



NEC3 Term Service Contract (TSC3)

Between	ESKOM HOLDINGS SOC LIMITED (Reg No. 2002/015527/30)	
and		
for	INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING OUTAGES AND OPPORTUNITY MAINTENANCE ON “AS WHEN REQUIRED” BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION	
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CONTRACT No.		

PART C1: AGREEMENTS & CONTRACT DATA

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C1.1 Form of Offer & Acceptance

Offer

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

Inspection, maintenance and repairs of PF piping and PF burner systems during outages and opportunity maintenance "as 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 or C	The offered total of the Prices exclusive of VAT is	R [●]
	Value Added Tax @ 15% is	R [●]
	The offered total of the amount due inclusive of VAT is ¹	R [●]
	(in words) [●]	

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

Signature(s)			
Name(s)			
Capacity			
For the tenderer:			
Name & signature of witness	<i>(Insert name and address of organisation)</i>	Date	
Tenderer's CIDB registration number:			

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*.

Acceptance

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

The terms of the contract, are contained in:

- Part C1 Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
- Part C2 Pricing Data
- Part C3 Scope of Work: Service Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any).

Signature(s)			
Name(s)			
Capacity			
for the Employer			
Name & signature of witness	(Insert name and address of organisation)	Date	

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

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

Note:

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

No.	Subject	Details
1		
2		
3		
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>		<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*

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

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option:	
		A: Priced contract with price list
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	
		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):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state-owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
	Tel No.	
	Fax No.	
10.1	The <i>Service Manager</i> is (name):	
	Address	Arnot Power Station Private Bag X2 RIETKUIL 1097 MPUMALANGA

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

	Tel	
	Fax	
	e-mail	
11.2(2)	The Affected Property is	Arnot Power Station
11.2(13)	The <i>service</i> is	Inspection, maintenance and repairs of PF piping and PF burner systems during outages and opportunity maintenance.
11.2(14)	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Matters arising from the compensation events
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	24 hours during outages and emergencies, 48 hours for other requests during the normal operations in execution of the contract
2	The 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	As per the Task Order requirements
3	Time	
30.1	The <i>starting date</i> is.	TBA
30.1	The <i>service period</i> is	48 months (4 years) Note: some services change and not be carried out depending on the decommissioning schedule of the respective units. Some units may/may not be serviced in the near future as they reach the end of their lifetime.
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 25th 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	(*) Calendar days after the signed assessment by both Parties and a valid Tax Invoice. ATTENTION: Eskom's standard policy on payment term for all contracts valued above R50 000 000

		(Fifty Million Rand), including VAT, is 60 days. Bidders are requested to bear this payment term in mind when submitting bids and concluding contracts.
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
6	Compensation events	All Compensation Events are to be managed as per core clause 6 of the NEC3 TSC
7	Use of Equipment Plant and Materials	The Employer will provide the spares required to do the repairs of the scope issued.
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	<ol style="list-style-type: none"> 1. Interface with other service providers 2. Employer will not make a payment if the invoice from the contractor does not correspond with the assessment by the Project Manager
83.1	The <i>Employer</i> provides these insurances from the Insurance Table	as stated for "Format TSC3" available on http://www.eskom.co.za/Tenders/InsurancePolicies/Procedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx (See Annexure A for basic guidance).
83.1	The <i>Employer</i> provides these additional insurances	as stated for "Format TSC3" available on http://www.eskom.co.za/Tenders/InsurancePolicies/Procedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx (See Annexure A for basic guidance)
83.1	The <i>Contractor</i> provides these additional insurances:	
83.1	The minimum amount of cover for insurance against loss and damage caused by the <i>Contractor</i> to the <i>Employer's</i> property is	the amount of the deductibles relevant to the event described in the "Format TSC3" insurance policy available on http://www.eskom.co.za/Tenders/InsurancePolicies/Procedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx
83.1	The insurance against loss of or damage to the <i>works</i> , Plant and Materials is to include cover for Plant and Materials provided by the <i>Employer</i> for an amount of	the amount of the deductibles relevant to the event described in the "Format TSC3" insurance policy available on http://www.eskom.co.za/live/content.php?Item_ID=9248
83.1	The minimum amount of cover for insurance in respect of 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 for any one event is:	whatever the <i>Contractor</i> deems necessary in addition to that provided by the <i>Employer</i>.
83.1	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract for any one event is:	As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the <i>Contractor's</i> common law liability for people falling outside the scope of the Act with a limit of Indemnity of not less than R500 000 (Five hundred thousand Rands).
9	Termination	To be managed as per core clause 9 of the NEC3 TSC
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	Monthly (30 days) or as stated on the Task Order
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).
	Address	
	Tel No.	
	Fax No.	
	e-mail	
W1.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the 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 latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	[Johannesburg] South Africa
	The person or organisation who will choose an arbitrator - if the Parties cannot agree a choice or - if the arbitration procedure does not	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern

	state who selects an arbitrator, is	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	Base date (One month after ITT/RFQ closing or to be agreed upon)		
	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for	Index prepared by
		10%	Transport	SEIFSA Table L2
		60%	Labour	SEIFSA Table C3
		15%	CPI	SEIFSA Table D4
		15%	non-adjustable	
		100%		
X2	Changes in the law	Becomes a Compensation Event only if the changes in the Law of the Republic of South Africa took place after the Contract Date.		
X17	Low service damages			
X17.1	The <i>service level table</i> is in	Table C		
X18	Limitation of liability			
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to	R0.0 (zero Rand)		
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to	the amount of the deductibles relevant to the event		
X18.3	The <i>Contractor's</i> liability for Defects due to his design of an item of Equipment is limited to	The greater of <ul style="list-style-type: none"> • the total of the Prices at the Contract Date and <ul style="list-style-type: none"> • 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 		
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	the total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited.		

		<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	52 weeks after the end of the <i>service period</i>.
X19	Task Order	
X19.3	Delay Damages are	Five percent (5%) of the Task Order Value per day from the day of delayed completion until the actual completion of the services, to be capped at the maximum of Ten percent (10%) of the Total Task Order Values
X19.5	The <i>Contractor</i> submits a Task Order programme to the <i>Service Manager</i> within	14 days of receiving the Task Order
Z	The <i>additional conditions of contract</i> are	Z1 to Z16 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 Ethics

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

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

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

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

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

Z11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z11.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.

Z11.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z11.4 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 insurance stated in 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 – NOT APPLICABLE in this contract

- 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

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

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

Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the <i>Employer's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4-hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

- 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.

