



**NEC3 Term Service Contract (TSC3)**

**Between Eskom Holdings SOC Limited  
(Reg No: 2002/015527/30)**

**and**

**for Kusile Power Station Heating Ventilation Air  
Conditioning and Refrigeration Maintenance For The  
Period of Five (5) Years**

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**CONTRACT No.**

**Documentation prepared by:**

**Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration  
Maintenance for the Period of Five (5) Years**

**PART C1: AGREEMENTS & CONTRACT DATA**

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**Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years**

**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: **Kusile Power Station Heating Ventilation Air Conditioning and Refrigeration Maintenance For The Period of Five (5) Years**

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

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

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

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

Signature(s)

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

**For the tenderer:**

Name & signature of witness

Date

Tenderer's CIDB registration number:

N/A

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

# Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

## Acceptance

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

The terms of the contract, are contained in:

- Part C1        Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
- Part C2        Pricing Data
- Part C3        Scope of Work: Service 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 of this document, including the Schedule of Deviations (if any).

Signature(s)

Name(s)

Capacity

**for the  
Employer**

**Eskom Holdings SOC Limited**

Kusile Power Station  
R545 Kendal/Balmoral Rd  
Haartebeesfontein Farm  
Witbank

*(Insert name and address of organisation)*

Name &  
signature of  
witness

Date

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

# Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

## 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	N/A	
2		
3		
4		
5		
6		
7		

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

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

### For the tenderer:

### For the Employer

Signature

Name

Capacity

On behalf  
of

Name &  
signature  
of witness

Date

General Manager

**Eskom Holdings SOC Limited**  
Kusile Power Station  
R545 Kendal/Balmoral Rd  
Haartebeesfontein Farm  
Witbank

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## C1.2 TSC3 Contract Data

### Part one - Data provided by the *Employer*

Clause	Statement	Data
1	<b>General</b>	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option:	
	dispute resolution Option and secondary Options	<b>A: Priced contract with price list</b> <b>W1: Dispute resolution procedure</b>  <b>X1: Price adjustment for inflation</b> <b>X2: Changes in the law</b> <b>X17: Low service damages</b> <b>X18: Limitation of liability</b> <b>X19: Task Order</b> <b>Z: Additional conditions of contract</b>
	of the NEC3 Term Service Contract (June 2005) <sup>2</sup>	
10.1	The <i>Employer</i> is (name):	<b>Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa</b>
	Address	<b>Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg</b>
	Tel No.	
	Fax No.	
10.1	The <i>Service Manager</i> is (name):	
	Address:	Eskom Holdings SOC Limited Kusile Power Station Project R545 Kendal/Balmoral Road Hartebeesfontein Farm
	Tel :	
	Fax :	
	e-mail :	

<sup>2</sup> Available from Engineering Contract Strategies Tel 011 803 3008 Fax 011 803 3009

## Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

11.2(2)	The Affected Property is	<b>All Heating Ventilation Air Conditioning and Refrigeration Systems at Kusile Power Station</b>
11.2(13)	The <i>service</i> is	<b>Contained in the document titled “Kusile Power Station Heating Ventilation Air Conditioning and Refrigeration Maintenance Scope of Work Document Identifier : 240-105654456”</b>
11.2(14)	The following matters will be included in the Risk Register	<b>Safety, Health, Environment and Quality</b>  <b>Financial risks</b>  <b>Technical risks</b>  <b>Skills and competencies</b>  <b>Supply related risks</b>
11.2(15)	The Service Information is in	<b>Part 3: Scope of Work and all documents and drawings to which it makes reference.</b>
12.2	The <i>law of the contract</i> is the law of	<b>the Republic of South Africa</b>
13.1	The <i>language of this contract</i> is	<b>English</b>
13.3	The <i>period for reply</i> is	<b>5 working days</b>
<b>2</b>	<b>The Contractor's main responsibilities</b>	
21.1	The <i>Contractor</i> submits a first plan for acceptance within	<b>Detailed plan within one week after Contract Date</b>
<b>3</b>	<b>Time</b>	<b>2 weeks before the Contract Start Date</b>
30.1	The <i>starting date</i> is.	<b>Contract signature DATE</b>
30.1	The <i>service period</i> is	<b>60 Months</b>
<b>5</b>	<b>Payment</b>	
50.1	The <i>assessment interval</i> is	<b>BETWEEN THE 20<sup>TH</sup> OF EACH SUCCESIVE MONTH</b>
51.1	The <i>currency of this contract</i> is the	<b>South African Rand</b>
51.2	The period within which payments are made is	<b>30 days as per Eskom Finance Procedures</b>
51.4	The <i>interest rate</i> is	<b>the publicly quoted prime rate of interest (calculated on time to time by the South African Reserve Bank (as certified by any manager of such bank, whose appointment it shall be a condition of appointment that he shall be a resident of South Africa) amounts due in Rands.</b>

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## 8 Risks and insurance

83.1	The <i>Employer</i> provides these additional insurances	None
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## 10 Data for main Option clause

A	<b>Priced contract with price list</b>	
20.5	The <i>Contractor</i> prepares forecasts of the final total of the Prices for the whole of the <i>service</i> at intervals no longer than	One week

## 11 Data for Option W1

W1.1	The <i>Adjudicator</i>	The person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (See <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a> ). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
W1.2(3)	The <i>Adjudicator nominating body</i> is:	The Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the Institution of Civil Engineers (London) (see <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a> ) or its successor body.
W1.4(2)	The <i>tribunal</i> is:	Arbitration
W1.4(5)	The <i>arbitration procedure</i> is	The latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	Republic of 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	<b>Price adjustment for inflation</b>		
X1.1	The <i>base date</i> for indices is		
	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for
	CPA will only account for after the first year of the contract period, prices are fixed and firm throughout the contract period		Index prepared by

