



NEC3 Engineering & Construction Contract

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

And

**For Upgrade of Bentley Protection and Conditioning
Monitoring System at Lethabo Power Station**

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CONTRACT No. [Insert at award stage]

Part C1: Agreements & Contract Data

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C1.1 Form of Offer & Acceptance

Offer

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

Upgrade of Bentley Protection and Conditioning Monitoring System 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
	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:**

Name &
signature of
witness

(Insert name and address of
organisation)

Date

Tenderer's CIDB registration number (if applicable)

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.

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*.

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**

Name &
signature of
witness

*(Insert name and address of
organisation)*

Date

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

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

Note:

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

No.	Subject	Details
1		
2		
3		

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

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

For the tenderer:**For the Employer**

Signature

Name

Capacity

On behalf of *(Insert name and address of organisation)**(Insert name and address of organisation)*Name &
signature
of witness

Date

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option	A: Priced contract with activity schedule
	and secondary Options	W1: Dispute resolution procedure
		X1: Price adjustment for inflation
		X2: Changes in the law
		X5: Sectional Completion
		X7: Delay damages
		X15: Limitation of the <i>Contractor's</i> liability for his design to reasonable skill & care
		X16: Retention
		X18: Limitation of liability
		Z: <i>Additional conditions of contract</i>
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Project Manager</i> is: (Name)	To be confirmed on award
	Address	Lethabo Power Station Deneysville Rd Viljoensdrift
	Tel	To be confirmed on award
	e-mail	To be confirmed on award
10.1	The <i>Supervisor</i> is: (Name)	To be confirmed on award
	Address	Lethabo Power Station Deneysville Rd Viljoensdrift

	Tel No.	To be confirmed on award	
	Fax No.	To be confirmed on award	
	e-mail	To be confirmed on award	
11.2(13)	The <i>works</i> are	Upgrade of Bentley Protection and CMS at Lethabo Power Station	
11.2(14)	The following matters will be included in the Risk Register	See risk management in part 3	
11.2(15)	The <i>boundaries of the site</i> are	Areas associated with the scope of work to be performed. Work to be executed in an areas covered in the works information.	
11.2(16)	The Site Information is in	Part 4: Site Information	
11.2(19)	The Works Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	3 Days	
2	The <i>Contractor's</i> main responsibilities	Data required by this section of the core clauses is provided by the <i>Contractor</i> in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.	
3	Time		
11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	3 years after contract award (The project is outage dependent)	
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	Condition to be met	key date
		1 Detailed Design approval	3 months after the contract award
		2 Supply and delivery	10 weeks after design acceptance
		3 Unit works completion	2 weeks before the end of Outage
30.1	The <i>access dates</i> are:	Part of the Site	Date
		1 First Unit	TBC
		2 Second Unit	TBC

3 Third Unit		TBC
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.
31.2	The <i>starting date</i> is	TBC
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.	The takeover will be after the completion of each unit
4	Testing and Defects	
42.2	The <i>defects date</i> is	52 weeks after completion of each section of the <i>works</i>.
43.2	The <i>defect correction period</i> is	Defects affecting system availability must be resolved within 8 (Eight) 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	2 weeks
	and the <i>defect correction period</i> for	2 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)	<p>The place where weather is to be recorded is:</p> <p>The <i>weather measurements</i> to be recorded for each calendar month are,</p> <p>The <i>weather measurements</i> are supplied by</p> <p>The <i>weather data</i> are the records of past <i>weather measurements</i> for each calendar month which were recorded at:</p> <p>and which are available from:</p>	<p>As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.</p> <p>the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10 mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 09:00 hours South African Time</p> <p>and these measurements:</p> <p>South African Weather Bureau</p> <p>Vaal triangle</p> <p>the South African Weather Bureau and included in Annexure A to this Contract Data provided by the <i>Employer</i></p>
60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:	As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	Refer to risk register
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	

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.

Data for Option W1

The *Adjudicator* is

the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Electrical 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

Will be appointed as soon as the dispute arise

Tel No.

[•]

Fax No.

[•]

e-mail

[•]

The *Adjudicator nominating body* is:

the Chairman of ICE-SA a joint Division of the South African Institution of Electrical Engineering and the London Institution of Civil Engineers. (See www.ice-sa.org.za) or its successor body.

The *tribunal* is:

Arbitration.

The *arbitration procedure* is

the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.

The place where arbitration is to be held is

South Africa

The person or organisation who will choose an arbitrator

- if the Parties cannot agree a choice or
- if the arbitration procedure does not state who selects an arbitrator, is

the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.

Data for secondary Option clauses

Price adjustment for inflation

The *base date* for indices is

The last day of the month preceding the month in which the latest date for the submission of the Tender falls. By way of example, if the last day for the submission of the Tender is 14 August of Year X, the Base Date is 31 July of Year X.

The proportions used to calculate the Price Adjustment Factor are:

proportion

linked to index for

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 Electrical 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	Will be appointed as soon as the dispute arise		
	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 Electrical 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.		
	The place where arbitration is to be held is	South Africa		
	The person or organisation who will choose an arbitrator			
	- if the Parties cannot agree a choice or			
	- if the arbitration procedure does not state who selects an arbitrator, is	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.		
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. By way of example, if the last day for the submission of the Tender is 14 August of Year X, the Base Date is 31 July of Year X.		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index	Index prepared

			for	by
			non-adjustable	
		Total	1.00	
X2	Changes in the law	NEC3 April 2013 Core Clauses will apply.		
X5	Sectional Completion			
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description	Completion date
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
		1	First Unit	TBC
		2	Second Unit	TBC
		3	Third Unit	TBC
	Remainder of the <i>works</i>			
	The total delay damages payable by the <i>Contractor</i> does not exceed:	2% of the total price of the section to 15% maximum will be applied to any delays		
X15	Limitation of the <i>Contractor's</i> liability for his design to reasonable skill & care	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
X16	Retention			
X16.1	The <i>retention free amount</i> is	R0.00		
	The <i>retention percentage</i> is	5% of the contract amount		
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>	the amount of the deductibles relevant to the		

	liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	event
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	<p>The greater of</p> <ul style="list-style-type: none"> • the total of the Prices at the Contract Date and • the amounts excluded and unrecoverable from the <i>Employer's</i> assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus 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> <ul style="list-style-type: none"> • 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.
X18.5	The <i>end of liability date</i> is	<p>(i) 3 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 *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

- Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.
- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.
- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

Z3 Change of Broad Based Black Economic Empowerment (B-BBEE) status

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

Z4 Confidentiality

- Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.
- Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information

which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.

Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

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

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

Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:

- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
- warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
- undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

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

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

Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.

Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

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

Z9 Employer's limitation of liability

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9.2 The *Contractor's* entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer's* liability under the indemnity is limited.

