application of the National Building Regulations
SANS 13822	Basis for design of structures – Assessment of existing structures
SANS 14713/ ISO 14713	Protection against corrosion of iron and steel in structures – zinc and aluminium coatings – guidelines
SANS 50025	The South African Standard for structural steel
AWS D1.1	American Welding Society - Structural Welding Code - Steel
SANS 10044-1	Welding Part 1: Glossary of terms
SANS 2553	Welded, brazed and soldered joints - Symbolic representation on drawings
SANS 9606-1	Approval testing of welders - Fusion welding Part 1: Steels
SANS 10064	The preparation of steel surfaces for coating
SANS 2001-CS1	Construction works Part CS1: Structural steelwork
SANS 50025 series	Hot rolled products of structural steels Parts 1-6

### Additional Requirements and Prerequisites

#### General

- 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.
- 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*
- The *Contractor* is responsible for the design, erection, maintenance and removal of all temporary bracing or propping required for the execution of the *works*.
- The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the *works*.

### Investigation, survey and Site clearance

N/A

### Building works

N/A

### Civil engineering and structural works

#### Structural Steelwork

- All work is required to be in accordance with the latest edition of SANS 2001-CS1.
- The *Contractor* is responsible for the stability of the entire structure and all structural elements during all the erection stages.

- iii. All dimensions are required to be verified on site by the *Contractor* before any fabrication of steelwork commences.
- iv. All welding is required to be conducted by coded welders. Supporting documentation is also required to be submitted to the *Project Manager* for acceptance. All welding is required to comply with AWS D1.1.
- v. All welds are required to be inspected using visual aids.
- vi. The *Contractor* is required to supply all bolts, washers, nuts etc. for the structural steelwork.

Table 5 indicates particular specifications pertaining to SANS 2001-CS1 and must be read in conjunction with the code.

**Table 2: Specifications pertaining to SANS 2001-CS1**

Clause	Particular Specification
<b>4.1</b>	<b>Materials</b>
4.1.1	Add the following: <ul style="list-style-type: none"> <li>All structural steelwork is required to be grade S355JR</li> </ul>
4.1.4.1	<ul style="list-style-type: none"> <li>Electrodes for electric welding are required to be E7018.</li> </ul>
4.1.5.1	<ul style="list-style-type: none"> <li>Bolt grade 8.8 is required as a minimum</li> </ul>
<b>5.3</b>	<b>Non-destructive testing of welds</b>
5.3.3	<ul style="list-style-type: none"> <li>Fillet welds are required to undergo magnetic particle inspection (20 % of welds)</li> </ul>
5.3.4	<ul style="list-style-type: none"> <li>All butt welds and full penetration welds are required to undergo ultrasonic non-destructive testing (100 % of welds)</li> </ul>

#### **Corrosion protection**

All structural steelwork to be hot dipped galvanised to be in accordance with SANS 121.

#### **Electrical & mechanical engineering works**

N/A

#### **Process control and IT works**

N/A

#### **Other [as required]**

## List of drawings

### Drawings issued by the *Employer*

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

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

Drawing number	Revision	Title
0.63/4526	4	Unit 1 DC Equipment & Battery Room; Electrical Equipment Layout
0.63/5088	6	Unit 2-4 DC Equipment & Battery Room; Electrical Equipment Layout
0.63/2349	8	Auxiliary Bay Unit 1; Battery Room Details
0.63/2534	15	Auxiliary Bay Unit 2; Battery Room Plan & Sections
0.63/2885	10	Auxiliary Bay Unit 3; Battery Room Plan & Sections
0.63/5088	6	Unit 2-6 DC Equipment & Battery Rooms
0.63/4238	6	Precipitator Substation 1A-6A; Electrical Equipment Layout
0.63/4236	6	Bulk Oil Plant West Substation; Electrical Equipment Layout
0.63/4235	6	Bulk Oil Plant East Substation; Electrical Equipment Layout
0.63/4232	5	Substation South; Electrical Equipment Layout
0.63/8987	1	Substation South; Plans, Sections & Elevations
0.63/26068	6	Precipitator Substation B1-B6; Electrical Equipment Layout
0.63/12978	4	Ash Conveyor Substation 3; Electrical Equipment Layout
0.63/18921	1	Ash Dam Pumphouse; Electrical Equipment Layout
0.63/10453	0	Substation East; Electrical Equipment Layout
0.63/184	11	Station Board Room Levels 0.00; 5.20 & 10.76; Electrical Equipment Layout
0.63/147	0	Auxiliary Bay; Station Board Room
0.63/4231	1	Substation East; Electrical Equipment Layout
0.63/11117	1	Substation East A; Plan, Sections & Elevations
0.63/11342	0	Substation East B; Plan, Sections & Elevations
0.63/8948	1	30000 x 10000 Substation Reinforcement Details
0.63/21557	0	Workshop & Stores Substation; Electrical Equipment Layout
0.63/ 16325	1	Station Dam Pumphouse; Electrical Equipment Layout
0.63/15512	0	Station Dam Pumphouse; Architectural Details
0.63/15513	4	Station Dam Pumphouse; General Arrangement – Architectural and Concrete Details

