



NEC3 Term Service Contract (TSC3)

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

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

for **Sandblasting on Boiler Internals, HP Piping & components, Turb/Boiler Auxiliary Systems, for Maintenance and Outages at Duvha Power Station on an “as and when” required basis**

Contents:

Part C1 Agreements & Contract Data

Part C2 Pricing Data

Part C3 Scope of Work

CONTRACT No. [Insert at award stage]

PART C1: AGREEMENTS & CONTRACT DATA

Contents:

C1.1 Form of Offer and Acceptance

**[to be inserted from Returnable Documents at
award stage]**

C1.2a Contract Data provided by the *Employer*

C1.2b Contract Data provided by the *Contractor*

**[to be inserted from Returnable Documents at
award stage]**

C1.3 Proforma Guarantees

C1.1 Form of Offer & Acceptance

1.1 Offer

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

Sandblasting on Boiler Internals, HP Piping & components, Turb/Boiler Auxiliary Systems, for Maintenance and Outages at Duvha Power Station on an “as and when” required basis

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

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

Signature(s)

Name(s) _____

Capacity _____

For the tenderer:

(Insert name and address of organisation)

Name & signature of witness

Date

Tenderer's CIDB registration number:

Acceptance

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*.

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

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 and signed original copy of this document, including the Schedule of Deviations (if any).

Signature(s)

Name(s)

Capacity

**for the
Employer**

Name &
signature of
witness

Date

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

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

Note:

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

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

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

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

For the tenderer:

For the Employer

Signature		
Name		
Capacity		
On behalf of	<i>(Insert name and address of organisation)</i>	
Name & signature of witness		
Date		

C1.2 TSC3 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: [Redacted] dispute resolution Option and secondary Options [Redacted] [Redacted] [Redacted]	A: Priced contract with price list W1: Dispute resolution procedure X1: Price adjustment for inflation X2 Changes in the law X17: Low service damages X18: Limitation of liability X19: Task Order Z: Additional conditions of contract
	of the NEC3 Term Service Contract April 2013 ² (TSC3)	
10.1	The <i>Employer</i> is (name): Address Tel No. Fax No.	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 Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg 013 690 0243 N/A
10.1	The <i>Service Manager</i> is (name): Address Tel Fax e-mail	George Klopper Duvha Power Station 013 6900243 George.klopper@eskom.co.za
11.2(2)	The Affected Property is	Duvha Power Station

² Available from Engineering Contract Strategies Tel 011 803 3008 Fax 086 539 1902 www.ecs.co.za

11.2(13)	The <i>service</i> is	Sandblasting on Boiler Internals, HP Piping & components, Turb/Boiler Auxiliary Systems, for Maintenance and Outages at Duvha Power Station on an “as and when” required basis for a period of 4 years
11.2(14)	The following matters will be included in the Risk Register	N/A
11.2(15)	The Service 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	1 WEEK
2	Contractor’s main responsibilities	Data required by this section of the core clauses is also provided by the Contractor in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data
21.1	The <i>Contractor</i> submits a first plan for acceptance within	On Contract award agree between Service Manager and Contractor
3	Time	
30.1	The <i>starting date</i> is.	1 August 2024 or as soon as possible
30.1	The <i>service period</i> is	5 (Five) years
4	Testing and defects	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
5	Payment	
50.1	The <i>assessment interval</i> is	between the [20th] day of each successive month.
51.1	The <i>currency of this contract</i> is the	South African Rand
51.2	The period within which payments are made is	4 weeks.
51.4	The <i>interest rate</i> is	the publicly quoted prime rate of interest (calculated on a 365 day year) charged by 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 *mutatis mutandis* 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	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
7	Use of Equipment Plant and Materials	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	<ol style="list-style-type: none"> 1. [●] 2. [●] 3. [●]
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	
A	Priced contract with price list	
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	1 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 www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the

		Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
W1.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the Institution of Civil Engineers (London) (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 place where arbitration is to be held is 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 latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body. [●] South Africa 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	The <i>base date</i> for indices is	Before or contract start date	
	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for
		20%	Transport L2A
		50%	Labour C3 (All Hourly-Paid employees)
		20%	Table D (Statistics SA Consumer Price Index (CPI))
		10%	non-adjustable
		1.00	

X2	Changes in the law	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.						
X17	Low service damages	<p>To a maximum of 5% of the task order value</p> <table border="0"> <thead> <tr> <th data-bbox="826 427 938 456">Amount</th> <th data-bbox="1018 427 1273 456">Performance level</th> </tr> </thead> <tbody> <tr> <td data-bbox="826 495 986 562">R5 000 for failure to meet schedule and PM compliance.</td> <td data-bbox="1018 495 1487 562"></td> </tr> <tr> <td data-bbox="826 595 1225 629">R5 000 For any delay in works</td> <td data-bbox="1018 595 1487 629"></td> </tr> </tbody> </table> <p>(Excludes any failures to equipment not serviced by the supplier, failure of components not supplied by the supplier, service work performed using second-hand spares with permission given by the Service Manager, external factors -such as foreign objects coming into contact with the serviced item, poor operating practice, and any other factors that can be shown to be outside the direct control of the supplier. The penalty will only be imposed on the supplier after an investigation and the occurrence is found to be a result of poor maintenance by the supplier.)</p>	Amount	Performance level	R5 000 for failure to meet schedule and PM compliance.		R5 000 For any delay in works	
Amount	Performance level							
R5 000 for failure to meet schedule and PM compliance.								
R5 000 For any delay in works								
X17.1	The <i>service level table</i> is in	[•]						
X18	Limitation of liability							
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to	R0.0 (zero Rand)						
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to	<p>the amount of the deductibles relevant to the event described in the "Format TSC3" insurance policy available on http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx</p>						
X18.3	The <i>Contractor's</i> liability for Defects due to his design of an item of Equipment 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> insurance (other than the resulting physical damage to the <i>Employer's</i> property which is not excluded) plus the applicable deductibles in the <i>Employer's</i> assets and works / maintenance policies available on http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_ 						

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>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, plan and specification, • Defects due to manufacture and fabrication outside the Affected Property, • loss of or damage to property (other than the <i>Employer's</i> property, 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	[3] months after the end of the <i>service period</i>.
X19	Task Order	
X19.5	The <i>Contractor</i> submits a Task Order programme to the <i>Service Manager</i> within	[7] days of receiving the Task Order
Z	The <i>additional conditions of contract</i> are	Z1 to Z11 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 *Service 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 *Service Manager* within thirty days of the notification or as otherwise instructed by the *Service 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 Service.
- 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 P4 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 *Service 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 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*.
- 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 *Service Manager* 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 *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.

Z6.2 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.

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 *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.

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 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.

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 82.1 is provided for in 60.1(12) and the *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.

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

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

Affected Party	means, as the context requires, any party, irrespective of whether it is the <i>Contractor</i> or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,
Coercive Action	means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
Collusive Action	means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
Committing Party	means, as the context requires, the <i>Contractor</i> , or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractors 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.

Z 11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z 11.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Service 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 Service for this reason.

Z 11.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Service for this reason, the procedures and amounts due on termination are respectively P1, P2, P3 and P4, and A1 and A3.

Z 11.4 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.

Z12 Insurance

Z 12 .1 Replace core clause 83 with the following:

Insurance cover 83

- 83.1 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.
- 83.2 The *Contractor* provides the insurances stated in the Insurance Table A 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 caused by the <i>Contractor</i> to the <i>Employer's</i> property	The replacement cost where not covered by the <i>Employer's</i> insurance. The <i>Employer's</i> policy deductible as at Contract Date, where covered by the <i>Employer's</i> insurance.
Loss of or damage to Plant and Materials	The replacement cost where not covered by the <i>Employer's</i> insurance. The <i>Employer's</i> policy deductible as at Contract Date, where covered by the <i>Employer's</i> insurance.

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

Z 12.2 Replace core clause 86 with the following:

Insurance by the Employer

86

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

INSURANCE TABLE B

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

Z13 Nuclear Liability

Z13.1 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.

Z13.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.

Z13.3 Subject to clause Z13.4 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*.

Z13.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.

Z13.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z14 Asbestos

AAIA Means approved asbestos inspection authority.

ACM Means asbestos containing materials.

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

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

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

OEL means occupational exposure limit.

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

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

Standard

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

SANAS

Means the South African National Accreditation System.

TWA

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

Z14.1

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.

Z14.2

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 Z14.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z14.3

The Employer manages asbestos and ACM according to the Standard.

Z14.4

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.

Z14.5

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.

Z14.6

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.

Z14.7

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.

C1.2 Contract Data

2 Part two - Data provided by the Contractor

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

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	% %
11.2(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:	

CV's (and further key person's data including CVs) are in _____ .

A	Priced contract with price list
11.2(12)	The <i>price list</i> is in
11.2(19)	The tendered total of the Prices is R

Part 2: Pricing Data

TSC3 Option A

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

C2.1 Pricing assumptions: Option A

3 How work is priced and assessed for payment

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

Identified and defined terms	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;
- 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.

C2.2 the price list

High Pressure Pipework Scope

For detailed component specific SOW per Outage, the specific outage SOW Task Order to be done.