Z15 Security Clearance/ Criminal Checks

These clauses are not only, but are especially, applicable for accessing critical infrastructure in terms of the Critical Infrastructure Protection Act, 2019 (previously referred to as National Key Points), but may include other sites, and/or where persons are rendering a service or have given notice of intention to render a service to an organ of state, which service may (1) give him or her access to classified information and intelligence in the possession of the organ of state; or (2) give him or her access to or information concerning areas designated as critical infrastructure.

- Z15.1 The *Contractor* and its subcontractors implement risk and security management processes and measures to mitigate any threats against any premises, installations or sites, systems, or information of the *Employer* with only persons with criminal verification record security clearance certificates being given access after verification of these and identifying documents by the *Employer's* security system.

- Z15.2 The *Contractor* provides, at the *Contractor's* cost, to the *Employer*, criminal verification record security clearance certificates for each person the *Contractor* or its subcontractors requires to access any premises, installations or sites, systems, or information of the *Employer*, with copies of their identifying documents, such as passports, before allowed such access by the *Employer*. The *Employer's* refusal to allow access to premises, installations or site/s, systems or information is at the *Employer's* sole discretion and is not a compensation event.

- Z15.3 The criminal verification record security clearance certificates provided are to have been issued by a service provider which is to be a reputable screening company accredited by the South African Police Services, are to be no older than four weeks since issue and valid for as long as each person is required to access premises, installations or sites, systems or information. The *Employer* may require updated certificates and identifying documents every 26 to 52 weeks, subject to safety and security concerns and the risk rating of the works or services undertaken and/or premises, installations or sites, systems or information.

- Z16.4 Each Party shall ensure that, in respect of all Shared Personal Information provided to the other Party and in respect of the use of that Shared Personal Information under this contract: -

- Z16.4.1 all necessary fair Processing notices have been provided to and consents obtained from Data Subjects by that Party, where required, in terms of POPIA, including to specify that the other Party is also a Responsible Party in respect of the Data Subject's Personal Information and to provide a link (for example, <https://www.eskom.co.za/about-eskom/website-terms-and-conditions/>) to the other Party's Privacy Statement or to include a statement that the other Party's Privacy Statement can be found on the other Party's corporate website; and

- Z16.4.2 all necessary steps have been taken to ensure that Shared Personal Information has been collected and processed in accordance with the principles set out in POPIA, including in particular those relating to:
- lawful, fair and transparent Processing.
 - specified, legitimate and explicit purposes of Processing; and
- adequate, relevant and not excessive Processing.

- Z16.5 If either Party receives any complaint, notice or communication from the Regulator which relates directly to:
- Z16.10 No Party may transfer Personal Information about a data subject to a third party who is in a foreign country unless they have obtained the relevant written consent of the other Party and there is full compliance with section 72 of POPIA and any foreign applicable legislation.
- Z16.5.1 the other Party's Processing of the Shared Personal Data; or
- Z16.5.2 a potential failure by the other Party to comply with POPIA in respect of the activities of the Parties under or in connection with this contract,
- it shall, to the extent permitted by law, promptly notify the other Party and provide such information as it shall reasonably request in that regard.
- If a Data Subject makes a written request to either Party to exercise any of their rights under POPIA, the receiving Party shall respond to that request in accordance with POPIA. To the extent the request concerns Processing of Shared Personal Information undertaken by the other Party, the receiving Party shall:
- Z16.6.1 promptly and without undue delay forward the request to the other Party; and
- Z16.6.2 cooperate and provide reasonable assistance in relation to that request to enable the other Party to respond in accordance with POPIA.
- Z16.7 Each Party acknowledges that the other Party may disclose Shared Personal Information to any Regulator or law enforcement authority with jurisdiction to request access to the Shared Personal Information.
- Z16.8 Neither Party discloses or otherwise makes available the Personal Information to any third party (including sub-contractors, but excluding its authorised employees who require access to such Personal Information strictly in order for the Parties to carry out their obligations pursuant to this contract), unless a Party has provided, to a requesting Party, its prior written consent to do so, and the requesting Party has submitted to the other Party (consenting Party), to its satisfaction, a copy of a written contract or undertaking that the requesting Party has entered into with a third party for the protection of Personal Information of the Data Subjects or unless there is an applicable exemption in terms of the law to process or further process the personal information.
- Z16.9 The requesting Party indemnifies and holds harmless the consenting Party and its staff, successors, cessionaries, delegates, and assigns, from any and all losses, costs, expenses and damage, as well as penalties and fines arising from the requesting Party's non-compliance with the provision of any relevant legislation applicable to Personal Information or data protection, as well as damage to the consenting Party's reputation and costs of compliance as directed by the Regulator, including but not limited to publication of the data breach.

Table C: Low Services Damages

Criteria	Weight	Unit	Target	Penalty 3%	Penalty 5%	Penalty 10%
Non-conformance reports (NCR) issued to Contractor/ NCR Response overdue.	30%	Number	0	5	10	15 & above
SHEQ audit findings	20%	Number	0	1	2	3 & more
Overdue Audit close outs	20%	Days	0	1	2	3 and more
Failure to maintain LTIR target.	30%	Number	0	2	3	4 and more

Annexure A: Insurance provided by the Employer

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

1. Services provided in a TSC3 contract could include some element of construction or refurbishment as well as a continuous maintenance or operational service activity. If an event occurs which causes loss or damage, a claim could be made either against the *Employer's* "works" type policy which may be in place for the *Employer's* portion of the Affected Property concerned or against the *Employer's* assets policy which may be in place for the *Employer's* portion of the Affected Property concerned, or both.
2. The cover provided and the deductibles under the works policy are different to those under the assets policy. Each policy has a range of applicable deductibles depending on the location of the Affected Property and the nature of the insurable event.
3. The *Contractor* is required in terms of Contract Data for clause 83 to provide cover for the deductibles in the insurance provided by the *Employer*. This can be provided from his own resources on a 'self-insured' basis or obtained by him from his own insurers. In order to assess the extent of this cover, tendering contractors and their brokers should consult the internet web link given below and scroll to '**Format TSC3**' to establish both the cover and the deductibles in relation to the *service* provided in terms of this contract.
4. Tendering contractors should note that cover provided by the *Employer* is only per the policies available on the internet web link listed below and may not be the cover required by the tendering contractor or as intended by each of the listed insurances in the left-hand column of the Insurance Table in clause 83.2. In terms of clause 83.1 "the *Contractor* provides the insurances stated in the Insurance Table except any insurance which the *Employer* is to provide". Hence the *Contractor* provides insurance which the *Employer* does not provide and in cases where the *Employer* does provide insurance the *Contractor* insures for the difference between what the Insurance Table requires and what the *Employer* provides.
5. If Marine Insurance is required, the *Contractor* needs to obtain a copy of the latest edition of Eskom's Marine Policies Procedures found at internet website given below.
6. Further information and full details of all Eskom provided policies and procedures may be obtained from:

[http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_
From_1_April_2014_To_31_March_2015.aspx](http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx)

C1.2 Contract Data

Part two - Data provided by the Contractor

Notes to a tendering contractor:

1. Please read both the both the NEC3 Term Service Contract (June 2005) and the relevant parts of its Guidance Notes (TSC3-GN)³ in order to understand the implications of this Data which the tenderer is required to complete.
2. The number of the clause which requires the data is shown in the left-hand column for each statement however other clauses may also use the same data
3. Where a form field like this [] appears, data is required to be inserted relevant to the option selected. Click on the form field **once** and type in the data. Otherwise, complete by hand and in ink.

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

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name):	
	Address	
	Tel No.	
	Fax No.	
11.2(8)	The <i>direct fee percentage</i> is	15%
	The <i>subcontracted fee percentage</i> is	30%
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 persons are:	
	1 Name:	
	Job:	
	Responsibilities:	
	Qualifications:	
	Experience:	
		CV's (and further key person's data including CVs) are in .
A	Priced contract with price list	

³ Available from Engineering Contract Strategies Tel 011 803 3008 Fax 011 803 3009

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>	8

C2.1 Pricing assumptions: Option A

The conditions of contract

How work is priced and assessed for payment

Clause 11 in NEC3 Term Service Contract, June 2005 (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
		<ul style="list-style-type: none">• 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*

It will be assumed that the tendering contractor has read Pages 14, 15 and 73 of the TSC3 Guidance Notes before preparing the *price list*. Items in the *price list* may have been inserted by the *Employer*, and the tendering contractor should insert any additional items which he considers necessary. Whichever party provides the items in the *price list* the total of the Prices is assumed to be fully inclusive of everything necessary to Provide the Service as described at the time of entering into this contract.

1 As the *Contractor* has an obligation to correct Defects (core clause 42.1) and there is no compensation event for this unless the Defect was due to an *Employer's* risk, the lump sum Prices and rates must also include for the correction of Defects.

2 If the *Contractor* has decided not to identify a particular item in the *price list* at the time of tender the cost to the *Contractor* of doing the work must be included in, or spread across, the other Prices and rates in the *price list* in order to fulfil the obligation to complete the *service* for the tendered total of the Prices.

3 There is no adjustment to lump sum prices in the *price list* if the amount, or quantity, of work within that lump sum item of service later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. See Clause 60.1.

4 Hence the Prices and rates tendered by the *Contractor* in the *price list* 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.

5 The Contractor does not have to allow in his Prices and rates for matters that may arise as a result of a compensation event. It should be noted that the list of compensation events includes those arising as a result of an *Employer's* risk event listed in core clause 80.1.

Format of the *price list*

(From page 73 of 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*

A: OUTAGES PRICE BREAK DOWN

Activity Price List				
DESCRIPTION	UNIT OF MEASUREMENT	EXPECTED QUANTITY FOR 4 YEARS	UNIT PRICE	TOTAL
PRELIMINARY AND GENERAL				
Medicals and Induction	Per Outage	8		
Complete data and SHE spec package including safety file	Each	8		
Supply forklift including wet rate	Per Day	768		
Forklift Driver	Per Day	768		
Supply supervision for outage	Per Day	768		
Planning during outage	Per Day	768		
QC or Provide Technical support	Per Day	768		
Accommodation	Per person / Per Outage	160		
Transportation per Outage 1 x Taxi	Per Km	67200		
Supply of PPE	Each Outage	8		
Tools and Equipment	Per Outage	8		
Safety Officer	Per Day	768		
Site Manager	Per Day	768		
BURNER ACTIVITIES				
Remove oil burner guns	Per Oil Burner	256		
Remove oil burner feed block and fuel oil flexible pipes	Per Oil Burner	256		
Remove secondary air damper actuators	Per Actuator	1024		
Remove oil burner air damper actuators	Per Actuator	1024		
Remove oil burner nozzle face plate covers	Per Face Plate	1024		
Remove SA (secondary air) nozzle face plate covers	Per Face Plate	256		
Check angle of burner boxes	Per Burner Box	86		
Install parking bolts of burner nozzles and disconnect external tilt arm	Per Burner	86		
Disconnect SA and Oil burner nozzle from tilt arm	Per Nozzle	1280		
Remove flat bar connecting nozzle to main tilt arm	Per Burner Box	86		
Remove square to round including bend connected to burner feed tube.	Per Burner	512		

INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING GO'S, INTERIM AND EMERGENCIES ON AN "AS WHEN REQUIRED" BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION

Remove SA nozzle	Per Nozzle	144		
Remove oil burner nozzle	Per Nozzle	768		
Remove coal burner with feed pipe	Per Burner	564		
Inspect burner box compartments	Per Burner Box	960		
Replace deformed burner-box side plates	Per Plate	24		
Remove burner boxes	Per Box	144		
Remove power cylinders	Per Cylinder	192		
Remove and install burner tilt links	Each	144		
Remove and install dampers	Each	388		
Replace deformed burner-box base plate	Per Plate	24		
Remove nozzle retaining plates on wind-box base plates	Per Plate	328		
Re-tap all nozzle retaining plates	Per Plate	1280		
Manufacture new nozzle retaining plates	Per Plate	400		
Jack SA nozzle compartment side channels	Per Side Channel	84		
Jack PF nozzle compartment side channels	Per Side Channel	84		
Jack Oil burner nozzle compartment side channels	Per Side Channel	84		
Repair burner box front edges	Per Nozzle Compartment	84		
Repair burner box halves joints	Per Burner Box	84		
Re-tap burner box face plate holes	Per Burner Box	4140		
Repair burner box face damage threads	Per Thread	4140		
Remove burner tilt main bearing and Inspect bearings	Per Burner Box	152		
Inspect flange covers	Per Nozzle Compartment	192		
Repair flange covers	Per Flange Cover	192		
Manufacture new flange covers	Per Flange Cover	16		
Full inspections of SA dampers without actuator	Per Burner Box	768		
Replace worn SA damper shafts	Per Shaft	200		
Replace worn or seized SA damper bearing/bushes	Per Bearing	400		
Install new guide washers on SA damper shafts	Per Shaft	250		
Replace worn guide washers on SA damper shaft	Per Shaft	250		
Replace worn SA damper blades	Per Damper	400		
Measure the SA damper blades clearances and trim if necessary	Per Burner Box/Per Meter Cut	80		
Inspect for faulty SA damper internal stops and replace if necessary	Per Stop	150		
Adjustment of links connecting the	Per Link	250		