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		15	non-adjustable
<b>X2</b>	<b>Changes in the law</b>	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.	
<b>X17</b>	<b>Low service damages</b>		
X17.1	The <i>service level table</i> is in	As per Annexure “B”	
<b>X18</b>	<b>Limitation of liability</b>		
X18.1	The <i>Contractor’s</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to	<p><b>General: R 25 000 000</b>The Contractor’s total liability for any damaged caused to the Employer’s property, equipment, material, and plant shall be limited to a Task Order issued by the Employer as of the Task Order date and shall be capped at 25% of the damages caused per incident or to a deductible value of R500 000.00 whichever is the lesser</p>	
X18.2	For any one event, the <i>Contractor’s</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer’s</i> property is limited to	<p><b>The amount of deductables relevant to the event</b></p>	
X18.3	The <i>Contractor’s</i> liability for Defects due to his design of an item of Equipment is limited to	<ul style="list-style-type: none"> <li>• <b>the total of the Prices at the Contract Date and</b></li> <li>• <b>the amounts excluded and unrecoverable from the <i>Employer’s</i> insurance (other than the resulting physical damage to the <i>Employer’s</i> property which is not excluded)</b></li> </ul>	
X18.4	The <i>Contractor’s</i> total liability to the <i>Employer</i> , for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	<p><b>The total of the Prices other than for the additional excluded matters.</b></p> <p><b>The <i>Contractor’s</i> total liability for the additional excluded matters is not limited.</b>  <b>The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for</b></p> <ul style="list-style-type: none"> <li>• <b>Defects due to his design, plan and specification,</b></li> <li>• <b>Defects due to manufacture and fabrication outside the Affected Property,</b></li> <li>• <b>loss of or damage to property (other than the <i>Employer’s</i> property, Plant and Materials),</b></li> <li>• <b>death of or injury to a person and</b></li> <li>• <b>infringement of an intellectual property</b></li> </ul>	

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		right.
X18.5	The <i>end of liability date</i> is	<b>12 months after the end of the <i>service period</i>.</b>
<b>X19</b>	<b>Task Order</b>	
X19.5	The <i>Contractor</i> submits a Task Order Programme to the <i>Service Manager</i> within	- <b>5 days of receiving the Task Order except for emergency call outs which is 24 hours</b>
<b>Z</b>	<b>The <i>additional conditions of contract</i> are</b>	<b>Z1 to Z12 always apply.</b>
<b>Z1</b>	<b>Cession delegation and assignment</b>	
Z1.1	The <i>Contractor</i> does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .	
Z1.2	Notwithstanding the above, the <i>Employer</i> may on written notice to the <i>Contractor</i> cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.	
<b>Z2</b>	<b>Joint ventures</b>	
Z2.1	If the <i>Contractor</i> constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the <i>Employer</i> for the performance of this contract.	
Z2.2	Unless already notified to the <i>Employer</i> , the persons or organisations notify the <i>Service Manager</i> within two weeks of the Contract Date of the key person who has the authority to bind the <i>Contractor</i> on their behalf.	
Z2.3	The <i>Contractor</i> does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the <i>Employer</i> having been given to the <i>Contractor</i> in writing.	
<b>Z3</b>	<b>Change of Broad Based Black Economic Empowerment (B-BBEE) status</b>	
Z3.1	Where a change in the <i>Contractor's</i> legal status, ownership or any other change to his business composition or business dealings results in a change to the <i>Contractor's</i> B-BBEE status, the <i>Contractor</i> notifies the <i>Employer</i> within seven days of the change.	
Z3.2	The <i>Contractor</i> is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the <i>Service Manager</i> within thirty days of the notification or as otherwise instructed by the <i>Service Manager</i> .	
Z3.3	Where, as a result, the <i>Contractor's</i> B-BBEE status has decreased since the Contract Date the <i>Employer</i> may either re-negotiate this contract or alternatively, terminate the <i>Contractor's</i> obligation to Provide the Service.	
Z3.4	Failure by the <i>Contractor</i> to notify the <i>Employer</i> of a change in its B-BBEE status may constitute a reason for termination. If the <i>Employer</i> terminates in terms of this clause, the procedures on termination are P1, P2 and P4 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.	

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### **Z4 Ethics**

- Z4.1 Any offer, payment, consideration, or benefit of any kind made by the *Contractor*, which constitutes or could be construed either directly or indirectly as an illegal or corrupt practice, as an inducement or reward for the award or in execution of this contract constitutes grounds for terminating the *Contractor's* obligation to Provide the Service or taking any other action as appropriate against the *Contractor* (including civil or criminal action).
- Z4.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Service if the *Contractor* (or any member of the *Contractor* where the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations) is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices.
- Such practices include making of offers, payments, considerations, or benefits of any kind or otherwise, whether in connection with any procurement process or contract with the *Employer* or other people or organisations and including in circumstances where the *Contractor* or any such member is removed from the an approved vendor data base of the *Employer* as a consequence of such practice.
- Z4.3 Notwithstanding the provisions of core clause 90.2, the procedures on termination in terms of this clause are P1, P2 and P4 as stated in the core clause 92 and the amount due is A1 and A3 as stated in core clause 93.

### **Z5 Confidentiality**

- Z5.1 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.
- Z5.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Service Manager*.
- Z5.3 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.
- Z5.4 The taking of images (whether photographs, video footage or otherwise) of the Affected Property or any portion thereof, in the course of Providing the Service and after the end of the *service period*, requires the prior written consent of the *Service Manager*. All rights in and to all such images vests exclusively in the *Employer*.
- Z5.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

### **Z6 Waiver and estoppel: Add to core clause 12.3:**

- Z6.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Service Manager* or the *Adjudicator* does not constitute a waiver of rights, and does

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not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

### **Z7 Health, safety and the environment: Add to core clause 27.4**

- Z7.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *service*. 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 Affected Property;
  - 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 the *service*; and
  - undertakes, in and about the execution of the *service*, 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.
- Z7.2 The *Contractor*, in and about the execution of the *service*, 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.

### **Z8 Provision of a Tax Invoice and interest. Add to core clause 51**

- Z8.1 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 in accordance with the *Employer’s* procedures stated in the Service Information, showing the amount due for payment equal to that stated in the payment certificate.
- Z8.2 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.
- Z8.3 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.

### **Z9 Notifying compensation events**

- Z9.1 Delete the last paragraph of core clause 61.3 and replace with:

If the *Contractor* does not notify a compensation event within eight weeks of becoming aware of the event, he is not entitled to a change in the Prices.

### **Z10 Employer’s limitation of liability**

- Z10.1 The *Employer’s* liability to the *Contractor* for the *Contractor’s* indirect or consequential loss is limited to R0.00 (zero Rand)
- Z10.2 The *Contractor’s* entitlement under the indemnity in 82.1 is provided for in 60.1(12) and the

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*Employer's* liability under the indemnity is limited to compensation as provided for in core clause 63 and X19.11 if Option X19 Task Order applies to this contract.