Main Steam Pipework		Design Temperature: 545 °C Design Pressure: 19.4 MPa Material: X20CrMoV121	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Straight section	OD: 310mm x L:1000mm	120	
Bends	OD: 318mm x L:2000mm	231	
Butt welds	OD: 310mm x L:500mm	686	
Branch welds	OD: 310mm x L:300mm	12	
Spherical Header Butt welds	OD: 563mm x L: 500mm	8	
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	290	

Hot Reheat Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: X20CrMoV121	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Straight section	OD: 532mm x L:1000mm	105	
Bends	OD: 540mm x L:2000mm	231	
Butt welds	OD: 532mm x L:500mm	1120	
Spherical Header Butt welds	OD: 1090mm x L: 500mm	6	
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	68 of 280	

Hot Reheat Safety Valves Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 540mm x L:2000mm	25	
Butt welds	OD: 532mm x L:500mm	63	
Attachment welds (stubs and lug etc.)	OD: 76mm x L:100mm	8	

IP/LP Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 318mm x L:2000mm	40	
Butt welds	OD: 320mm x L:500mm	79	
Attachment welds (stubs and lug etc.)	OD: 30-100mm x L:100mm	8	

Cold Reheat and HP Bypass Pipework		Design Temperature: 400 °C Design Pressure: 5.3 MPa Material: 15Mo3	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 465-708mm x L:2000mm	35	
Butt welds	OD: 465mm x L:500mm	280	
Attachment welds (lug and stubs ect.)	OD: 30-100mm x L:100mm	244	

HP Turbine Loop Pipework		Design Temperature: 545 °C Design Pressure: 19.4 MPa Material: 10CrMo910	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 466 x L:2000mm	8	
Butt welds	OD: 466 x L:500mm	32	
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	12	
Flanges	2 m ²	12	

IP Turbine Loop Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 700 x L:2000mm	8	
Butt welds	OD: 700 x L:500mm	32	
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	12	
Flanges	2 m ²	12	

Superheater 1 Headers & Integral Inlet & Outlet		Design Temperature: 438 °C Design Pressure: 20.9 MPa Material: 13CrMo44 (Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD: 318-434 x L:500mm	10	
Stub welds	OD:44.5mm x L:50mm	40	
Interconnection Pipes Butt welds	OD:330mm x L:500mm	8	
Interconnection Pipes Bends	OD:330mm x L:2000mm	20	

Superheater 2 Headers & Integral Inlet & Outlet		Design Temperature: 440 °C Design Pressure: 20.9 MPa Material: 13CrMo44 (Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:330mm x L:500mm	32	
Stub welds	OD:38mm x L:50mm	111	
Attachment welds (attemporator etc.)	OD:70 – 80mm x L:50MM	62	
Interconnection Pipes Butt welds	OD:140mm x L:50mm	42	

Superheater 3 Headers & Integral Inlet & Outlet		Design Temperature: 513 °C Design Pressure: 20 MPa Material: X20CrMoV121(Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:334mm x L:500mm	18	
Stub welds	OD:38mm x L:50mm	93	
Attachment welds (attemporator etc.)	OD:70 – 80mm x L:50MM	50	

Superheater 4 Headers & Integral Inlet & Outlet		Design Temperature: 555 °C Design Pressure: 19.4 MPa Material: X20CrMoV121(Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:336mm x L:500mm	20	
Stub welds	OD:38mm x L:50mm	80	
Attachment welds (attemporator ect.)	OD:70 – 90mm x L:50MM	50	

Reheater 1 Headers & Integral Inlet & Outlet		Design Temperature: 482 °C Design Pressure: 5.3MPa Material: 13CrMo44(Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:600 - 712mm x L:500mm	14	
Stub welds	OD:40 – 51mm x L:50MM	120	
Attachment welds (attemporator ect.)	OD:70 – 80mm x L:50MM	10	

Reheater 2 Headers & Integral Inlet & Outlet		Design Temperature: 558 °C Design Pressure: 5.9MPa Material: X20CrMoV121(Outlet Header)	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:600 - 712mm x L:500mm	13	
Stub welds	OD:40 – 51mm x L:50MM	120	
Attachment welds (attemporator ect.)	OD:70 – 80mm x L:50MM	16	
180degree bends	OD:608 mm x L:8000mm	4	

1.1.1 Risk Based Inspections Scope

Pipework		Economisor & Div Wall down comer Inner ring main Evaporator to Separator connecting pipes Separating Vessel to SH1 Recirculation and quick drains	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Terminal Butt welds	OD: 200 - 422mm x L:500mm	91	

Headers		Evaporator Inlet Evaporator Intermediate Evaporator Main Ring Economiser Divisional Wall	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD: 200- 510mm x L:500mm	59	
Attachment welds (Stub branch etc.)	OD: 20 -100 x L:50mm	525	

Vessels		Collecting and Separating vessels	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:715 mm x L:500mm	27	
Branch welds	OD: 160mm x L:200mm	40	

Drains and Vents		HP Pipework drains SH4 Vents RH2 drains Boiler Drains	
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD:30 – 100 mm x L:50mm	292	
Bends	OD: 50 - 100mm x L:1000mm	7	

1.1.2 Flow Accelerated Corrosion Scope

Superheater spray water piping			
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 0 -200mm x L:1000mm	20	
Straight sections	OD : 0-200mm x L:500mm	20	

Reheater spray water piping			
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Bends	OD: 0-300mm x L:1000mm	8	
Straight sections	OD : 0-300mm x L:500mm	8	

1.1.3 Boiler Pressure Parts Scope

Boiler Internals				
Components				
BOILER	IN OUTAGE (21 Days)			Total Cost
	Quantities	Size/Area	TOTAL FOR IN OUTAGES 5 YEARS	
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	1280	
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	1728	
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0		0	
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0		0	
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0		0	
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m ea	64	
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m ea	128	
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0		0	
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840	
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840	
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	0	0	
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	0	0	
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	0	0	
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	0	0	
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	0	0	

Superheater 3 Elements - 80 Off (2 m Long)	0	0	0	
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	0	0	
Boiler Internals				
Components				
BOILER	IR OUTAGE (35 Days)			
	Quantities	Size/Area	TOTAL FOR IR OUTAGES 5 YEARS	Total Cost
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	1280	
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	1728	
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0		0	
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0		0	
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0		0	
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m ea	64	
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m ea	128	
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0		0	
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840	
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840	
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	0	0	
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	0	0	
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	0	0	
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	0	0	
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	0	0	
Superheater 3 Elements - 80 Off (2 m Long)	0	0	0	
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	0	0	

Boiler Internals				
Components				
BOILER	GO OUTAGE (90 – 120 Days)			Total Cost
	Quantities	Size/Area	TOTAL FOR GO OUTAGES 5 YEARS	
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	2240	
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	3024	
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0	12m x 300mm wide	28	
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0	16m x 300mm wide	98	
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0	12 off 2m long	364	
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m long	224	
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m long	112	
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0	100 x 200mm	336	
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3360	
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3360	
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	50 x 100mm	3500	
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	2m long	1092	
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	50 x 300mm	5040	
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	50 x 300mm	5600	
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	16m x 300mm wide	196	
Superheater 3 Elements - 80 Off (2 m Long)	0	2m long	560	
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	12m x 300mm wide	168	

1.1.4 Boiler Water Circulation Pump Bowl

Item	Item	Total Per Bowl	Quantity	Total Cost
1	Sandblast bowl externally and internally	10 m ²	1	

1.1.5 Sootblower system Scope

Scope of work for cleaning of sootblower station terminal welds and lance tips during outages:

Sootblower system			
Components	Dimensions	Quantity per GO Outage (Average)	Total Cost
Butt welds	OD: 100 -170mm x L:300mm	24	
Lance tips	OD : 102mm x L:300mm	40	

1.2 Scope of Work: Sand Blasting of Turbine/Boiler Aux components

System	Size	Bends	T-pieces	Reducers	Straight pipes	shell strake	Domes	Total Cost
HP 6B Heater drain to heater 5B	OD219.1 *WT8.2	4	1	2	1			
HP 6A heater drain to HP5A	OD219.1 *WT8.2	4	1	2	1			
HP heater 5A drain to feedwater tank	OD273 *WT6.35	24	1	2	1			
HP heater 5B drain to feedwater tank	OD273 *WT6.35	18	1	2	1			
HP 5A Drain To Condenser	OD273 *WT6.35	9	1	2	2			
HP 5B drain to condenser	OD273 *WT6.35	7	1	2	1			
HP 6A drain to condenser	OD273 *WT9.27	7	1	2	1			
HP 6B drain to condenser	OD273 *WT9.27	6	1	2	2			
Condensate from LP 3 To Deaerator	OD324 *WT6	15	1	1				
LPH 3 Emr Drain	OD168.3 *WT7.1	17	3		1			
LP3 Recovery Pumps Discharge	OD141.3*WT6,02	8	1	6				
LPH1 A and B Drain Lines	OD114.3*WT6,02	13	3	5	2			
LPH 2 A and B Drain Lines	OD141.3*WT6,55	13	3		2			
HP heater 5A shell	OD1820*WT15				1	1	1	
HP heater 5B shell	OD1820*WT15				1	1	1	
LP Heater 3	1m*1m					1		

Shell								
Feed Pump 100% leak off	OD168.3 *WT7.1	11			1			
Feed Pump 50% "A" leak off	OD114.3*WT6,02	19			1			
Feed Pump 50% "B" leak off	OD114.3*WT6,02	19			1			
Feedwater Pipework- from Feed Reg station	OD510*WT55	5	4		1			
	OD304*WT21	2			2			
	OD323*WT20	4				4		
BFPT Discharge pipe	OD473*WT36.5	3						
EFP B Discharge pipe	OD298*WT30	2						
EFP A Discharge pipe	OD298*WT30	2						
Common discharge pipe	OD298*WT30	2			3			
EFP "A" Suction	OD406*WT6	2						
EFP "B" Suction	OD406*WT6	2						
SFP Suction	OD508*WT8	2						
100% Balancing Water	OD88.9*WT5.49	5	2					
IP Beld Steam to Deaerator	OD500*WT8	13			4			
	OD700*WT8	13	4		3			
LP Heater 3 Bled Steam Line A	OD508*WT6	2			2			
LP3 Heater Bled Steam Line "B"	OD508*WT6	3			2			
Bled Steam 3 Drain Line A	OD88.9*WT5.49	8	1		2			
Bled Steam 3 Drain Line B	OD88.9*WT5.49	8	1		2			
Bled Steam 4_Drain Vessel Drain to Condenser	OD60.3*WT3.91	15	2					
Bled Steam 4 Drain Line	OD60.3*WT3.91	10	1					
Gland Steam LP Desuperheating Line	OD273*WT9.27	4	3		4	1		
HP/IP Gland Steam Desuperheating Line	OD219*WT8.18	2	1		4	1		
Separator drain to Drains Collector	OD73*WT5.16	7	1				1	
IP Gland Steam Drain to Drains	OD73*WT5.16	5	1					

Collector								
HP/IP Gland Supply drain to drains collector	OD73*WT5.16	7	1					
HP/IP Gland Supply drain to drains collector	OD114*WT6.02	4	1	3				
GS Drain to Drain Collector	OD42.2*WT3.6	6			2			
Main CDV	OD620*WT10				2			
	OD1016*WT12				3			
	OD323*WT6	4						
	OD368*WT8				1			
	OD508*WT8				1			
BFPT Drain Collector	OD500*WT8				1			
	OD168.3*WT7	2						
BFPT Loop Pipes	OD323*WT12.5	4			4			
Steam Dump cone	OD1350*WT12				1			
TOTAL		342	42	63	38	3	3	