two outer dampers				
Final internal inspection of SA dampers without actuators	Per Burner Box	1068		
Installation of SA dampers actuators	Per Actuator	1068		
Transport new Oil burner nozzle, SA nozzles and Coal nozzles to 45' level and sort all nozzles in the correct order and position for each burner-box	Per Burner Box	540		
Assembly of Oil burner register onto support bracket	Per Nozzle	250		
Assembly of SA nozzle registers onto support bracket	Per Nozzle	48		
Final inspection of burner box ready for re-installation of burner equipment	Per Burner Box	250		
Reinstall main burner tilt arms and bearings	Per Burner Box	250		
Reinstall burner tilt arms and bearings	Per Nozzle	150		
Adjustment of tilt flat bar external stop	Per Burner Box	72		
Install SA nozzle	Per Nozzle	534		
Install Coal Nozzles	Per Nozzle	534		
Install Oil burner nozzles	Per Nozzle	280		
Manufacture and install new flat bar connecting burner tilts to main burner tilt arm	Per Burner Box	24		
Connection and alignment of SA nozzle	Per Nozzle	1068		
Connection and alignment of oil burner nozzle	Per Nozzle	250		
Connection and alignment of PF nozzle	Per Nozzle	534		
Install square to round including bend connected to burner feed tube	Per Burner	534		
Final inspection of tilt operation	Per Burner Box	124		
Re-install oil burner and SA nozzle faceplate covers	Per Face Plate	1250		
Inspection of propane system	Per Boiler	124		
Unblock and clean all fuel oil drip trays	Per Burner Box	250		
Commissioning of SA dampers	Per Burner Box	200		
Commissioning of burners	Per Burner Box	200		
Commissioning of the PF piping system	Per Mill	48		
Industrial Vacuuming	Per Cubic Meter	144		
Replace Pressure Regulators	Per Panels	384		
Replace solenoids	Per Panels	384		
Replace Change over Device	Per Panels	384		
Replace Flame scanners	Per Burner	192		
Inspect and refurbish/replace faulty Purge Air Fans; Bearings; replace Motor, systems, and its compartments.	Per fan	144		

Inspect and replace faulty HP Pump A and HP Pump B, motors, and compartments at North and South fuel oil House	Per Pump	12		
Refurbish fuel oil pressure regulating valve	Per valve	8		
Replace of cylinders and burner tilt bearings	Per cylinder	192		
PF PIPEWORK				
Inspection 38" PF pipe from mill outlet flange to first riffle-box	Per Mill	96		
Large riffle-box internals to be removed	Per Box	120		
Medium riffle-box internals to be removed	Per Box	120		
Small riffle-box internals to be removed	Per Box	216		
Remove 38" Johnson coupling	Per Coupling	1056		
Remove 20" Johnson coupling	Per Coupling	1256		
Remove 14" Johnson coupling	Per Coupling	1256		
Remove 38" bend	Per Bend	96		
Remove 20" bend	Per Bend	240		
Remove 14" bend	Per Bend	432		
Inspection total PF pipe work above 45' level	Per Boiler	16		
Repairs to bend deflector plates	Per Meter Welded	2440		
Removal of a 38" pipe section with Johnson coupling both sides	Per Section	48		
Removal of a 20" pipe section with Johnson coupling both sides	Per Section	716		
Removal of a 14" pipe section with Johnson coupling both sides	Per Section	250		
Cut-out to a 38" pipe section	Per Section	48		
Cut-out to a 20" pipe section	Per Section	380		
Cut-out to a 14" pipe section	Per Section	180		
Window patch to a 38" pipe section per meter weld	Per Meter Welded	180		
Window patch to a 20" pipe section per meter weld	Per Meter Welded	180		
Window patch to a 14" pipe section per meter weld	Per Meter Welded	100		
Cut-out of pipe ends as indicated by Employer	Per Kg Consumable	4800		
Removal of Large riffle-box	Per Box	96		
Removal of Medium riffle-box	Per Box	120		
Removal of Small riffle-box	Per Box	216		
Removal of Large riffle plates	Per Box	1064		
Removal of Medium riffle plates	Per Box	2428		
Removal of Small riffle plates	Per Box	2804		
Modify riffle plates to fit riffle boxes	Per Plate	2728		
Remove 38" Johnson coupling	Per Coupling	228		
Remove 20" Johnson coupling	Per Coupling	1556		
Remove 14" Johnson coupling	Per Coupling	1296		

INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING GO'S, INTERIM AND EMERGENCIES ON AN "AS WHEN REQUIRED" BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION

Adjust 38" pipe hanger	Per Hanger	96		
Adjust 20" pipe hanger	Per Hanger	1560		
Adjust 14" pipe hanger	Per Hanger	176		
Remove 14" safety chain bracket	Per Bracket	2052		
Remove 14" safety chain	Per Chain	2052		
Remove 20" safety chain bracket	Per Bracket	84		
Remove 20" safety chain	Per Chain	84		
Remove 38" safety chain bracket	Per Bracket	84		
Remove 38" safety chain	Per Chain	84		
Internal Inspection on 38" PF pipe from mill outlet flange to first riffle-box	Per Mill	648		
Large riffle-box internals to be replaced	Per Box	450		
Medium riffle-box internals to be replaced	Per Box	1500		
Small riffle-box internals to be replaced	Per Box	72		
Replace 38" Johnson coupling	Per Coupling	288		
Replace 20" Johnson coupling	Per Coupling	396		
Replace 14" Johnson coupling	Per Coupling	336		
Replace 38" bend	Per Bend	180		
Replace 20" bend	Per Bend	360		
Replace 14" bend	Per Bend	360		
Inspection total PF pipe work below 45' level	Per Boiler	648		
Replace bend deflector plates	Per Meter Welded	690		
Replacement of a 38" pipe section with Johnson coupling both sides	Per Section	54		
Replacement of a 20" pipe section with Johnson coupling both sides	Per Section	402		
Replacement of a 14" pipe section with Johnson coupling both sides	Per Section	54		
Insertion to a 38" pipe section	Per Section	90		
Insertion to a 20" pipe section	Per Section	114		
Insertion to a 14" pipe section	Per Section	255		
Window paths to a 38" pipe section per meter weld	Per Meter Welded	90		
Window paths to a 20" pipe section per meter weld	Per Meter Welded	90		
Window paths to a 14" pipe section per meter weld	Per Meter Welded	90		
Weld-up of pipe ends as indicated by Employer	Per Kg Consumable	1800		
Installation of Large riffle-box	Per Box	72		
Installation of Medium riffle-box	Per Box	108		
Installation of Small riffle-box	Per Box	72		
Installation of Large riffle plates	Per Box	324		
Installation of Medium riffle plates	Per Box	648		
Installation of Small riffle plates	Per Box	864		
Modify riffle plates to fit riffle boxes	Per Plate	1296		

INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING GO'S, INTERIM AND EMERGENCIES ON AN "AS WHEN REQUIRED" BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION

Install 38" Johnson coupling	Per Coupling	480		
Install 20" Johnson coupling	Per Coupling	396		
Install 14" Johnson coupling	Per Coupling	336		
Adjust 38" pipe hanger	Per Hanger	360		
Adjust 20" pipe hanger	Per Hanger	480		
Adjust 14" pipe hanger	Per Hanger	480		
Install 14" safety chain bracket	Per Bracket	594		
Install 14" safety chain	Per Chain	582		
Install 20" safety chain bracket	Per Bracket	594		
Install 20" safety chain	Per Chain	582		
Install 38" safety chain bracket	Per Bracket	594		
Install 38" safety chain	Per Chain	582		
Replace 38" bend	Per Bend	180		
Replace 20" bend	Per Bend	360		
Replace 14" bend	Per Bend	360		
Fabricate riffle plates	Per Plate	3600		
Total tendered Price				

B: MAINTENANCE PRICE BREAK DOWN

Activity Price List				
DESCRIPTION	UNIT OF MEASURE	EXPECTED QUANTITY FOR 4 YEARS	UNIT PRICE	TOTAL
PRELIMINARY AND GENERAL				
Site Establishment	Sum	1		
Transportation-1 Taxis	Per Km	110000		
Safety File	Annually	4		
Medicals & Induction	Annually	4		
Forklift	Monthly	48		
PPE per Employee	Annually	4		
Site Offices and Storage	Monthly	48		
Tools And Equipment	Monthly	48		
Site Manager	Monthly	48		
Qc Personnel	Monthly	48		
Site De-Establishment	Sum	8		
Normal time (Monday- Friday)				
1 X Mechanical Fitters	Hours per Months	7680		
1 X B class Welders	Hours per Months	7680		
2 X Mechanical Semiskilled	Hours per Months	7680		
4 X Semi-Skilled (boiler maker/welder)	Hours per Months	7680		
1 X Forklift Driver	Hours per Months	7680		
Overtime @ 1.5 (Saturday)				
1 X Mechanical Fitters	Hours per Months	1440		
1 X B class Welders	Hours per Months	1440		
2 X Mechanical Semiskilled	Hours per Months	1440		
4 X Semi-skilled (boiler maker/welder)	Hours per Months	1440		
1 X crane Drivers	Hours per Months	1440		
Overtime @ 2.0 (Sundays and Holidays)				
1 X Mechanical Fitters	Hours per Months	1440		
1 X B class Welders	Hours per Months	1440		
2 X Mechanical Semiskilled	Hours per Months	1440		
4 X Semi-skilled (boiler maker/welder)	Hours per Months	1440		
1 X crane Drivers	Hours per Months	1440		
Total tendered Price				

Please note: The Prices and rates stated in the price list shall be treated as being fully inclusive of all, risks, liabilities, obligations, consumables, overheads, profit and everything necessary as incurred or required by the Contractor in carrying out or providing for the service.

PART 3: SCOPE OF WORK

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	This cover page	1
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C3.2	<i>Contractor's Service Information</i>	
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C3.1: EMPLOYER’S SERVICE INFORMATION

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Description of the service

Executive overview

The *Contractor* does inspections, maintenance and repairs on the PF piping and PF burner systems during outages and opportunity maintenance on an "as when required" basis.

Employer's requirements for the service

Section A

1.2.1 Inspection 38" PF pipe from mill outlet flange to first riffle-box

The information of the condition of these pipes is needed as soon as possible, and the inspection should be done as and when required.

The aim of this inspection is to do a full thickness survey of the piping that can be entered from the inside. A total of 160 thickness measurements must be taken per mill. The position of measurements will be indicated by the Employer for the specific mill piping. The results of the measurements must be tabled as per numbering system as agreed.

Additionally, the type and condition of the aerofoil on that piping should be recorded. Record whether the aerofoil is made of metal or ceramic and if ceramic whether there are any tiles missing. The general condition of the aerofoil is to be described.

Remove riffle-box internals

The cover plates of the riffle-boxes to be marked with the same numbering as the associated riffle-boxes. Remove all the riffle box covers and ensure it is stored safely. All the internal plates of the riffle-boxes are to be removed and taken to the scrap bins provided. This is condition dependant and needs to be agreed upon with the *Employer* before being thrown away.

A safe work procedure should be available on site to ensure safe handling of the internal plates. Re-tap all the cover plate securing bolt holes. The following three activities are for the removal of the three different sizes of riffle-box internals:

- Large riffle-box internals to be removed
- Medium riffle-box internals to be removed
- Small riffle-box internals to be remove

Remove of Johnson couplings

All the Johnson couplings are to be removed. Before any coupling is loosened the associated pipe work should be adequately secured. The following activities are for the removal of the different sizes of Johnson couplings:

- Remove 38" Johnson coupling
- Remove 20" Johnson coupling
- Remove 14" Johnson coupling

Remove of bends or bend sections where needed

Bends are a high wear area and are all lined with ceramic tiles. Remove different bends and bend sections for the inspection and assess the condition of the bends. The *Contractor* is responsible for the rigging of the bend and to ensure the pipework remaining is adequately supported before the bend section is loosened. The following activities are for the removal of the different bend or bend sections:

- Remove 38" bend
- Remove 20" bend
- Remove 14" bend

Inspection of 20" and 14" PF pipe works above 45" level

The cladding and lagging of the total 14" PF pipe work will be removed by another *Contractor*. After all the parts of the PF piping is removed as part of the other activities in this contract a full thickness survey is to be

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done on all the PF pipes work above 45' level. A thousand positions over the entire length of the system are to be surveyed. A measurement in 8 different directions around the circumference at each of the points along the length of the pipes is to be taken. Thus, a total of 8000 thickness measurements is to be taken on the PF pipe work above 45' level. Each measurement is to be tabled as agreed with the *Employer*. Most of the measurements on the 20" pipe work are to be done from the inside. This is a confined space and necessary safety precautions to be taken during this inspection.