0.63/19780	1	Effluent Concentrated Plant Substation; Electrical Equipment Layout
0.63/12976	3	Ash Conveyor Substation 1; Electrical Equipment Layout
0.63/13243	2	Ash Conveyor Substation 1; Plan, Section & Elevation
0.63/12977	3	Ash Conveyor Substation 2; Electrical Equipment Layout
0.63/13244	2	Ash Conveyor Substation 2; Plan, Section & Elevation
0.63/4947	4	Water Plant West Switchgear Room; Electrical Equipment Layout
0.63/24719	5	Ash Substation 5; Electrical Equipment Layout
0.63/55306	2	Ash Conveyor Substation 5; Plan Section, Elevation and Details
0.63/55307	0	Ash Conveyor Substation 5; Reinforcement Details
0.63/5241	5	LP Services Complex; Plan, Section & Elevation
0.63/5242	4	LP Services Complex; Building Details
0.63/4234	9	LP Pumphouse West; Electrical Equipment Layout
0.63/19780	1	Effluent Concentration Plant Substation; Equipment Layout
0.63/21294	1	Effluent Concentration Plant Substation; Plan, Section, Elevation & Details
0.63/21548	1	Effluent Concentration Plant Substation; Concrete and Reinforcement Details

## Standards issued by the *Employer*

The following *Employer's* standards are issued to the Contractor for information.

Document Number/ID	Document Title
240-56364545	Structural Design and Engineering Standard
240-106365693	Standard for the External Corrosion Protection of Plant, Equipment and Associated Piping with Coatings
240-144332407	Standard for Eskom Power Stations Concrete Remedial Work
240-86973501	Engineering drawing Standard
240-76992014	Project/Plant Specific Technical Documents and Records Management Work Instruction
240-53113685	Design Review Procedure
32-727	Eskom Safety, Health, Environment and Quality (SHEQ) Policy
ISO 9001	Quality Management Systems
240-107981296	Constructability Assessment Guideline

240-99527377	Inspection Manual for Civil Works at Eskom's Power Station
240-76992014	Technical Document and Record Management Work Instruction
240-66920003	Documentation Management Review and Handover Procedure for Gx Coal Projects
240-65459834	Project Document Deliverable Requirement Specification
240-53114026	Eskom Project Change Management Procedure
ESKAMAAA1	Corporate Identity Manual
240-71448626	Employer's template











**APPENDIX E: LIMITS OF SUPPLY AND SERVICES (LOSS)**

**APPENDIX F: VENDOR DOCUMENT SUBMITTAL SCHEDULE (VDSS)**

**APPENDIX G: PROJECT STANDARDS AND DOCUMENTS**

**APPENDIX H : INDICATIVE SYSTEM SIZE**

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

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

Typical sub headings could be

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

This section could also be compiled as a separate file.

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## PART 4: SITE INFORMATION

Document reference	Title	No of pages
C4.1	This cover page	1
	Site Information	8
	Total number of pages	9

## 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 *Project Manager*.
- 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(s) 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 his Authorise Supervisor(s) 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 (fortnightly).
- 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 Life Saving Rules:

Five Life-saving 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.
- **Additional:** Texting and talking on the cell phone while driving or walking is prohibited.