Boiler Water Circulation Pump Bowl

Item	Item	Total Per Bowl	Quantity	Total Cost
1	Sandblast bowl externally and internally	10 m ²	1	

- 1. CIRC PUMP IT'S THE SANDBLASTING OF THE BOWL (EXTERNALLY). AT MAXIMUM I ESTIMATE 4M². (THE DIAMETER IS ABOUT 1110MM IT'S A HALF SPHERE). SEE PICTURE ATTACHED FOR ILLUSTRATION**

Labour Requirements

The following must be included in the price list:

Personnel
Site Manager
Foreman / Supervisor
Safety officer
Quality Controller (QC)
Blasters/Operators and General (Semi – Skilled workers)

Overheads:

No	Activity	Cost per activity	Quantity	Total cost
a)	Site Establishment • Submit a cost break down.	1	1	
b)	Site De- Establishment. • Submit a cost break down.	1	1	
c)	Transport cost • Submit a cost break down per vehicle and distance to travel. (List all vehicles)	Cost per KM	Days as per contractors plan	
e)	Equipment cost. • Submit a cost break down for special equipment only. • Equipment cost to be included with the cost per activity.	Cost per day	Days as per contractors plan	
g)	Execution plan. • Submit a cost break down	1 off	1 off	
h)	Office overheads • Submit a cost break down	Cost per day	Days as per contractors plan	

B. SCHEDULE OF RATES

THE TOTAL OF THE PRICES

Note:

Tenderers shall **allow in their rates for the cost** of all consumables, materials, labour, transport, profit and all other costs which may be incurred in the proper execution of the works (access, compressed (Diesel Compressors) air, water, electricity etc.). This could also include, but not limited to levies payable to any industrial councils, associations, etc. that may be due by the tenderer, the cost of compliance to legislation, for instance regarding Health and Safety, compliance with Labour Legislation, etc.

Tenderers rates detail breakdown of the cost must be provided.

Contractor:

Name & Surname

Signature

Date

3.1 EMPLOYER'S SERVICE INFORMATION

Part 3: Scope of Work

C3.1: Employer's service Information

- 1 Description of the *service*
 - 1.1 Executive overview
 - 1.2 *Employer's* requirements for the *service*
 - 1.3 Interpretation and terminology
- 2 Management strategy and start up
 - 2.1 The *Contractor's* plan for the *service*
 - 2.2 Management meetings
 - 2.3 *Contractor's* management, supervision and key people
 - 2.4 Provision of bonds and guarantees
 - 2.5 Documentation control
 - 2.6 Invoicing and payment
 - 2.7 Contract change management
 - 2.8 Records of Defined Cost to be kept by the *Contractor*
 - 2.9 Insurance provided by the *Employer*
 - 2.10 Training workshops and technology transfer
 - 2.11 Design and supply of Equipment
 - 2.12 Things provided at the end of the *service period* for the *Employer's* use
 - 2.12.1 Equipment
 - 2.12.2 Information and other things
 - 2.13 Management of work done by Task Order
- 3 Health and safety, the environment and quality assurance
 - 3.1 Health and safety risk management
 - 3.2 Environmental constraints and management
 - 3.3 Quality assurance requirements
- 4 Procurement
 - 4.1 People
 - 4.1.1 Minimum requirements of people employed
 - 4.1.2 BBBEE and preferencing scheme
 - 4.1.3 Accelerated Shared Growth Initiative – South Africa (ASGI-SA)
 - 4.2 Subcontracting
 - 4.2.1 Preferred subcontractors
 - 4.2.2 Subcontract documentation, and assessment of subcontract tenders
 - 4.2.3 Limitations on subcontracting
 - 4.2.4 Attendance on subcontractors
 - 4.3 Plant and Materials
 - 4.3.1 Specifications
 - 4.3.2 Correction of defects
 - 4.3.3 *Contractor's* procurement of Plant and Materials
 - 4.3.4 Tests and inspections before delivery
 - 4.3.5 Plant & Materials provided "free issue" by the *Employer*
- 5 Working on the Affected Property
 - 5.1 *Employer's* site entry and security control, permits, and site regulations
 - 5.2 People restrictions, hours of work, conduct and records
 - 5.3 Health and safety facilities on the Affected Property
 - 5.4 Environmental controls, fauna & flora
 - 5.5 Cooperating with and obtaining acceptance of Others
 - 5.6 Records of *Contractor's* Equipment
 - 5.7 Equipment provided by the *Employer*
 - 5.8 Site services and facilities
 - 5.8.1 Provided by the *Employer*

- 5.8.2 Provided by the *Contractor*
- 5.9 Control of noise, dust, water and waste
- 5.10 Hook ups to existing works
- 5.11 Tests and inspections
 - 5.11.1 Description of tests and inspections
 - 5.11.2 Materials facilities and samples for tests and inspections
- 6 List of drawings
- 6.1 Drawings issued by the *Employe*
- 7 Appendix A

Description of the *service*.

- **Duvha** Boilers, HP Piping and components, FAC Components (Flow Accelerated Corrosion), are inspected regularly at a predetermined interval to assess their structural integrity to ensure safe operation and to avoid failures. These plants are inspected using non-destructive testing (NDT), however surface preparation is required on certain plant components in order to conduct NDT

Scope

This scope of work documents entails sandblasting on Boiler, HP Piping and components, FAC Components (Flow Accelerated Corrosion), for Maintenance and Outages at Duvha Power Station on an “as and when” required basis.

The scope of work includes the supply of manpower, consumables and working tools during planned inspection outages, philosophy outages (IN, IR and GO outages) and opportunity maintenance (defects) in between outages to provide surface preparation service on Duvha Plant components as below.

- Sandblasting Boiler Pressure part: As per Works Information
- Sandblasting High Pressure Piping components: As per Works Information
- Sandblasting FAC &RBI components: As per Works Information
- Sandblasting Sootblower components: As per Works Information
- Sandblasting Turbine/Boiler Aux components: As per Works Information

Definitions.

Definition	Description
Company/contractor	Entity which applies the sandblasting process which may include sub contracted service entities.
Sandblasting	Is the process of erosion of a surface by shooting particles of an abrasive material at high speed using compressed air. These particles cause the surface to chip and thereby produce the frosted effect. Also called Abrasive blasting: is the operation of forcibly propelling a stream of abrasive material against a surface under high pressure to smooth a rough surface, roughen a smooth surface, shape a surface, or remove surface contaminants.
Grit	A measure of texture, is calculated by running sand through a sieve. The size of the sieve is called its mesh
Microgrit sandblasting	Micro-abrasive blasting is dry abrasive blasting process that uses small nozzles (typically 0.25 mm to 1.5 mm diameter) to deliver a fine stream of abrasive accurately to either a small part (mm size) or a small area on a larger part. Generally the area to be blasted is from about 1 mm to only a few cm at most. Also known as pencil blasting, the fine jet of abrasive is accurate enough to write directly on glass and delicate enough to cut a pattern in an eggshell

On an "AS AN WHEN REQUIRED" basis

Main Steam Pipework		Design Temperature: 545 °C Design Pressure: 19.4 MPa Material: X20CrMoV121
Components	Dimensions	Quantity per GO Outage (Average)
Straight section	OD: 310mm x L:1000mm	120
Bends	OD: 318mm x L:2000mm	231
Butt welds	OD: 310mm x L:500mm	686
Branch welds	OD: 310mm x L:300mm	12
Spherical Header Butt welds	OD: 563mm x L: 500mm	8
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	290

Hot Reheat Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: X20CrMoV121
Components	Dimensions	Quantity per GO Outage (Average)
Straight section	OD: 532mm x L:1000mm	105
Bends	OD: 540mm x L:2000mm	231
Butt welds	OD: 532mm x L:500mm	1120
Spherical Header Butt welds	OD: 1090mm x L: 500mm	6
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	68 of 280

Hot Reheat Safety Valves Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 540mm x L:2000mm	25
Butt welds	OD: 532mm x L:500mm	63
Attachment welds (stubs and lug etc.)	OD: 76mm x L:100mm	8

IP/LP Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 318mm x L:2000mm	40
Butt welds	OD: 320mm x L:500mm	79
Attachment welds (stubs and lug etc.)	OD: 30-100mm x L:100mm	8

Cold Reheat and HP Bypass Pipework		Design Temperature: 400 °C Design Pressure: 5.3 MPa Material: 15Mo3
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 465-708mm x L:2000mm	35
Butt welds	OD: 465mm x L:500mm	280
Attachment welds (lug and stubs ect.)	OD: 30-100mm x L:100mm	244

HP Turbine Loop Pipework		Design Temperature: 545 °C Design Pressure: 19.4 MPa Material: 10CrMo910
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 466 x L:2000mm	8
Butt welds	OD: 466 x L:500mm	32
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	12
Flanges	2 m ²	12

IP Turbine Loop Pipework		Design Temperature: 545 °C Design Pressure: 4.9 MPa Material: 10CrMo910
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 700 x L:2000mm	8
Butt welds	OD: 700 x L:500mm	32
Attachment welds (stubs, lug etc.)	OD: 30-100mm x L:100mm	12
Flanges	2 m ²	12

Superheater 1 Inlet and Outlet Headers		Design Temperature: 438 °C Design Pressure: 20.9 MPa Material: 13CrMo44 (Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD: 318-434 x L:500mm	9
Stub welds	OD:44.5mm x L:50mm	40
Interconnection Pipes Butt welds	OD:330mm x L:500mm	8
Interconnection Pipes Bends	OD:330mm x L:2000mm	20

Superheater 2 Inlet, Outlet and Attemporator Headers		Design Temperature: 440 °C Design Pressure: 20.9 MPa Material: 13CrMo44 (Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:330mm x L:500mm	32
Stub welds	OD:38mm x L:50mm	111
Attachment welds (attemporator etc.)	OD:70 – 80mm x L:50MM	62
Interconnection Pipes Butt welds	OD:140mm x L:50mm	42