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

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

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

Z11.1 If the amount due for the *Contractor's* payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor's* obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

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

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

Coercive Action means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,

Collusive Action means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,

Corrupt Action means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,

Fraudulent Action means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,

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

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

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

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

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

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

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

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

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

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

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the works, Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, as Contract Date, where covered by the <i>Employer's</i> insurance
Loss of or damage to Equipment	The replacement cost

Liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) caused by activity in connection with this contract	<p><u>Loss of or damage to property</u></p> <p><u>Employer's property</u></p> <p>The replacement cost where not covered by the Employer's insurance</p> <p>The Employer's policy deductible, as at Contract Date, where covered by the Employer's insurance</p> <p><u>Other property</u></p> <p>The replacement cost</p> <p><u>Bodily injury to or death of a person</u></p> <p>The amount required by applicable law</p>
Liability for death of or bodily injury to employees of the Contractor 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 44 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 44 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

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

AAIA	means approved asbestos inspection authority.
ACM	means asbestos containing materials.
AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the <i>Employer's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
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.
- Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.
- Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
- Z15.3 The *Employer* manages asbestos and ACM according to the Standard.
- Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.
- Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
- Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

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

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

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

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

C1.2 Contract Data

1 Part two - Data provided by the *Contractor*

Notes to a tendering contractor:

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

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

2 Clause	3 Statement	4 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	Lethabo Power Station
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

11.2(3)	The <i>completion date</i> for the whole of the <i>works</i> is	3 years after contract award(The project is Outage dependant)		
11.2(14)	The following matters will be included in the Risk Register			
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:			
31.1	The programme identified in the Contract Data is	To be accepted by the Project Manager		
A	Priced contract with activity schedule			
11.2(20)	The <i>activity schedule</i> is in			
11.2(30)	The tendered total of the Prices is			
	5 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	%		
22 in SSCC	The rates of other Equipment are:	Equipment	Size or capacity	Rate
61 in SSCC	The hourly rates for Defined Cost of design outside the Working Areas are Note: Hourly rates are estimated 'cost to company of the employee' and not selling rates. Please insert another schedule if foreign resources may also be used	Category of employee		Hourly rate
62 in SSCC	The percentage for design overheads is			

63 SSCC	in	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:	
------------	----	--	--

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:

X1: Price adjustment for inflation

X2: Changes in the law

X5: Sectional Completion

X7: Delay damages

X15: Limitation of the Contractor's liability for his design to reasonable skill and care

X16: Retention

X18: Limitation of liability

Z: *Additional conditions of contract*

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:

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 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 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]*

1. In this Guarantee the following words and expressions shall have the following meanings:-
 - 1.1 "Bank" - means [●], [●] Branch, (Registration No. [●]); *[Drafting Note: Name of Bank to be inserted]*
 - 1.2 "Bank's Address" - means [●]; *[Drafting Note: Bank's physical address to be inserted]*
 - 1.3 "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]*
 - 1.4 "Contractor" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. *[Drafting Note: Name and details of Contractor to be inserted]*
 - 1.5 "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
 - 1.6 "Expiry Date" - means the date on which the Defects Certificate is issued in terms of the Contract.
 - 1.7 "Guaranteed Sum" - means the sum of R [●] ([●] Rand); *[Drafting Note: Insert amount of Retention Money Guarantee.]*
 - 1.8 "Project" - means the.....
2. 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.
3. A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:
 - 3.1 be signed on behalf of Eskom by a director of Eskom or his authorised delegate.
 - 3.2 state the amount claimed ("the Demand Amount");

- 3.3 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.
4. 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:
- 4.1 is and shall be absolute provided demand is made in terms of this bond in all circumstances; and
- 4.2 is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.
5. The Bank's obligations in terms of this Guarantee:
- 5.1 shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and
- 5.2 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.
6. 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.
7. 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.
8. This Guarantee:
- 8.1 shall expire on the Expiry Date until which time it is irrevocable;
- 8.2 is, save as provided for in **Error! Reference source not found.** above, personal to Eskom and is neither negotiable nor transferable;
- 8.3 shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;
- 8.4 shall be regarded as a liquid document for the purpose of obtaining a court order; and
- 8.5 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.
- 8.6 Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.
9. 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: _____

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*

An activity schedule could have the following format:

Item No.	Activity description	Quantity	Rate	Amount
1	Development of Basic Design			
2	Development of Detailed Design			
3	Manufacturing of equipment for the 1 st Unit			
4	FAT			
5	Delivery to site			
6	Installation			
7	Site Integration Test			
8	Commissioning			
9	Training			
10	Unit Handover documentation			
11	Design Clarification for the 2 nd Unit			
12	Manufacturing of equipment for the 2 nd Unit			
13	Delivery to site			
14	Installation			
15	Site Integration Test			
16	Commissioning			
17	Unit Handover documentation			
18	Manufacturing of equipment for the 3 rd Unit			
19	Delivery to site			
20	Installation			
21	Site Integration Test			
22	Commissioning			
23	Unit Handover documentation			
24	Safety File & Medicals			
25	Site Establishment			

26	Site De Establishment			
27	Provision of scaffolding per unit			
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>	33
C3.2	<i>Contractor's Works Information</i>	1
	Total number of pages	

C3.1: EMPLOYER'S WORKS INFORMATION

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	The <i>Contractor</i> will only be allowed to work outside the specified hours once the <i>Project Manager</i> has approved the request in writing.	
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6 Description of the works

6.1 Executive overview

The scope of the work as described in this Works Information shall include:

- Engineering, design, procurement, manufacturing, factory acceptance testing, packing, delivery to site, off-loading at site, storage, installation, site testing, commissioning, optimisation and as-built documentation for the Condition monitoring system.
- Fully installed Condition Monitoring Systems on three units for the operation, protection, interlocking and monitoring of parameters on the Unit concerned.
- Interfaces to 3rd party systems as specified in section 4.2.2.4. of **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**
- Field equipment as specified in section 4.2.2.1.6. of **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**
- Plant codification and labelling for all equipment supplied as part of the Works.
- Provide power supply for the new Condition Monitoring System and server including power cabling and earthing of all equipment supplied as part of the Works as specified in section 4.2.4. of **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**
- All software, license and copyright agreements for the Works.
- Training of Operating, Engineering & Maintenance staff.
- Decommissioning and removal of existing equipment.
- For more information refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

6.2 Employer's objectives and purpose of the works

This project aims to address the operational risk posed by the obsolescence of the existing condition monitoring system installed at Lethabo. This will be done by replacing the existing system on three units with the C&I replacement project replacing the system on the remaining three units. This supervisory system which is also known as the Turbovisory is used for the measurement, monitoring and analysis of various process parameters on large rotating equipment.

- (1) The objective of this Works is to provide an integrated, available and reliable Condition Monitoring System that is used to measure, monitor and analyse various parameters on selected rotating machinery in order to operate, protect and maintain the said machinery.
- (2) The Condition Monitoring System shall be provided per Unit as standardised, standalone systems on three Units. The Condition Monitoring System shall consist of the following:
 - i. CMS Data Acquisition System
 - ii. CMS Diagnostic System (Takeout Option 1)
- (3) The following machinery or process plant is to be monitored by the Condition Monitoring System:
 - i. Main Turbine
 - ii. BFPT (including SFP)
 - iii. EFP A (Pump and motors)
 - iv. EFP B (Pump and motors)

- (4) The Milling plant as well as the Draught group Fans will also be monitored by the Condition Monitoring System but are excluded from the scope of supply for this project. The Condition Monitoring System will be designed with the functionality and capacity to be expanded at a later stage to make provision for the Milling plant as well as the Draught group Fans.