### **Z11 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":**

Z11.1 or had a business rescue order granted against it.

### **Z12 Contract Financial Commitments**

Z12.1 Task orders will be issued by the *Service Manager* on an "as and when" required basis. The liability of the *Employer* is limited to the total of the Prices stated in the specific Task Order and not the total Price stated in the Service Information. The *Employer* is not obliged to issue any Task Order to the *Contractor* despite the *Contractor* being awarded the contract.

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**Annexure B: Table of low service damages (X17)**

<b>Low Service Damage Description</b>	<b>Value of Low Service Damages</b>	<b>Limit of Low Service Damage</b>
Service delaying (Delaying other Contractor(s) from starting/completing their work)	5% of Task Order per day	Limited to 10% of the Task Order value
Service delays not finishing as per agreed upon schedule submitted to the <i>Service Manager</i>	2% of Task Order per day	Limited to 10% of the Task Order value
Submission of documents as per agreed upon CDSS in this <i>service agreement</i>	2% of Task Order per day	Limited to 10% of the Task Order value
Rework due to poor workmanship	2% of Task Order per day	Limited to 10% of the Task Order value
Daily Progress Updated Schedule	2% of Task Order per day	Limited to 10% of Task Order Value
Response of NCR within 3 days	2% of Task Order per day	Limited to 10% of Task Order Value

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## C1.2 Contract Data

### Part two - Data provided by the Contractor

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No. E-mail:	
	<i>Fee percentage below works as follows:</i>	<i>Compensation events : direct expenditure (subject to quotation acceptance) will be paid in full by Eskom plus this % fee)</i>
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information for the <i>Contractor's</i> plan is in:	
21.1	The plan identified in the Contract Data is contained in:	
24.1	The key people are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job: Responsibilities: Qualifications: Experience:	
<b>A</b>	<b>Priced contract with price list</b>	
11.2(12)	The <i>price list</i> is in:	<b>Rands</b>
11.2(19)	The tendered total of the Prices is	

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**PART 2: PRICING DATA**

**TSC3 Option A**

<b>Document reference</b>	<b>Title</b>	<b>No of pages</b>
C2.1	Pricing assumptions: Option A	18 - 19
C2.2	The <i>price list</i>	20

## C2.1 Pricing assumptions: Option A

### 1. How work is priced and assessed for payment

Clause 11 in NEC3 Term Service Contract (TSC3) core clauses and Option A states:

<b>Identified and defined terms</b>	11	
	11.2	(12) The Price List is the <i>price list</i> unless later changed in accordance with this contract.
		(17) The Price for Services Provided to Date is the total of  the Price for each lump sum item in the Price List which the <i>Contractor</i> has completed and where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the <i>Contractor</i> has completed by the rate.  (19) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

This confirms that Option A is a priced contract where the Prices are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both.

#### Function of the Price List

Clause 54.1 in Option A states: "Information in the Price List is not Service Information". This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Service in accordance with the Service Information". Hence the *Contractor* does **not** Provide the Service in accordance with the Price List. The Price List is only a pricing document.

#### Link to the *Contractor's* plan

Clause 21.4 states "The *Contractor* provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance". Hence when compiling the *price list*, the tendering contractor needs to develop his first clause 21.2 plan in such a way that operations shown on it can be priced in the *price list* and result in a satisfactory cash flow in terms of clause 11.2(17).

#### Preparing the *price list*

Before preparing the *price list*, both the *Employer* and tendering contractors should read the TSC3 Guidance Notes pages 14 and 15. In an Option A contract, either Party may have entered items into the *price list* either as a process of offer and acceptance (tendering) or by negotiation depending on the nature of the *service* to be provided. Alternatively 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 the *price list* to be prepared and priced by him.

It is assumed that in preparing or finalising the *price list* the *Contractor*:

- Has taken account of the guidance given in the TSC3 Guidance Notes relevant to Option A;
- Understands the function of the Price List and how work is priced and paid for;
- Is aware of the need to link operations shown in his plan to items shown in the Price List;

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- Has listed and priced items in the *price list* which are inclusive of everything necessary and incidental to Providing the Service in accordance with the Service 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 item within the Prices or rates of other listed items in order to fulfil the obligation to complete the *service* for the tendered total of the Prices.
- Understands there is no adjustment to items priced as lump sums if the amount, or quantity, of work within that item later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the (lump sum) Prices is as a result of a compensation event.

### **Format of the *price list***

(From the example given in an Appendix within the TSC3 Guidance Notes)

Entries in the first four columns in the *price list* in section C2.2 are made either by the *Employer* or the tendering contractor.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering contractor enters the amount in the Price column only, the Unit, Expected Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for an item of work which is the rate for the work multiplied by the quantity completed, the tendering contractor enters the rate which is then multiplied by the Expected Quantity to produce the Price, which is also entered.

If the *Contractor* is to be paid a Price for an item proportional to the length of time for which a service is provided, a unit of time is stated in the Unit column and the expected length of time (as a quantity of the stated units of time) is stated in the Expected Quantity column.