Superheater 3 Inlet, Outlet and Attemporator Headers		Design Temperature: 513 °C Design Pressure: 20 MPa Material: X20CrMoV121(Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:334mm x L:500mm	18
Stub welds	OD:38mm x L:50mm	93
Attachment welds (attemporator etc.)	OD:70 – 80mm x L:50MM	50

Superheater 4 Inlet, Outlet and Attemporator Headers		Design Temperature: 555 °C Design Pressure: 19.4 MPa Material: X20CrMoV121(Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:336mm x L:500mm	20
Stub welds	OD:38mm x L:50mm	80
Attachment welds (attemporator ect.)	OD:70 – 90mm x L:50MM	50

Reheater 1 Inlet, Outlet and Attemporator Headers		Design Temperature: 482 °C Design Pressure: 5.3MPa Material: 13CrMo44(Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:600 - 712mm x L:500mm	14
Stub welds	OD:40 – 51mm x L:50MM	120
Attachment welds (attemporator ect.)	OD:70 – 80mm x L:50MM	10

Reheater 2 Inlet, Outlet and Attemporator Headers		Design Temperature: 558 °C Design Pressure: 5.9MPa Material: X20CrMoV121(Outlet Header)
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds		10
Stub welds		150
Attachment welds (attemporator ect.)		16
180degree bends	OD:608 mm x L:8000mm	4

1.2.1 Risk Based Inspections Scope

Pipework		Economisor & Div Wall down comer Inner ring main Evaporator to Separator connecting pipes Separating Vessel to SH1 Recirculation and quick drains
Components	Dimensions	Quantity per GO Outage (Average)
Terminal Butt welds	OD: 200 - 422mm x L:500mm	91

Headers		Evaporator Inlet Evaporator Intermediate Evaporator Main Ring Economiser Divisional Wall
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD: 200- 510mm x L:500mm	59
Attachment welds (Stub branch etc.)	OD: 20 -100 x L:50mm	525

Vessels		Collecting and Separating vessels
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:715 mm x L:500mm	27
Branch welds	OD: 160mm x L:200mm	40

Drains and Vents		HP Pipework drains SH4 Vents RH2 drains Boiler Drains
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD:30 – 100 mm x L:50mm	292
Bends	OD: 50 - 100mm x L:1000mm	7

1.2.2 Flow Accelerated Corrosion Scope

Superheater spray water piping		
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 0 -200mm x L:1000mm	20
Straight sections	OD : 0-200mm x L:500mm	20

Reheater spray water piping		
Components	Dimensions	Quantity per GO Outage (Average)
Bends	OD: 0-300mm x L:1000mm	8
Straight sections	OD : 0-300mm x L:500mm	8

1.2.3 Boiler Pressure Parts Scope

Boiler Internals			
Components			
BOILER	IN OUTAGE (21 Days)		
	Quantities	Size/Area	TOTAL FOR IN OUTAGES 5 YEARS
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	1280
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	1728
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0		0
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0		0
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0		0
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m ea	64
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m ea	128
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0		0
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	0	0
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	0	0
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	0	0
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	0	0
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	0	0

Superheater 3 Elements - 80 Off (2 m Long)	0	0	0
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	0	0
Boiler Internals			
Components			

BOILER	IR OUTAGE (35 Days)		
	Quantities	Size/Area	TOTAL FOR IR OUTAGES 5 YEARS
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	1280
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	1728
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0		0
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0		0
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0		0
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m ea	64
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m ea	128
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0		0
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3840
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	0	0
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	0	0
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	0	0
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	0	0
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	0	0
Superheater 3 Elements - 80 Off (2 m Long)	0	0	0
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	0	0
Boiler Internals			
Components			

BOILER	GO OUTAGE (90 – 120 Days)		
	Quantities	Size/Area	TOTAL FOR GO OUTAGES 5 YEARS
Economiser Header Stubs - 320 Off (51 OD x 5.6 mm WT)	160	100mm ea	2240
Division Wall Penetration Tubes - 216 Off (38 OD x 5 mm WT)	216	1m ea	3024
Evaporator Slope Corner Tubes - 4 Off (12 m Long / 300 mm Wide)	0	12m x 300mm wide	28
Evaporator Sidewalls - 14 Off (16 m Long / 300 mm Wide)	0	16m x 300mm wide	98
Evaporator Sidewalls Gunblowers - 52 Off (12 Tubes 2 m Long)	0	12 off 2m long	364
Evaporator Scissors - 32 Off (44.5 OD x 5.6 mm WT - 2 m Long)	4	2m long	224
Evaporator corners 16ml & 33ml(44.5 x 5.6mm WT : Outside Boiler) 16 tubes : 1m long	16	1m long	112
Burner Nest - 4 Off (48 Bends and Blocks - 100 x 200)	0	100 x 200mm	336
Superheater 1 Slingtubes at 63 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3360
Superheater 1 Slingtubes at 60 M/L - 480 Off (50 x 100 mm)	480	50 x 100mm	3360
Superheater 1 Platen Slipspacers - 500 Off (50 x 100 mm)	0	50 x 100mm	3500
Superheater 1 Platen Slipspacers - 156 Off (2 m Long)	0	2m long	1092
Superheater 4 Return Bends - 720 Off (50 x 300 mm)	0	50 x 300mm	5040
Superheater 3 Return Bends - 800 Off (50 x 300 mm)	0	50 x 300mm	5600
Evaporator Sidewall - 28 Off (16 m Long / 300 mm Wide)	0	16m x 300mm wide	196
Superheater 3 Elements - 80 Off (2 m Long)	0	2m long	560
Evaporator Slope - 24 Off (12 m x 300 mm Wide)	0	12m x 300mm wide	168

1.2.4 Boiler Water Circulation Pump Bowl

Item	Item	Total Per Bowl	Quantity
1	Sandblast bowl externally and internally	10 m ²	1

1.2.5 Sootblower system Scope

Scope of work for cleaning of sootblower station terminal welds and lance tips during outages:

Sootblower system		
Components	Dimensions	Quantity per GO Outage (Average)
Butt welds	OD: 100 -170mm x L:300mm	24
Lance tips	OD : 102mm x L:300mm	40

1.3 Scope of Work: Sand Blasting of Turbine/Boiler Aux components

System	Size	Bends	T-pieces	Reducers	Straight pipes	shell strake	Domes
HP 6B Heater drain to heater 5B	OD219.1 *WT8.2	4	1	2	1		
HP 6A heater drain to HP5A	OD219.1 *WT8.2	4	1	2	1		
HP heater 5A drain to feedwater tank	OD273 *WT6.35	24	1	2	1		
HP heater 5B drain to feedwater tank	OD273 *WT6.35	18	1	2	1		
HP 5A Drain To Condenser	OD273 *WT6.35	9	1	2	2		
HP 5B drain to condenser	OD273 *WT6.35	7	1	2	1		
HP 6A drain to condenser	OD273 *WT9.27	7	1	2	1		
HP 6B drain to condenser	OD273 *WT9.27	6	1	2	2		
Condensate from LP 3 To Deaerator	OD324 *WT6	15	1	1			
LPH 3 Emr Drain	OD168.3 *WT7.1	17	3		1		
LP3 Recovery Pumps Discharge	OD141.3*WT6,02	8	1	6			
LPH1 A and B Drain Lines	OD114.3*WT6,02	13	3	5	2		
LPH 2 A and B Drain Lines	OD141.3*WT6,55	13	3		2		
HP heater 5A shell	OD1820*WT15				1	1	1
HP heater 5B shell	OD1820*WT15				1	1	1
LP Heater 3	1m*1m					1	

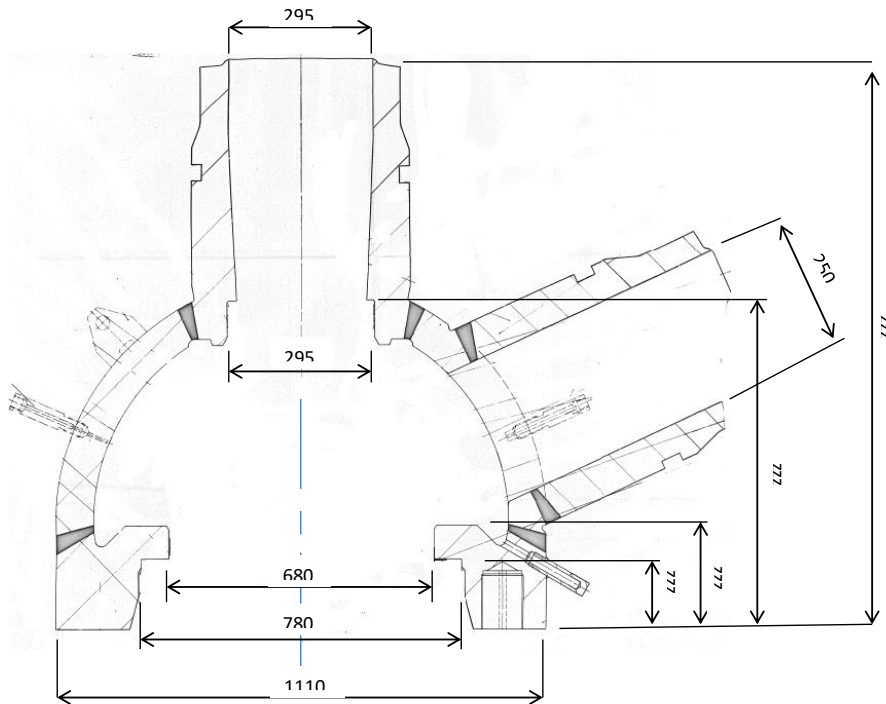
Shell							
Feed Pump 100% leak off	OD168.3 *WT7.1	11			1		
Feed Pump 50% "A" leak off	OD114.3*WT6,02	19			1		
Feed Pump 50% "B" leak off	OD114.3*WT6,02	19			1		
Feedwater Pipework- from Feed Reg station	OD510*WT55	5	4		1		
	OD304*WT21	2			2		
	OD323*WT20	4				4	
BFPT Discharge pipe	OD473*WT36.5	3					
EFP B Discharge pipe	OD298*WT30	2					
EFP A Discharge pipe	OD298*WT30	2					
Common discharge pipe	OD298*WT30	2			3		
EFP "A" Suction	OD406*WT6	2					
EFP "B" Suction	OD406*WT6	2					
SFP Suction	OD508*WT8	2					
100% Balancing Water	OD88.9*WT5.49	5	2				
IP Beld Steam to Deaerator	OD500*WT8	13			4		
	OD700*WT8	13	4		3		
LP Heater 3 Bled Steam Line A	OD508*WT6	2			2		
LP3 Heater Bled Steam Line "B"	OD508*WT6	3			2		
Bled Steam 3 Drain Line A	OD88.9*WT5.49	8	1		2		
Bled Steam 3 Drain Line B	OD88.9*WT5.49	8	1		2		
Bled Steam 4_Drain Vessel Drain to Condenser	OD60.3*WT3.91	15	2				
Bled Steam 4 Drain Line	OD60.3*WT3.91	10	1				
Gland Steam LP Desuperheating Line	OD273*WT9.27	4	3		4	1	
HP/IP Gland Steam Desuperheating Line	OD219*WT8.18	2	1		4	1	
Separator drain to Drains Collector	OD73*WT5.16	7	1				1
IP Gland Steam Drain to Drains	OD73*WT5.16	5	1				