### 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.

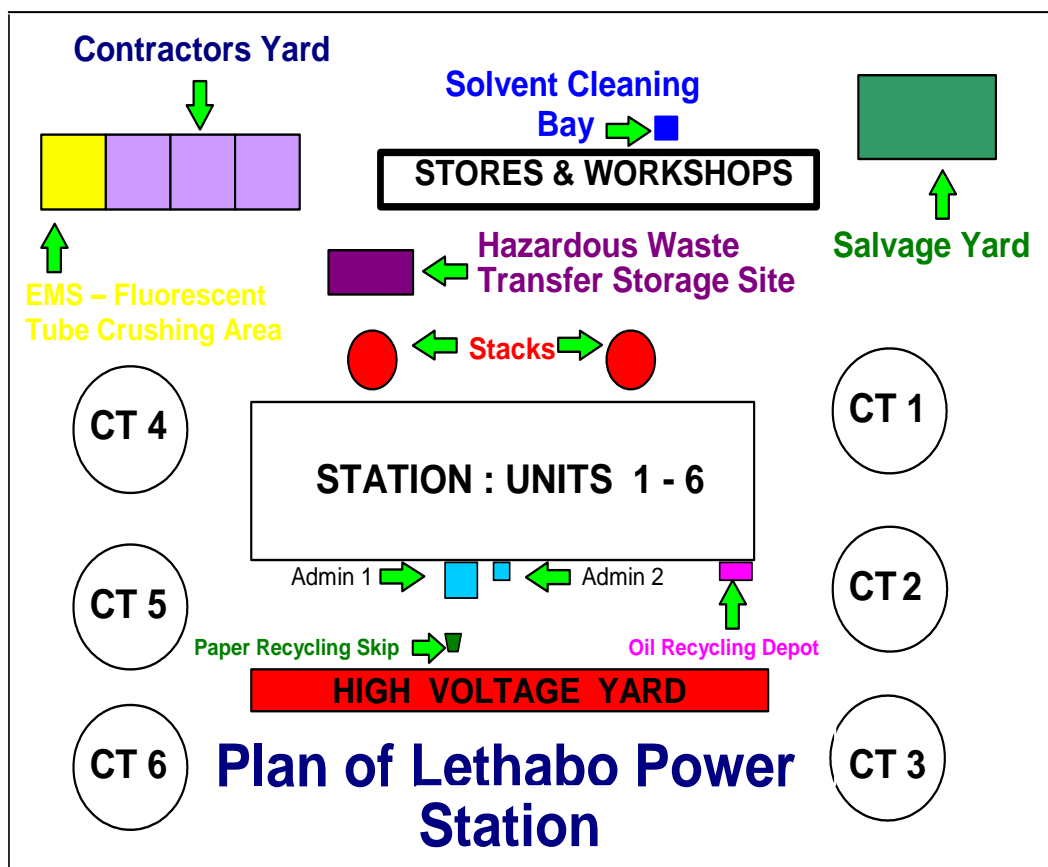
The contractor shall submit to Eskom an EMP to be reviewed and approved by Eskom environmental officer, one week before the commencement of *works*.

## **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.



### 1.15 Hazardous Waste Disposal and Handling

- Hazardous / toxic waste includes all waste which contains elements or compounds listed as hazardous substances in terms of the Hazardous Substances Act No. 15 of 1973.
- Any *Contractor* who produces hazardous waste on site will be responsible for the safe removal of such waste to a registered Class I site by a waste removal and disposal body.
- The *Contractor* is required to produce a certificate of safe disposal in accordance with LBA 00054.
- The *Contractor* must ensure that persons handling hazardous waste have undergone suitable training and are acquainted with cleaning methods in case of a spillage.
- The *Contractor* is also responsible for the safe removal of their hazardous waste to Lethabo's Hazardous Waste Store. Other requirements for hazardous waste are detailed in LBA 00030.
- 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
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 & phytopharmaceutics	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 *Project Manager*, on receipt of the original OV18, with which the *Contractor* brought the equipment on site.
- *Contractor* to provide his own scaffolding.

#### 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, pipework, 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 pipework 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.