

PROJECT & CONTRACT TITLE : **Provision for the supply, construction and installation of the redesigned FAB 1-3 structural steel roof required at Lethabo Power station.**



NEC3 Engineering & Construction Contract

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

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

**for Provision for the supply, construction and
installation of the redesigned FAB 1-3 structural
steel roof required at Lethabo Power station.**

Contents:	No of pages
Part C1 Agreements & Contract Data	[•]
Part C2 Pricing Data	[•]
Part C3 Scope of Work	[•]
Part C4 Site Information	[•]

CONTRACT No. 4600....

PROJECT & CONTRACT TITLE : **Provision for the supply, construction and installation of the redesigned FAB 1-3 structural steel roof required at Lethabo Power station.**

Part C1: Agreements & Contract Data

Contents:	No of pages
C1.1 Form of Offer and Acceptance	[•]
[to be inserted from Returnable Documents at award stage]	
C1.2a Contract Data provided by the <i>Employer</i>	[•]
C1.2b Contract Data provided by the <i>Contractor</i>	[•]
[to be inserted from Returnable Documents at award stage]	
C1.3 Proforma Guarantees	[•]

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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:

Provision for the supply, construction and installation of the redesigned FAB 1-3 structural steel roof required at Lethabo Power station.

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

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

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

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

Signature(s)

Name(s) _____

Capacity _____

For the tenderer:

(Insert name and address of organisation)

Name & signature of witness

Date

Tenderer's CIDB registration number (if applicable)

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

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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 _____

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

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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		
8		

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)

*Lethabo Power station
Deneysville Vaal dam Road
Vereeniging
1930*

Name & signature of witness

Date

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C1.2 ECC3 Contract Data

Part one - Data provided by the Employer

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

Clause	Statement	Data
1	General	
	<p>The <i>conditions of contract</i> are the core clauses and the clauses for main Option</p> <p>dispute resolution Option</p> <p>and secondary Options</p>	<p>A: Priced contract with activity schedule</p> <p>W1: Dispute resolution procedure</p> <p>X1: Price adjustment for inflation</p> <p>X2: Changes in the law</p> <p>X5: Sectional Completion</p> <p>X7: Delay damages</p> <p>X13: Performance Bond</p> <p>X16: Retention</p> <p>X18: Limitation of liability</p> <p>Z: Additional conditions of contract</p>
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	<p>The <i>Employer</i> is (Name):</p> <p>Address</p>	<p>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</p> <p>Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg</p>
10.1	<p>The <i>Project Manager</i> is: (Name)</p> <p>Address</p> <p>Tel</p>	<p>Lethabo Power Station Deneysville Rd Viljoensdrift</p>

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	Fax	N/A
	e-mail	
10.1	The <i>Supervisor</i> is: (Name)	
	Address	Lethabo Power Station Deneysville Rd Viljoensdrift
	Tel No.	[•]
	Fax No.	N/A
	e-mail	
11.2(13)	The <i>works</i> are	Provision for the supply, construction and installation of the redesigned FAB 1-3 structural steel roof required at Lethabo Power station. (Fabrication, procurement, construction/installation and commissioning of the works, which satisfies the Employer's requirements as specified in the Works Information.)
11.2(14)	The following matters will be included in the Risk Register	See Risk Management in part 3
11.2(15)	The <i>boundaries of the site</i> are	Areas associated with the scope of work to be performed
11.2(16)	The Site Information is in	Part 4: Site Information
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period for reply</i> is	10 Working Days
2	The Contractor's main responsibilities	Data required by this section of the core clauses is provided by the Contractor in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.
3	Time	
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	12 months from the start date
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met key date

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		1	Fabrication	As per accepted program
		2	Delivery of Material	As per accepted program
		3	Removal of all existing electrical lighting fixtures, cabling, conduits, power points, junction boxes, and associated accessories FAB1- 3	As per accepted program
		4	Demolition of Existing FAB 1-3	As per accepted program
		5	Construction of FAB 1-3	As per accepted program
		6	Reinstate or replacement of all electrical services and testing	As per accepted program
		7	Commissioning and Handover of FAB 1-3	As per accepted program

30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 FAB 1	As per accepted program
		2 FAB 2	As per accepted program
		3 FAB 3	As per accepted program

31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	Two (2) weeks of the Contract Date.
31.2	The <i>starting date</i> is	TBA
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	One week.
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	

4 Testing and Defects

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42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the works.
43.2	The <i>defect correction period</i> is	Defects affecting system availability must be resolved within 4 (four) hours. Latent defects and defects not impacting system availability must be resolved within 2 (two) weeks after notification
	except that the <i>defect correction period</i> for	is two weeks
	and the <i>defect correction period</i> for	is two weeks

5 Payment

50.1	The <i>assessment interval</i> is	The assessment interval will be between the 25th day of each successive month and based on the completed activities as per NEC option A guidelines.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	One calendar month.
51.4	The <i>interest rate</i> is	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 (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.

6 Compensation events

60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather</i>	As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.
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	<i>measurement</i> for each calendar month are:	
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	1. Risk will be manage by parties as they arise. 2. [•]
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	
A	Priced contract with activity schedule	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
	Address	[•]
	Tel No.	[•]
	Fax No.	[•]
	e-mail	[•]
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 www.ice-sa.org.za) or its successor body.
W1.4(2)	The <i>tribunal</i> is:	arbitration.
W1.4(5)	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.

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	<p>The place where arbitration is to be held is [•] South Africa</p> <p>The person or organisation who will choose an arbitrator</p> <ul style="list-style-type: none"> - if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is 	<p>the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.</p>
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12 Data for secondary Option clauses

X1	Price adjustment for inflation		
X1.1(a)	The <i>base date</i> for indices is	The last day of the month preceding the month in which the latest date for the submission of the Tender falls.	
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for
		0. [•]	Material
		0. [•]	Labour
		0. [•]	Transport
		15%	Non-adjustable
	Total	100%	
X2	Changes in the law		There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
X4	Parent company guarantee		There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
X5	Sectional Completion		
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description
		FAB 1	Demolition, Supply and new construction of the structural steel roof FAB 1
		FAB 2	Demolition, Supply and new construction of the structural steel roof FAB 2
			Completion date
			As per accepted program
			As per accepted program

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		FAB 3	Demolition, Supply and new construction of the structural steel roof FAB 3	As per accepted program
X5 & X7	Sectional Completion and delay damages used together			
X7.1 X5.1	Delay damages for late Completion of the <i>sections</i> of the <i>works</i> are:	section	Description	Amount per day
		FAB 1	Demolition, Supply and new construction of the structural steel roof FAB 1	2% of the section order value of the delay per day up to the maximum of 15%
		FAB 2	Demolition, Supply and new construction of the structural steel roof FAB 2	2% of the section order value of the delay per day up to the maximum of 15%
		FAB 3	Demolition, Supply and new construction of the structural steel roof FAB 3	2% of the section order value of the delay per day up to the maximum of 15%
	Remainder of the <i>works</i>			R[●]
	The total delay damages payable by the <i>Contractor</i> does not exceed:	2% of the total order value of the delay per day up to the maximum of 15%		
X16	Retention			
X16.1	The <i>retention free amount</i> is	R0.00		
	The <i>retention percentage</i> is	10% 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		

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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 the total of the Prices at the Contract Date and the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.
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:	<p>the total of the Prices other than for the additional excluded matters.</p> <p>The <i>Contractor's</i> total liability for the additional excluded matters is not limited.</p> <p>The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for</p> <p>Defects due to his design which arise before the Defects Certificate is issued, Defects due to manufacture and fabrication outside the Site, loss of or damage to property (other than the <i>works</i>, Plant and Materials), death of or injury to a person and infringement of an intellectual property right.</p>
X18.5	The <i>end of liability date</i> is	<p>(i) Seven (7) years after the <i>defects date</i> for latent Defects and</p> <p>(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.</p> <p>A latent Defect is a Defect which would not have been discovered on reasonable inspection by the <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i>, without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> during that period. If the <i>Employer</i> or the <i>Supervisor</i> do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the <i>Employer</i> or the <i>Supervisor</i> to have discovered the Defect.</p>
Z	The <i>Additional conditions of contract</i> are	Z1 to Z15 always apply.
Z1	Cession delegation and assignment	
Z1.1	The <i>Contractor</i> does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .	

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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

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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.

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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,

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Obstructive Action means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and

Prohibited Action means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.

Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover

84

84.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Contractor* provides the insurances stated in the Insurance Table A.

84.3 The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

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

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	<p><u>Other property</u> The replacement cost</p> <p><u>Bodily injury to or death of a person</u> The amount required by applicable law</p>
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2

Replace core clause 87 with the following:

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

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 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*.

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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:

AAIA means approved asbestos inspection authority.

ACM means asbestos containing materials.

AL means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.

Ambient Air means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.

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

OEL means occupational exposure limit.

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

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

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

SANAS means the South African National Accreditation System.

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

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

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements

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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.

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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	<i>Weather measurement</i>					Total weather allowance 40% overlap
	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	Number of days with wind > 5.5 m/s	
January	113.4	3.6	0.0	0	2.2	3.5
February	80.5	2.8	0.0	0	0.6	2.1
March	37.0	0.8	0.0	0	1.1	1.1
April	56.2	1.9	0.2	0	0.9	1.8
May	9.8	0.2	3.2	0	1.1	2.7
June	7.3	0.3	14.7	0	1.6	9.9
July	0.8	0	14.6	0	2.0	9.9
August	4.8	0	4.8	0	3.6	5.0
September	23.3	0.8	0.4	0	4.7	3.6
October	63.4	2.4	0.0	0	5.3	4.6
November	82.0	2.7	0.0	0	5.6	5.0
December	139.3	4.7	0.0	0	2.8	4.5

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

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C1.2 Contract Data

Part two - Data provided by the Contractor

Notes to a tendering contractor:

Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)² 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.

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

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:	

² Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see www.ecs.co.za

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		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .		
11.2(3)	The <i>completion date</i> for the whole of the works is	TBC		
11.2(14)	The following matters will be included in the Risk Register	Delay in steel material delivery from supplier Site access restrictions or shutdowns (operational plant interface) Adverse weather during roof installation		
31.1	The programme identified in the Contract Data is	To be accepted by the Project manager		
A	Priced contract with activity schedule			
11.2(20)	The <i>activity schedule</i> is in	(in figures) (in words), excluding VAT		
11.2(30)	The tendered total of the Prices is			
	Data for Schedules of Cost Components	<i>Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).</i>		
A	Priced contract with activity schedule	Data for the Shorter Schedule of Cost Components		
41 in SSCC	The percentage for people overheads is:	%		
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	Minus %		
22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates. Please insert another schedule if foreign resources may also be used	Category of employee		Hourly rate

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C1.3 Forms of Securities

Pro formas for Bonds & Guarantees

For use with the NEC3 Engineering & Construction Contract

The *conditions of contract* stated in the Contract Data Part 1 include the following Secondary Options:

Option X13: Performance Bond

Each of these secondary Options requires a bond or guarantee “in the form set out in the Works Information”. Pro forma documents for these bonds and guarantees are provided here for convenience but are to be treated as part of the Works Information.

Option X16: Retention (not used with Option F)

The *Contractor* may provide a Retention Money Guarantee in the form stated here. When the *Employer* receives and accepts a Retention Money Guarantee exactly in the form stated he will instruct the *Project Manager* not to assess any amount be retained in terms of secondary Option X16.

The *Contractor* shall guarantee his ASGI-SA Obligations by providing the *Employer* with an ASGI-SA Guarantee in the form provided here.

The organisation providing the bond / guarantee does so by copying the pro forma document onto his letterhead without any change to the text or format and completing the required details. The completed document is then given to the *Employer* within the time stated in the contract.

Pro forma Performance Bond – Demand Guarantee (for use with Option X13)

(to be reproduced exactly as shown below on the letterhead of the Contractor's Parent Company)

Eskom Holdings SOC Ltd
Megawatt Park
Maxwell Drive
Sandton
Johannesburg

Date:

Dear Sirs

Reference No. [●] *[Drafting Note: Bank reference number to be inserted]*

Performance Bond – Demand Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [] Contract Reference: *[Drafting Note: Contractor contract reference number to be inserted]*

In this Guarantee the following words and expressions shall have the following meanings:-

“Bank” - means [●], [●] Branch, (Registration No. [●]); *[Drafting Note: Name of Bank to be inserted]*

“Bank’s Address” - means [●]; *[Drafting Note: Bank’s physical address to be inserted]*

“Contract” – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. [.]as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted])

“Contractor” – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

“Eskom” - means Eskom Holdings SOC Ltd, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30].