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**C2.2 the price list**

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<b>ITEM 1</b>				
<b>1</b>	<b>PRELIMINARIES AND GENERAL</b>				
1.1	Site Establishment for: Delivery of Kwikspace Modular Buildings with kitchen Fitted with Single Bowl Sink with a Work Top, Fitted with Undercounter Cupboard. (L-9m; W-3m)	Once Off	1,00		
1,2	Site Establishment for: Delivery of Kwikspace Modular Buildings Office Insulated, with Air-Con (L-9m; W-3m)	Once Off	1,00		
1,3	Site Establishment for: Delivery of Kwikspace Modular Buildings Storage Room, Enclosed with No Windows (L-9m; W-3m)	Once Off	1,00		
1,4	Site Establishment for: Delivery of Kwikspace Modular Buildings Split female/ male change rooms (L-12m; W-3m)	Once Off	1,00		
1,5	Site Establishment for: Delivery of Split Male and Female Ablution (L-6m; W-3m)	Once Off	1,00		
1,6	Safety File	Sum	1,00		
1,7	PPE	Sum	85,00		
1,8	Entry Medicals	Sum	120,00		
1,9	Exit Medicals	Sum	24,00		
1,10	Police Clearance Certification	Sum	120,00		
1,11	Kwikspace Modular Buildings with kitchen Fitted with Single Bowl Sink with a Work Top, Fitted with Undercounter Cupboard. L-9m; W-3m (1 Off)	Once Off	1,00		
1,12	Kwikspace Modular Buildings Office Insulated, with Air-Con (L-9m; W-3m) (1 Off)	Once Off	1,00		
1,13	Kwikspace Modular Buildings Storage Room, Enclosed with No Windows (L-9m; W-3m) (1 Off)	Once Off	1,00		
1,14	Kwikspace Container female/ male change room (L-12m; W-3m) (1 Off)	Once Off	1,00		
1,15	Ablution: (3m x 12m) - Toilet Split M/F (1 Off)	Once Off	1,00		
1,16	Site Bakkie (4x2 Double Cab Bakkie) (1 Off)	Once Off	1,00		
1,17	Site Bakkie (4x2 Single Cab Bakkie) (1 Off)	Once Off	1,00		
1,18	Home-Work-Home-14 Seater Transport (1 Off)	Per Month	60,00		
	<b>Total Item 1 (Preliminaries and General) Carried to Final Summary</b>				
	<b>ITEM 2</b>				
<b>2</b>	<b>RESOURCES</b>				
2,1	<b>NORMAL TIME</b>				
	-				
2.1.1	HVAC Supervisor	Hours	10 380		
2.1.2	Safety Officer	Hours	10 380		
2.1.3	HVAC Artisans (5 Off)	Hours	51 900		
2.1.4	Semi Skilled Assistant (10 Off)	Hours	103 800		
2.1.5	Drivers (for 14 Seater) (1 Off)	Hours	10 380		
	<b>AS AND WHEN REQUIRED RESOURCES</b>				
	<b>TRAIN CHILLERS TEAM</b>				
2.1.6	HVAC Technician (1 Off)	Hours	1 038		

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2.1.7	HVAC Semi Skilled Assistant (1 Off)	Hours	1 038		
	<b>DISTECH CONTROLS TEAM</b>				
2.1.8	C&I Technician (1 Off)	Hours	2 076		
2.1.9	C&I Semi Skilled Assistant (1 Off)	Hours	2 076		
	<b>SATCHTECH CONTROLS</b>				
2.1.10	C&I Technician (1 Off)	Hours	1 038		
2.1.11	C&I Semi Skilled Assistant (1 Off)	Hours	1 038		
	<b>Subtotal Item 2.1 Normal Time</b>				
2,2	<b>NORMAL OVERTIME &amp; SATURDAYS</b>				
2.2.1	HVAC Supervisor	Hours	600		
2.2.2	Safety Officer	Hours	600		
2.2.3	HVAC Artisans (5 Off)	Hours	6 000		
2.2.4	Semi Skilled Artisan (10 Off)	Hours	12 000		
	<b>Subtotal Item 2.2 Normal Overtime and Saturday</b>				
2,3	<b>SUNDAYS &amp; P/H OVER TIME</b>				
	-				
2.3.1	HVAC Supervisor	Hours	300		
2.3.2	Safety Officer	Hours	300		
2.3.3	HVAC Artisans (5 Off)	Hours	3 000		
2.3.4	Semi Skilled Artisan (10 Off)	Hours	3 000		
	<b>Subtotal Item 2.3 Overtime Sundays and Public Holidays</b>				
2,4	<b>STANDBY ALLOWANCE</b>				
2.4.1	HVAC Artisan (1 Off)	Per Day	1 680		
2.4.2	Semi Skilled Artisan (1 Off)	Per Day	1 680		
	<b>Subtotal Item 2.3 Standby Allowance</b>				
	<b>Total Item 2 (Resources) carried to Final Summary</b>				
	<b>ITEM 3</b>				
<b>3</b>	<b>TOOLS AND EQUIPMENT ( MINIMUM BUT NOT LIMITED TO)</b>				
3,1	Adjusting Spanner 150mm	Sum	1		
3,2	Adjusting Spanner 200mm	Sum	1		
3,3	Adjusting Spanner 300mm	Sum	1		
3,4	Gedore 137 - 250mm Vice Grip	Sum	1		
3,5	Gedore Pipe Wrench 227-250mm	Sum	1		
3,6	Gedore Pipe Wrench 227-600mm	Sum	1		
3,7	Gedore C19TMZ Socket Set Metreic 1/2-Drive	Sum	1		
3,8	JBS 26 Piece 1/4" Square Drive Socket Set	Sum	1		
3,9	JBS 07635504 1/4" Drive 13mm Standard Socket	Sum	1		
3,10	JBS 00553945 1/4" Drive 13mm Deep Wall Socket	Sum	1		
3,11	Gedore 1B17M Combination Spanner 6-22mm	Sum	1		
3,12	Gedore 1B Combination Spanner 23mm	Sum	1		
3,13	Gedore 1B Combination Spanner 24mm	Sum	1		