A visual inspection of all the tiled bends and riffle boxes to be done to determine the conditions of the tiles.

Remove riffle-boxes where needed

If needed riffle-boxes is to be removed for repair work. The pipe work connected to the riffle-boxes is to be secured before the riffle-boxes are loosened. The following activities are for the removal of the different size of riffle-boxes:

- Large riffle-box to be removed
- Medium riffle-box to be removed
- Small riffle-box to be removed

Repairs to bend deflector plates

Worn sections bend of deflector to be repaired by a window patch of the worn area. The tiles in this worn area need to be removed for the repair. This activity includes the removing of the tiles, cutting of the window, cutting of the piece of plate and welding in of the window. It excludes the retiling of the area.

Repairs to riffle boxes

Worn sections of riffle boxes to be repaired by a window patch of the worn area. The tiles in this worn area need to be removed for the repair. This activity included the removing of the tiles, cutting of the window and welding cutting of the piece of plate and welding in of the window. It excluded the retiling of the area.

Replace sections of PF pipe as indicated by *Employer*

If needed sections of piping is to be replaced. The joint type should remain as is and if there are flanges on the current pipe these flanges should be removed and installed on the new pipe. This activity includes for the removal of the old pipe, cutting of the new pipe, welding in flanges where applicable and for the installation of the new pipe section. The piping should be adequately supported before any flange or coupling is loosened. After the removal of the old pipe the *Contractor* is responsible for recording the length of the original pipe section. Before the new pipe section is cut conformation from the *Employer* to indicate the sizing of the new pipe should be obtained. The flanges from the old pipe are to be removed and welded to the new pipe. The welding of the flanges should be done according to BS EN10025/275. The following activities are for the replacement of the different pipe sections:

- Replacement of a 38" pipe section with Johnson coupling both sides
- Replacement of a 20" pipe section with Johnson coupling both sides
- Replacement of a 14" pipe section with Johnson coupling both sides
- Replacement of a 38" pipe section with one welded flange
- Replacement of a 20" pipe section with one welded flange
- Replacement of a 14" pipe section with one welded flange
- Replacement of a 38" pipe section with two welded flanges
- Replacement of a 20" pipe section with two welded flanges
- Replacement of a 14" pipe section with two welded flanges

Welding in inserts of pipe as indicated by *Employer*

If needed inserts are to be done on sections of piping. This activity includes for cutting out a specific length of the existing piping, cutting the required length from new piping and then welding the new insert onto the old pipe section. Before the new pipe section is cut conformation from the *Employer* to indicate the sizing of the new pipe should be obtained. Inserts due to Aerofoils are seen as a normal insert. The welding to be according to BS EN10025/275. The following activities are for the inserts of the different pipe sizes:

- Insert to a 38" pipe section with one welded end
- Insert to a 20" pipe section with one welded end
- Insert to a 14" pipe section with one welded end
- Insert to a 38" pipe section with two welded ends
- Insert to a 20" pipe section with two welded ends
- Insert to a 14" pipe section with two welded ends

Window patches to PF pipes as indicated by the Employer

If needed window patches is to be done on sections of piping. This activity includes for cutting out a specific window of the existing piping, cutting the required piece of plate metal, rolling the plate section to the required radius and then welding the new rolled plate onto the old pipe section. The welding must be in accordance with BS EN10025/275. The activity cost is per meter of straight welding for the window patch.

The following activities are for window patches of the different pipe sizes:

- Window patch to a 38" pipe section per meter weld
- Window patch to a 20" pipe section per meter weld
- Window patch to a 14" pipe section per meter weld

Weld-up of pipe ends as indicated by the Employer

If needed the pipe ends are to be welded up with E309 welding rods. The cost of this activity is calculated as the rate per kg welding rods used for this welding.

Reinstall riffle-boxes

Reinstall riffle-boxes that were removed with refurbished riffle-boxes. This is condition dependant and needs to be agreed upon with the Employer. The following activities are for the installation of the different sizes of riffle-boxes:

- Installation of Large riffle-box
- Installation of Medium riffle-box
- Installation of Small riffle-box

Reinstall riffle-box internals

Install new riffle-box riffle plates. This is condition dependant and needs to be agreed upon with the Employer before installation of new plates.

The following activities are for the installation of the different sizes of riffle-boxes:

- Installation of Large riffle-box riffle plates
- Installation of Medium riffle-box riffle plates
- Installation of Small riffle-box riffle plates

The number of plates is crucial. (There must be 20 plates in total. 10 left hand and 10 right hand for Large riffle boxes, 16 plates in total. 8 left hand and 8 right hand for Medium riffle boxes and 12 plates in total. 6 left hand and 6 right hand for Small riffle boxes). Left hand and right hand plates must be fitted back to back. Proper installation is of paramount importance for PF distribution to the boiler.

Modify riffle plates to fit riffle boxes

In some cases, tips of the new riffle boxes needs to be trimmed for the plate to fit in the riffle box. Riffle plates shall be made according to drawing 26.41/36054.

Tiling on the riffle boxes

Where tiles have come off shall be repaired in-situ for the following riffle boxes:

- Large riffle-box riffle
- Medium riffle-box riffle

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-
- Small raffle-box raffle

Material needed for tiling must be supplied by the *Contractor*

Tiling of bends or bend sections where needed

Where tiles have come off shall be repaired in-situ for the following:

- 38" bend
- 20" bend
- 14" bend

Material needed for tiling must be supplied by the *Contractor*

PF piping hangers

Identify the hanger defects and do a visual inspection on the condition of the pipe hangers. Check the alignment of the pipe hangers and realign where necessary. Reinstall pipe hanger where missing. This is done on the following:

- Adjust 38" pipe hanger
- Adjust 20" pipe hanger
- Adjust 14" pipe hanger

Reinstall Johnson couplings

Reinstall all Johnson couplings. Install new rubbers while installing the couplings. The following activities are for the installation of the different sizes of Johnson couplings:

- Install 38" Johnson coupling
- Install 20" Johnson coupling
- Install 14" Johnson coupling

Install brackets and chains to protect 14", 20" and 38" pipes from falling when Johnson couplings fail

The section of piping between the last two Johnson coupling before the burners are not supported due to the high amount of movement during a boiler start-up. They are supported to be safety chains across the Johnson couplings on this pipe section. In some cases, there are no brackets and, in some cases, only the chains are missing. The following activities are for reinstating these safety chains:

- Install 14" safety chain bracket
- Install 14" safety chain
- Install 20" safety chain bracket
- Install 20" safety chain
- Install 38" safety chain bracket
- Install 38" safety chain

Section B

1. Description of the works during Interim Outages on burners:

1.1 Do the burner tilt operation check test. This includes tilting the burner tilt to position -30° , 0° and $+30^{\circ}$. With the burner tilt in the 0° position and all the oil burner guns removed shine a light from the back of each Oil burner and record the position of the projected light on the opposite wall. The same must be done first in order to establish the tilts that are out of range. During the test check the following:

- i. Burner tilt bearings individually for free operation. Clearance to be 0.5 mm on all the bearings.