“Expiry Date” - means the date on which the Defects Certificate is issued in terms of the Contract.

“Guaranteed Sum” - means the sum of R [●] ([●] Rand);

“Project” - means [insert if applicable.].

At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

A demand for payment under this guarantee shall be made in writing at the Bank’s address and shall:

be signed on behalf of Eskom by a Group Executive, Divisional Executive, Senior General Manager, General Manager or its delegate;

state the amount claimed (“the Demand Amount”);

state that the Demand Amount is payable to Eskom in the circumstances contemplated in the Contract.

Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank’s obligation/s to make payment:

is and shall be absolute provided demand is made in terms of this bond in all circumstances; and

is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

The Bank’s obligations in terms of this Guarantee:

shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed, by the fact that a dispute may exist between Eskom and the Contractor.

Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

This Guarantee:

shall expire on the Expiry Date until which time it is irrevocable;

is, save as provided for in 0 above, personal to Eskom and is neither negotiable nor transferable;

shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

shall be regarded as a liquid document for the purpose of obtaining a court order; and

shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____

Date _____

For and behalf of the Bank

Bank Signatory: _____

Bank Signatory: _____

Witness: _____

Witness: _____

Bank's seal or stamp

Pro forma Retention Money Guarantee (may be used when Option X16 applies)
(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg

Date:

Dear Sirs

Reference No. [●] [Drafting Note: Bank reference number to be inserted]

Retention Money Guarantee: [Drafting Note: Name of Contractor to be inserted]

Project [] : Contract Reference: [Drafting Note: Contractor contract reference number to be inserted]

In this Guarantee the following words and expressions shall have the following meanings:-

“Bank” - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

“Bank’s Address” - means [●]; [Drafting Note: Bank’s physical address to be inserted]

“Contract” – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted])

“Contractor” – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

“Eskom” - means Eskom Holdings SOC Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30

“Expiry Date” - means the date on which the Defects Certificate is issued in terms of the Contract.

“Guaranteed Sum” - means the sum of R [●] ([●] Rand); [Drafting Note: Insert amount of Retention Money Guarantee.].

“Project” - means the.....

At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

A demand for payment under this guarantee shall be made in writing at the Bank’s address and shall:

be signed on behalf of Eskom by a director of Eskom or his authorised delegate.

state the amount claimed (“the Demand Amount”);

state that the Contractor has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract (and the nature of such defect(s)) alternatively that the Demand Amount is payable to Eskom in the circumstances contemplated in the Contract.

Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank’s obligation/s to make payment:

is and shall be absolute provided demand is made in terms of this bond in all circumstances; and is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

The Bank's obligations in terms of this Guarantee:

shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed by the fact that a dispute may exist between Eskom and the Contractor.

Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

This Guarantee:

shall expire on the Expiry Date until which time it is irrevocable;

is, save as provided for in 0 above, personal to Eskom and is neither negotiable nor transferable;

shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

shall be regarded as a liquid document for the purpose of obtaining a court order; and

shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____

Date _____ Bank's seal or stamp

For and behalf of the Bank

Bank Signatory: _____

Bank Signatory: _____

Witness: _____

Witness: _____

Pro forma ASGI-SA Guarantee

(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

**Eskom Holdings Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg**

Date:

Dear Sirs

Reference No. [●] [Drafting Note: Bank reference number to be inserted]

Pro-Forma ASGI-SA Guarantee: [Drafting Note: Name of Contractor to be inserted]

Project [] Contract Reference: [●] [Drafting Note: Contractor contract reference number to be inserted]

In this Guarantee the following words and expressions shall have the following meanings:-

“Bank” - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

“Bank’s Address” - means [●]; [Drafting Note: Bank’s physical address to be inserted]

“Contract” – means the written agreement relating to the Project, entered into between the *Employer* and the *Contractor*, on or about the [●] day of [●] 200[●] (Contract Reference No. [●] as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

“Contractor” – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

“Contractor’s ASGI-SA Obligations” – means the *Contractor’s* ASGI-SA Obligations under and as defined in the Contract.

“Employer” - means Eskom Holdings Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/06.

“Expiry Date” - means the [●] day of [●] 200[●]; [Drafting Note: anticipated date of issue of ASGI-SA Performance Certificate to be inserted.]

“Guaranteed Sum” - means the sum of R [●] ([●] Rand);

“Project” – means the

At the instance of the *Contractor*, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of the *Employer*, as security for the proper performance by the *Contractor* of the *Contractor’s* ASGI-SA Obligations and hereby undertake to pay to the *Employer*, on written demand from the *Employer* received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

A demand for payment under this guarantee shall be made in writing at the Bank’s address and shall:

state the amount claimed (“the Demand Amount”);

state that the Demand Amount is payable to the *Employer* in the circumstances contemplated in the Contract.

Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank’s obligation/s to make payment:

is and shall be absolute provided demand is made in terms of this bond in all circumstances; and is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

The Bank's obligations in terms of this Guarantee:

shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed, by the fact that a dispute may exist between the *Employer* and the *Contractor*.

The *Employer* shall be entitled to arrange its affairs with the *Contractor* in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the *Contractor* or any variation under or to the Contract.

Should the *Employer* cede its rights against the *Contractor* to a third party where such cession is permitted under the Contract, then the *Employer* shall be entitled to cede to such third party the rights of the *Employer* under this Guarantee on written notification to the Bank of such cession.

This Guarantee:

shall expire on the Expiry Date until which time it is irrevocable;

is, save as provided for in 0 above, personal to the *Employer* and is neither negotiable nor transferable;

shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

shall be regarded as a liquid document for the purpose of obtaining a court order; and

shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the courts of the Republic of South Africa.

Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank's Address.

Signed at _____

Date _____

For and behalf of the Bank

Bank Signatory: _____

Bank Signatory: _____

Witness: _____

Witness: _____

Bank's seal or stamp

Part 2: Pricing Data
ECC3 Option A

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

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

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

Identified and defined terms 11
11.2 (20) The Activity Schedule is the *activity schedule* 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.

C2.2 The Activity schedule

Item No	Activity Description	Qty (total)	Total
1	PRELIMINARIES AND GENERALS		
1.1	Site Establishment Include Mobilization of staff and equipment Delivery and setup of site offices, Installation of temporary electricity and water supply, Erection of site hoardings and signage, Setup of welfare facilities and Site transport and logistics arrangements	Sum	
1.2	Site De- Establishment Include the Removal of all temporary facilities, Disconnection of utilities, Removal of hoardings and fences, Final site cleaning and waste disposal, Restoration of site areas, Demobilisation of staff and equipment.	Sum	
1.3	Supply & issuing of Personal Protective Equipment (PPE)	Sum	
1.4	Submission of Health and Safety File	Sum	
1.6	QCPs, ITPs and Method Statement prior to commencement of project	Sum	
1.7	Data packs (for full execution of works) at completion of each Fly Ash Bunker	Sum	
2	DEMOLITION OF STRUCTURAL METALWORK		
2.1	Demolition of existing roof structures, including removal of roof sheeting, purlins, bracings, cladding rails, beams, trusses, and built-up girders (all straight on plan), with sorting, disposal, and site cleaning on completion. FAB 1	Sum	
2.2	Demolition of existing roof structures, including removal of roof sheeting, purlins, bracings, cladding rails, beams, trusses, and built-up girders (all straight on plan), with sorting, disposal, and site cleaning on completion. FAB 2	Sum	
2.3	Demolition of existing roof structures, including removal of roof sheeting, purlins, bracings, cladding rails, beams, trusses, and built-up girders (all straight on plan), with sorting, disposal, and site cleaning on completion. FAB 3	Sum	
3	STRUCTURAL METALWORK		
3.1	Fabrication of members for roof frames (including preparation of shop drawings, fabrication of columns, beams, trusses and built-up girders, bracings, purlins & cladding rails including off-site surface treatment/painting as per Eskom code for all columns, beams, trusses, and bracings and sheeting as per the approved drawing) FAB 1	Sum	
3.2	Fabrication of members for roof frames (including preparation of shop drawings, fabrication of columns, beams, trusses and built-up girders, bracings, purlins & cladding rails including off-site surface treatment/painting as per Eskom code for all columns, beams, trusses, and bracings sheeting as per the approved drawing) FAB 2	Sum	
3.3	Fabrication of members for roof frames (including preparation of shop drawings, fabrication of columns, beams, trusses and built-up girders, bracings, purlins & cladding rails including off-site surface treatment/painting as per Eskom code for all columns, beams, trusses, and bracings sheeting as per the approved drawing) FAB 3	Sum	
3.4	Erection of roof frame members (including columns, beams, trusses, bracings, purlins, site bolts, and all structural	Sum	

	connections plus lifting, positioning, bolting/welding, bracing, alignment, and quality checks) FAB 1		
3.5	Erection of roof frame members (including columns, beams, trusses, bracings, purlins, site bolts, and all structural connections plus lifting, positioning, bolting/welding, bracing, alignment, and quality checks) FAB 2	Sum	
3.6	Erection of roof frame members (including columns, beams, trusses, bracings, purlins, site bolts, and all structural connections plus lifting, positioning, bolting/welding, bracing, alignment, and quality checks) FAB 3	Sum	
4	MISCELLANEOUS METALWORK FOR MAINTENANCE PLATFORM		
4.1	Miscellaneous metalwork (including stairways and landings, walkways and platforms, handrails, kick flats, stair treads, open grid flooring, flashing, and sheeting this shall be for supply, fabrication, and installation at FAB 1 as per the approved design	Sum	
4.2	Miscellaneous metalwork (including stairways and landings, walkways and platforms, handrails, kick flats, stair treads, open grid flooring, flashing, and sheeting this shall be for supply, fabrication, and installation) at FAB 1 as per the approved design	Sum	
4.3	Miscellaneous metalwork (including stairways and landings, walkways and platforms, handrails, kick flats, stair treads, open grid flooring, flashing, and sheeting this shall be for supply, fabrication, and installation at FAB 1 as per the approved design	Sum	
4.4	Disconnect, remove, and safely store all existing electrical lighting fixtures, cabling, conduits, power points, junction boxes, and associated accessories within the three floor levels of the FAB building to facilitate demolition and reconstruction works. Upon completion of structural works, the contractor shall reinstate or replace all electrical services to their original locations, ensuring full functionality, compliance with applicable electrical standards by testing and commissioning including issuing of COC (FAB 1 to FAB 3)	Sum	
	TOTAL (Excl VAT)		
	TOTAL (Incl VAT)		

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER’S WORKS INFORMATION

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1. Description of the works

1.1 Executive overview

The FAB building is a reinforced concrete structure consisting of an elevated bunker, which collects and deposits ash onto the ash conveyor system. Within the structure, there are three concrete floors positioned at different elevations. Each floor contains the installation of electrical and mechanical equipment. The floor slabs are 200mm thick and are supported on concrete beams that span in both the longitudinal and transversal direction. The concrete beams are connected to a perimeter ring beam that is supported by evenly spaced concrete columns. Figure 1 illustrates the cross-section of the FAB building.

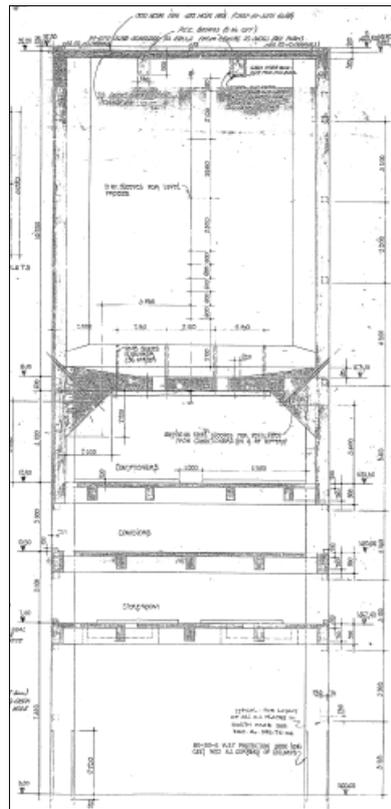


Figure 1: Cross-section of the FAB building (extract from drawing no.: 0.63/13292)

On the conveyor floor level, a structural steel canopy roof is installed for the protection of electrical and mechanical equipment from the elements of the weather. This roof structure was damaged due to a collapse cause by the overloading of the roof structure due to fly ash build-up. A structural investigation was conducted to identify the areas of the structure where the structural integrity had been compromised.