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3,14	Stahlwille 4792-9 Piece Screwdriver Set	Sum	1		
3,15	Fascor FH10 POP Riveter	Sum	1		
3,16	Beargrip Allen Key Set 1.5-10mm	Sum	1		
3,17	Beargrip Allen Key Set 1/16" - 3/8"	Sum	1		
3,18	Gedore 1281 -5E Tool Box	Sum	1		
3,19	Stanley Tape Measure 8m	Sum	1		
3,20	Quinn L Hand Grease Gun	Sum	1		
3,21	Eclipse E222 Scriber	Sum	1		
3,22	Cenbre HP3 Crimping Pliers	Sum	1		
3,23	Crescent 542-8C Side Cutters	Sum	1		
3,24	Crescent 654-7C Long Nose-Pliers	Sum	1		
3,25	Crescent 3800-8T Combination Pliers	Sum	1		
3,26	Crescent R212 -300mm Waterpump Pliers	Sum	1		
3,27	Mitco 7-Piece Drive Punch Set	Sum	1		
3,28	Gedore Habero Center Punch	Sum	1		
3,29	Aftool 10 x 150mm Chisel	Sum	1		
3,30	Aftool 10 x 200mm Chisel	Sum	1		
3,31	Aftool 25 x 300mm Chisel	Sum	1		
3,32	Rubber Mallet 10oz with Rubber Handle	Sum	1		
3,33	Lasher 900gr Ballpin Hammer	Sum	1		
3,34	Gedore 8516 -200mm Tin Snip	Sum	1		
3,35	Mitco Professional hacksaw	Sum	1		
3,36	Sandvik 268 Mini Hacksaw	Sum	1		
3,37	Starrett 20mm Hole Saw Complete	Sum	1		
3,38	Starrett 25mm Hole Saw Complete	Sum	1		
3,39	Somta 1 -13mm x 5mm Drill Set	Sum	1		
3,40	Stanley 99E Trimming Knife Retractable	Sum	1		
3,41	Webco 600mm Sprit Level	Sum	1		
3,42	Fisher Combination Square	Sum	1		
3,43	Silcon Sealer Gun	Sum	1		
3,44	Meg-OHM Meter MIC-10	Sum	1		
3,45	87V Handheld Digital Multimeter, True RMS (10A ac max, 10A dc max, 1000V ac Max)	Sum	1		
3,46	Wired Digital Thermometer (K Probe, 2 input(s) +1300 'C )	Sum	1		
3,47	Extech Clamp Amp Meter MA440, Max Current 400A	Sum	1		
3,48	Drill Machine 800 Watt	Sum	1		
3,49	Wap /Nilfisk High Pressure Washer MC2 (P: 14 MPa, Q: 7.0 l/min)	Sum	1		
3,50	18-v Cordless Impact Drill, including 2.0Ah Battery and Charger GSB 183-Li	Sum	1		
3,51	Lead Light 220 Volt	Sum	1		
3,52	Soldering Iron	Sum	1		
3,53	Double Sided Alum Ladder (Fibre Glass Steps)	Sum	1		
3,54	Porta Pack	Sum	1		
3,55	Core Drilling Machine (230V)	Sum	1		
3,56	Drilling Machine (650W)	Sum	1		
3,57	Cordless Blower/Vacuum 18V	Sum	1		
3,58	2600W Grinding Machine	Sum	1		
3,59	Master Pressure Sprayer 8L Water Bottle (2 Off)	Sum	2		
3,60	Flaring and Swaging Tool Kit	Sum	1		
3,61	Service Valve Ratchet 127	Sum	1		
3,62	Hand Pipe Bender Set	Sum	1		
3,63	6-In-1 Plastic Fin Comb	Sum	1		
3,64	Ratchet Pipe Cutter (8-29mm)	Sum	1		
3,65	Pinch off Tool	Sum	1		
3,66	Manifold Gauge Ser (Old Gasses)	Sum	1		
3,67	Alan Key Straight Ratchet 10 X Piece	Sum	1		
3,68	Vernier Caliper	Sum	1		



# Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

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## C3.1: EMPLOYER’S SERVICE INFORMATION

### Introduction

Kusile Power Station management has decided to establish a partnership with a suitably qualified, experienced and well established contractor to perform maintenance on the HVAC and Refrigeration system. This document describes the details of the requirements, standards, scope of work and the terms and conditions of the maintenance partnership.

# **Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years**

## **Supporting Clauses**

### **Scope**

#### **Purpose**

The purpose of this document is to define the full scope of work specified for the HVAC and Refrigeration system maintenance activities, and functional requirements for Kusile Power Station.

The station is expected to perform at 92% UCF, 6% PCLF and 2% UCLF. The specified HVAC maintenance must support this requirement.

It is therefore imperative that the successful and suitably qualified partner aligns his/her organisation fully to these specified scope activities and processes laid down in this document.

#### **Applicability**

This document is applicable to Kusile Power Station.

#### **Effective date**

This document is effective from the date of authorisation until its succeeding document has been authorised.

### **Normative/Informative References**

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

#### **Normative**

- [1] ISO 9001 : Quality Management Systems
- [2] ISO 14001: Environmental management System
- [3] Act No 73 of 1989: The Environment Conservation Act No 107 of 1998: National
- [4] Act No. 107 of 1998: National Environmental Management Act, 1998
- [5] Act No 14 of 2009: The National Environmental Act, 1989
- [6] Act No 102 of 1980: National Key Points Act, 1980
- [7] Act No 36 of 1998: National Water Act, 1998
- [8] Act No 85 of 1993: Occupational Health and Safety Act & Regulations, 1993.
- [9] SANS 10400: National Building Regulations
- [10] ASA-B-9 : Safety codes for Mechanical Refrigeration
- [11] ASHRAE Standard 34: Designation and Safety Classification of Refrigerants
- [12] ASHRAE Standard 55: Thermal Environmental Conditions for Human Occupancy
- [13] ASHRAE Standard 62.1: Ventilation for Acceptable Indoor Air Quality
- [14] BS 5720: Code of practice for mechanical ventilation and air conditioning in buildings
- [15] ASHRAE 15-2010: Safety Codes for mechanical refrigeration
- [16] ASHRAE 52/76 : Standard test method
- [17] ASHRAE G1: Guideline for commissioning air conditioning systems
- [18] ASHRAE 34-2010: Designation and safety classification of refrigerants

# Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

## Informative

- [19] 414 - 32 Rev 0: Kusile Maintenance User Requirement Specification
- [20] GGR 0992: Plant Safety Regulations
- [21] 32 - 726 Rev 0: Mandatory S.H.E. Requirements for the Eskom Procurement and Supply Chain Management Process.
- [22] GGS 0462: Safety and Quality Specifications.
- [23] 237 - 0016 Rev 0: Integrated Business Improvement – prevention and improvement standard
- [24] NMP47-7 Rev 0: Application of KKS Plant Coding
- [25] 36 -702 Rev 1: Remnant Life Monitoring
- [26] Contractor OHS Management Strategy
- [27] Contractor Safety Improvement Plan
- [28] GGSS 1181: Specification for chemical product and material used in a power plant
- [29] 240-56355731: Environmental Conditions For Process Control Electronic Equipment Used at Power Stations
- [30] GVLIR 0007: Safety, Health and Environment Specifications for Contractors
- [31] ESKASAAA3 Eskom approval of personnel performing quality related special processes.
- [32] 32-726 Annexure C: S.H.E. Requirements for Tender Enquiries
- [33] 32-726 Annexure D: S.H.E. Tender Evaluation and Scoring Card
- [34] 32-726 Annexure E: Supplier Suspension
- [35] 240-56179027 Safety Measures & Approved Personal Protective Equipment
- [36] 240-70044736 Arc Flash Protective Clothing and Personal Protective Equipment against the Thermal Hazard of an Electrical Arc Specification
- [37] ESKSCAAB8: Specification for corrosion protection for mechanical items of plant
- [38] 240-56227516 LV Switchgear and Control Gear Assemblies and Associated Equipment for Voltage up to and including 1000V AC and 1500V DC Standard ESKSCAA04 :Standard for electronic protection and fault monitoring equipment for power systems

## Definitions

- 2.3.1 Availability:** Period when a system is operating satisfactory when used under specified conditions.
- 2.3.2 Contractor:** Service provider contracted to provide a specific service to Eskom, Kusile Power Station.
- 2.3.3 Employer:** Eskom, or Eskom Kusile Power Station or representative.