6.3 Interpretation and terminology

1. Term	2. Description
3rd Party Interface	Any network, system, computer or component that lies outside the Unit condition monitoring system.
Alarm	A notification of an undesirable event that requires operating, engineering or maintenance personnel's attention.
Basic Engineering	Also called System Engineering, is defined as being all activities necessary to clearly the Contractor's scope of works
Condition Monitoring System	System used to measure, monitor and analyse certain parameters in large rotating machinery to proactively identify unsafe conditions and developing faults. The system can affect automatic shutdown or trip of the machine. The CMS is divided into two subsystems namely, Diagnostic System and Data Acquisition System.
Control Room	A designated room from which control and operating of a plant or sub-plant occurs.
Control System	System used for process automation.
Controlled disclosure	Document classification: controlled disclosure to external parties (either enforced by law, or discretionary).
Cross Marshalling	The signal mapping between the trunk cables from the junction boxes, and the IO modules
Data Acquisition System	Aspect/Subsystem of the CMS used to measure and monitors certain parameters in large rotating machinery. This system initiates an alarm in the control room during abnormal conditions and initiates an automatic shutdown or trip of the machine in unsafe conditions.
Diagnostic System	Aspect/Subsystem of the CMS used to collect the data measured by the Data Acquisition System, analyse the data, display the results in various reports and graphs The system also store the data as well as the results.
Equipment Room	The room containing C&I equipment located within the Unit Control Suite.
Field Equipment	All field control and measurement equipment and associated installation equipment.
Human Machine Interface	The human interface used for the operation and monitoring of the Unit concerned.
Indication	Display of the state of a device or the degree or quantity represented on a measuring instrument or device.
Operability	Ability to control the function of equipment, a system or a whole industrial installation in a safe and reliable manner, according to pre-defined operational requirements.
Primary Racking	All main racking – including racking supports – for multiple cables from secondary racking to the automation system.
Process Automation System	The primary system via which process control is achieved.
Protection Automation System	The automation system in which the safety functions are executed.
Secondary Racking	All racking, conduit, trunking etc. – including the racking supports – for the following: <ul style="list-style-type: none"> From the field measurement or drive to the junction or splitter box From the junction or splitter box, 3rd party interfaces or LCS to the

1. Term	2. Description
	primary racking.
S_{MAX}	Maximum shaft relative displacement vibration amplitude; also defined as maximum shaft displacement from the time-integrated mean (DC) position. Calculated as the maximum of $\sqrt{x^2 + y^2}$ where x and y denote the dynamic (AC) waveform displacements measured by X and Y proximity probes respectively. Two perpendicular measurements are therefore required to calculate S _{MAX} . S _{MAX} represents the zero-to-peak vibration amplitude of a bearing.
System	An integrated set of constituent parts that are combined in an environment to accomplish a defined objective
Main Turbine	The turbo-generator set used to generate electricity consisting of a HP Turbine, IP Turbine, two LP turbines, a generator and an exciter and all associated equipment.
Turbovisory	System specifically used to monitor the turbine vibration, shaft position and differential expansion values and alarm/protect the turbine in abnormal conditions.
Unit	Steam driven Turbo-generator set powered by a coal fired boiler. Each Unit is capable of generating 618 MW MCR. (Lethabo has six Units)
User Management	Software that manages all users, user rights and user authentication on a particular system

The following abbreviations are used in this Works Information:

Abbreviation	Description
AKZ	Anlagenkennzeichnungssystem
BFPT	Boiler Feed Pump Turbine
CoE	Centre of Excellence
CM	Configuration Management
CMS	Condition Monitoring System
C&I	Control and Instrumentation
DCS	Distributed Control System
DE	Drive End
EFP	Electric Feed Pump
EDWL	Engineering Design Work Lead
ERA	Execution Release Approval
FAT	Factory Acceptance Test
FRF	Fire Resistant Fluid
GO	General Overhaul
GTE	Group Technology Engineering
HP	High Pressure
HMI	Human Machine Interface

Abbreviation	Description
IN	Inspection
IO	Input Output
IP	Intermediate Pressure
IR	Interim Repair
LDE	Lead Discipline Engineer
LAN	Local Area Network
LP	Low Pressure
MCR	Maximum continuous rating
NDE	Non-Drive End
NTP	Network Time Protocol
OPC	Object Linking and Embedding for process control
OEM	Original Equipment Manufacturer
OT	Operational Technology
PBS	Plant Breakdown Structure
0-pk	Zero-to-peak (amplitude)
pk-pk	Peak-to-peak (amplitude)
RAM	Reliability Availability and Maintainability
ROC	Required Operational Capability
SIT	Site Integration Test
SNTP	Simple Network Time Protocol
SRD	Stakeholder Requirements Definition
SFP	Steam Feed Pump
UCLF	Unplanned Capability Loss Factor

7 Management and start up.

7.1 Management meetings

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

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

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Overall contract progress and feedback	Every second week on a day and time agreed upon by Parties. This is subject to change depending on the requirement.	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Early Warning (Risk reduction) meeting	As and when required	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Kick-off meeting	Third working day after official contract is placed.	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Interfacing meetings	As and when required	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Risk register and compensation events	As and when required	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Outage Meetings	Daily when there is an outage	To be confirmed by the <i>Project Manager</i>	<i>Contractor/s, Supervisor, Project Manager, System Engineer, and Others</i>
Tool box sessions	Every-day before commencing with work	Site	<i>Contractor/s,</i>

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

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

7.2 Documentation control

- All technical documentation to be developed/supplied as part of the works as well as existing documents identified to be maintained are listed in **Error! Reference source not found.** of **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

- The basis for the completion of all engineering activities shall be documentation as defined in:
 - Appendix A of – Vendor Document Submittal Schedule.
 - This Works Information
- Comprehensive document control of all documents shall be provided for the duration of the Works.
- The document control system implemented, as a minimum shall contain the revision status of all documents in relation to the 'As required' and 'As Built' plant status.
- The master register of documentation shall be submitted monthly, in a Microsoft Excel format, to the Engineer.
- All documentation submittals shall be accomplished with a documentation transmittal advice.
- Appendix A – Vendor Document Submittal Schedule specifies the following:
 - The type of documentation which shall be provided.
 - The native/original format in which the soft copy of the documentation shall be provided in addition to the PDF soft copy.
 - The limits of supply of the documentation (clarifying the provider and maintainer of the documentation).
 - The stage in the project execution during which the documentation shall be provided as a deliverable.
- Appendix A – Vendor Document Submittal Schedule defines the type of technical documents that must be exchanged during the project execution only. It is not a document index that lists each and every technical document.
- Hardcopies, PDF soft copies and native/original soft copies of each document specified in Appendix A shall be provided at the stages defined in Appendix A – Vendor Document Submittal Schedule.
- All documentation submitted by the Contractor shall be in an adequate state of completeness.
- All documentation shall be in English.
- All drawings shall be submitted in PDF format for review purposes. All drawings shall be submitted in Microstation (DGN) format as well as PDF at handover.
- The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of 240-86973501 - Engineering drawing Standard.
- All documentation shall be reviewed and accepted by the Employer before installation commences.
- All drawings are to be developed using the template provided in Appendix B of **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**.

Training Manuals

- The Contractor provides all course material including manuals.
- The course material is in English and includes all third party documentation.
- Printed and electronic copies of the training documentation are supplied for each trainee plus an additional three hardcopy master sets and three electronic copies.
- All training documentation provided by the Contractor is customised for Lethabo Power Station.
- Purely generic training documentation is not acceptable. The training documentation contains the specific system architecture, configuration, layout, software, equipment, Data Acquisition HMI specific design capabilities provided by the Contractor as part of the works.
- Training manuals are continuously updated by the Contractor up to the date of issue of the Defects Certificate for the whole of the works.

- The Contractor provides all the Condition Monitoring System procedures and training material.