The existing roof design passed all structural integrity design criteria. However, the current design was compromised when additional loading (settled fly ash) was applied on the roof. In order to eliminate the risk posed by the additional load, a new roof structure was designed to provide a higher structural stiffness and resistance to the steel members. A maintenance access platform was incorporated into the new roof design. This platform will provide access to the roof sheeting to allow for regular maintenance and cleaning. With regular cleaning of the roof, the loading caused by the settled fly ash will be kept within allowable limits and

reduce the chance of damage caused by settled fly ash. Refer to Figure 2 which illustrates the new roof design for the FAB building. Note, this will be we constructed across all three FAB building.

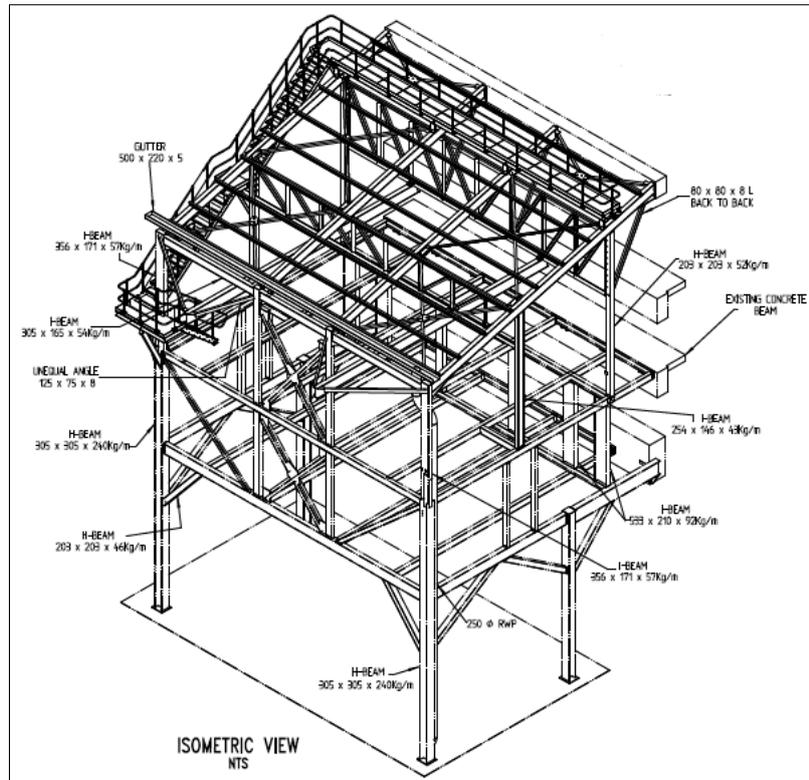


Figure 2: Isometric view of the new roof design for the FAB building

1.2 Employer's objectives and purpose of the works

The objective and purpose of the works is to:

- To regain the structural integrity of the steel roof across all three FAB buildings.
- Create a safe working environment for employees within the FAB building.
- Comply with all requirements and standards.

1.2.1 Scope for the Project

The scope for the project involves the demolition and reconstruction of the structural steel roof across all three FAB buildings. All works will be performed by the Contractor. The high-level scope for the project includes the following as a minimum:

- i. Removal of the damaged steel members as per the demolition plan and drawings.
- ii. Fabrication (including detail shop drawings) of the new steel members and structural elements as per the detail design and construction drawings.
- iii. Installation of steel members and structural elements as per the detail design and construction drawings.
- iv. Installation of staircase and platforms.
- v. Installation of IBR sheeting.
- vi. Load testing and commissioning of all installed crawl beams.

- vii. Design verification of the detail designs provided by the *Employer*.
- viii. Conducting quality assurance/inspections during construction.
- ix. Issuing of Certificate of Completion (COC) for the works in accordance to GN 1028 of 05 October 2018:
- x. Construction Regulations, 2018 of the Occupational Health and Safety Act No. 85 of 1993
- xi. Procure and supply all materials, tools, equipment and resources required to execute the *works*.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
COC	Certificate of Completion
ECSA	Engineering Council of South Africa
ERA	Engineering Risk Assessment
FAB	Fly Ash Bunker
ID	Inside Diameter
ITP	Inspection Test Plan
LMI	Lifting Machinery Inspector
NCR	Non-conformance Report
NOD	Notice of Defect
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
SANS	South African National Standards
SWL	Safe Working Load
VDSS	Vendor Document Submission Schedule

2. Management and start up.

2.1 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 to be represented at each meeting by at least the 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:

- i. *Contractor's* current activity progress and planned finish dated
- ii. *Contractor's* planned start and finish dates for the works
- iii. Discussion on the *Contractor's* programme
- iv. Health, safety and quality issues
- v. The progress of any other relevant activities
- vi. Discussion on any technical and commercial issues
- vii. Construction progress
- viii. 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	IR Boardroom OR MS Teams	<i>Employer, Contractor, Supervisor</i>
Toolbox sessions	Every-day before commence of work	Site	All the <i>Contractor's</i> employees.
Compensation events	As and when required	To be confirmed	<i>Employers</i> and <i>Contractor's</i> Representatives
Overall contract progress and feedback	To be agreed upon contract award	IR Boardroom OR MS Teams	<i>Employer's</i> and <i>Contractor's</i> Representatives
Kick off meeting	After contract award	IR 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

2.2 Documentation control

All documents and records management are performed according to Technical Document and Record Management Work Instruction (240-76992014). The *Employer* ensures that the *Contractor* is provided with the latest revision. Any uncertainty regarding the work instruction should be clarified with the *Employer* 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 *Employer* 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 and/or document number, revision number, and title for each drawing and/or document attached. 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).

2.2.1 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 *Employer* and clarification updates are reflected in updated versions of this procedure.

2.2.2 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.

Document Submission

- All project documents must be submitted to the delegated *Employer's* Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014). In order to portray a consistent image it is important that all documents

used within the project follow the same standards of layout, style and formatting as described in the Work Instruction.

- The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the *Employer's* Representative with a transmittal note.

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 *Employer's* Representative in the following media:

- Electronic copies are submitted to Eskom Documentation Centre through generic email address (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 Representative is copied on the email as well.
- Hard copies are submitted to the *Employer's* Representative 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.

2.2.3 Documentation Review Requirements

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

2.3 Health and safety risk management

2.3.1 SITE ESTABLISHMENT

Continuous improvement

Contractors are required to conduct the following as part of the continuous improvement initiatives:

- Visible Felt Leadership by top management
- Identify critical tasks and monitor those tasks through Planned Job Observations
- Behavioural based safety, if the contractor does not have its own procedure, Eskom procedure can be used as a guide
- Contractor 16.1 shall present the lost time injury (LTI) incidents at Business Unit / Power station General Managers meeting within 7 days of the incident

2.3.2 CONTRACTOR/SUPPLIER MANAGEMENT KEY PERFORMANCE INDICATORS (KPI'S)

- Maintain Health and Safety file and compliance to the health and safety plan
- Always maintain good housekeeping
- Implement and monitor near miss programme
- Comply to BSO, Visible Felt Leadership and Planned Job Observation programmes
- Zero Fatalities
- At any given point, the OHS performance must be within the lost time injury (LTI) tolerance level as amended
- All incident investigations shall be completed within 30 days of the occurrence of an incident.
- Close audit findings as per the recommended time frames
- Close Non-conformance as per the recommended time frames (NCR,)

2.3.3 Contract completion and sign off

On completion of the project, Eskom team (led by the Contract custodian/ Project Manager) involved in the project together with the contractor shall conduct the final audit/inspections to identify the gaps prior to the contractor leaving site or completing the project. Before the final invoice is paid/processed, the Contract custodian/Project Manager shall ensure that the below requirements are met:

- a. Close all incidents and audit findings.
- b. Clean the respective yard and ensure good housekeeping where the contractor was working.
- c. Contractor shall submit safety statistics and a safety file to Eskom BU Safety department for closeout and filling.
- d. Completion of a closeout report (Annexure D form as per 32-726) to close the contractual work

Once the above issues have been addressed, the Contract custodian/Project Manager shall verify and sign off prior to releasing the final payment.

2.4 Environmental constraints and management

- (1) Contactor to be familiarized with Lethabo Environmental statement of commitment (PS010).
- (2) The SHE File to be approved by the Environmental department. Lethabo has an Environmental Policy, to which the *Contractor* and his employees must adhere.
- (3) It is the responsibility of the *Contractor* to ensure that he obtains copies of the Lethabo Environmental Policy, the legal register applicable to his area of responsibility,
- (4) The *Contractor* shall submit an Aspect and Impact Register and Environmental management plan that complies with the ISO 14001: 2015 standard and the Lethabo procedures (applicable to the *Contractor's* area of responsibility) and to familiarize themselves on such procedures, within 30 days from the date

of commencement of work at Lethabo, to assist the *Contractor* and his/her employees to prevent pollution and to comply with legislative requirements.

- (5) Copies of the above-mentioned documents shall be obtained from the *Employer* on the first day prior to commencement of work at Lethabo.
- (6) The *Contractor* shall submit proof to the *Employer* that his employees has done all the necessary training on procedures and Policies supplied to them and that they do understand the contents of the procedures, registers and policies and will always adhere to them. Self-audits during work execution will be conducted weekly whereby environmental risks are identified.
- (7) *Contractor* shall comply with the LBE22005 Environmental spill management procedure and LBE22004 Environmental waste management procedure.
- (8) The *Contractor's* SHE File to be approved by the Environmental Department using LFM 443 checklist.
- (9) *Contractor* shall report all incidents or risks whilst on the job to the *Employer* who will inform the environmental department.
- (10) The *Contractor* adheres to the following rules:
 - Provide sufficient storage containers, labelled depicting general or hazardous waste and store in a designated storage area
 - No hazardous waste may be stored for a period of more than 90 days on the Lethabo premises.
 - Ensure that all hazardous waste is disposed off at a licensed Class H disposal site. A copy of the hazardous waste disposal certificate is submitted to the *Employer*.
 - Ensure that all other general waste is disposed of at the local municipal waste dump.
 - Ensure that the *Contractor's* site does comply with the general good housekeeping practices.
 - Redundant materials are moved to allocated sites. No scrap shall be stored in the *Contractor's* yard. Scrap is to be cleared from Site daily.
- (11) The non-adherence to the Lethabo Environmental policy and rules could result in the termination of this contract.

The *Contractor* to be ISO14001 Certified. The *Contractor* is to ensure compliance to environmental requirements of ISO14001 and the following Lethabo environmental procedures:

- LBE21001
- LBE21002
- LBE22001
- LBE22002
- LBE22004
- LBE2205
- LBE23001
- LBE23003
- LBE23004

2.5 Quality assurance requirements

2.5.1 General

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

2.5.2 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*.

2.5.3 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.

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

The *Contractor* ensures that all *works* are inspected and approved before the *Project Manager* is invited for verification/inspection.

The *Contractor* ensures that a full-time quality control inspector is appointed to the project to undertake all inspections as indicated on the QCP and/or ITP and the development and/or review of all quality documents.

The *Contractor* provides a minimum of 2 working days' notice when inviting the *Project Manager* to verify/inspect the *works*. The notice to the *Project Manager* 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.

2.5.5 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.

2.5.6 Quality Reporting

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

- i. A register of NCRs and defects
- ii. Updated QCP/ITP register
- iii. QA monthly report summary
- iv. Planned and completed local inspection dates
- v. Completed and outstanding inspections

- vi. Principal material orders and stocks on site
- vii. *Contractor's* equipment, plant and temporary works on the site or due to be delivered to or removed from the site.

2.5.7 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 *Employer* 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 *Employer* may request to inspect the stored products at any given point during the storage period of the product.