## Abbreviations

Abbreviation	Explanation
AHU:	Air handling Units

## Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years

<b>AP:</b>	Appointed Person
<b>BOM:</b>	Bills of Material
<b>BMS:</b>	Building Management System
<b>BU:</b>	Business Unit
<b>HVAC:</b>	Heating Ventilation and Air-Conditioning
<b>NEC:</b>	New Engineering Contract
<b>OEM:</b>	Original Equipment Manufacturer
<b>OHS Act:</b>	Occupational Health and Safety Act
<b>PCLF:</b>	Planned Capability Loss Factor
<b>PPE:</b>	Personal Protective Equipment
<b>PM:</b>	Plant Maintenance
<b>PSR:</b>	Plant Safety Regulations
<b>PTW:</b>	Permit to Work
<b>Abbreviation</b>	<b>Explanation</b>
<b>QC:</b>	Quality Control
<b>QCP:</b>	Quality Control Plan
<b>QMP:</b>	Quality Management Programme
<b>RP:</b>	Responsible Person
<b>SABS:</b>	South African Bureau of Standards
<b>SANS:</b>	South African National Standards
<b>SAP PM:</b>	SAP Plant Maintenance
<b>SAP:</b>	Systems, Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management) integrated maintenance management system.
<b>SHE:</b>	Safety, Health, Environment
<b>SOW:</b>	Scope of Work
<b>UCF:</b>	Unit Capability Factor
<b>UCLF:</b>	Unplanned Capability Loss Factor
<b>URS:</b>	User Requirement Specification

# **Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years**

## **Roles and Responsibilities**

### **Contractor**

- a) All Contractor employees shall comply with Eskom's policies and site regulations, adherence to Eskom's Life Saving Rules, adherence to Generation Occurrence Management Procedure, Smoking Policy, zero tolerance on alcohol usage, etc. These requirements will be detailed during the induction training process. This document will be used in conjunction with the Kusile Maintenance URS.
- b) The number of maintenance staff required to execute the works is to be recommended by Kusile, but the Contractor is responsible for allocating adequate resources in order to provide the required services, after his/her assessment of the scope of work and submitted to the Employer for approval.
- c) The successful Contractor shall utilise/provide skilled and suitably qualified staff (in line with Eskom Job specifications) with current experience in the following but not limited disciplines;
  - i. Competent Maintenance Person according to OHS Act
  - ii. Occupational Health and Safety Act 85 of 1993
  - iii. NEC contract management
  - iv. Quality Management Control and Assurance procedures
  - v. Plant Safety Regulation authorisation
  - vi. Spares optimisation
  - vii. Plant optimisation and commissioning
  - viii. Procedure writing
  - ix. BOM compilation
- d) Staff must meet minimum requirements of Eskom job descriptions, with additional requirements specified.
- e) All staff brought onto site in connection with this SOW should be able to fluently speak, understand and write in English.
- f) Proof of qualification is to be supplied on request by the Employer.
- g) The Contractor ensures that all staff being brought to Kusile PS site has a valid fitness for duty certificate based on the specified plant man-job specification.
- h) The Contractor shall employ in and about the execution of the works only such persons that are careful, competent and efficient in their several trades and callings and the Employer shall be at liberty to object to and require the Contractor to remove from the works forthwith any person employed by the Contractor in or about the execution of the works who, in the opinion of the Employer, misconduct's himself/herself or is incompetent or negligent in the proper performance of his/her duties and such person shall not be again employed for the works without the written permission of the Employer.
- i) Provide daily supervision of all related plant through trained and competent personnel to ensure that inspections & work activities are conducted daily.
- j) Ensures proper behaviour of personnel under his/her supervision as per the Kusile culture.
- k) Ensures training of all personnel under his/her supervision. The training required will include but not limited to Eskom safety training requirements, related plant training and Kusile culture.
- l) Ensures high morale of staff and competency.
- m) Ensures that throughout the duration of the contract, they conform and adhere to the safety, health and environment regulations as stipulated in the Kusile Maintenance URS.
- n) A comprehensive risk assessment shall be done prior to any work being carried out

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- o) If a Permit to Work is required for working on plant and/or equipment, on completion of the work the relevant piece of plant/equipment shall be properly re-commissioned prior to the clearance of the Permit to Work.
- p) The Contractor shall be responsible or held liable for any defects arising from maintenance/operational faults within twenty four hours (24 hrs.) after an intervention, provided that the equipment has been placed into service.
- q) The contractor shall be held responsible or held liable for any defects arising from poor workmanship performed by their staff or use of inferior spare parts. The contractor shall be required to correct any defect that might arise as a result of poor workmanship within 72 Hours.
  - r) Poor workmanship within 48 hours period from the time which the equipment is put in to operation

### **Process for Monitoring**

This specification will be reviewed after every two years period from date of initial authorisation or when necessary.

### **Related/Supporting Documents**

Not applicable.