Collector							
HP/IP Gland Supply drain to drains collector	OD73*WT5.16	7	1				
HP/IP Gland Supply drain to drains collector	OD114*WT6.02	4	1	3			
GS Drain to Drain Collector	OD42.2*WT3.6	6			2		
Main CDV	OD620*WT10				2		
	OD1016*WT12				3		
	OD323*WT6	4					
	OD368*WT8				1		
	OD508*WT8				1		
BFPT Drain Collector	OD500*WT8				1		
	OD168.3*WT7	2					
BFPT Loop Pipes	OD323*WT12.5	4			4		
Steam Dump cone	OD1350*WT12				1		
TOTAL		342	42	63	38	3	3

Boiler Water Circulation Pump Bowl

Item	Item	Total Per Bowl	Quantity
1	Sandblast bowl externally and internally	10 m ²	1

2. CIRC PUMP IT'S THE SANDBLASTING OF THE BOWL (EXTERNALLY). AT MAXIMUM I ESTIMATE 4M². (THE DIAMETER IS ABOUT 1110MM IT'S A HALF SPHERE). SEE PICTURE ATTACHED FOR ILLUSTRATION



EMPLOYER'S REQUIREMENTS FOR THE SERVICE

- Sandblasting grit (silica free) to be supplied by the Contractor, a data sheet must be handed in before starting the work.
- Contractor to supply own compressed air and equipment i.e. lead lights, DB boxes etc. **Please note boiler and piping height is 76m. Compressors to be able to supply the correct flow to carry out sandblasting at these heights from Zero level, (more than 4 pots at a time during GO's at these levels)**
- Sandblasting to be disposed at Duvha Lay Down areas, **and removal of such grit is for the Contractors own cost.(Tipper truck with crane to lift sandblasting bags containing waste grit/ Bobcat)**
- A waste disposal certificate to hand in with each safety file assessment. **(Mandatory for Technical Requirements during tender phase)**
- Waste Bins supplied and cleaned by Roshcon(Not for Sandblasting waste grit)
- Contractor to bring own containers to temporary store sandblasting grit
- All sandblasting grit and dust caused during sandblasting must be contained to the immediate area where sandblasting takes place and the sandblasting **grit to be cleaned during and after each and every shift.**
- Starting and completion dates: Scheduled outage dates will be communicated after approval of successful tender. Specific outage scheduled starting and completion dates, for HP Pipework cleaning, will be confirmed by Eskom Project Manager before task orders are processed. Sandblasting & cleaning activities will be scheduled i.e. the critical path activities.
- Shifts: Two 12 hr shifts per day or as per pre-arranged communication through Project manager. Sandblasting & cleaning activities will be scheduled i.e. the critical path activities.
- **Eskom Supervision: Please note that Eskom Outage Management, will appoint a QA Person from the Main Boiler Serve Contractor on Duvha Site(Steinmuller)to be in control of all Quality, Marking out and final approval for ANY Sandblasting activities as well as checking cleaning done correctly after each shift.**

General

- All the Technical and General Procedures must be submitted and accepted by the Project Manager
And the release note must accompany the tender. An Audit will be conducted while the project is in progress
- All General technical Procedures in the works information must be linked to the contract price list (Scope of work)
- No work shall commence until the scope of work has been finalized and accepted by both Project Managers(Eskom and Contractor)
- All work to be done under the Construction Regulation requirements
- Contactor must make sure that persons are qualified and skilled to do tasks as per scope of work
- Any incident leading to standing time must be corresponded within one hour to the Project Manager (this includes the names of the people affected) standing time will be paid for normal time only. If this occurs during overtime it will result in the end of that shift

- The “work” required is the supply of all :
 - Management
 - Supervision
 - Labours
 - Consumables
 - Lifting equipment
 - Tools
 - Warehousing
 - Storage
 - Safety Officer
 - Quality Controllers
 - Blasters/operators
 - Semi skill workers(General)

And any other item, either normal or otherwise, deemed necessary by the Employer for the proper execution of the whole of the works covered by the enquiry or arising.

Constraints on how the Contractor Provides the Works

The contractor will be required to attend all site meetings called by the project manager.

No recruitment shall be conducted on Tutuka Power Station property.

Accessible space for performance of the works but subject to interfaced activities of other contractors.
(Indicate your requirements)

Security check points daily on personnel and equipment

Task order approval.

A unique SOW will be submitted for various unit outages as per Task Orders per Outage (IN, IR, GO Outages)

1.1.2 Special Requests

- All work will be issued via SAP Maintenance system.
- Risk Assessment must be completed before each task.
- Eskom Lifesaving rules to be adhered to.
- The contractor must provide Quality Control Plan documents for approval by Eskom Supervisor prior performing any activity.
- The contractor to provide proof of experience (cv) and qualifications for all personnel and must be part of tender returnable.
- In periods of absence a negotiated substitute must maintain the plant.
- Rigging tools and electrical equipment to be inspected regularly and filled as per OHSACT requirement.
- All PPE to be provided by the Contractor and SABS approved
- Good housekeeping to be maintained at all times. The Contractor must clean and remove all debris after completing a task.
- Minimum tools and equipment as per scope of work.
- All Eskom required training will be provided by Eskom.
- All correspondence must be printed and filed on Project Manager's file.
- Provide SABS approved safety harnesses as per Eskom Safety Requirements.
- Workshop portable tools to be provided by the Contractor.
- Quality control plan and contract Quality plan approval process standards as per QM58 to be used.
- Transport to be provided by Contractor and included in cost.
- All ventilation equipment needed to do sandblasting and painting to be supplied by Contractor.
- Activities to comply with Construction Regulations
- All pressurized equipment to be tested and certified to be safe every 3 months
- CIDB Certificate must be valid at all times
- All overtime worked must comply with Eskom rest period requirements.
- During normal maintenance the Contractor will be informed and must react within 24hrs.
- During forced outages the Contractor will be informed and must react within 8hrs
- During emergency the Contractor will be informed and must react within 4hrs
- Eskom safety meetings and regulations to be adhered to
- The contractor will be authorized in Eskom (PSR) Plant Safety Regulations permit within 6 months
- All telephone accounts on Contractors account
- All cabins and LV equipment will comply within the Eskom standards(COC)
- Site condition will be according to the Eskom and Safety regulations standards
- Audit on Contractor will be done on frequent basis
- Contractor to make use of Eskom ablution facilities
- Transport to be provided by contractor
- Eskom Transport procedures to be adhered to
- Safety (Zero harm policy)
- Contractor staff to be Authorised and found competent in writing to work at Heights.
- All work done under a Plant safety permit to work at all times.

Site information

- The site is Duvha Power Station unit 1-6 as and when required
- Access is limited and controlled by Plant Safety Regulation requirements
- No employee will be allowed to access the plant or work without access permit issued

- All persons to work on the plant must be registered on the Worker's Register by the Responsible Person, authorised supervisor
 - All personnel must attend induction before working on site and they must obtain gate permits via the Employer' Representative
 - Unauthorised access to site is prohibited. The personnel are expected to be at their working site area at all times, as and when required
 - No recruitment on site or at the main access gates
- Failing to comply with all above may result on termination of the Contract

Specifications

Title	Date of revision	Tick if publicly available
Sandblasting grit, silica free, afrigrit sand grade AGT1		
Occupational Health and Safety Act, Act 85 of 1993		
QM58 – Quality requirements		
ENVP 0016: Procedure for environmental handling of waste including redundant and obsolete equipment.		
Environment Conservation Act (Act 73 of 1989)		
Atmospheric Pollution Prevention (Act 45 of 1965)		
Occupational Health and Safety Act (Act 85 of 1993)		
Tube Solo procedure 32-1107		
Road Traffic Act (29 of 1989)		
Health Act (Act 63 of 1977)		
Hazardous Substances Act (Act 15 Of 1973)		
Environmental Management Policy		
Air Quality Management Policy		
Waste Management Policy and Strategy		
Investigation of Major incidents		

Interpretation and terminology

The following abbreviations are used in this Service information:

Abbreviation	Meaning given to the abbreviation
PSR	Plant Safety Regulations
AP	Accounts payable
OSHACT	Occupational Health and Safety Act
PPE	Personal Protective Equipment
SAP	System Application Products
ORHVS	High Voltage Regulations
CPA	Cost Price Adjustment
QCP	Quality Control Plan
C&I	Control and Instrumentation
QMS	Quality Management System

LAR	Local Access Register
PPPFA	Preferential Procurement Policy Framework Act
ISO	Industrial Standard Organisation
FAC	Flow Accelerated Corrosion

3.1.3 Procedures

- All services must be according to the Eskom standard and procedures which is available on request

Management Strategy and start up

2.1 The Contractor’s plan for the service

- To be discussed before each task can be carried out between the Contractor and employer.
- Work method with a Programme to be supplied in a form of a signed hard copy as well as a soft copy, see Scope of work.
- No work shall commence until the scope of work has been finalised and accepted by both the service Manager and Contractor
- The successfully supplier will be guided by Steinmuller Supervisor for the duration of any given Outage.

1.2 Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly on _____ at _____		
Overall contract progress and feedback	Monthly on _____ at _____		<i>Employer, Contractor and _____</i>

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *service*. Records of these meetings shall be submitted to the *Service 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.