2.6 Programming constraints

2.6.1 Methods and Procedures

2.6.1.1 General

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

- (1) The *Contractor* shall submit the first programme to the *Project Manager* for acceptance within the period stated in the Contract Data and it must be updated as per the intervals prescribed in the Contract Data.
- (2) The Accepted Programme at the Contract Date serves as a baseline for the execution of the works until the latter of the defects date or the end of the defects correction period. This baseline shown on all subsequent graphical presentations of revised programmes.
- (3) The *Contractor* adhere to the following programming constraints:
 - **The *Contractor* shall submit a program, compiled in Microsoft Project/Primavera or similar program, which will provide details of the list of activities and the duration of each activity. The program should be no longer than 3 years, The Acceptance of Design shall be limited to 3 months and the Duration for execution shall be a Maximum of 33 months from the day access is granted on the plant**
 - A list of activities and duration of each shall be made available after an instruction to commence work is supplied to the *Contractor* by the *Employer's* Representative.
 - The program shall be updated weekly and will be used to manage all installation activities.
- (4) The *Contractor* submits a bar chart program two weeks after award of the contract showing the following:
 - The early start and early completion date of each activity.
 - The late start and late completion of each activity Planned completion.
 - The order and planning of operations which the *Contractor* plans to do in order to provide the works.

- The *Contractor* prepares and submits an update, seven days after the start date, showing actual progress and the effect upon the remainder of the activities to be completed.

(5) The *Contractor* submits, together with the progress reports, a written report which contains the following:

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

Monthly Progress Report (for Payment)

The contents of the report may vary from month to month depending upon the phase of the project and/or the items of management focus. However, the basic framework of the report consists of the following:

1. Executive summary (narrative identifying major movement within the reporting period).
 2. Pictures of works done for the month before and after
 3. Detailed description of the work done to date
 4. Attach Surveys done if applicable for the reporting month
 5. Revised Programme indicating, actual progress of work against last Accepted Programme.
 6. A one-month look ahead work window.
 7. Activities in progress during as well as completed during current reporting period per discipline, including the activities of the Employer and Others.
 8. Activities to undertaken during next reporting period per discipline, including the activities of the Employer and Others.
 9. Status overview by unit, by plant area, by phase.
 10. Key issues / Items of concern and corrective actions. (Challenges encountered and recommended solution or request for resolution)
- Early warning log.
 - Compensation event log.
 - Critical activities report.
 - Attach Forecast rate of payment schedule updated with actual progress.
 - Statement and report on work ahead and behind progress.
 - Attach Signed QCP's for the completed activities being claimed
 - Attach Time sheets for time related items and travel log for transport claims
 - Attach Delivery Notes for material being purchase and delivered (Eskom Project Manager, Engineer and/or QC to inspect Material being delivered)
 - Attach Daily Dairies for the month

2.7 Contractor's management, supervision and key people

(1) The Contractor is to provide a detailed organogram at tender. The organogram must clearly indicate the employee's details. In the event of any person within the Contractor's organogram changing, the Contractor is to obtain approval for the replacement from the Project Manager.

(2) The Contractor shall provide his own Responsible person as required by the Permit to Work system on site during the duration of the works.

2.8 Invoicing and payment

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

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

Name and address of the *Contractor* and the *Project Manager*.

The contract number and title.

Contractor's VAT registration number.

The *Employer's* VAT registration number 4740101508.

Description of service provided for each item invoiced based on the Price List.

Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT.

Less amounts to be paid by or retained from the *Contractor*.

(1) 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

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*.

The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT

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

2.9 Insurance provided by the *Employer*

(1) Refer to Part C1.

2.10 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.

2.11 Provision of bonds and guarantees

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

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

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

- (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.

2.13 Training workshops and technology transfer

N/A

3. Engineering and the *Contractor's* design

3.1 *Employer's* design

The *Employer* has completed the detail design of the new roof structure to be installed across three of the FAB buildings. The *Employer* provides the *Contractor* with the required approved detail design, construction drawings, documentation and requirements relating to the demolition activities and construction of the new structural steel roof.

Where applicable, information that is not supplied by the *Employer*, it is the responsibility of the *Contractor* to propose a solution. The *Contractor* informs the *Project Manager* of such an event and awaits for instructions before proceeding.

The *Employer* will arrange a mandatory site clarification meeting with all tenderers. This will allow the tenderers an opportunity to visually inspect the FAB building, understand the works to be done and to identify construction execution related constraints (work performed by others, access limitations, operability of plant, etc.).

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

3.2.1 General

1. The *Contractor* takes full professional accountability and liability for the detail design, demolition and construction of the new structural steel roof at the FAB building, as described in the *Works* Information.
2. The *Contractor* is required to confirm and verify all information supplied by the *Employer* prior to being using in the construction works.
3. It is the *Contractor's* responsibility to provide construction activities and/or *works*, which is fit for purpose, in accordance with sound engineering principles and prudent industry practice. The *Contractor* and his Subcontractors adheres and perform the *works* in compliance with legislation, rules and regulations, applicable national and international engineering codes, environmental standards, other applicable standards, statutory requirements and this *Works* Information.
4. No deviation from this *Works* Information and its referenced documents is permissible without documented acceptance from the *Project Manager*. The *Contractor* includes a list of exceptions and/or clarifications as part of his tender. This list of exceptions and/or clarifications includes the section deviated from as reference number, the requirement in question and a detailed explanation of the deviation.
5. Any discrepancy or ambiguity between the *Employer's* Specifications or requirements is to be immediately brought to the attention of the *Project Manager* for clarification.
6. Where the *Contractor* requires additional information to conduct the *works*, the *Contractor* notifies the *Project Manager* of the *Contractor's* requirements, a minimum of one (1) week before continuing with the *works*.
7. All documentation, as specified in this *Works* Information, forms part of the *works* and is supplied to the *Project Manager* by the *Contractor*. The *Employer* reserves the right to issue the *Contractor's* designs or drawings to other *Contractors* for purposes of maintenance, spares, verifications, modifications in future or any other purposes required by the *Employer*. The *Employer* has total rights to use the supplied

information as the *Employer* requires. The *Contractor* notes that all drawings and other documentation supplied to the *Employer* become the property of the *Employer* upon completion of the works.

3.2.2 Detail Design

1. The *Contractor* is required to review the submitted detail design package by the *Employer*. The *Contractor* performs the necessary assessments and verifications to satisfy himself that the detail design is fit for purpose.
2. The *Contractor* takes full professional accountability and liability for the submitted detail design package for the new structural steel roof at the FAB building.
3. In the event that there are modifications and/or additions to the detail design as required by the *Contractor*, such information will be submitted to the *Project Manager* for review and acceptance. The *Contractor* is required to submit all information in the form of a report which is signed by the ECSA professional engineer/technologist.

3.2.3 Demolition Works

1. The *Employer* has developed a demolition plan for the works. The *Contractor* is required to review the demolition plan and update the document (were necessary) to suit their construct methodology. The updated demolition plan and method statement is to be submitted the *Project Manager* for review and acceptance.
2. The *Contractor* removes the existing crawl beams attached to the roof structure.
3. The *Contractor* is required to safely strip, remove and dispose of all damaged structural steel elements.
4. The undamaged structural steel members identified for reuse are to be safely removed and stored to prevent damage. All structural steel members for reuse are to be refurbished by sandblasting the element and reapply anti-corrosion paint and primer.
5. The methodology used to remove/dismantle the structural steel elements are not to cause damage to the surrounding infrastructure. The *Contractor* takes reasonable care to prevent any damage to the surrounding infrastructure during demolition. The *Contractor* therefore plans the works taking into account any existing infrastructure and equipment.
6. The *Contractor* quantifies the limitations and risks in the form of a detailed risk assessment, which is reviewed and accepted by the *Project Manager* prior to commencing with the demolition activities.
7. The *Contractor* is responsible in ensuring that the structural integrity and stability of the entire steel structure/platform is not compromised during demolition and if required, additional temporary supports may need to be designed and installed to support any fixtures.
8. Any damages to existing infrastructure and services resulting from the works is repaired/ made good by the *Contractor* at his own expense. This is subject to the *Contractor* supplying a method statement for the repair works to the *Project Manager* for review and acceptance prior to conducting the repair works.
9. Within the demolition and dismantling method statement, the *Contractor* conducts a rigging study which illustrates how the steel elements will be safely removed and/or rigged into position.

10. The *Contractor* disposes of all rubble as directed and instructed by the *Project Manager*.

3.2.4 Structural Steel Roof

1. The *Contractor* is responsible for the fabrication, supply, assembly and erection of all structural steel elements required to reconstruct the FAB steel roof.
2. The *Contractor* utilises the approved construction drawings to fabricate and erect the new structural steel roof across all three FAB buildings.
3. All connections between the different steel elements are to be in accordance to the approved construction drawings.
4. All roof and gable cladding are to be 0.8mm IBR Z275 spelter galvanised.
5. All gutters and downpipes are to be 1.0mm thick Z275 spelter galvanised.
6. Rubber isolators shall be installed at locations where dissimilar materials may come into contact, in order to prevent galvanic corrosion.
7. All steel elements are to be hot rolled sections grade S355JR.
8. All bolts are to be grade 8.8 and accompanied with washers.
9. The *Contractor* is required to design and produce construction/fabrication drawings of any outstanding items not supplied by the *Employer*. The *Contractor* must inform the *Project Manager* of such items and await instruction on how to proceed as per *Project Manager's* recommendation.
10. The *Contractor* sets out the *works* as illustrated in the construction drawings.
11. All waste created is to be discarded in the waste skips as directed by the *Project Manager*.

3.2.5 Steel Staircase and Platform

1. The *Contractor* is required to fabricate and install the new steel staircase and platform which is located above the new FAB roof.
2. The *Contractor* constructs the steel staircase and platform as per the approved construction drawings.
3. Structural steel gratings will form part of the steel platform.

3.2.6 Crawl Beams

1. The removed crawl beams, as noted in Section 6.2.2. (2), are to be refurbished which entails:
 - Sandblasting the existing paintwork.
 - Applying one coat primer and two coats anti-corrosion paint in accordance with the Employer's and SANS standard.
 - Drilling new connection holes on the top flange.
 - The SWL is to be clearly indicated on the web of all crawl beams installed. The SWL is to be written in black paint.
2. The *Contractor* reinstalls the crawls beams as indicated on the construction drawings.
3. The *Contractor* is required to conduct load tests (i.e. performance test) on all re-installed crawl beams. This test is to be conducted or supervised by an ECSA registered LMI.
4. The test results and certificates are to be submitted to the *Project Manager* for review and acceptance.

5. The installation and testing of the newly installed crawl beams are to be done in accordance to SANS 1824.

3.3 Procedure for submission and acceptance of Contractor's design

The Contractor is required to strictly comply to all the engineering and the contractor's design requirements stipulated on the **375-LET 375-172773 Rev 1 Lethabo Power Station Fly Ash Bunker Structures Project Construction Technical Specification**

3.4 Other requirements of the Contractor's design

3.4.1 General

The *Contractor* provides all systems, equipment, materials and services required to execute all *works* necessary to fulfil all requirements specified in this *Works* Information. The *works* complies with professional practice and standards for fossil fuel power systems and are designed for the environmental conditions prevailing at Lethabo Power Station.

The *Contractor* liaises with the *Project Manager* and *Others* to ensure the successful completion of the contract requirements.

The scope of *works* includes the provision of the following:

- i. Quantity surveying documentation
- ii. Quality assurance
- iii. Quality control
- iv. Acceptance testing and handing over to the *Employer*
- v. Documentation

Where an alternative design is initiated by the *Contractor*, the *Contractor* is responsible for timely obtaining of any required design criteria from the *Project Manager* as necessary and for the submissions of full design proposals and cost implications for the *Project Manager's* consideration.

3.4.2 Temporary Works

1. The *Contractor* designs all temporary works necessary to execute the *works* in accordance with the applicable codes and standards as stated in this document and as required by good engineering practices
2. The *Contractor's* appointed ECSA professionally registered engineer/technologist:
 - Reviews and approves (by signature) the designs and drawings of all temporary works and additional supports and method statements produced by the *Contractor*; and
 - Supervises, inspects and approves the works as per such.
3. All designs, design reports and construction drawings prepared by the *Contractor* are signed off by an ECSA Professionally registered Technologist and/or Engineer who takes full professional accountability for the designs

4. All temporary works designs, where existing infrastructure are impacted by the works, are submitted to the *Project Manager* for review and acceptance, to prove that the existing infrastructure can withstand the induced load. The *Contractor* therefore submits all design calculations, in a design report, which includes, but is not limited to, all inspection reports, survey data, design analysis models, assumptions, drawings/sketches, rigging studies etc.
5. The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works.
6. The *Contractor* designs, procures, manufactures and constructs all temporary works required for the execution of the works. The *Contractor* dismantles/demolishes temporary works when such works are no longer required.
7. The *Contractor* takes note that review and acceptance of any document/ drawing/ design calculations by the *Project Manager* in no way relieves the *Contractor* of his liability for the works. The *Contractor* remains liable for all works conducted as per this *Works Information*.