Email Subjects

The Contractor submits all documentation to the *Employer's Representative* in the following media:

- Electronic copies are submitted to Eskom Lethabo PS Project Documentation Centre through a project generic email address as provided. 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 a CD has been submitted, a notification email, with the transmittal note attached, is sent to the project generic email address. The *Employer's Representative* is copied on the email as well.
- Hard copies are submitted to the *Employer's Representative* accompanied by the Transmittal Note.

7.3 Health and safety risk management

The Contractor shall provide a health and safety plan based on *Employer's* Safety, Health and Environmental (SHE) Specification, LBS0067PC-H.

7.3.1 General Safety Requirements

- The Contractor complies with the latest revision of the Eskom Generation Plant Safety Regulations, site-specific procedures and requirements of the Occupational Health and Safety Act No.85 of 1993.
- The Contractor provides authorized supervisors to oversee their work at all times.

The Contractor complies with the following:

- Lethabo Power Station Health and Safety Standards as per Lethabo Power Station Health & Safety Specifications for Contractors (LBS 00067 PC-H) attached to the Invitation to Tender. This procedure will be handed over during tender enquiry and will enable the successful Tenderers to compile a Health & Safety plan that has to be approved by the Employer prior to commencement of work.
- Compliance with Eskom No Smoking Policy
- Adhere to the OHS Act 85 of 1993
- All staff will undergo Safety Induction, presented by Lethabo Risk Management Department

Employer's site regulations as stipulated in Form (LBS 00067 PC-H), covering the following:

- Cleanliness
- Storage of material
- Safety precautions and fire prevention
- Permits to work
- Other Contractor's work
- Representation of Subcontractors
- Maintenance staff to witness erection
- Supervision
- Handing over of works

- *Contractor's Site*

7.3.2 Health and Safety Plan (Construction Regulations)

The following is required after contract award:

The *Contractor* compiles a Health and Safety Plan, filed in a Health and Safety File, comprising of the following:

- Proof of the contracting company's own Health and Safety Policy
- Proof of appointments, assignments and designations as required in terms of the Occupational Health and Safety Act, No 85 of 1993
- Proof of Risk Assessments regarding Hazards identified and proof of training of own employees regarding controls derived from the risk assessment
- Proof of Safe Work Procedures that derived out of the Risk Assessments
- Proof of the contracting company's own Emergency Plan that will deal with their own emergencies on site
- Proof of a Fall Protection Plan, if required to perform work at elevated levels developed by a competent person appointed by the contracting company
- Proof of "Notification to perform Construction Work" – a copy of the notification addressed to the Department of Labour as required Regulation 3 of the Construction Regulations
- Proof of an Induction Program (it is advised that the Lethabo SHE Rules as a Guide) and an attendance register signed by its employees prior the commencement of any construction work on site.
- Proof of the contracting company's employees Medical Fitness Certificate. (Must still be valid – one year. May only have been issued by an occupational health practitioner)
- Proof of *Contractors* weekly Health and Safety Rep Inspections regarding its own site and where detached work is performed
- Proof of Personal Protective Equipment (PPE) issued to *Contractor's* employees.
- Proof of contracting company's Accident/Incident Reporting and Investigation System
- Proof of checklists and where applicable test certificates, regarding *Contractor's* tools, equipment, machinery, mobile equipment, vessels under pressure and any other applicable checks required by the Act
- A "Section 37(2) Agreement with Mandatory" needs to be drawn up by the Employer and co-signed by the *Contractor* before work can commence
- The *Contractor* shall ensure that his *Subcontractors* do also have a Health and Safety File and that the Contractor must accept it.
- The Safety Officer employed by Lethabo Power Station will audit these Health and Safety Plans to ensure compliance with the provisions of the Act.

7.3.3 SHE Documentation Required from the *Contractor* at Tender

The *Contractor* provides the following documents in terms of Health, Safety and Environmental performance with the tender. Should the *Contractor* not provide this information it will be assumed That it does not exist:

- Letter of good standing with COID or any insurance body
- An Organogram indicating the names of all persons that will hold legal appointments on the project in terms of the Act.
- The expected roles, responsibilities and authority of those who are proposed to receive legal appointments.
- Provide an overview of the system / program that is utilized to manage Safety, Health and Environment (SHE Plan).

Occupational Health and Safety Act 1993, Section 37

The *Contractor* complies with the following:

- The Occupational Health and Safety Act, 1993, and all Regulations made there under.
- All Employer Safety and Operating Procedures, which are attached hereto.

The *Contractor* acknowledges that he is fully aware of the requirements of all the above and undertakes to employ only people who have been duly authorised in terms thereof and who have received sufficient safety training to ensure that they can comply therewith.

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* shall appoint a person who will liaise with the *Employer* Safety Officer responsible for the premises relevant to this contract. The person so appointed shall on request:

- Supply the *Employer* Safety Officer with copies of minutes of all Health and Safety Committee Meetings, whenever he is required to do so.
- Supply the *Employer* 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 Employer Safety Officer of any changes thereto.

Employer may, at any stage during the currency of this agreement be entitled to:

- Do safety audits at the *Contractor's* premises, its workplaces and on its Employees.
- Refuse any Employees, Subcontractor or agent of the Contractor access to its premises if such person are found to commit any unlawful act or any unsafe working practice or is found to be not authorised or qualified in terms of the Act.
- Issue the *Contractor* with a workshop order or a compliance order should *Employer* become aware of any unsafe working procedures or conditions or any non-compliance with the Act, Regulations and Procedures by the *Contractor* or any of its Employees, Subcontractors or agents. Stoppages of this nature will not constitute a compensation event.

7.3.4 Occupational Health and Safety Act 1993 additional information

- The Medical Station is available on site during normal working hours. The afterhours emergency telephone number is 5555 or from a Lethabo phone the extension is 5555 that can be phoned for assistance.
- Fire protection and rescue services are available on site 24 hours per day.
- The *Contractor* must comply with Lethabo Power Station *Contractors* Safety Manual. This manual
- is available on request from the *Employer's* Representative.
- The *Contractor* and his *Subcontractors* must comply with Eskom's Non Smoking Policy.
- The *Contractor* and his *Subcontractors* must comply with the Occupational Health and Safety
- Act 85 of 1993.
- The following will be an advantage
- NOSA accreditation.
- NOSA MBO system in place.
- The *Contractor* is not allowed to weld onto any steam piping, working structures or plant.

- The *Contractor* must appoint Safety Representatives to assist the Employer's Representative to:
 - Identify possible hazards, dangers and risks.
 - Ensure potentially and actions are mitigated.
 - Ensure a safe working environment.
- The Employers Representative shall be entitled to request the Contractor to stop work, without penalty to the *Employer* when the *Contractor* fails to conform to the prescribed and accepted health and safety standards or contravene the health and safety sections and regulations.
- The *Employer's* Representative must be informed within 24 hours of any injury or damage to property or equipment.

7.3.5 Housekeeping

Working areas are cleaned daily. All electrical cables and hoses are routed so as to not cross over floors and walkways. All equipment is packed neatly without interference to access. All excess scaffolding material is removed from working areas after the scaffolding has been erected. Scrap bins are available on the zero meter level and emptied daily by the *Employer*

7.3.6 Barricading

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.

7.3.7 Scaffolding

The *Contractor* supplies and erect exterior and interior scaffolding to provide safe access to all levels to all working areas if necessary.