- **Attendance of meetings as required by the Service Manager such as:**
- Duvha Power Station Contractors Safety Meeting (Monthly)

- Section daily Meetings
- Any meeting requested by the Employer or Contractor
- Meeting Minutes must be kept
- Attendance register to be signed by all and kept in Employers File
- All assessments meetings compulsory

1.3 Contractor's management, supervision and key people

Site manager

Foreman/Supervisor

Safety Officer

Quality Controller (qc)

Blaster/ Operators and General (Semi-skill worker)

1.4 Provision of bonds and guarantees

- N/A

1.5 Documentation control

- Each Instruction ,Certificate ,submission ,proposal ,record ,acceptance ,notification ,reply and other
Recorded
- Writing is in the language of this contract.
- Monthly and weekly reports to be discussed compiled and handed in to the Eskom Supervisors and Services Managers (to be announced by the Employer)
- Reports to be submitted to the Service Manager after each completed activity.
- All communication must be printed and filed in Service Manager File.

1.6 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Service Information. Also include a list of information which is to be shown on an invoice.

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 *Service Manager's* payment certificate.

The *Contractor* shall address the tax invoice to

And include on each invoice the following information:

- Name and address of the *Contractor* and the *Service Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- Purchase Order number;
- Invoice can only be handed in when the GR number is released by Eskom
- Invoices and copy of Assessment with Service Entry number must be handed directly to Tutuka Power Station's AP

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

1.7 Contract change management

- Changing the Service Information
- Access
- Provision by the Employer
- Stopping the work
- Work of the employer or others
- Reply to communication
- Changing a decision
- With holding acceptance
- Delay tests or inspections
- Change of Affective property
- Materials ,facilities, etc. for tests
- Employer's risks
- Assumption about Compensation Events
- Employer's breach of contract

1.8 Records of Defined Cost to be kept by the Contractor

- N/A

1.9 Insurance provided by the Employer

- Refer to Contract Data section

1.10 Training workshops and technology transfer

- PSR training and authorisation. Re – authorisation every two years period
- All necessary Safety courses needed for PSR authorisation.
- All training by Eskom will be on Eskom's account
- The Supervisor must be authorised in terms of Plant Safety Regulations within 6 months after the contract has been awarded.

1.11 Design and supply of Equipment

- In this case for a modification, the modification process must be followed.

1.12 Things provided at the end of the service period for the Employer's use

1.12.1 Equipment

- N/A

1.12.2 Information and other things

- All Reports to be compiled filed, discussed and handed over to the Employer on a weekly basis (the day in the week to be announced by Employer) and at the end of service.
- All PM's to be signed off handed back to Eskom Outage co coordinators on a daily basis
- The contractor safety file will be hand over to the Service Manager and will be saved for 40 Years after completion /Termination of the contract.

1.13 Management of work done by Task Order

- A Task Order is the instruction to commence work.
- No work shall commence until Task Order is issued and has been finalised and accepted and signed by both Employer and Contractor.
- Completion Certificate to be issued after task is completed on the Task Order .Completion certificate must be submitted together with the Assessment.
- All work will be issued on a Task Order system. The work Order ,Purchase Requisition and Purchase Order will be created via the SAP PM system
- Task Order, Assessment with all supporting documentation and Completion Certificate will be used for work required.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

The *Contractor* shall comply with the health and safety requirements contained in Annexure SHE Specification to this Service Information.

- All Eskom health and safety procedures and regulations to be adhered to by the *Contractor*
- A SHEQ file to be handed in at the SHEQ department for approval prior to work commencement and kept up to date for the duration of the contract

Health and Safety Arrangements

The *Contractor* shall comply with the health and safety requirements contained in Annexure SHE Specification 14RISK SRM – 084 to this Service Information.

Eskom SHEQ Policy

Eskom has made a commitment to conduct business with respect and care for people, the environment and assets and that no operating condition or urgency of service justifies exposing anyone to negative risks arising from Eskom's business.

Compliance with the Eskom SHEQ Policy and applicable regulations is the responsibility of every employee and Contractor.

Contractor SHEQ Policy

All *Contractors* shall have an OHS policy signed by the CEO of the *Contractor* and prominently displayed where employees normally report for duty.

Signed copy of the OHS policy shall form part of the SHEQ file.

SHE PLAN REQUIREMENTS:-

- Principal *Contractors* shall develop a suitable and sufficiently documented site specific SHE plans, based on the scope of work and client SHEQ specification.
- The SHE plan must be pre-approved by the client for implementation. The principal *Contractor/Contractor* has a responsibility to send the SHE plan to the client for approval prior to commencement of work.

- The SHE plan must be applied from the commencement of and for the duration the construction work, which must be updated/reviewed as the work progresses/changes.

When a principal *Contractor* intends appointing contractor, the principal *Contractor* shall ensure that the *Contractor* provides and demonstrate a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's SHEQ specifications and scope of work

Health and Safety Arrangements

The *Contractor* ensures that all his personnel attend a Health and Safety Induction Course prior to contract starting date, and annual re- induction. The Induction Course is presented by the *Employer's* Safety Risk Department at Duvha Power Station. Arrangements are made with Safety Risk Management, by the *Contractor*.

The *Employer's* Safety Risk Manager visits and inspects the *Contractor's* workplace or site yard and the working areas to ensure that tools; machinery and Equipment comply with the minimum safety requirements.

The *Service Manager* may instruct the *Contractor* to stop work, where the *Contractor's* personnel fail to conform to safety standards or contravene health and safety regulations. Such stop-work order is not a compensation event. The *Service Manager* may instruct the *Contractor* to discipline his employees and to submit a disciplinary action report to the *Service Manager*. The *Contractor* implements additional health and safety precautions where necessary.

Health and safety

The *Contractor* complies with the Occupational Health and Safety Act 85 of 1993, as well as Eskom procedure as stipulated below:

- SHEQ Policy 32-727
- Eskom Procurement and Supply Chain Management Procedure 32-1034
- SHE Requirements for the Eskom Commercial Process 32-726
- *Contractor* Health and Safety Requirements 32-136
- Integrated SHE Organization; Roles and Responsibilities and Statutory Appointments 32- 296
- Live-saving Rules 240-62196227
- Working at Heights 32-418
- Eskom Vehicle Safety Specifications 32-345
- Tutuka *Contractor* SHEQ Specifications 14RISK SRM - 084

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 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 Eskom Safety Officer responsible for the premises relevant to this contract.

Do safety audits at the *Contractor's* premises, its work-places and on its employees;

Refuse any employee, sub-Contractor or agent of the *Contractor* access to its premises if such person has been found to commit any unlawful act or any unsafe working practice or is found to be not authorised or qualifies in terms of the OHSACT;

Issue the *Contractor* with a work stop order or a compliance order should Eskom 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, sub-Contractors or agents.

The *Contractors* Health and safety file is to be submitted for approval to Tutuka's Safety Officer before contract commencement.

All work stoppages called by the *Employer* to be adhered to

First aid and fire fighting

Adequate first aid and firefighting equipment to be provided by the *Employer*
All *Contractor* personnel must have First aid and firefighting training

Fire Precautions

Any tampering with the *Employer's* fire equipment is strictly forbidden.

All exit doors, fire escape routes, walkways, stairways, stair landings and access to electrical distribution boards is kept free of obstruction, and are not used for work or storage at any time. Firefighting equipment must remain accessible at all times.

The *Contractor* takes the necessary action to safe guard the area to prevent injury and the spreading of the fire.

Security, fire protection and safety

The *Contractor* shall be responsible for ensuring the security of the works, and of his plant, equipment and materials. To that end he shall make adequate provision for access control, lighting and watchman to the works where required.

Fire protection

The provision of Eskom's standard NWS 1494 "Fire Prevention and Protection of *Contractor's* premises at New Works sites" shall be applicable.

Safety and incident prevention

The *Contractor* shall implement and maintain an active Site Safety and Accident Prevention Programme in accordance with the Tutuka SHEQ Specifications. The overriding regulations will however be the Occupational Health and Safety Act.

- Incident Management, Corrective & Prevention Procedure to be adhered to : -14Risk IM PC - 019

Reporting of accidents

The *Employer* follows an accident prevention policy that includes the investigation of all accidents involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incidents. The *Contractor* is expected to fully co-operate to achieve

this objective. The *Service Manager* must be informed immediately of any incidents. A written report to be submitted to the *Employer within 24 Hours* of incidents and any damage to property or equipment

NOTE! This report does not relieve the *Contractor* of his legal obligations to report certain incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act.

Occupational Health and Safety Act 85 Of 1993 – SECTION 37

In accordance with Section 37 (2) of the Act, the *Contractor* is appointed by the *Employer* as mandatory to assume Health and Safety duties and responsibilities. The *Contractor* ensures compliance with all requirements of the Act and any instruction or notification that enhances those requirements.

The *Contractor* acknowledges that he is fully aware of all the requirements of the Occupational Health and Safety Act and undertakes to employ only staff who have been duly authorised in terms thereof and who receive sufficient safety training to ensure that they can comply therewith.

The *Contractor* undertakes not to do, and 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 who liaises with the *Employer's* Safety Officer, responsible for the premises relevant to the Contract. The person appointed shall on request:

- Supply the *Employer's* Safety Officer with copies of minutes of all Health and Safety Committee meetings, whenever required.
- Supply the *Employer's* Safety Officer with copies of all appointments in respect of Employees employed on this contract, in terms of the Act and Regulations and shall notify the *Employer's* Safety Officer of any changes thereto.

The *Employer* may, at any stage during the duration of this contract:

- perform safety audits at the *Contractor's* premises, its work place and its employees;
- refuse any employee, *Subcontractor* or agent of the *Contractor* access to its premises if such person is found to commit any unsafe act or any unsafe working practice or is found not to be duly authorised nor qualified in terms of the Act; Issue the *Contractor* with an instruction to stop work should the *Employer* become aware of any unsafe working procedure or condition or any non - compliance with the Act, Regulations and Procedures referred to in the Occupational Health and Safety Act 85 of 1993 and all Regulations made hereunder as well as all the *Employer's* Safety and Operating Procedures. Any such instruction is not a compensation event. Furthermore, no amendments to the act or the Regulations or reasonable amendment to the *Employer's* Safety and Operating Procedures will entitle the *Contractor* to claim any additional costs or time incurred in complying therewith, from the *Employer*

Safety Regulations of the Employer

The *Contractor* conforms to the Eskom Plant Safety Regulations
The *Employer* makes available to the *Contractor*, on request, a copy of the latest revision of the Plant Safety Regulations.