3.4.3 Plant and Material Supply

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

3.4.4 Storage Facilities

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

3.4.5 Method Statement

1. The *Contractor* submits a Construction Work Method Statement taking into consideration the various activities required to complete the works.
2. This Method Statement clearly illustrates how the Contractor accounts for the risks of this project and is tailored to address the specified project objectives and requirements.
3. The Method Statement includes, as a minimum and where applicable, the following:
 - Constraints identified and considered by the *Contractor*.

- Interfacing with Others; the Contractor illustrates an understanding of the work that is to be completed by Others and accommodates for the completion of such work in his methodology.
 - Description and illustrations of a construction traffic plan, use of laydown areas and plot plan.
 - Shifts and hand overs for the various sections of the works, this information is to enable the *Employer* to integrate the programmes of the various contractors.
 - Design tools and systems that the *Contractor* plans to use.
 - Construction methodology and sequence of construction taking into consideration access restrictions and safety requirements.
 - Detailed risk assessment which lists risks specific to the works and is accompanied with associated proposed mitigations.
 - List and description of plant and machinery required to carry out the civil and structural components of the works.
 - Inspection and quality control plan.
 - A clear description of the responsibilities of the Contractor's personnel involved with the works, including (where applicable) his *Project Manager*, Site Quality Manager, Site Engineer, Health and Safety Manager, Technical Office Manager, Production Manager, Supervisor, Environmental Officer, Fabricator, Erection Engineer, Shop detailer, Transporter and other personnel required for the civil and structural works.
 - Construction sequencing considerations, which take into account any constraints.
 - Health, safety and quality control for the activity.
 - All plant, equipment and machinery required to complete activity.
 - Manufacturer's literature/ Technical Data Sheets for all materials used including product description, composition, material and performance properties, installation and application procedures, use limitations and recommendations.
 - Plan for confining, collecting and disposing of waste materials as a result of removal operations, where applicable.
 - Works required to safeguard existing infrastructure and services.
4. All Method Statements are reviewed and accepted by *Project Manager* prior to commencing any *works*.

3.4.6 Constructability Analysis

1. The *Contractor* uses the *Employer's* standard: 240-107981296, Constructability Assessment Guideline to perform the constructability analysis.
2. The *Contractor* has a structured process in place for constructability analysis, for the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the *Employer's* objectives.

3. Qualified people with adequate skills in construction knowledge and experience are involved from the beginning of the project, to maximize the benefits of the constructability analysis. This process includes examining design options, where applicable, that minimize construction costs while maintaining standards of safety, security, quality, cost and schedule, and is initiated in the front end planning process. The *Contractor* considers various activities of the project and includes manpower plans, organization, construction equipment usage, material storage and handling and preparation of construction facilities.
4. The *Contractor* submits a Constructability Analysis Report based on the Method Statement to the *Project Manager*, for his review and acceptance. This report clearly illustrates how the construction would be completed within the allowable timeframes and highlights the risks of meeting this requirement. The *Contractor* is required to plan his activities to avoid the following interface risks and any other risks relevant to the works:
 - Interface issues arising from working in close proximity to Others;
 - Access to Site;
 - Material storage;
 - Delivery;
 - Operation of the conveyor belts;
 - Other Works related risks;
5. This report clearly illustrates the construction sequencing and durations for the completion of the works within the contract period. The *Contractor* submits a risk assessment as part of the Work Method Statement, which is informed by the Constructability Analysis Report that advises on a proposed approach and methodology to mitigate risks described above and any other risks, which may impede successful execution of the works.

3.4.7 Construction Programme

1. The *Contractor* submits a Level 3 construction programme considering all the interfaces and time constraints.
2. This programme does not omit key activities. Timing of the activities is consistent with the Construction Work Method Statement.
3. The programme is to show that the *Contractor* has a clear understanding of the full scope of works, including the accompanying risks. The programme is to be logical and realistic.
4. The *Contractor* submits a Programme for all the phases of the *works* to the *Project Manager* for his acceptance.
5. This programme is accompanied with the following:
 - A comprehensive narrative which describes the basis of the programme;
 - A list of assumptions that the programme was based on;
6. The programme clearly indicates the following:

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

3.4.8 Deliverables

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

3.4.8.1 Planning phase

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

4. Project specific safety file
5. Project Quality Control Plan

3.4.8.2 Pre-Construction

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

3.4.8.3 Post Construction/Installation

1. QA returnables (monthly)
2. Data books as detailed in Section 7.2.1
3. Certificate of completion for the works
4. Load testing certificate.

4 Procurement

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

4.1 People

4.1.1 Minimum requirements of people employed on the Site

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

4.1.2 BBBEE and preferencing scheme

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

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

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

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

[Insert the agreed ASGI-SA Compliance Schedule here]

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

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

4.2 Subcontracting

4.2.1 Preferred subcontractors

- (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.

4.2.2 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.

4.2.3 Limitations on subcontracting

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

4.2.4 Attendance on subcontractors

- (1) Not applicable

4.3 Plant and Materials

4.3.1 Quality

- (1) The Contractor shall produce and submit a project plan and quality control plan to the Employer within 21 days after the contract has been awarded. The Contract project plan shall comply to the requirements of ISO 10005 at a minimum. Inspection and Test Plan covering all the tests in the scope of work to be provided.

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

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

4.3.3 *Contractor’s* procurement of Plant and Materials

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

4.3.4 Spares and consumables

N/A

4.4 Tests and inspections before delivery

N/A

4.5 Marking Plant and Materials outside the Working Areas

- (1) N/A

4.6 *Contractor’s* Equipment (including temporary works).

N/A

5 Construction

5.1 General

The *Contractor*:

1. Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 and Waste Management Procedure, as well as the National Building Regulations and SANS 10400 for all works.
2. Submits a comprehensive method statement (including a comprehensive risk assessment) detailing the proposed methods for the entire works to the *Project Manager* for acceptance prior to the start of the works. Refer to Section 6.3.5 for method statement requirements.
3. Submits a project specific safety file to the *Project Manager* for comments / acceptance.
4. Submits a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance after contract award.
5. Takes all necessary precautions to ensure that none of the existing structures / facilities not forming part of the *works* is damaged during the assessment/inspection. The *Contractor* is liable for all damages that may occur and repairs are to be done at no additional cost to the *Employer*.
6. The *Contractor* disposes of all waste material at a waste disposal site to be approved by the *Project Manager*.
7. Continuously monitors the conditions within the working and surrounding areas for any hazardous substances or situations, and in such case, the *Contractor* is required to take necessary precautionary measures.
8. The *Contractor* ensures that a complete QCP, risk assessment, method statement and ITP's, temporary works calculations accompanied by a rigging study, where applicable are submitted to the *Project Manager* for review and acceptance before construction works can commence. During reviews of the ITP's, the *Employer* provides the necessary intervention points.
9. All items that are assembled and constructed off site are listed and provided to the *Project Manager*. From this, an ITP is developed between the *Project Manager* and the *Contractor* to determine the intervention points.
10. Manages access to the working areas and the Site.
11. Manages activities on Site to ensure that no interference takes place between the *works* and that of others. The *Contractor* does not have exclusive access to the sites.
12. Liaises with the *Project Manager* regarding the location of waste disposal sites and rubbish dumps.
13. The *Contractor* completes daily site diaries which books are kept and signed by the *Contractor* and are also signed off daily by the *Supervisor*. The following is to be recorded (as a minimum) in the daily diaries:

- Manpower and Equipment used,
- Weather conditions,
- Description of any unique occurrences, incidents or accidents,
- Delays and reasons for the delays,
- Industrial relations abnormalities,
- Interface and access problems,
- Description of activities to be performed,
- Recording of on-site tests

14. The *Contractor* is responsible for the design and erection of all the temporary supports required for the *works*. In addition to the aforementioned, the *Contractor* adheres to the following:

- The *Contractor* is restricted to the designated working areas
- The *Contractor* is not to enter any other areas and ensures that his employees abide by the applicable regulations
- The *Contractor's* Equipment does not impair the operation or access to the plant/building
- The *Contractor* provides any temporary or expendable materials required for the storage of materials
- The *Contractor* safeguards and secures all items whilst in the *Contractor's* custody and control, until completion of the works;
- Plant and equipment not forming part of the *works* are not to be modified without written permission from the *Project Manager*. Modification in this sense includes, but is not limited to the following:
 - Welding onto existing plant,
 - Drilling into structural steel or concrete,
 - Cutting or removing
 - Loading adjacent structures.

5.2 Construction, Erection and Monitoring

1. The *Contractor* is responsible for the construction of all *works* in accordance with the accepted designs, drawings and specifications.
2. The *Contractor* is responsible for the safety of all personnel involved in the *works* as well as the safety of all personnel at Lethabo Power Station affected by the construction of the *works*.
3. The *Contractor* is required to confirm all site dimensions, levels and cast-in items positions on site prior to any construction *works*.

4. The *Contractor* notifies the *Project Manager* of any defects that have occurred or are foreseen in order to reduce further damages that may occur.
5. The *Contractor* provides the required level of construction monitoring in order to ensure that the construction is completed in accordance with the approved designs, drawings and specifications.
 - Technical quality assurance during construction to ensure that the construction is executed as per the approved design, specifications and procedures
 - Witnessing and approval (by signature) of intervention points where applicable to Engineering
 - Review and acceptance by signature of construction data books, as-built drawings and Operations and Maintenance manuals (where applicable) developed by the *Contractor*
 - Responding to technical queries and clarifications from the *Contractor* utilising documentation templates provided by the *Employer*
6. The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works.

5.3 Project Handover Requirements

5.3.1 Handover

1. Apart from any statutory data packages required, the *Contractor* also submits a data package of the relevant drawings, test certificates etc. to the *Project Manager* for acceptance. These include, but are not limited to:
 - Approved ITP's, QCP's
 - Method statements and specifications adhered to
 - Risk assessments
 - Approved drawings
 - Inspection reports
 - Notifications
 - Modifications
 - Technical Queries, Engineering Responses and communications with *Project Manager/Employer*
 - Non-conformance reports
 - Steel grade certificates
 - Weld Matrix sheets
 - Welding consumables certificates
 - Welding procedures

- Welders qualifications
- Approved NDT procedures
- NDT reports/results
- Test certificates
- Risk assessments
- Transport notifications
- Calculations for any temporary works that may be required for the safe execution of the works

5.4 Temporary works, Site services & construction constraints

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

Refer to C4 Site information

5.4.2 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.

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

Normal working hours must be maintained as far as possible. The normal working hours on site will be from 07:30am to 16:30pm Monday to Thursday and 07:30am to 12:00pm on Fridays. Should the *Contractor* wish to work outside these normal working hours, he should notify the *Project Manager* in writing.

The *Contractor* will only be allowed to work outside the specified hours once the *Project Manager* has approved the request in writing.

5.4.4 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 and optimisation. 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.
- (3) The *Contractor* provides, at his cost, a First Aid service to his employees. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* Medical Centre and facilities will be available.
- (4) Outside the *Employer's* office hours, the *Employer's* First Aid Services will only be available for serious injuries and life threatening situations.

- (5) The *Employer* will be entitled, however, to recover the costs incurred, for the use of the above *Employer's* facilities, from the *Contractor*.

5.4.5 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..**
- (2) The *Contractor* shall comply with Lethabo Power Station environmental management system. This includes the identification, collection, storage, transportation and disposal of waste. Hazardous waste shall be disposed off in line with the applicable environmental legislation. It is important to note that all spillages must be cleaned immediately and reported to the *Employer* as soon as possible. It is the responsibility of the polluter to clean all spillages and for the rehabilitation of the polluted land.

5.4.6 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.**

5.4.7 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.