All scaffolding is to be designed to bear such loads as will be imposed during use, including the load imposed by tube boxes where appropriate. *Contractor* allows for spare scaffolding and scaffold personnel at all times to adjust scaffold needs at all times without delay.

All scaffolding has to comply with *Employer* safety standards and must be declared safe before any work commences.

All scaffolding erected complies with procedure PS/031/001. At least one person in the *Contractor's* service shall be competent to inspect scaffolding in the case where the *Contractor* himself needs scaffolding. Certificates must be handed in at the *Project Manager* after contract award. The *Contractor* is responsible for the supply, erection and dismantling of its scaffolding.

7.4 Environmental constraints and management

All waste introduced to and/or produced on *Employer's* Premises by the *Contractor* for this order, must be handled in accordance with the minimum requirements for the Handling and Disposal of hazardous waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry 1994

7.5 Environmental constraints and management

Contractor to be familiarized with Lethabo Environmental statement of commitment (PS010). The SHE File to be approved by the Environmental department. Lethabo has an Environmental Policy, to which the Contractor and his employees must adhere. 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, the Contractor shall submit an Aspect and Impact Register 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. Copies of the above-mentioned documents shall be obtained from the Project Manager or Environmental Officer on the first day prior to commencement of work at Lethabo. The Contractor shall submit proof to the Environmental Officer of Lethabo that he and 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 adhere to them at all times. Self-audits during work execution will be conducted weekly whereby environmental risks are identified. Contractor shall comply to the LBE22005 Environmental spill management procedure and LBE22004 Environmental waste management procedure

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 Project Manager.
- 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.

The non-adherence to the Lethabo Environmental policy and rules could result in the termination of this contract.

7.6 Quality assurance requirements

- No work will be done without a QCP that is approved by the Employer. A QCP must be submitted to the Employer for the works 14 days before that part of the work is to commence.
- QCP's and related documentation shall be subject to comment and acceptance by the Employer's Quality Control personnel as well as Engineering. QCP's will make provision for signatures for interventions by at least the Contractor's QC Representative, the Employer's QC Representative and the Employer's Engineering Department.
- Each QCP will have a page for proof signatures, so that any signature can be traced to the individual who has endorsed any activity on QCP.
- Intervention points will be signed as the work progresses and no back-dating will be allowed.
- Notification for hold and witness points shall be in writing and shall be done at least 24 hours in advance.

- The following minimum hold points must be included for the Employer's Quality Control Department:
 - Approval of QCP.
 - Review and assist with the commissioning of the new installations.
 - Final Sign off and Acceptance.
 - Final data book Review.
- The following points to be included as a minimum on the Contractor's QCP:
 - Approval of QCP's by the Employer's Engineering representative, Employer's QC and the Contractor's representative.
 - Intervention points for the Employer during manufacturing, installation and commissioning. These intervention points will be based on the agreement between the Contractor and Employer.
 - Ensure that all permits are established before work can commence.
 - Mark the equipment with the appropriate AKZs. Labelling should be done in accordance with the Lethabo Power Station Information Manual [27].
 - Commissioning and functionality testing by the Contractor and Employer's representatives.

Final approval of QCP and plant handover to the Employer's engineering representative.

7.7 Programming constraints

- Planning and control of the works is to be done by the Contractor in line with the accepted Work Breakdown Structure.
- A single programme is to be used for planning of the Works, incorporating the programmes of all sub-contractors, where applicable.
- Interface points with sub-contractors and others, including interfacing between different subcontractors and others are to be clearly identified.
- Project Key Milestone Dates (stated in the contract data) as supplied by the *Project Manager* are to be incorporated into the programme by the *Contractor*.

7.7.1 Work execution planning and reporting

Contractor to submit the plan for work execution.

7.7.2 Additional programme requirements

A programme is to be submitted after 14 days of contract award, stipulating high level execution of this project.

7.8 Contractor's management, supervision and key people

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.

In a case where the Authorised Supervisor is required, the *Contractor* provides his own responsible person (authorised supervisor) as required by the Permit to Work system on site during the duration of the works.

7.9 Invoicing and payment

Within one week of receiving a payment certificate from the Service 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
Lethabo accounts payable section (APS).
Private Bag x 415
Vereeniging
1930

Alternatively email it to:
Invoiceseskomlocal@eskom.co.za

and include on each invoice the following information:

- Name and address of the Contractor.
- The contract number and title;
- Contractor's VAT registration number;
- The Employer's VAT registration number 4740101508;
- The total Price for Work Done to Date which the Contractor has completed;
- Other amounts to be paid to the Contractor;
- 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;

7.10 Insurance provided by the *Employer*

Take action to safeguard the area to prevent injury and spreading of the fire As per ECC Core Clause 87.1

7.11 Contract change management

The change management process for addressing changes on the contract will be as follows;

- 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.
- The Project Manager will follow the prescribed requirements for managing contract changes as per his/her delegation of authority.

Changes that are not within the delegated authority of the Project Manager will be submitted for approval to the relevant adjudicating authority in accordance with Procurement and Supply Chain Management Procedure, 32-1034. The Contractor shall ensure that all approved changes are documented and kept as record.

7.12 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.

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

- The Contractor provides Daily diaries of planned work versus work completed to the Project Manager, the following information is required from the site diary:
 - a. Task based risk assessments and tool box talks,
 - b. Signed time sheets,
 - c. Weather conditions,
 - d. Site conditions, Locations where work was being undertaken together with resources being utilised,
 - e. Any delays noted (for whatever reason), any notification by people employed by the Contractor regarding difficulties encountered.
 - f. Complaints by third parties,
 - g. Any work done by Others at the site.
- No standing time claims will be entertained without the relevant proof of presence and activity in the form of a time sheet.
- Proof of expenses must be provided to the Employer as a hard copy as well as a soft copy.

7.14 Training workshops and technology transfer

The following training shall be provided by the Contractor:

7.14.1 General Requirements

- (1) The Contractor shall provide training on the equipment and systems included as part of the Works to the various categories of the Employer's technical staff for the duration of the Works.
- (2) Training shall be focused on the specific systems' architecture, configuration, layout, equipment, software and design that the Contractor provides for the Works.
- (3) Training facilities shall be on site and shall be provided by the Employer.
- (4) Training material and tools shall be provided by the Contractor in English.
- (5) Training material and tools shall not be shared by trainees during the training.
- (6) The training shall be provided as per the detailed training programme and prospectus accepted by the Employer.
- (7) The training schedule shall be incorporated in the approved programme.
- (8) After a training course each trainee shall be assessed and declared competent by the Contractor.
- (9) The Contractor shall include enough detail in the training manuals for each manual to remain completely functional without guidance from an instructor.

7.14.2 Training Categories and Numbers

- Practical hands-on training for each individual trainee shall form an integral part of each of the courses in these categories:
 - i. Training of Operating Staff. The Contractor shall provide training for five (5) people.
 - ii. Training of C&I Maintenance Staff. The Contractor shall provide training for twenty-two (22) people.
 - iii. Training of Engineering Staff. The Contractor shall provide training for four (4) people.
- The elements of the training are described in the subsections below.
- Diagnostic system training requirements are specified in Appendix B

7.14.3 Training of Operating Staff

- Operator training shall include, as a minimum:
 - i. Familiarisation with the documentation provided as part of the Works, including drawing configuration logic.
 - ii. Familiarisation with the Diagnostic software and functionality.
 - iii. Operation during various types of plant modes.