3.2 Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in the following:-

All waste from the project must be disposed in a sound environmental manner in accordance with Duvha Power Station Waste Management Procedure 14 Risk ENV-013. Oil spillages must be contained and cleaned as per Oil Spill Management procedure 15 ENPRENV-001. The project must conform to Eskom Environmental Legal and other Requirements procedure 14 Risk ENV-012 and the project must conform to Duvha Power Station ISO14001 Standard with reference to Duvha Power Station's Environmental Management System Manual 14 Risk ENV-010. All environmental incidents must be dealt with as per the Station's Incident Management, Corrective and Preventative Procedure 14 Risk PC-001 and all environmental incidents must be reported to the Environmental Department on site.

3.3 Quality assurance requirements

The *Contractor* shall be required to demonstrate by means of a Quality Plan that this organisation is so structured that all the requirements of the specification will be properly monitored and controlled. The Quality Plan and Control procedures are to be carried out in accordance with QM 58. The Quality Control document is to be submitted for approval to Duvha within three (3) days after order placement by the *Contractor*.

No work may commence unless the Quality Control document has been approved in writing and a copy submitted to *the Service Manager*. *The Contractor*, in conjunction with Tutuka Engineering must sign off all Quality Control documents after completing all work on site. *The Contractor* to submit a copy of the final signed off document to *the Service Manager* within 1 week after Completion of each activity or Task.

- QCP and contract quality plan standards as per QM 58 to be adhere to
- GGG 1099 - The guideline provides Fossil and Peaking Power Stations with information necessary to establish the classification of all plant systems, equipment, components and activities.
- *The Contractor* must provide Quality Control Plan documents for approval by Eskom Supervisor prior performing any activity.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed

- Supervisor must have grade 12 and or N3
- Safety Officer must have at least a SAMTRAC certificate
- Data /Types Capturer must have grade 12 and or N3 with a Computer Certificate
- The Supervisor must be authorised as Authorised Person as per legislative requirement and the period within which this requirement must be fully met, will be finalised within the six month of contract award
- All replacement of staff will be the same discipline (like an artisan with proof of Qualifications)
- All new staff must hand in all Qualifications and relevant documentation to the *Service Manager*.
- When changing personnel a new access to work form to be completed by the *Contractor*
- Only required specified approved of personnel to be allowed on site ,pre arrangement with *Service Manager*

- All relevant personnel names and titles be specified to the *Service Manager*

Appointments

Appointments of new employees to be approved by the *Service Manager*

4.1.2 BBBEE and preferring scheme

- As per clause Z3 within Contract Data

4.1.3 Supplier's Development, Localisation and Industrialisation

Refer to Supplier's Development, Localisation, Localisation and Industrialisation Strategy Setting Document.

4.2 Subcontracting

4.2.1 Preferred subcontractors

- Sub *Contractors* will only be allowed within a written permission from the *Service Manager* only.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

- N/A

4.2.3 Limitations on subcontracting

- N/A

4.2.4 Attendance on subcontractors

- N/A

4.3 Plant and Materials

4.3.1 Specifications

- Where applicable :All plant spares and materials to be inspected(Quality checked)before installing in plant
- Eskom will supply spares and materials
- The contractor is not allowed to use any materials or spares for private usage or on other Eskom Sites
- The *contractor* must transport material from the stores to the plant.
- Request to be in writing the day before material will be needed.
- Hold and witness points must be attended and witness all intervention points as per approved QCP as per activity.
- The *contractor* will be responsible for the safe guarding, care and security of all I items whilst in the *Contractors* custody and control, until Completion of the whole of the works.
- Contractor must be "able ,trained and be prepared "with the necessary PPE, equipment, tools, skills and authorised to handle any equipment ,spares , tools and materials related to the scope of work.

4.3.2 Correction of defects

- All work to be done must be done under a permit to work. Some plant are trip risk and can only be worked on during outage or unit shut downs.
- All defected equipment to be reported to the *Service Manager*

4.3.3 Contractor's procurement of Plant and Materials

- Purchasing of spares or material will go through the Eskom procurement process.
- The Contractor will supply his own consumables (i.e .cleaning rags, grid bags to remove dirt after blasting, truck/tipper, forklift etc.)
- Contractor to supply his only rigging equipment.

4.3.4 Tests and inspections before delivery

- All rigging Equipment tests and inspections are to be carried out by agents of the *Employer* overseas.

4.3.5 Plant & Materials provided "free issue" by the *Employer*

- All spares/equipment removed and returned to Duvha premises must be declared at the main entrance where the removal permit for the spares must be shown to the Protective Services personnel.

5 Working on the affective Property

5.1 Employer's site entry and security control permit and site regulations

- Live saving rules must be adhered at all times.
- Access is limited and controlled by Plant Safety Regulations Requirements.
- No employee will be allowed to access the plant or to work without access permit issued.
- All personnel to work on the plant must be registered on the Worker's Register by the Responsible Person.
- All personnel to have an identification card at all times
- All personnel must attend induction before working on site and they must obtain gate permits via the *Service Manager*.
- Unauthorised access to site is prohibited. The personnel are expected to be at their working site area at all times
- No recruitment on site or at main gate or any Eskom premises is allowed.
- All activities to comply with the OHSACT and Regulations.
- All activities on plant must be preceded by a plant risk assessment – risk assessment as per Eskom standard to be current at all times. (live document).5.1

5.2 People restriction, hours of work, conduct and records

- Normal working hours is Eskom working hours:
- Monday to Thursday 07:00 – 16:15
- Fridays 07:00 – 12:00
- Other hours will be determine d as per critical path activities during outages /breakdowns
- Overtime on an as-and-when required basis, but must be approved by the *Services Manager*
- Daily time sheet must be kept up to date of normal and overtime worked at all time Eskom Contractors time sheets to be used
- The Contractor must be on available for any plant breakdowns during after hours, week – ends and public holidays. The Contractor must be on site after 1 hour after a phone call made.

- All overtime work must comply with Eskom rest period requirements.
- All plant overtime a plan must be submitted by the contractor and a request for planned overtime to be handed in approved by the Service Manager.

5.3 Health and safety facilities on the Affected Property

- Proto-team on each shift
- Medical Station and relevant staff on Site.
- Each workshop has a first aid box available.
- Yearly induction for all personnel.
- In an emergency the contract supervisor and Service Manager must notified immediately

First aid centre

The *Contractor* provides a first aid service to his employees and *Subcontractors*. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* medical centre and facilities are available.

Outside the *Employer's* office hours, the *Employer's* first aid services are only available for serious injuries and life threatening situations.

The *Employer* is entitled, however, to recover the costs from the *Contractor* for the use of the above *Employer's* facilities

5.4 Environmental controls, fauna & flora

Environmental management

- Proper care of the natural environment is important to prevent nuisance and environmental Degradation.
- All contractors shall comply with Eskom environmental management procedures and Environmental legislation
- Environmental incidents shall be reported to the Eskom Environmental Department as per Incident management requirements.

Waste Management

- Waste segregation is important to facilitate recycling of waste. Ensure waste is disposed of in the correct colour bin.
- Eskom periodically collects waste from the bins for disposal in the correct manner.
- No waste should be burned or buried on site.
- Where Eskom and the contractor have agreed that the contractor is responsible for the Disposal of its waste, the contractor shall safely dispose of such waste and keep disposal Certificates on file.

Types and colours of bins used on site:

- White bin for domestic waste
- Orange bin for hazardous waste
- Maroon bin for scrap

Environmental management

The *Contractor* is required to ensure that all goods, services or works supplied in terms of the contract conform to all applicable environmental legislation. Where work is done on the Site, the goods, services or works supplied will also conform to the *Employer's* environmental specifications.

Handling of waste produced by the Contractor

All waste introduced to and/or produced on the *Employer's* premises, by the *Contractor*, for this contract, 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 Act 1994 Ref.:BN0621-16296-5.

The *Contractor* is responsible to appoint a waste coordinator to ensure that all waste produced is handled according to the applicable legislation.

The *Contractor* is required to ensure that all goods, services or work supplied in terms of the contract conform to all applicable environmental legislation. Where work is done on the *Employer's* site, the goods, services or work supplied also conforms to the *Employer's* environmental specifications.

Waste from the cleaning and maintenance of equipment

The *Contractor* is responsible to contain all waste due to cleaning and maintenance of equipment and disposes of as described below.

Stockpiling of waste

Waste is removed promptly to the designated deposit areas. No stockpiling is permitted.

Hazardous waste

Waste declared as hazardous substances in terms of the Hazardous Substances Act no 15 of 1973 is the responsibility of the *Contractor* to ensure safe removal from the property to a registered Class 1 site

Pest Control

- Only approved herbicides with a low environmental risk shall be used for pest control.
- Only registered pest controllers may apply herbicides on a commercial basis.
- Application of herbicides shall be in accordance with the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 194.

Water Conservation

- Incidents related to water pollution must be reported to the Eskom environmental department within 24 hours.
- Report/fix leaking taps and pipes to save water.
- Use water sparingly.
- Chemical substances shall not be disposed of in waste water or storm water drains.

Air Pollution

- Dust suppression measures must be in place to reduce airborne dust.
- Noxious and offensive odours arising from work activities shall be adequately controlled.

5.5 Cooperating with and obtaining acceptance of Others

5.5.1 Interface with others

It is likely that other Contractors will be in the same area. Other might however from time to time require limited access to the same area in order to execute maintenance activities and Contractor is to be accommodating in such instances.

5.5.2 Planning

Programmes are submitted in hard and electronic and must be accepted by the Service Manager.

5.5.3 Monthly Progress reports

A Weekly progress report will be submitted to Services Manager

5.5.4 Monthly Progress reports

This section specifies what Contractor has to do for Completion.

5.5.5 Requirements for Completion

Completion is when the Contractor has done all the work, which the Works information stated he is to do by the Completion Date and has corrected notified the Defects, which would have prevented the Employer from using the works.