5.4.8 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.

5.4.9 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.

5.4.10 Site services and facilities

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 and optimisation. 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.

The *Contractor's* yard is subject to periodic inspection by the Project Manager. The location of the nearest sewer manhole, power distribution point, portable water connection storm water channel and road access point is indicated by the *Employer*. The *Contractor* is responsible for connection to the closest point of supply.

Upon Contract award the *Contractor* is to determine site requirements, submit a site layout plan and include site management plans to be approved by the Project Manager. The *Contractor* can only establish site once a signed/approved trenching assessment and Lethabo LFM051 Application *Contractors* site establishment forms have been received by the *Contractor*.

The site yard shall consist of the following as a minimum

- Proper barricading of the site yard by use of fencing and/or approved method by the Project

Manager

- The site is to have a paved floor or alternative method approved by the Project Manager
- Sufficient lighting should the Contractor be working at night
- Sufficient ablution facilities for the number of people employed on site
- Sufficient eating facilities for Employees working on site
- The Contractor is provide its own piping and cable to connect to a power source, sewage points, water points and Air supply points. The Employer is only responsible to provide a water point, power source, sewage point of connection and air points to the contractor no piping or cable shall be provided by the Employer.
- The site must have a board to indicate whom the site belongs too
- The Contractor is to maintain the reverse parking already adopted at Lethabo Power Station at the allocated site
- The Contractor is to have access Control for the allocated site, the Employer already has an access control to its facilities, but the Contractor is to maintain access control at the allocated site

5.4.11 Facilities provided by the Contractor

If it is required for the *Contractor* to have a site office for proper co-ordination and execution of the *Works*, the *Contractor* shall include in his establishment, rates for all further treatment of the yard areas that he considers necessary for his entire operation throughout his period of occupation. The *Contractor* also includes for all security fencing, security, and access arrangements. Maintenance of the yard is the *Contractor's* responsibility and to the *Project Managers* acceptance.

Outfall drainage of all surface run-off drains is constructed by the *Contractor* to the acceptance of the *Project Manager* to minimise erosion and to effect control of contaminated water. The *Contractor's* plan for the layout of his yard area are accepted by the *Project Manager* prior to occupying the yard and the *Contractor* does not occupy any site area other than that allocated to him. The *Contractor's* plan states fully what measures are taken regarding removal and storage of topsoil, stabilisation of eroded areas and further loss of topsoil.

The *Contractor* complies with the environmental policy given in the Site regulations. The *Contractor* provides, erects and maintains for his own use adequate size office accommodation and stores together with such drainage, lighting, heating, and hot and cold-water services as may be required. Provision is also made for adequate parking and a turning area adjacent to all the aforesaid structures. The *Supervisor* prior to commencement of any work on Site accepts all designs and layouts for these provisions.

The *Contractor* dismantles and clears the yard of all such temporary structures and associated foundations and infrastructure at the direction of the *Supervisor* on Completion of the whole of the *works*. No such dismantling and clearance work is carried out without prior acceptance from the *Supervisor*.

5.4.12 Telecommunications

Neither a network point nor a telephone is available on site. Should the *Contractor* require one, he is to make his own arrangements with relevant authorities. Should the *Contractor* wish to use radio communication equipment on site, he will make his own arrangements with the relevant authorities. In this case, he is requested to liaise with the head of security at the station to ensure that there is no interference with existing channels or equipment.

5.4.13 Sanitary facilities and refuse

The *Contractor* is to supply and maintain his own sanitary facilities at his *Contractor's* yard. A refuse control system will be established by the *Contractor*. All waste and refuse is collected and disposed of as directed by the *Project Manager*.

5.4.14 Equipment and appliances

Any electrical Equipment, or appliances, used by the *Contractor* conforms to the applicable Occupational Health and Safety Act and safety standards. The *Contractor* shall maintain his equipment and appliances in a safe and proper working condition. The *Project Manager* has the right to stop the *Contractor's* use of any electrical Equipment, or appliance, which, in the opinion of *Project Manager*, does not conform to the foregoing.

Any special tools and equipment to be used on site for the execution of the *works* is the responsibility of the *Contractor*. No extension of time and/or claim for standing time will be granted should the *Contractor* not

5.4.15 Survey control and setting out of the works

The *Contractor* is responsible for the complete surveying and setting out of the *works* including the establishment of any beacons and benchmarks required to complete the works.

The *Contractor* is required to consult the Surveyor-General's office to obtain information on available registered beacons near Lethabo Power Station to use for the establishment of any required benchmarks close to the *works*

5.4.16 Excavations and associated water control

N/A

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

5.4.17.1 Supply of electricity

Electricity will be made available for construction purposes free of charge from power points which will be indicated by the *Project Manager*. 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.

5.4.17.2 Lighting

The *Contractor* at his own expense provides temporary local lighting in accordance with the requirements of the Occupational Health and Safety Act where necessary. The *Project Manager* provides no local lighting. All construction lighting is the responsibility of the *Contractor*.

5.4.17.3 Water

Water is made available on request free of charge from water points on site. The *Contractor* supplies at his own cost all connections, fittings, piping work, temporary plumbing, and pumps necessary to lead water from the *Employer's* points of supply to the various points where it is required. The *Contractor* is responsible for maintaining his equipment and to removal at Completion of the whole of the *works*.

The *Project Manager* does not guarantee continuity of supply and the *Contractor* makes his own provision for standby supplies to maintain continuity of work. Claims of any nature relating to discontinuity of water supply are not considered.

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*.

5.4.17.4 Roads and vehicles

Main access roads are surfaced and complete and may be used by the *Contractor* with the necessary care. The *Employer* maintains the Site roads, described above, to a fair condition. Any costs incurred by the *Project Manager* from damage caused to underground services, structures, etc. as a result of the *Contractor* not using the prescribed routes is recovered from the *Contractor*. The *Contractor* provides temporary access points from the prescribed routes and roads to the points where the *Contractor* is required to perform work, having first obtained permission in writing from the *Project Manager*.

All vehicles used on site, by the *Contractor* will be road worthy and fitted with fire extinguishers as required.

All road signs, traffic laws and regulations on site shall be adhered to by the *Contractor*. *Contractor's* employees failing to comply with the above will be denied access onto site.

5.4.17.5 Compressed Air

The *Contractor* provides at his own cost, all connection fittings and pipework necessary to lead the compressed air from the point of supply to the various points where it is required. Such fittings must be compatible with the Employer's fittings so that galvanic corrosion of pipework is prevented. The *Contractor* is required to maintain all his connections and remove them on completion of the *works*. Compressed air wastage due to un-maintained pipe work or fittings provided by the *Contractor* will be calculated and the cost will be recovered from *Contractor*.

5.4.17.6 Ventilation

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

The *Contractor* shall provide everything else necessary for providing the Works

5.4.18 Control of noise, dust, water and waste

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

5.4.19 Regulations

The Contractor complies with the Site Regulations, a copy of which is available at the Project Manager's offices. Any subject within the authority of the Project Manager may be addressed by a Site Regulation. Before work starts on Site, a kick-off meeting is held with the Contractor and the Project Manager, to explain in detail all requirements of the Site Regulations.

The Contractor is issued with a file of current Site Regulations at the project kick-off meeting. The file remains the property of the Project Manager and the Contractor is responsible for its maintenance and updating to include new or revised regulations as issued by the Project Manager during the course of the works.

5.4.20 Permit to Work (PTW) system

No work shall be carried out without a "Permit to Work". The employer's life saving rules shall be complied with.

5.4.21 Sequences of construction or installation

Demolition of FAB 1 – Followed by Installations of the whole works and as per the approved design and plan

Demolition of FAB 2 – Followed by Installations of the whole works as per the approved design and plan
Demolition of FAB 3 – Followed by Installations of the whole works as per the approved design and plan

5.4.22 Accommodation and transportation

The *Contractor* provides his own accommodation, meals, and transport for all his employees engaged in the execution of the works. This includes the needs of his *Subcontractors*. The cost for accommodation, meals as well as for transportation to and from Site is included in the Prices. The *Contractor's* employees are not allowed to sleep on site.

5.4.23 Contractor 's organisation

The *Contractor* submits a project organogram to the *Project Manager*.

5.4.24 Security

The *Contractor* provides security necessary for the protection of the *Works* at all times until the Completion of the whole of the *Works*. Access to the site is controlled and it is governed by the terms and conditions laid down by the Station Security Officials from time to time. The proposed site will be shown to the *Contractor* during site meeting or clarification meeting. The *Contractor* liaises via the *Project Manager* with the Power station Security staff in order to obtain temporary permits for his staff and vehicles which will be working within the station.

The *Contractor* submits his application for vehicle permit to the *Project Manager*. Personnel and vehicles entering and leaving the site are subject to routine searches. The *Contractor* must obtain a "Gate Permit" from the *Project Manager*, before materials and equipment can be removed from the site. The "Gate Permit" gives an itemised list of materials and equipment to be removed from site. If any *Contractor's* staff are transferred from Lethabo or leave Site, the person's permit is handed over to the *Supervisor*. The *Contractor* ensures that personnel leaving site are transported out of the security area and that the permit is returned.

No firearms, weapons, alcohol, illegal substances and cameras (including cell phones with cameras) are permitted on Site. No 'Private Work' is carried out for or on behalf of any *Employer 's* employee. Any person suspected of being under the influence of alcohol is tested and if proved positive, is refused entry to the security area.

5.5 Completion, testing, commissioning and correction of Defects

5.5.1 Work to be done by the Completion Date

The *Contractor* to prepare and submit a handover certificate to the *Project Manager* for each section of work completed and the *Employer* shall issue a completion Certificate for each Section completed. The *Contractor* to comply with the testing, commissioning and defects requirements mentioned elsewhere in this document.

5.5.2 Use of the works before Completion has been certified

N/A

5.5.3 Commissioning

Commissioning is defined as bringing into service all items and meeting the functional requirements and performance criteria for the Works. 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. Commissioning includes testing and verification of the stated performance criteria with:

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).

Commissioning of the Works will commence after the plant safety clearance (which includes all turnover packages from construction to commissioning and including submissions such as the *Contractor's* Mechanical Completion Certificate to the Employer).

The *Contractor* submits a recommended Commissioning and Testing Program to the Employer 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.

Any commissioning and testing activity is confirmed on the project schedule with the Employer 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.

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 this phase is completed.

The *Contractor* prepares and submits the Commissioning and Testing Procedures two months before the installation phase commences, for approval to the Employer, the Commissioning and Testing Procedures for all the commissioning and testing activities to be performed, detailing the methods, functionality checks, and acceptance criteria that are applicable.

Visually inspect the Works and components to verify the placing of plant labels, for their correctness and completion as per the requirements as set out in the technical evaluation, it should also be on the ITP/QCP and data book documentation.

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.

The *Contractor* must certify, in writing and in an official format (Certificate of Manufacture), to the Employer that equipment is in a suitable and safe condition for use before it is placed in service. The *Contractor* submits to the *Employer* on the ITP/QCP and documented in the data book for approval and endorsement of the following documents:

- All commissioning check sheets and tests
- Operational Acceptance Test reports
- Permits and Safety

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

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

5.5.5 Take over procedures

The *Employer* will take over the plant after he is satisfied with the optimisation. The *Contractor* will need to be on standby for the first 5 days after hand over and must provide further telecommunication assistance for the whole testing duration. The *Contractor* must be available on site within 24 hours to provide technical assistance if required during the testing period of 3 months.

5.5.6 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

Plant and Materials standards and workmanship

5.6 Civil engineering and structural works

During the construction of the *works* there are numerous standards and specifications to which the *Contractor* must adhere to. The documents listed below, including normative references within, are not bound in this document but are obtained by the *Contractor* at his own expense and must be adhered to during the implementation of the *works*.

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

The following specifications are required to be complied to:

List of Applicable Standards	
240-56364545	Structural Design and Engineering Standard
SANS 10400	The Application of the National Building Regulations
SANS 2001-BS1	Construction works Part BS1: Site clearance
SANS 2001-CS1	Construction works Part CS1: Structural steelwork
SANS 1200 A	Standardized specification for civil engineering construction Section A: General
SANS 1200 HA	Standardized specification for civil engineering construction Section HA: Structural steelwork (sundry items)
SANS 1200 HB	Standardized specification for civil engineering construction Section HB: Cladding and sheeting
SANS 1200 HC	Standardized specification for civil engineering construction Section HC: Corrosion protection of structural steelwork

5.6.1 Particular Specifications

5.6.1.1 General

The following codes are required to be complied to:

- i. SANS 1200 A: General
- ii. SANS 1921-1: Construction and management requirements for works contracts, Part 1: General engineering and construction works

The table below indicates particular specifications pertaining to SANS 1200 A and must be read in conjunction with the code.