7.14.4 Training of C&I Maintenance Staff

- Maintenance training shall include, as a minimum:
 - i. Usage of the Condition monitoring system configuration software.
 - ii. Familiarisation with the documentation forming part of the Works, including drawing configuration logic.
 - iii. Hardware familiarisation.
 - iv. Hardware configuration which includes the computers, processing modules, communication modules, IO modules, power supply monitoring modules, and all other peripheral equipment supplied as part of the Works.
 - v. Hardware installation.
 - vi. Condition Monitoring System software reloading.
 - vii. System hardware maintenance through use and interpretation of diagnostic routines and error codes of online and off-line diagnostic software for the detection of faulty modules.
 - viii. Module problem report retrieval.
 - ix. Condition Monitoring System hardware maintenance training including the computers, modules, and all other peripheral equipment supplied as part of the Works.
 - x. Maintenance Procedures including maintenance of field instrumentation.
 - xi. Usage of engineering tools.
 - xii. Installation, configuration and maintenance of all software packages forming part of the Works.
 - xiii. Programme storage and reloading.
 - xiv. System backup and restore.
 - xv. Maintenance procedures

7.14.5 Training of Engineering Staff

- C&I Engineering training shall include the maintenance training as well as the following, as a minimum:
 - i. Familiarisation with the documentation forming part of the Works, including drawing configuration logic.
 - ii. Usage of the Condition monitoring system hardware and configuration software.
 - iii. System hardware configuration.
 - iv. Usage of the Condition monitoring system configuration software.
 - v. Usage of engineering tools.
 - vi. Usage of the Condition monitoring system analysis software.
 - vii. Installation, configuration and maintenance of all software packages forming part of the Works.
 - viii. Administration of the Condition monitoring system software.
 - ix. Implementation of modifications to the hardware and software configuration/design (i.e. Adding an additional measurement or modification of voting logic)

8 Engineering and the *Contractor's* design

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.1 *Employer's* design

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

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

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

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

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.4 Other requirements of the *Contractor's* design

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.5 Use of *Contractor's* design

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.6 Design of Equipment

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.7 Equipment required to be included in the *works*

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

8.8 As-built drawings, operating manuals and maintenance schedules

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

9 Procurement

9.1 People

9.1.1 Minimum requirements of people employed on the Site

In addition to the expertise required to fulfil the requirements of the Works Information, the Contractor supplies a qualified Authorised Supervisor (AS) and responsible person (RP)

The Contractor appoints people to attend the Employer's Authorised Supervisor and Responsible Person Plant Safety Regulations Course. No work will commence without an accredited Authorised Supervisor and accredited Responsible Person on site. Allow a minimum of three weeks and a half for authorisation. The Employer provides training free of charge.

The Contractor ensures qualified site management

The Contractor ensures qualified safety management

9.1.2 BBBEE and preferencing scheme

As per the Employer's commercial regulations

9.2 Subcontracting

9.2.1 Preferred subcontractors

Subcontracting of the any section of the works is done with prior approval of the Employer in order to align all works to the contract requirements

9.2.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* shall be responsible for all documentation and work performed by subcontractors. The *Contractor* shall ensure that all work performed by the sub-contractor is in accordance to the Employer's Works Information and meet all quality requirements. The *Employer* may make use of his quality control officers to conduct audits on work performed by the sub-contractor.

9.2.3 Limitations on subcontracting

Subcontracting of the any section of the works is done with prior approval of the Employer in order to align all works to the contract requirements

9.2.4 Attendance on subcontractors

Subcontracting of the any section of the works is done with prior approval of the Employer in order to align all works to the contract requirements

9.3 Plant and Materials

9.3.1 Quality

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

N/A

9.3.3 *Contractor's* procurement of Plant and Materials

The Contractor procures, transport, offload and store all plant and material to provide the Works as per the Works Information and **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

9.3.4 Spares and consumables

The Contractor shall provide a list of critical spares to be kept on site at all times.
The list of spares shall consist of the following items:

- Strategic spares
- Stock items
- As required spares
- Consignment stock

9.4 Tests and inspections before delivery

- (1) During FAT, the *Contractor* demonstrates that the CMS meets the requirements of this Works Information and the detailed engineering design freeze documentation.
- (2) The FAT is done at the *Contractors* manufacturing factory.
- (3) The *Contractor* provides all necessary facilities and simulation systems at the FAT venue such that full testing of the control system's functional logic can be done.
- (4) The *Contractor* ensures that all CMS hardware and software is available and operational in time for the individual tests.
- (5) The *Project Manager* determines if any further testing is required, such as that of any new technologies being used.
- (6) The *Contractor*, OEM, the Engineer, Site owner, and Other Project *Contractors* shall attend the FAT.
- (7) The scope of the equipment tested at the FAT shall be as follows
 - i. All of the first Unit's CMS equipment. This includes any cross marshalling in the CMS cabinets.
 - ii. All of the CMS system's equipment.
- (8) As a minimum, the following tests and inspection shall be performed during the FAT, for the approval by the Engineer:
 - i. Full testing of the CMS's functional logic.
 - ii. Full testing of the philosophy.
 - iii. Mechanical and visual inspection and tests of all equipment.
 - iv. Wiring and visual inspection of all CMS cabinet's internal wiring and cross marshalling.
 - v. CMS integrity and application tests.
 - vi. CMS testing of all bus interfaces to 3rd party system.
 - vii. CMS testing of hardwired interfaces to 3rd party system.
 - viii. All tests and inspections defined in IEC 62381.
 - ix. In addition to the FAT requirements specified in IEC 62381, the following tests and inspections as defined in this subsection are conducted during the FAT as a minimum:
 - (a) Documentation checks
 - (b) Inventory Checks
 - H/W Inventory (versions, serial numbers)
 - S/W & Firmware Inventory (licenses, versions)

(c) Mechanical Checks

- Mechanical Inspection (cable entry, labelling, mounting, connections, earthing, maintainability of fans, cabinet construction)
- Wiring and termination inspection (internal wiring, circuit breakers, labelling, segregation of wiring, wire crimp pull test, connector labelling)

(d) Application of Functional Logic checks (protections activated, limits)

(e) Design Philosophy Tests

- Implementation of the AKZ Tagging philosophy
- Implementation of the Signal description philosophy
- Implementation of the design codes

(f) Verification of all quality and performance requirements defined in section 3.1

(g) Verification of the plant coding philosophy

(h) Verification of the signal description philosophy

(i) Verification of the functional distribution

(j) Verification of the expandability and spare capacity requirements

(k) Verification of scan cycles

9.4.1 FAT Procedure

(1) The *Contractor* prepares a detailed test procedure in preparation for FAT.

(2) As a minimum, the proposed FAT procedure identifies the following:

- i. Functional Design.
- ii. Operation of input processing modules.
- iii. Operation of output modules.
- iv. Operation of input and output by simulating the field instrumentation inputs.
- v. Hardware compatibility.
- vi. Termination layout.
- vii. Interfaces.
- viii. Labelling.
- ix. Test calibration of inputs.
- x. Designed philosophies.
- xi. Confirm the failure response of the CMS, its IO modules and processing units. This is to ensure the overall reliability of the CMS, its resilience and ability to operate and protect correctly throughout all modes of failure are confirmed through dedicated FAT testing.