### **Document Content**

#### **Works information**

The contractor will be responsible for all HVAC and refrigeration systems maintenance at Kusile Power Station. The service provider shall perform condition based, preventative, corrective as well as breakdown maintenance as per the SOW below:

#### **Maintenance of HVAC system**

- a) Perform maintenance as per OEM requirements and standards on all HVAC equipment but not limited to the following areas:

<b>Plant Area</b>
Gen Excitation HVAC Units 1 to 6
Fabric Filter House U1 to U6
Coal Stockyard North Substation
Coal Stockyard South Substation
Ash Dump Substation
Hydrogen Plant Substation
Hydrogen Plant Building
Radio Tower Building

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Limestone Substation
FGD Substation / Station Sub South
FGD U1 – U6 Substation
Aux Bay U1 – U6
Station Services Building

Aux Sub A
Aux Sub B
Sub West
Sub East
Compressor West
Compressor East
Water Treatment Plant Substation
Water Treatment plant Building
Water Treatment Plant Lab
Waste Water Treatment Plant
Fire Water Pump Building
CPP Buildings U 1 – U6
Coal Stockyard Office Building
Workshop and Stores
Access Control Building
Administration Building
Canteen Building
Fire Station
Medical Center
Ash Dump Workshops
ACC Substations U1 – U6
Turbine Hall Ventilation Fans including all levels
West Compressor Building

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East Compressor Building
East Recycle Pump Building
West Recycle Pump Building
FGD ball Mill Building
FGD Dewatering Building
HRD Pump House
ADDD Pump House
SDD Pump House
Radial Stacker
Ash Stackers
Ash Reclaimers
Limestone Stacker
Limestone Reclaimer
Coal Stackers
Coal Reclaimers
Sewerage Treatment Plant Offices
Station Dirty Dam
Gx Parkhomes
Coal Inbound and Outbound weight bridges
Limestone weight bridge
Limestone handling offices
Hopper aeration blower room U1 - U6
Lube oil room U1 - U6
CEP U1 - U6

b) Perform planned and unplanned maintenance on the following systems:

- i. Chilled water pump systems.

## **Kusile Power Station Heating Ventilation Air Conditioning And Refrigeration Maintenance for the Period of Five (5) Years**

- ii. Condenser water pump systems.
- iii. Chillers and water treatment systems.
- iv. Fan coil air handling units and filters.
- v. Motor control centres.
- vi. Network control Panel.
- vii. Motors.
- viii. Cables.
- ix. Air ducts.
- x. Electrical heaters.
- xi. Motorised control valves.
- xii. Steam humidifiers.
- xiii. Dust collectors and associated equipment.
- xiv. Air extraction systems.
- xv. Air ventilation systems.
- xvi. Measurement equipment (temp, pressure flows, etc.).
- xvii. Room type split air conditioning units.
- xviii. Cold and freezer rooms.
- xix. Electrical and control panels.
- xx. BMS system maintenance.
- xxi. Commissioning of HVAC systems after outages.
- xxii. Perform statutory tests.
- xxiii. Filter maintenance and washing.
- xxiv. Implement filter care programme to monitor filter movement and filter condition.
- xxv. Provide input on design proposal pertaining to air conditioning, ventilations and refrigerant plant including ducts as and when required.
- xxvi. Check drawing for correctness.
- xxvii. Replace major equipment such as compressor units as and when required.
- xxviii. Lubricant replacement on compressors.
- xxix. Replacement and/ or installation of domestic type air conditioners.
- xxx. Attend to breakdowns, defects and carry out fault finding and repairs.

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## **Condition based maintenance**

Applicable to all HVAC equipment connected to the BMS system:

- a) On-line monitoring of input and output signals.
- b) On-line monitoring of all field devices such temperature devices etc.
- c) On-line verification of all applied settings and software configurations.
- d) Evaluation of all alarms initiated.
- e) Evaluation of all HVAC equipment for correctness against the design specifications.
- f) Evaluation of all plant configurations to ensure correct plant status.
- g) On-line implementation of settings and software configuration changes as per modification process and record keeping thereof.
- h) Ability to interface with LCPs & NCPs on all HVAC systems to locally download information
- i) Down loading and record keeping of critical data for audit purpose.

## **Work preparation and work management**

- a) Adhere to work management system SAP PM.
- b) Adhere to Eskom plant safety regulations (PSR).
- c) Risk assessment shall be done and documented/filed for each task.
- d) Safe work procedures or temporary work procedures shall be available and used for each job.
- e) Job observation shall be done on agreed frequencies.
- f) All documentation required to complete work shall be referenced and filed for future reference (Test results, reports, drawings etc.) All documentation to be completed and filed (test sheets, test results, technical reports, drawings etc.)
- g) The contractor must ensure that he maintains a 24hours standby roster at all times.
- h) Ensure compliance to PSR before any work commence.
- i) Perform toolbox talks, discuss and fill risk assessment, ensure you're in possession of the correct drawings, correct check sheet, correct work procedure, correct QCP's and you're at the correct plant.
- j) Attend various meetings. (Safety, Production, Maintenance, Commissioning etc.)
- k) The contractor must identify all potential hazardous tasks in the Works Information and prepare safe working procedures to issue to his staff before any work will start.
- l) The contractor must familiarize himself with the works and must make available his specific "housekeeping" action plans to ensure that the working areas and surroundings are kept safe and tidy during the duration of the works.
- m) The contractor must provide all the required PPE to his staff before the work will start.
- n) The contractor must ensure that all the necessary induction has been done before any work will start.
- o) The contractor must ensure before any work is carried out, the correct equipment and hand tools are available to his staff and that it is in a good and safe working condition and complying with all OHSA requirements.
- p) The contractor must provide proof that toolbox talks have been held and a workers register must always be available and kept on date and reported to the Employer on a required basis.
- q) The contractor must ensure that on a daily basis the agreed safety and housekeeping are upheld and that it is reported to the Employer on a required basis.

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- r) The contractor must assist the Security Department by providing a name list and copies of identity documents for all the workers at least one day before site establishment.

### **Standby services**

- a) The Contractor shall ensure that staff with adequate expertise is available to manage plant issues on a 24 hour standby service.
- b) The Contractor's response time to a callout shall be one hour from the time the person on standby is officially notified until the time that person arrives on site.
- c) The Contractor's 'Technical Support Service' staff shall be available as advisory back-up to assist on instances where the staff on site is struggling to solve any technical problem.
- d) The contractor must have the ability to contract technical support to site as and when required from the following OEMs for special and routine maintenance activities:
  - I. Distech
  - II. Satchtech / John Thompson
  - III. Trane

### **Conditions**

- a) Please note that the equipment will only form part of the works once the respective area has been commissioned. The Contractor shall have to be involved in the erection, installation, commissioning, handover and maintenance activities related to HVAC equipment and plant if and when required.
- b) The contractor shall carry out the work in accordance with the works order papers supplied to him and returns all necessary documents duly completed for entry into SAP PM Module for plant history.
- c) All stand-alone reports on the work done, tests performed or modifications carried out shall be submitted to the contract supervisor not later than 7 days after completion of the work.
- d) The contractor shall be responsible for assisting the employer in the development of the preventative maintenance program. Such assistance will include the development of work instructions, maintenance frequencies and monitoring and inspection requirements.
- e) Maintenance procedures must be consistent with best practices and must be available in an accessible format on-site for and stored in SAP PM.
- f) The contractor will be responsible for reviewing equipment requirement, leakage and spillage control on all responsible plant areas.
- g) The contractor is to complement their services to improve Plant performance by:
  - i. Project management.
  - ii. Value engineering.
  - iii. Procedure and documentation writing.
  - iv. Design services.
  - v. Spares Management.
  - vi. Technical Advice.
  - vii. Operational and production process review.