Clause	Particular Specification
5.1	Survey
5.1.1	<p>Add:</p> <p>The <i>Contractor</i> is responsible for the complete surveying and setting out of the <i>works</i> including the establishment of any beacons and benchmarks required to complete the works.</p> <p>The <i>Contractor</i> is required to consult the Surveyor-General's office to obtain information on available registered beacons near Lethabo</p>

Clause	Particular Specification
	Power Station to use for the establishment of any required benchmarks close to the <i>works</i> .
6.2	Degrees Of Accuracy
6.2 b)	Degree of accuracy II is applicable to the <i>works</i> .

5.6.2 Structural Steelwork

The following codes are required to be complied to:

- i. SANS 2001 CS1: Structural Steelwork
- ii. SANS 1200 H: Structural Steelwork (Only Clause 8 – Measurement and Payment)
- iii. AWS D1.1: Structural welding code – steel
- iv. SANS 1921-3: Construction and management requirements for works contracts, Part 3: Structural steelwork
- v. SANS 50025-2: Hot rolled products of structural steels – Part 2- Technical delivery conditions for non-alloy structural steels
- vi. SANS 1700: Fasteners
- vii. SANS 10162: The structural use of steel

The table below indicates particular specifications pertaining to SANS 2001-CS1 and must be read in conjunction with the code.

Clause	Particular Specification
4.1	Materials
4.1.1	Add the following: All structural steelwork is required to be grade S355JR
4.1.4.1	Electrodes for electric welding are required to be E7018.
4.1.5.1	Ordinary bolts to be grade 8.8 with class 8 nuts, as a minimum
4.2	Drawings
4.2.4	Fabrication drawings (shop detailing)
4.2.4	The following clause is added: “Fabrication drawings are to be prepared by the <i>Contractor</i> . These are issued to the <i>Project Manager</i> for acceptance in the form of two paper prints and in “PDF” electronic format. The <i>Contractor</i> may not commence with fabrication until written acceptance from the <i>Project Manager</i> is received.”
4.2.4.2	Attachments to facilitate erections may not remain as part of the permanent structure.
4.2.4.7	Connections to allow movements are as shown on the Drawings.
4.3	Workmanship (General)
4.3.1.1	All steel elements are marked to be traceable to a specific cast or heat of steel.
4.3.6	Holing

Clause	Particular Specification
4.3.6	The following clause is added: "Flame cutting of holes is not permitted."
4.4	Workmanship (Welding)
4.4.4.3	Tack welds are not to be incorporated into the final welds.
4.5	Workmanship (Bolting)
4.5.1.3	The maximum protrusion beyond the nut is not less than 3mm, but not greater than 5mm.
4.5.1.4	Washers under nuts and bolt heads on flat surfaces are required.
4.6	Workmanship - Erection
4.6.5	<ul style="list-style-type: none"> On site welding is not permitted
5.3	Non-destructive testing of welds
5.3.3	<ul style="list-style-type: none"> Fillet welds are required to undergo magnetic particle inspection (20 % of welds)
5.3.4	<ul style="list-style-type: none"> All butt welds and full penetration welds are required to undergo ultrasonic non-destructive testing (100 % of welds)
Variations	
CI 5.2	Add the following: Properly documented evidence of previous qualification of welders are acceptable.
Additional Clauses	
1	All materials are to be new and as specified in this document and on the relevant Drawings.
2	Materials not listed in this specification or on the relevant Drawings are not permitted.
3	In the event of any specified steel not being available, the <i>Contractor</i> advises the <i>Project Manager</i> in writing. The <i>Project Manager</i> is to reply in writing on alternative materials and / or sections.
4	Fabrication drawings are prepared by the <i>Contractor</i> . The drawings are issued to the <i>Project Manager</i> for acceptance in the form of two paper prints and in "PDF" electronic format and in Native Format (dgn or dwg). The <i>Contractor</i> does not commence with fabrication until written acceptance from the <i>Project Manager</i> is received.
5	All gutters and down pipes are provided to ensure free water flow away from the <i>works</i> .
6	Handling and lifting plant have sufficient capacity to ensure that steelwork is placed in its final position without distortion or undue stressing of members.
7	Except where otherwise authorised in writing by the <i>Supervisor</i> , the <i>Contractor</i> ensures that the work is carried out strictly in accordance with the relevant drawings supplied to the <i>Contractor</i> by the <i>Project manager</i> or supplied by the <i>Contractor</i> and accepted by the <i>Project Manager</i>
8	Tolerances: <ul style="list-style-type: none"> Tolerances for overall dimensions (length, width, height, etc.) are 3mm unless otherwise specified by the drawing. Tolerances for door locations are +/- 9mm.

Clause	Particular Specification
	<ul style="list-style-type: none"> • Tolerances for stiffener, channels, angles and bars are +/- 3mm non-accumulative, unless noted of the drawing. • Tolerances for attachments such as supports, plates and pipes are located within 3mm of the required drawing location. • The centre line of a bolt hole is aligned within 1.5mm of the drawing dimension. • Bolt hole spacing is 3mm (non-accumulative) and 6mm (overall) of the drawing dimension. • Bolt hole diameter is within 2mm of the drawing dimension. • Special tolerances are shown on the <i>Employer's</i> drawings and take precedence. <p>Unless otherwise specified by the drawing, tolerances for all overall dimensions (length, width, height, etc.) are within 3mm.</p>
9	The <i>Project Manager</i> may instruct the <i>Contractor</i> to replace any welding equipment which is unsuitable or unsatisfactory for the service in which it is being used.

The table below indicates particular specifications pertaining to SANS 1921-3 and must be read in conjunction with the code.

Clause	Particular Specification
4.2	Responsibility for design and construction
4.2.1	The responsibility strategy assigned to the <i>Contractor</i> is "B" for the portion of <i>works</i> designed by the <i>Employer</i> .
4.2.2	The structural engineer is The <i>Employer's</i> , for the <i>works</i> designed by the <i>Employer</i> .
4.3	Planning, programme and method statement
4.3.2	Programme
4.3.2.1	The requirements for sequencing of the <i>works</i> are: The sequence of the work is as per the project Schedule.
4.3.2.1	The procedures to be followed where required are as shown on the Drawings or defined within the scope of work.
4.3.3	Method Statements
4.3.3.2	The steelwork <i>Contractor</i> provides the steelwork structural engineer with a detailed method statement for the erection of each structure. Add the following: The methodology for any work that will be carried out after hours must be accepted one week prior to the event.
4.4	Quality assurance
4.4.3	Inspections, tests and certification
4.4.3.4	The following items and procedures need to be tested/certified by a recognised body: Welders qualification Material certificates
4.5	Drawings, information and calculations

Clause	Particular Specification
4.5.1	Format, number and register
4.5.1.1	Information, Drawings and calculations provided to the steelwork <i>Contractor</i> will be provided in the following format: 2D drawings provided electronically in PDF format.
4.5.1.2	The steelwork <i>Contractor</i> is to provide information in the following format: Electronic in PDF format.
4.5.3	Drawings and other information provided by the steelwork <i>Contractor</i>
4.5.3.1	Drawings and other information are to be submitted in accordance with the steelwork <i>Contractor's</i> accepted programme.
4.5.3.4	The steelwork <i>Contractor</i> is required to submit the following additional information with general arrangement drawings to the <i>Employer</i> for approval: Erection methodologies. Detail drawings marked up for each part, if different from the supplied details
4.7	Site establishment
4.7.6	The steelwork <i>Contractor</i> is required to make his own arrangements for the provision of the following services: Compressed air Welding machines Cutting torches and gas Lifting attachments
4.11	Health and Safety
4.11.1	The specific health and safety requirements are as per the requirements in conditions of contract.
4.11.3	The steelwork <i>Contractor</i> is required to submit a report on the assessment and management of risk.
4.11.4	The steelwork <i>Contractor</i> is required to enclose the steelwork for the protection of the public and others.

5.6.2.1 Additional Requirements and Specifications

- i. The *Contractor* is responsible for the stability of the entire structure and all structural elements during all the erection stages.
- ii. All dimensions are required to be verified on site by the *Contractor* before any fabrication of steelwork commences.
- iii. 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 and 240-106628253 - Standard for Welding Requirements on Eskom Plant.
- iv. All welds are required to be inspected using visual aids. The *Contractor* is required to record these examinations.
- v. The *Contractor* is required to supply all bolts, washers, nuts etc. for the structural steelwork.

- vi. Welded connections are required to be welded all around with a minimum of 6 mm fillet welds unless otherwise stated on the Drawings. Butt welds are required to be full penetration welds.

5.6.3 Structural Steelwork (Sundry Items)

The following codes are required to be complied to:

- i. SANS 1200 HA: Structural steelwork (sundry items)

The table below indicates particular specifications pertaining to SANS 1200 HA and must be read in conjunction with the code.

Clause	Particular Specification
Variations	
CI 5.1.2	Add the following: The said shop details and other drawings are to be submitted in duplicate to the <i>Project Manager</i> for acceptance at least 10 working days prior to fabrication.
CI 5.2.10	Add the following: Where no corrosion protection system is specified, open grid flooring is to be hot dipped galvanised.
CI 7.1	Add the following: Test certificates and cast analysis certificates are to be supplied to the <i>Project Manager</i> by the <i>Contractor</i> .

5.6.4 Cladding and Sheeting

5.6.4.1 List of applicable standards

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

Code	Description
SANS 3575	Continuous hot-dip zinc-coated carbon steel sheet of commercial and drawing qualities
SANS 4998	Continuous hot-dip zinc-coated and zinc-iron alloy-coated carbon steel sheet of structural quality
SANS 10120-2 HB	Code of practice for use with standardized specifications for civil engineering construction and contract documents Part 2: Project specification Section HB: Cladding and sheeting
SANS 10120-3 HB	Code of practice for use with standardized specifications for civil engineering construction and contract documents Part 3: Guidance for design Section HB: Cladding and sheeting
SANS 10120-4 HB	Code of practice for use with standardized specifications for civil engineering construction and contract documents Part 4: Typical schedule of quantities Section HB: Cladding and sheeting
SANS 10237	Roof and side cladding
SABS 1254	Sealing compounds for the building industry, oleo-resinous base, for interior and exterior use

5.6.4.2 Specification data associated with cladding and sheeting

All references to the Engineer in SANS 1200HB are to be read and interpreted as referring to the *Project Manager*. All references made in SANS 1200HB to “approval by the Engineer” are to be read and interpreted as “acceptance from the *Project Manager*”.