The site is handed back to the Employer in a condition acceptable to the Service Manager.

5.6 Records of Contractor's Equipment

Contractor's Equipment (cell phones with cameras, computers, cameras, etc.) to be declared and signed in at security

All test equipment must be calibrated and tested regularly and certificates must be handed in to the *Service Manager* for record keeping

5.6.1 Electrical & instrumentation equipment and appliances

Any electrical /instrumentation equipment or appliances used by the *Contractor* conforms to the applicable South Africa safety Standards and is maintained in safe and proper working conditions .The *Services Manager* has the right to stop the *Contractor's* use of any electrical/instrumentation equipment or appliance that in *Service Manager's* opinion does not conform to the foregoing .The *Contractor* only employs skilled persons, certified of the relevant ac.

5.7 Equipment provided by the Employer

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5.8 Site service and facilities

5.8.1 Provide by Employer

The Employer may allow the Contractor , for the execution of the works , the reasonable use of its workshop, cranes, tools and equipment , provided that the Employer 's own work and business are not interfered with in any manner by such use .The Contractor shall leave all workshops, cranes, tools and equipment in as good a condition as he found them , fair wear tear excepted , and shall be liable for any damage by the Employer as a result of any act negligence by the Contractor , his employees or Sub –Contractor while using such workshop, cranes tools and equipment.

Supply of electricity

The Employer supplies 220 &380 V AC power supply at existing points for the purpose of the works only.

All installation or equipment complies with all relevant safety regulations and requirements. Contractor to supply own 220 or 380 VAC extensions

Water

The Employer supplies portable water for the purpose of the works at existing points and in reasonable Quantities .Uninterrupted supply is not guaranteed and not grounds for compensation events.

Accommodation of the Contractors' employees

The Contractor makes his own arrangements for accommodation and meals

Telecommunications

The Contractor provides his own communication system and the cost thereof. Cell phones /radios to be used on the ash facility/ash dams /slurry plants where poor reception exists. All private telephone calls/ internet usage will on the account of Contractor

Should the Contractor wish to use radio communication equipment on site, he will make his own arrangements with relevant authorities. In this case through, he is require to liaise with the Head of Security

At the Station to ensure that there is no interference with existing channels or equipment

Facilities available

Employers will provide changing, eating facilities, toilets and portable water.

For the purpose of expediting the work, The Employer may make facilities and services available to the Contractor as provided at no cost to the Contractor. The Contractor will not receive any reimbursement or make any charges to the beneficial use of the facilities or services.

5.8.2 Provide by the Contractor

- *Contractor* to provides and ensure safe transportation service for all his Contractors and it must comply with 32-93 and 33-345 procedures.
- *Contractor* to provide own (coffee, sugar, tea etc.)
- All computers and printers accessories needed to be provided by the *Contractor*,
- The *Contractor* will be responsible for the cost of private phone calls , faxes and internet usage.
- The *Contractor* to provide accommodation and meals for his/her employees and cost for this to be included in the contract price.
- All PPE to be provided by *Contractor* and must be SABS approved and according to Eskom standard
- *Contractor* to provides own barricading
- Provides SABS approved Safety harnesses as per Eskom Safety requirements
- The Contractor will be responsible for the cost of all internet usage telephone or telephone calls made to any cellular, Telephone or international number
- *Contractor* to provide own cabin for office and work place COC, Eskom to provide space with COC, Eskom to provides space
- *Contractor* to provides a Method Statement for the SOW
- The *Contractor* supplies , maintains and ensure that his personnel at all times wear personal protective equipment as required on site
- The contractor's equipment does not impair the operation of the plant or access to the plant.
- Access permit (Refer to procedure : Access Control at Eskom premises(32-1134)
- *Contractor* to provides own tools and equipment and test instruments to enable to preform work
- *Contractor* to provide own tools and equipment test instruments to enable to preform work according to the scope of work.
- *Contractor* to supply own 220 or 380 VAC extension's and lead lights at the Contractors own cost.
- Certified copies of ID's and Qualifications to be provided by the *Contractor* on contract reward.

Personal Protective Equipment

The *Contractor* supplies, maintenance and ensures that his personnel at all times personal protective equipment as required per site

House keeping

The Contractor Equipment does not impair the operation of the plant or access to the plant Contractor will with good housekeeping standard whilst on the Employers site.

Access permits

All applicable *Contractor* personnel shall be issued with access and vehicle permits (Contract Permits) which will contains the following information:

- Name
- ID Number
- Company
- Validity date

All *Contractors* permits must be submitted to Protective Service when the workers leave the Site after Completion of the works.

The *Contractor* applies with Duvha Power Station Protective Service for issuing of permits.

The *Contractor* submit his application at least 24 hours prior to entering the Security area .This application must be delivered to Protective Services.

The form contains the following information.

- Employee Name.
- Employee ID Number.
- Eskom Safety Co –coordinators signature
- Eskom Service Manager 's signature
- Copy of the first page of ID book of every employee of the Contractor , Photocopies to reduce the size to 65%

The form is appended to the *Contractor's* Safety Manual, referred to in Section 2.3.2 (b)

The *Contractor's* visitors and personnel shall to the security arrangements in force at the Site at all times

The Chief of Protective Services may valid cause; remove any of the *Contractor's* personnel from Site, either temporarily or permanently. He may deny access to the Site to any person whom, in the opinion of the said Chief of Protective, constitutes a security risk.

No unauthorized vehicles be allowed on Site application should be directed to the *Service Manager*

The *Contractor* will be limited to the working area associated with the works. The *Contractor* is forbidden to enter any other area, and must ensure his employees abide by these regulations.

Parking inside the Power Station is allowed. The parking application must be addressed to the protective services .All Contractors will supply protective service with their vehicles registration numbers. Vehicles will be limited according to Security max allowable per Supplier.

No Recruiting of casual labour may be done on Eskom premises, including the area outside the power station security gate.

The Contractor obtains the access procedure, from The Service Manager, which may change depending on the prevailing security situation.

Standby personnel

The Contractor supplies the Service Manager with a standby roaster of standby personnel

Temporary Cabling

The Contractor will be provided with all temporary wiring and cabling to lead power from the point of supply to the various points where it is required. The Contractor maintains and removes it on Completion.

5.9 Control of noise, dust water and waste

- All necessary and relevant PPE must be used at all time when entering or working on plant.
- Work Permits Risk Assessment form must be completed before commencing with any task.
- All relevant procedures to be used at all times.
- All waste material shall be removed and disposed of in nearest appropriate bins and the immediate area around and were work has been carried out shall be cleaned
- The Contractor will have no title to any material scrapped in the process of the execution of work.

5.10 Hook ups to existing works

5.10.1 Constrain on how the Contractor provides the Service

- The *Employer* reserve the right to terminate the contract, once 3 non –conformances are raised against the *Contractor*
- The *Employer* reserves the right to have any of the *Contractor's* personnel removed off site without cancelling the contract if, in the Employers opinion, it is warranted.
- The *Employer* Reserves the right to request disciplinary action if , and when required .
- The *Contractor* complies with all the site regulations given by the Employer.
- All activities to be done under the OHS Act of 1993.Care must be taken to prevent damage to any surrounding such as the plant, road and equipment in and around existing buildings.
- The *Contractor* and his employees will be required to conduct themselves at all times in proper and orderly manner while on the *Employer's* premises.
- The *Contractor* and his employees may only smoke in the allowed/designated areas.
- The *Employer* will take immediate steps to institute criminal investigations in the event of any suspected criminal acts e.g. theft etc.
- The *Contractor* must submit Curriculum Vitae's and certified copies of qualifications and/or certificates of its qualified staff prior to work commencing on site.
- The *Contractor* will be responsible for the full payment of the legislative training costs for every employee at the *Contractor's* cost, in the event that the employees have redo the training due to failing at the first attempt as well as the subsequent attempts that follows until the employee is authorized.
- All known *services* will be brought to the attention of the *Contractor* by *Service Manager*. Should the *Contractor* encounter any other services in the work area, he will immediately bring it to the attention of the *Service Manager* who will issue instructions as to what actions are to be taken.
- Eskom carries no responsibility for unforeseen delays unless such a delay is negotiated within 24 hours of the occurrence and written agreement is submitted by Eskom.
- The *Employer* will provide Plant Safety Regulations training necessary for the *Contractor* in order to carry out the works.
- The *Contractor* allocates staff to be trained and authorized as Responsible Persons according to *Employer's* Plant Safety Regulations and/or High Voltage Regulations. These Responsible Persons are available on site as and when required to take out permits to work.

- The *Employer* will provide any training deemed necessary by the *Service Manager* for the *Contractor* to perform the *service*. The *Contractor* shall be obliged to carry out the *service* for which the training was provided.
- For additional training required due to turn over, the cost will be recovered from the *Contractor*.

5.10.2 Minimum Qualifications requirements of people employed by Contractor are as follows:

- Supervisor must have grade 12 and or N3
- Safety Officer must have at least a SAMTRAC certificate
- Data /Types Capturer must have grade 12 and or N3 with a Computer Certificate
- The Supervisor must be authorised as Authorised Person as per legislative requirement and the period within which this requirement must be fully met, will be finalised within the six month of contract award
- All replacement of staff will be the same discipline (like an artisan with proof of Qualifications)
- All new staff must hand in all Qualifications and relevant documentation to the *Service Manager*.
- When changing personnel a new access to work form to be completed by the *Contractor*
- Only required specified approved of personnel to be allowed on site ,pre arrangement with *Service Manager*
- All relevant personnel names and titles be specified to the *Service Manager*

5.10.2 Training

- a) The *Employer* will provide Plant Safety Regulations (PSR) training necessary for the *Contractor* in order to carry out the works.
- b) The *Contractor* Supervisor to be trained and authorized as an Authorized Supervisor according to *Employer's* PSR and ORHVS.
- c) The *Employer* will provide any training deemed necessary by the *Service Manager* for the *Contractor* to perform the *service*. The *Contractor* shall be obliged to carry out the *service* for which the training was provided.

5.11 Test and inspections

5.11.1 Description of test and inspection

- Do inspection as per scheduled Work Orders and report all defects to Eskom coordinator

5.11.2 Material facilities and samples for test and inspection

- N/A