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- h) The contractor will be responsible for cleaning and checking the air-conditioning rooms and cabinets
- i) The works may include the use of hazardous substances during normal and routine maintenance activities.
- j) The contractor will be responsible for all repairs of refurbishable items connected to this scope utilising the acceptable process in SAP.
- k) The employer may request the contractor to ensure that an accurate description of spare parts is maintained in the employer's stores and the contractor will inform the Employer of any changes.
- l) The contractor may be requested to support the employer's personnel by providing cross sectional drawings and part numbers for stock identification and subject to the employer's access control procedures, assists in checking the stock holding.
- m) The contractor in conjunction with the OEM recommends to the employer the optimal spares that should be carried at Kusile Power Station and includes:
  - i. Spares required for maintenance.
  - ii. Minimum number of spares kept for emergency.
  - iii. Serviceability of spares in the stores.

### **Continuous Improvement**

- a) The Contractor shall implement a program of continuous improvement to optimise Plant performance and reduce system and equipment failures.
- b) The Contractor shall participate in improvement programs and root cause investigations/analysis as stipulated by the Employer.
- c) The Contractor shall participate in improvement programs pertaining to plant equipment.

### **Management and Reporting**

- a) The type of reports, level of detail and frequency of reporting will be mutually agreed by the Employer and the Contractor. These may change from time to time on request by the Employer.
- b) The Contractor to be represented at any ad-hoc meetings that may arise in order to address any production or safety related matters.
- c) Liaison meetings shall be held between the Employer's representative or his/her delegate and the Contractor's representative or his/her delegate on a monthly basis or when necessary to discuss any technical details, or concerns.
- d) The Contractor will be responsible for implementing an employee performance management system that is consistent with the Employer's management requirements

### **Quality and Documentation Control**

- a) The contractor shall submit a QCP which will be overseen by Eskom and will ensure that the relevant documentation is available on site to manage the scope and related programs.
- b) The Contractor shall ensure that all measuring and test equipment is calibrated at all times & proof thereof must be readily available.
- c) The Contractor shall adhere to all 'Quality References' and 'Standards' applicable to this SOW.
- d) The Contractor shall utilise the Employer's quality documentation management system and processes.

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## **Works Implementation**

The Contractor shall supply a work implementation plan including at least the following;

- a) Site establishment.
- b) Manpower plan.
- c) Organogram.
- d) Skills required and associated cost per skill (e.g. artisan, site manager, etc.)

## **General**

- a) The contractor shall carry out all plant activities as per the Works Management Process.
- b) The contractor shall ensure that the work area is kept clean on completion of any work done.
- c) The contractor shall execute the works within the times stipulated on the works order.
- d) The employer is to schedule all maintenance tasks.
- e) The contractor shall ensure that any witness, hold points are strictly adhered to.
- f) Before work starts on site, an inaugural meeting is held with the contractor and the employer, to explain in details all the requirements of the site regulations.
- g) The contractor will be issued with a file of current site regulations on arrival. The file remains the property of the employer.
- h) The Employer and Contractor in this SOW shall commit towards the following;
  - i. Retention of critical skills
  - ii. Continuous cost reduction
  - iii. Safety ,Health & Environment
  - iv. Transfer of Operational experience and skills
- i) The Contractor shall compile improvement programmes to enhance Plant (HVAC) performance and achieve cost reductions and the Employer will approve such programmes.
- j) Performance is measured by the Employer against those areas which contribute to the Employer's business.
- k) Areas of measurement include the Employer's key business indicators and will be redefined from time to time.
- l) The Contractor is to ensure that any service rendered does not interfere with the Employer's scheduled work and should align himself with the Employer's work control process.
- m) Should the Employer become aware of any changes to the activity schedule (programme of notifications), the Employer may issue the Contractor with a revised programme.
- n) The contract entered into with the Contractor is non-exclusive and work against this contract can only be performed upon receipt of a task order.
- o) All works will be subject to anytime inspection from the Employer.
- p) Please note that equipment will form part of the works if the respective area has been commissioned and demonstrated to operational even if it yet to be handed over to Generation. As long as the plant is being used by Eskom therefore the contractor shall perform maintenance on the specific plant.
- q) The Contractor maintains all year round an agreed base crew at Kusile Power Station which is supervised by the contractor with any changes to the crew being negotiated and agreed upon with the Employer.
- r) The contractor shall perform leak checks on all responsible plant areas and inform the Employers representative accordingly.
- s) The contractor shall be responsible for statutory inspections / tests as defined by the Employer and supply the Employer with proof of such tests.
- t) The contractor shall ensure the integrity of Plant labelling and that deficiencies with regards to plant labelling is reported immediately.

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- u) All contractors must ensure they have responsible persons (in terms of PSR) for any work performed on the plant. This will require individuals to successfully complete a written and oral examination for the relevant regulation based on the Plant Safety Regulations. All maintenance technically qualified (above semi-skilled) contractors will be trained and authorised (in terms of PSR) within 3 months of contract award date. Training will be supplied by the Employer.

### **Communication and Correspondence**

*All correspondence includes:*

- i. Kusile Power Station
  - ii. Employer's Contract number
  - iii. Contract description
  - iv. Correspondence subject matter
  - v. Employer's name and contact details
  - vi. Contractor contact details
  - vii. Contract Date
- b) Where appropriate the correspondence includes the Employer's reference and is delivered as a single package.
  - c) All communications from the Contractor are numbered sequentially with a prefix as advised by the Employer. The Employer responds in like manner. The prefix and numbering system is decided upon at the Inaugural meeting.

### **Contractor's organisation**

The Contractor shall submit a Contract's organogram to the employer for acceptance, indicating the contractor's and the sub-contractor's employees