Standard	Clause/No	Specification Data
Essential data		
SANS 10120-2 HB	3.2.1	Basic data
SANS 10120-2 HB	3.2.1.a	Add the following to clause 3.2.1.a: “The material for the cladding and sheeting to be used is pre-painted hot-dip galvanised steel.”
SANS 10120-2 HB	3.2.1.a	Add the following to clause 3.2.1.a: “The profile for the cladding and sheeting to be used is IBR or Klip-Lok profile.”
SANS 10120-2 HB	3.2.1.a	Add the following to clause 3.2.1.a: “The cladding and sheeting is curved or kept straight as per the <i>[Contractor’s/Employer’s]</i> design”.
SANS 10120-2 HB	3.2.1.a	Add the following to clause 3.2.1.a: “The cladding and sheeting is coated with a minimum of 275g zinc per m ² (coating type Z275) and is to be free from white rust.”
SANS 10120-2 HB	3.2.1.a	Add the following to clause 3.2.1.a: “The finishing of the cladding and sheeting is colour painted to match the existing structures on the station. The <i>Contractor</i> obtains acceptance from the <i>Project Manager</i> for the colour of the paint prior to procuring the paint.”
SANS 10120-2 HB	3.2.1.b	Add the following to clause 3.2.1.b: “The overall dimensions of the area to be covered with cladding and sheeting are as per the <i>[Contractor’s/Employer’s]</i> design”.
SANS 10120-2 HB	3.2.1.b	Add the following to clause 3.2.1.b: “The tolerance for hot-dip galvanised steel is as per Table 2 in SANS 10237.”
SANS 10120-2 HB	3.2.4	Flashings to protrusions
SANS 10120-2 HB	3.2.4	Add the following to clause 3.2.4: <i>[For protruding chimneys, add the following:]</i> “A galvanised soaker having a dimension on the flat of at least 200mm, with equal upstand, is provided. The soaker is pre-made to suite the diameter and slope and the chimney. The flat portion of the soaker is fixed to the roof by means of seam bolts after the closers and weather sealant have been placed. The thickness of the galvanised steel is at least 1mm.” <i>[Where chimneys with high heat potentials are involved, specify a greater dimension on the flat to reduce the possibility of melting the sealants.]</i>

Standard	Clause/No	Specification Data
SANS 10120-2 HB	3.3	Sub-economic and labour-based projects
SANS 10120-2 HB	3.3	Delete the clause 3.3.
SANS 1200HB	2.1	Supporting specifications
SANS 1200HB	2.1	Replace the following: “b) SABS 1200AH or SABS 1200 A or SABS 1200 AA, as applicable;” With the following: “b) SANS 2001-CS1, SANS 1200AH or SANS 1200 A or SANS 1200 AA, as applicable;”
SANS 1200HB	2.1	Replace the following: “c) SABS 1200H or SABS 1200 HA or SABS 1200 HE, as applicable” With the following: “c) SANS 2001-CS1, SANS 1200H or SANS 1200 HA or SANS 1200 HE, as applicable”
SANS 1200HB	2.3	Definitions and abbreviations
SANS 1200HB	2.3	Add the following to the definition of the Contractor: “All references to the Contractor in this standard refer to the <i>Contractor</i> .”
SANS 1200HB	2.3	Add the following to the definition of the Sheeting contractor: “All references to the Sheeting contractor in this standard refer to the <i>Contractor</i> .”
SANS 1200HB	3	Materials
SANS 1200HB	3.1	Add the following to clause 3.1: “The minimum thickness for cladding and sheeting is as per the manufacturer’s specifications for the required span width, but not less than 0.5mm for side cladding and 0.8mm for roof sheeting.”
SANS 1200HB	3.2	Add the following to clause 3.2: “The profile for the cladding and sheeting to be used is IBR or Klip-Lok profile.”
SANS 1200HB	3.2	Add the following to clause 3.2: “The cladding and sheeting is coated with a minimum of 275g zinc per m ² (coating type Z275) and is to be free from white rust.”
SANS 1200HB	3.7.1	Add the following to clause 5.5.3: “Fasteners have corrosion protection equal to or better than that of the cladding and sheeting with which they are to be used. Where the use of nails and screws is required: <ul style="list-style-type: none"> • Galvanised iron nails and screws are used for galvanized sheet iron and sheet zinc. • Copper and copper alloy nails and screws are used for sheet copper and sheet lead.

Standard	Clause/No	Specification Data
		<ul style="list-style-type: none"> Aluminium alloy or stainless steel nails and screws are used for sheet aluminium."
SANS 1200HB	3.7.3	Replace the following: "Fasteners used for side stitching shall be as recommended by the sheeting manufacturer and as approved by the Engineer." With the following: "Fasteners used for side stitching are as recommended by the sheeting manufacturer and as accepted by the <i>Project Manager</i> ."
SANS 1200HB	3.10	Replace the following: "Sealants shall comply with the relevant requirements of SABS 110, SABS 1254 or SABS 1305, as applicable, or with the sheeting manufacturer's recommendations as approved by the Engineer." With the following: "Sealants comply with the relevant requirements of SANS 110, SABS 1254 or SANS 1305, as applicable, or with the sheeting manufacturer's recommendations as accepted by the <i>Project Manager</i> ."
SANS 1200HB	5	Construction
SANS 1200HB	5.2.2	Add the following to clause 5.2.2: "All cladding and sheeting and other materials subject to wet-storage stain be coated with a suitable inhibitor during the course of manufacture."
SANS 1200HB	5.2.3	Add the following to clause 5.2.3: "The <i>Contractor</i> takes special measures to ensure that cladding and sheeting is not damaged by corrosive or dusty environments or during handling of the cladding and sheeting."
SANS 1200HB	5.5.3	Remove the following from clause 5.5.3: "Fasteners that are not compatible with the sheeting shall be insulated with insulation materials." Add the following to clause 5.5.3: "Only fasteners that are compatible with the sheeting and cladding are used."
SANS 1200HB	5.5.3	Add the following to clause 5.5.3: "The <i>Contractor</i> adheres to the recommendations provided in SANS 10237 Table 5 as a minimum with regard to minimum end laps."
SANS 1200HB	5.5.3	Add the following to clause 5.5.3: "All end laps are to be sealed."
SANS 1200HB	6	Tolerances
SANS 1200HB	6.2.2	Add the following to clause 6.2.2:

Standard	Clause/No	Specification Data
		"The tolerance requirement with regard to misalignment of side joints, end joints and finishings against openings, to ensure a finished structure that is aesthetically acceptable are in accordance with SANS 10237."

5.6.5 Corrosion Protection of Structural Steel

The following codes are required to be complied to:

- i. SANS 1200 HC: Corrosion Protection of Structural Steel
- ii. SANS 10064: The preparation of steel surfaces for coating
- iii. SANS 121: Hot dip galvanized coatings on fabricated iron and steel articles

The table below indicates particular specifications pertaining to SANS 1200 HC and must be read in conjunction with the code.

Clause	Particular Specification
Variations	
CI 5.3	Add the following: All burrs and sharp areas are to be removed by: Chamfering or Ground to a smooth radius of at least 1mm.
CI 5.4.1	Add the following: The method of cleaning and preparing the substrate of steelwork prior to the application of the coating system is to be in accordance with the applicable provisions of SANS 10064
CI 5.4.3.1. b)	Add the following: Dry abrasive blast cleaning: Silica sand abrasive material not permitted. Blast cleaning media is not recycled.
CI 5.7	Add the following: The coating system is to be hot-dip galvanising which is carried out in accordance with SANS 121:2011.
Additional Clauses	
1	Surface preparation and painting is to be carried out as indicated on the Drawing.

5.7 Electrical & mechanical engineering works

N/A

6 List of drawings

6.1 Drawings issued by the Employer

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

Drawing number	Revision	Title
0.63/57852	0	Fly Ash Bunker – Plant Layout
0.63/57853, Sht 1	0	Fly Ash Bunker 1 – General Arrangement
0.63/57853, Sht 2	0	Fly Ash Bunker 1 – General Arrangement
0.63/57854, Sht 1	0	Fly Ash Bunker 1 – Platform Arrangement
0.63/57854, Sht 2	0	Fly Ash Bunker 1 – Platform Arrangement
0.63/57854, Sht 3	0	Fly Ash Bunker 1 – Platform Arrangement
0.63/57855, Sht 1	0	Fly Ash Bunker 1 – Connection Detail
0.63/57855, Sht 2	0	Fly Ash Bunker 1 – Connection Detail
0.63/57856, Sht 1	0	Fly Ash Bunker 2 – General Arrangement
0.63/57856, Sht 2	0	Fly Ash Bunker 2 – General Arrangement
0.63/57857, Sht 1	0	Fly Ash Bunker 2 – Platform Arrangement
0.63/57857, Sht 2	0	Fly Ash Bunker 2 – Platform Arrangement
0.63/57857, Sht 3	0	Fly Ash Bunker 2 – Platform Arrangement
0.63/57858, Sht 1	0	Fly Ash Bunker 2 – Connection Detail
0.63/57858, Sht 2	0	Fly Ash Bunker 2 – Connection Detail
0.63/57859, Sht 1	0	Fly Ash Bunker 3 – General Arrangement
0.63/57859, Sht 2	0	Fly Ash Bunker 3 – General Arrangement
0.63/57860, Sht 1	0	Fly Ash Bunker 3 – Platform Arrangement
0.63/57860, Sht 2	0	Fly Ash Bunker 3 – Platform Arrangement
0.63/57860, Sht 3	0	Fly Ash Bunker 3 – Platform Arrangement
0.63/57861, Sht 1	0	Fly Ash Bunker 3 – Connection Detail
0.63/57861, Sht 2	0	Fly Ash Bunker 3 – Connection Detail

6.2 Standards/Documentation issued by the Employer

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

Drawing number	Revision	Title
240-53113685	3	Design Review Procedure
240-56364545	3	Structural Design and Engineering Standard

240-107981296	1	Constructability Assessment Guideline
240-86973501	3	Engineering drawing Standard
240-76992014	1	Project / Plant Specific Technical Documents and Records Management Work Instruction
PR10-0109 ER-103	1	FAB Bunker Structure Demolition Plan

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.

PART 4: 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 OHS Act.
 - The *Contractor* agrees that the *Employer* is relieved of any and all of its responsibilities and liabilities in terms of Section 37(1) of OHS Act 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 OHS Act.
 - 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 OHS Act.
- 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 (forth nightly).
- IBI Awareness training will be provided by Lethabo Power Station personnel, free of charge, course bookings can be arranged by contacting Rabie Heymans on extension 5094".

1.5 Transportation of passengers: open LDV's:

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

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

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

1.6 Eskom 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

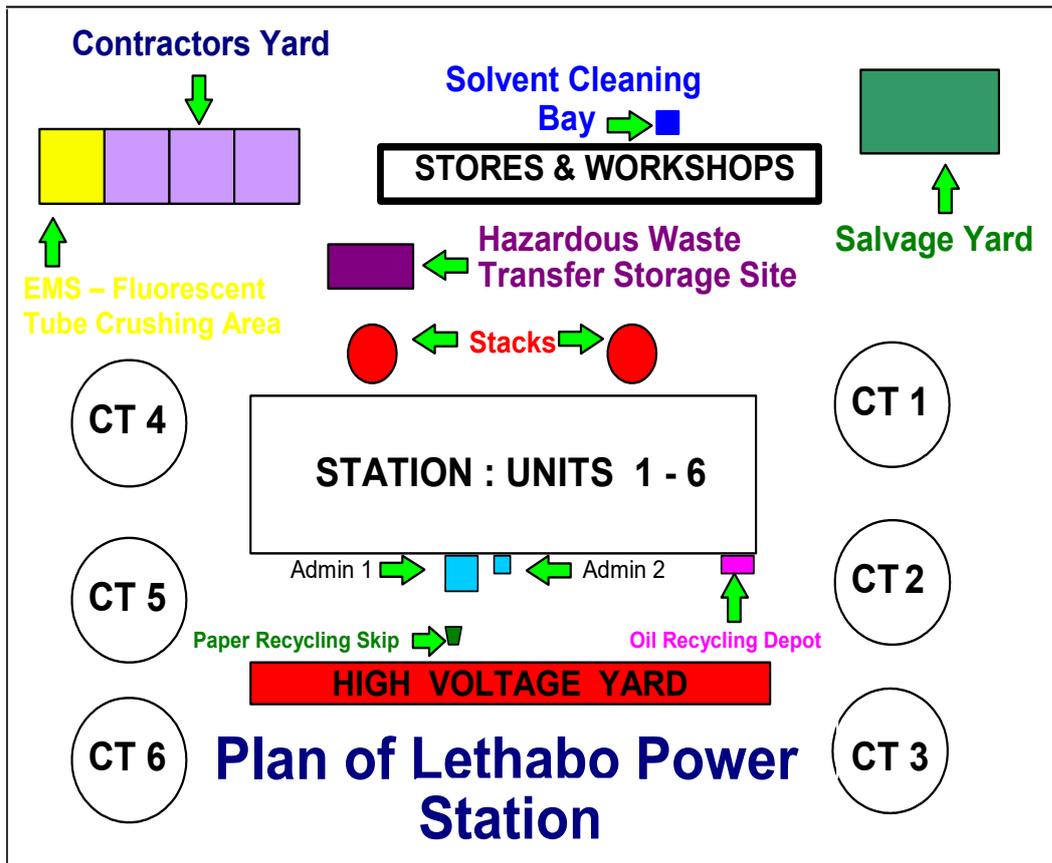
1.13 Environmental Policy and Waste Handling

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 & Phyto pharmaceuticals	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 ± 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 pipework 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 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.