5.3.1.2 FAT Report & FAT Completion

(1) A final FAT report is prepared by the *Contractor* that includes the following as a minimum:

- i. Test procedures used during FAT.
- ii. Detailed Test results.
- iii. Discrepancies identified during the tests.
- iv. Resolution of the discrepancies.
- v. Retests conducted and results thereof.
- vi. FAT certificate.

(2) The *Contractor* submits the Final FAT Report to the Project Manager for acceptance.

(3) FAT Completion is achieved upon acceptance of the Final FAT Report by the *Project Manager*.

(4) The *Employer* nominates representatives who will work alongside (and be trained by) the *Contractor* during installation and commissioning.

9.5 Marking Plant and Materials outside the Working Areas

All works plant and materials are marked according to sectional area planned works.

Plant and materials are clearly marked by the Contractor before usage and being included to the existing equipment.

9.6 Contractor's Equipment (including temporary works).

The Contractor provides all the necessary equipment to provide the Works.

The Contractor will keep comprehensive records of all of the Contractor's equipment brought on and removed from site. The Contractor must comply with the Employer's site access procedures.

10 Construction

10.1 Temporary works, Site services & construction constraints

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.

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

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 Friday. 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.

The Contractor shall adhere to the Eskom "Life Saving" rules at all times. These rules are clearly communicated during the induction process and are also indicated on signage within the perimeter of the station.

Failure to adhere to any of the access, security or "Life Saving" rules at any time will result in the suspension of the permit for the relevant person and may also lead to criminal prosecution for the violation of safety rules and regulations.

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

Restrictions and hours of work may apply on some Sites. It is very important that the Contractor keeps records of his people on Site, including those of his Subcontractors which the Project Manager or Supervisor have access to at any time.

10.1.3 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 Friday. 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.

10.1.4 Health and safety facilities on Site

In line with the South African government pandemic requirements, the *Contractor* ensures COVID 19 safety awareness at all times through continuous training and development procedures

- The procedure and training must address all Covid-19 protocols (social distance, sanitising & wearing of mask)
- The safety awareness training and procedure addresses the process of reporting positive cases in line with the Employer reporting process
- The safety awareness training and procedure state the process of contact tracing process when there is a positive case

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

Request permission from the Project Manager through a notification when matters under this section arises

10.1.6 Title to materials from demolition and excavation

- All removed equipment is transported to the areas specified by the Employer. All such areas are located within the boundaries of Lethabo Power Station.
- All equipment and material that is removed is deemed re-usable and remains the property of the *Employer*.
- Where field equipment or cabling have been removed, the area will be made good in accordance with the requirements of the *Project Manager*.
- The term "making good" refers to the following:
 - The removal of all the equipment and components of the old system. These include signal cabling, conduit, trunking, racking, supports and support frames, bolts, transducer racks and junction boxes.
 - Trunk cabling from the old junction boxes to the equipment room is left on the existing cable racks, but cable ends are pulled back.
 - All areas where equipment was removed on the plant are made neat by means of closing holes, grinding of old anchor points and welding, repainting and resurfacing.
 - The interface point between the new system and existing equipment or plant is made neat and functional to prevent weak points in the final delivered product e.g. fixing of brackets and supports of interface boxes, covers, locking nuts etc.

10.1.7 Cooperating with and obtaining acceptance of Others

The *Contractor* co-operates with others in obtaining and providing information which they need in connection with the works. The *Contractor* also co-operates with Others and shares the Working Areas with them as stated in the Works Information.

As the *Contractor's* activities interfaces with works done by Others, planning around those activities is shared and influenced by Others.

The *Contractor* provides each programme (detailed) with information as described by clause 31.2 and includes in the programme any matters regarding the order and timing of the work of the Employer, *Contractor* and Others which the *Contractor* is take account of in his programme.

10.1.8 Publicity and progress photographs

State requirements for notice boards, advertising rights, media relations, photography and progress photographs if required.

10.1.9 Contractor's Equipment

All equipment for the works are provided by the *Contractor* and records of such are kept on site and communicated to the *Project Manager* in writing

The *Contractor* will keep comprehensive records of all of the *Contractor's* equipment brought on and removed from site. The *Contractor* must comply with the *Employer's* site access procedures

10.1.10 Equipment provided by the Employer

The *Employer* does not provide any equipment as such are priced for by the *Contractor*.

10.1.11 Site services and facilities

10.1.11.1 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* make 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.

10.1.11.2 Lighting

Area lighting immediately outside the boiler and turbine houses and stairway lighting is provided by the *Employer*. 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*.

10.1.11.3 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*.

10.1.11.4 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.

10.1.11.5 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*.

10.1.11.6 Ventilation

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

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

10.1.12 Facilities provided by the *Contractor*

10.1.12.1 *Contractor's* yard, offices, workshops and stores

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*.

10.1.12.2 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.

10.1.12.3 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*.

10.1.12.4 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 conform to this specification.

10.1.12.5 Access to site

The *Contractor* makes his own assessment of, and allows in his rates for those access problems that may be encountered. No extra payment or claim of any kind is allowed on account of difficulties of access to the *works* or for the requirement of working adjacent to or in the same area as the *Employer*.

10.1.12.6 Site 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*.

10.1.12.7 Permit to Work (PTW) System

No work shall be carried out without a "Permit to Work"

The *Contractor* complies with the *Employer's* Plant Safety Regulations and Operating Regulations for High Voltage Systems. The *Contractor* ensures that all Supervisors attend *Employer's* Plant Safety Regulations

and Operating Regulations for High Voltage Systems training. The *Contractor* must ensure that as a minimum two *Supervisors* are authorised as Responsible Person before works can commence. In the event of the *Employer* assisting with taking out of permits for the *Contractor*, the *Employer* shall recover the cost from the *Contractor* at a fee of R2000 for each permit taken out by the *Employer* and R3000 per hour for every hour that the *Employer* is supervising the works as an authorised *Supervisor* in terms of the regulations.

10.1.12.8 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.

10.1.12.9 Contractor's organisation

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

10.1.12.10 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.

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

N/A

10.1.14 Survey control and setting out of the works

N/A

10.1.15 Excavations and associated water control

N/A

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

N/A

10.1.17 Control of noise, dust, water and waste

The Contractor shall at all times comply with the requirements as stated in the latest revision of:

- LBE22005: "Environmental Spill Management Procedure"
- LBE22004 : "Lethabo Waste management procedure"

10.1.18 Sequences of construction or installation

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

10.1.19 Giving notice of work to be covered up

10.1.20 Hook ups to existing works

Requirements are notified when the works interfaces those existing and such requirements are communicated to the Project Manager.

10.2 Completion, testing, commissioning and correction of Defects

10.2.1 Work to be done by the Completion Date

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

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

Sectional completion will apply whereby completion of the system once completed will be handed over to the *Employer* for takeover; however the Employer rejects the Use of the Works for items that affect the safe and reliable operation of the Works. Documentation for such items is produced for Defect Corrections.

10.2.3 Materials facilities and samples for tests and inspections

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

10.2.4 Commissioning

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

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

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

10.2.6 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 7 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.

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

After the works have been put into operation, the *Contractor* will be required to follow the Plant Safety Regulation to work on the Works. He shall not work without a Work Permit to gain access to the plant.

10.2.8 Performance tests after Completion

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

10.2.9 Training and technology transfer

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

10.2.10 Operational maintenance after Completion

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

11 List of drawings

11.1 Drawings issued by the *Employer*

Refer to **Lethabo Condition Monitoring System technical specification 375-LET-BEEC-D00035-25**

Drawing number	Revision	Title

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

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

C4 Site Information

Core clause 11.2(16) states

“Site Information is information which

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

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

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

1. Site Procedures and Regulations

1.1 Health and Safety Requirements

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

- The *Contractor* acts in accordance with the health and safety requirements stated in the Works Information.
- In carrying out its obligations to the *Employer* in terms of this contract; in Providing the Works; in using Plant, Materials and Equipment; and while at the Site for any reason, the *Contractor* complies and procures and ensures the compliance by its employees, agents, Sub-*Contractors* and mandataries with:
- the provisions of the Occupational Health and Safety Act 85 of 1993 (as amended) and all regulations in force from time to time in terms of that Act (“the OHSA”); and the Eskom “Health, Safety and Environmental specifications for *Contractors*” document attached to the Works Information (as amended from time to time) and such other Eskom Safety Regulations as are applicable to the *works* and are provided in writing to the *Contractor* (collectively “the Eskom Regulations”). The Eskom Regulations may be amended from time to time by the *Employer* and all amendments will be provided in writing to the *Contractor*. The *Contractor* complies with the provisions of the latest written version of the Eskom Regulations with which it has been provided; and the health and safety plan prepared by the *Contractor* in accordance with the SHEQ Requirements

(The OHSA and the Eskom Regulations are collectively referred to as the “SHEQ Requirements”).

- The *Contractor*, at all times, considers itself to be the “*Employer*” for the purposes of the OHSA and shall not consider itself under the supervision or management of the *Employer* with regard to compliance with the SHEQ Requirements, the *Contractor* shall furthermore not consider itself to be a subordinate or under the supervision of the *Employer* in respect of these matters. The *Contractor* is at all times responsible for the supervision of its employees, agents, Sub-*Contractors* and mandataries and takes full responsibility and accountability for ensuring they are competent, aware of the SHEQ Requirements and execute the *works* in accordance with the SHEQ Requirements
- The *Contractor* acknowledges that it is fully aware of the requirements of all the above and undertakes to employ only people who have been duly authorized in terms thereof and who have received sufficient training to ensure that they can comply therewith.

- The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made and that all appointees fully understand their responsibilities and are trained and competent to execute their duties. The *Contractor* supervises the execution of their duties by all such appointees.
- The *Contractor* shall appoint a person who will liaise with the Eskom Safety Officer responsible for the premises relevant to this contract. The person so appointed shall, on request: supply the Eskom Safety Officer with copies of minutes of all Health And Safety Committee meetings, whenever he is required to do so; supply the Eskom Safety Officer with copies of all appointments in respect of employees employed on this contract, in terms of the Act and Regulations and shall advise the Eskom Safety Officer of any changes thereto.

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

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

1.2 Permit to Work System

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

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

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

1.3 Safety Induction Course

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

1.4 IBI Awareness Techniques

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

1.5 Transportation of passengers: open LDV's:

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

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

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

1.6 Eskom Life Saving Rules:

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

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

1.7 Local Safety Procedures

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

1.8 Incidents / Accidents

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

1.9 Fire Prevention

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

1.10 Protective Equipment and Clothing

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

1.11 Inspection of Equipment

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

1.12 Documentation

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

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

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

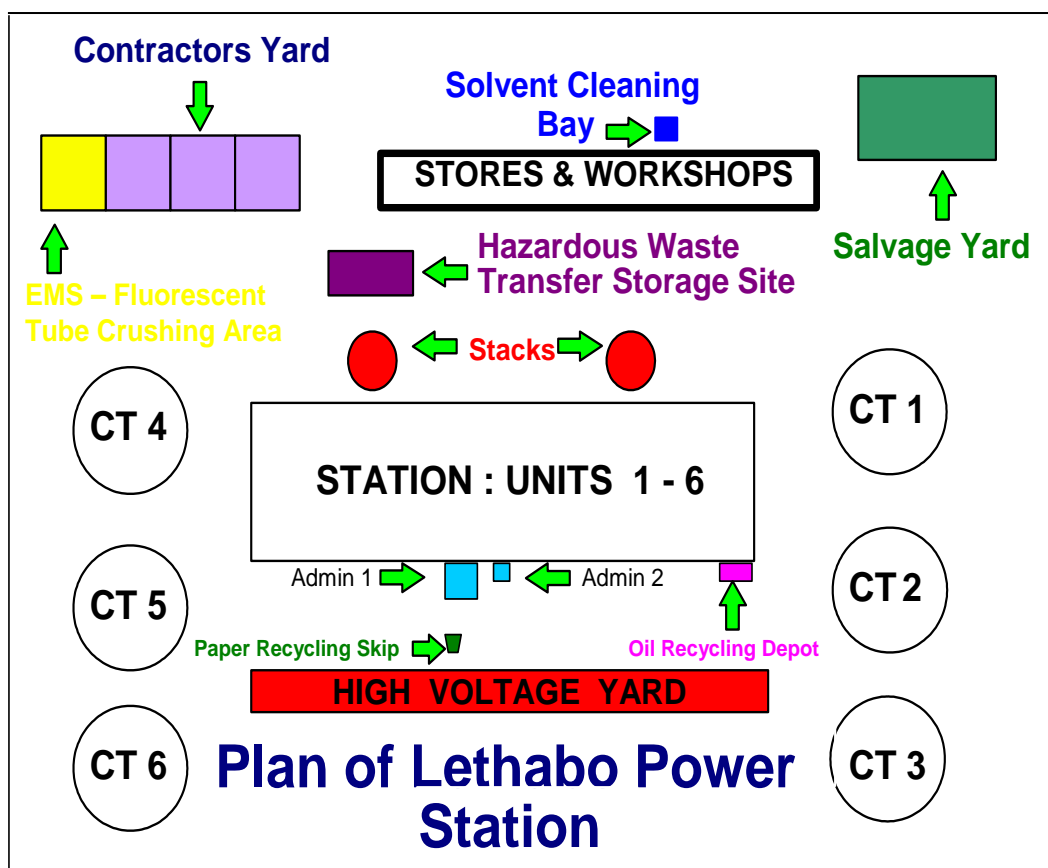
1.13 Environmental Policy and Waste Handling

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

1.14 Disposal of Waste

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

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



1.15 Hazardous Waste Disposal and Handling

- Hazardous / toxic waste includes all waste which contains elements or compounds listed as hazardous substances in terms of the Hazardous Substances Act No. 15 of 1973.
- Any Contractor who produces hazardous waste on site will be responsible for the safe removal of such waste to a registered Class I site by a waste removal and disposal body.

- The *Contractor* is required to produce a certificate of safe disposal in accordance with LBA 00054.
- The *Contractor* must ensure that persons handling hazardous waste have undergone suitable training and are acquainted with cleaning methods in case of a spillage.
- The *Contractor* is also responsible for the safe removal of their hazardous waste to Lethabo's Hazardous Waste Store. Other requirements for hazardous waste are detailed in LBA 00030.
- In order to ensure effective hazardous waste management, a copy of the *Contractors'* hazardous waste inventory must be supplied to the *Employer* at least 2 days prior to the occupation date.

Abbreviated list of Hazardous Materials

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

1.16 Plant & Materials

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

1.17 Access to and Departure from the Site:

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

1.23 Compressed Air

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

1.24 Ventilation

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

1.25 Security

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

1.26 Offices, Workshops and Stores

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

1.27 Sanitary Facilities

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