1.2 Identify the burner banks by marking the top air nozzle and then take pictures right through the bank. All nozzles need to be captured on the pictures and submit to the system engineer for assessment. E.g. in bank 1, mark the top nozzle as B1, then take the photos right through the bank and at the bottom nozzle mark B1 again. Do the same on all banks.

1.3

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- 1.4 Check the tilt brackets to be in order. They normally break at the supports. If broken, take a sample to be manufactured.
- 1.5 Remove the burner tilt cylinder to C&I workshop for refurbishment and replace thereafter.
- 1.6 On each bank, fit the indication for -30° , 0° and $+30^{\circ}$. Anyone should be able read the physical tilt position.
- 1.7 Remove the burner tilt cylinder to C&I workshop for refurbishment and replace thereafter.
- 1.8 Remove the bends on all the PF burners to inspect the PF burners for any tiles that have come off. PF burners where tiles came off, need to be replaced and be installed back. Or rather install the refurbished or new PF burner feed pipe.
- 1.9 Check if the fourway valves switch to high and low fire. Verify that the hi/lo indicator moved to 90° . Check the limit feedback in the control room for correspondence with the physical position. Repair mechanical faults, ensure fourway valves are kept clean while in service and report to the Employer C&I faults.
- 1.10 Remove the oil burner guns to be removed and transported to the maintenance Oil Burner workshop. Maintenance Boilers shall replace the oil burner guns with the refurbished oil burner guns.
- 1.11 Remove Oil Burner feed block. During commissioning or during start-up check for leaks on the fuel oil flexible pipes from the fourway valve to the oil gun.
- 1.12 Remove the igniters to EMD workshop to clean and repair.
- 1.13 Unblock and clean all fuel oil drip trays and four way valves to the drums at 45 ft level. Replace the overhauled oil burner guns. Oil burner guns installed must be recorded on the data book with their unique numbers. NB: Only the tested and accepted oil guns can be installed back in the plant. Pipework shall be neatly and safely secured.
- 1.14 Remove the secondary air damper actuators from the boiler and transported to the C & I maintenance workshop. This included the flexible hoses connected to the actuators. The cables are to be removed by the *Employer*. The existing couplings are to be kept by the *Contractor* for safe keeping until the actuators are reinstalled. Before the actuators are removed the actuator to be marked with a permanent marker to identify its unique position.
- 1.15 Remove the oil burner air damper actuators from the boiler and transported to the C & I maintenance workshop. This includes the flexible hoses connected to the actuators. The cables are to be removed by the *Employer*.
- 1.16 NB: If there are replacements to be done on any nozzle, the faceplates must be removed and stored in for re-use. Repair faceplates that are worn or damaged.
- 1.13 Secondary Air Dampers bearings to be inspected and tested for free operation. Replace any damaged or seized Secondary Air Damper bearings. If the bearing is replaced with a bush, ensure 0.4 mm clearance on bearing. Any damaged or broken main link pins to be replaced.
- 1.14 Inspect the bank wind box hangers. Check the bolts, any signs of damage, cracks etc and issue the report. Do cold and hot survey on the burner box hangers.
- 1.15 If scope for removal/replacement of any nozzles is required or the bank alignment is out, the scope highlighted from 2.16 shall be carried out.
- 1.16 Commissioning to take place in order to ensure operation of the burner tilt, secondary air dampers and identification of oil and propane leaks etc. After the *Employer* completed the C & I work on the burner tilt actuators the *Contractor* assist with commissioning of the dampers and attend to defects. Commissioning shall be as per OICOMM BOI-066 COMMISSIONING OF PLANT AFTER A GENERAL OVERHAUL OIL BURNER SECONDARY AIR DAMPER and OICOMM BOI-065 COMMISSIONING AFTER A GENERAL OVERHAUL OIL BURNERS AND PURGE AIR FANS. Where it is indicated as MMD responsibilities, the *Contractor* carries out those tasks.
- 1.17 Flashing of Fuel oil Pipe system from CB level on the Burners to North and/or South pump house according to standard and procedure document (AOAO 0010)
- 1.18 Vacuum and clean Ash and Dust from all Burners components and cleaning all floors around Purge Air Fans and 45meter level
- 1.19 Replace Flame scanners on the Burners.
- 1.20 Replace faulty Pressure Regulators, changeover device and solenoids on the Pre-mix Panels.

2. Description of the works during General Outages on burners:

- 2.1 Do the burner tilt operation check test. This includes tilting the burner tilt to position -30° , 0° and $+30^{\circ}$. With the burner tilt in the 0° position and all the oil burner guns removed shine a light from the back of each Oil burner and record the position of the projected light on the opposite wall. The same must be done first in order establish the tilts that are out of range. During the test check the following:

- a. Burner tilt bearings individually for free operation. Clearance to be 0.5 mm on all the bearings.
- 2.2 Check the tilt brackets to be in order, they normally break at the supports. If broken, take a sample to be manufactured.
- 2.3 Remove the burner tilt cylinder to C&I workshop for refurbishment and replace thereafter.
- 2.4 On each bank, fit the indication for -30° , 0° and $+30^{\circ}$. Anyone should be able read the physical tilt position.
- 2.5 Remove the bends on all the PF burners to inspect the PF burners for any tiles that have come off. PF burners where tiles came off, need to be replaced and be installed back. Or rather install the refurbished or new PF burner feed pipe.
- 2.6 Remove the fourway valves to be overhauled (GO). Check if the fourway valves switch to high and low fire. Verify that the hi/lo indicator moved to 90° . Check the limit feedback in the control room for correspondence with the physical position. Repair any deviations and mechanical faults and ensure fourway valves are kept clean while in service. Replace the overhauled fourway valves. It is key to include the serial number and position of the fourway valve in the plant. The same to be included on the data book. Commissioning to take place in order to ensure operation of the burner tilt, secondary air dampers and identification of oil and propane leaks etc.
- 2.7 Remove the oil burner guns to be removed and transported to the maintenance Oil Burner workshop. Maintenance Boilers shall replace the oil burner guns with the refurbished oil burner guns.
- 2.8 Remove Oil Burner feed block. During commissioning or during start-up check for leaks on the fuel oil flexible pipes from the four way valve to the oil gun.
- 2.9 Remove the igniters to EMD workshop to clean and repair.
- 2.10 Unblock and clean all fuel oil drip trays and four-way valves to the drums at 45 ft level.
- 2.11 Replace the overhauled oil burner guns. Oil burner guns installed must be recorded on the data book with their unique numbers. **NB:** Only the tested and accepted oil guns can be installed back in the plant. Pipework shall be neatly and safely secured.
- 2.12 Remove the secondary air damper actuators from the boiler and transported to the C & I maintenance workshop. This included the flexible hoses connected to the actuators. The cables are to be removed by the *Employer*. The existing couplings are to be kept by the *Contractor* for safe keeping until the actuators are reinstalled. Before the actuators are removed the actuator to be marked with a permanent marker to identify its unique position.
- 2.13 Remove the oil burner air damper actuators from the boiler and transported to the C & I maintenance workshop. This includes the flexible hoses connected to the actuators. The cables are to be removed by the *Employer*.
- 2.14 NB: If there are replacements to be done on any nozzle, the faceplates must be removed and stored in for re-use. Repair faceplates that are worn or damaged.
- 2.15 On the outstanding oil burner nozzles, the oil gun slots need to be grinded to allow for clearance of at least 0.5 - 1 mm between the oil gun and the oil burner nozzle.
- 2.16 Remove the nozzle face plate covers where nozzles are to be replaced and store in a safe place for re-use.
- 2.17 Secondary Air Dampers bearings to be inspected and tested for free operation. Replace any damaged or seized Secondary Air Damper bearings. If the bearing is replaced with a bush, ensure 0.4 mm clearance on bearing. Any damaged or broken main link pins to be replaced.
- 2.18 Inspect the bank wind-box hangers. Check the bolts, any signs of damage, cracks etc and issue the report.
- 2.19 If scope for removal/replacement of any nozzles is required or the bank alignment is out, the rest of the scope below shall be done
- 2.20 Flashing of Fuel oil TANKS and Pipe system from CB level on the Burners to North and/or South pump house according to standard and procedure document (AOAO 0010)
- 2.21 Vacuum and clean Ash and Dust from all Burners components and cleaning all floors around Purge Air Fans and 45meter level
- 2.22 Replace Flame scanners on the Burners
- 2.23 Replace faulty Pressure Regulators, changeover device and solenoids on the Pre-mix Panels.

3. Scope for burner nozzles replacement

3.1 Install parking bolts of burner nozzle and disconnect external tilt arm

Remove the side access cover and store for re-use. Move tilt to 0° position and fix main tilt arm, isolate cylinder and install parking bolt to each PF burner and disconnect the external and internal link from the tilt arm by removing the pins. Note internal link pin is tack welded to tilt link. The pins and washers need to be stored for safekeeping until re-use.

3.2 Disconnect SA and Oil burner nozzle from tilt arm

Move tilt to the fully down position with a chin block, fix the tilt in this position and disconnect tilt external arm by removing the pin connecting the tilt arm to the vertical tilting flat bar. The pins and washers need to be stored for safekeeping until re-use.

3.3 Remove flat bar connecting nozzle to main tilt arm

The flat bar connecting all nozzles to main tilt arm is to be removed and stored for possible later use. Ensure that current bottom tilt stop clevis is retained for re-use.

3.4 Remove square to round including bend connected to burner feed tube

Before these actions starts the *Contractor* supplies a safe work procedure for the rigging of this equipment. The square to round including bend connected to burner feed tube is to be removed and transported to the area indicated by the *Employer* on 45' level.

3.5 Remove SA nozzle

Before this action start the *Contractor* supplies a safe work procedure for the rigging of this equipment. Remove internal tilt link pin and internal tilt arm. Note pin is tack welded to tilt link and internal tilt arm is tack welded to tilt bearing shaft. Unbolt tilt bearing and remove bearing assembly. Store bearing and internal arm. Centralising spacer and external pin for re-use.

Supply SA nozzle with chain block, loosen support bracket and take care to retain nozzle retaining plate from the burner box below. If it is a top SA nozzle remove the retaining plate through the inspection door on the side of the PF nozzle. Remove SA nozzle with support bracket. Lower nozzle and move to the dedicated area on 45' level.

3.6 Remove Oil burner nozzle

Remove internal tilt link pin and internal tilt arm. Note pin is tack welded to tilt link and internal tilt arm is tack welded to tilt bearing shaft. Unbolt tilt bearing and remove bearing assembly. Store bearing, internal arm, centralising spacer and external pin for re-use. The tilt shaft with the external arm attached to be given to the Employer for modification. Support Oil burner nozzle with chain block, loosen support bracket and take care to retain nozzle retaining plate from the burner box below. Remove nozzle with support bracket. Lower nozzle and move to dedicated area on 45' level.

3.7 Remove Coal burner with feed pipe

Unbolt the tilt bearing and move bearing assembly until internal tilt arm is pressed on side of burner box. Support the rear of burner feed pipe and loosen burner from burner box back flange. Fit a shackle to feed pipe and pull nozzle assembly from burner box with a chain block while continuously supporting the burner assembly. Lower burner assembly to 45' level and move to dedicated area. Remove internal tilt arm from tilt bearing assembly, remove bearing assembly from the burner box and store for re-use. Note internal tilt arm is welded to bearing shaft.

3.8 Inspect burner box compartments

Inspect each SA Nozzle compartment, PF burner compartment, Oil burner compartment to evaluate the following:

- Ensure the minimum width is 277mm
- The condition of the front edges of the burner box
- The straightness of side panels
- The straightness of base plates

3.9 Replace deformed burner-box side plates

When indicated by the *Employer* deformed burner-box side plates are to be replaced by cutting the side plate out and welding in a new piece of plate. The welding is to be according to BS EN10025/275.

3.10 Replace deformed burner-box base plate

When indicated by the Employer deformed burner-box base plate are to be replaced by cutting the base plate out and welding in a new piece of plate. The welding is to be according to BS EN10025/275.

3.11 Remove nozzle retaining plates on wind-box base plates

Some of the nozzle retaining plates is tack welded to the roof of the burner box below. Remove these retaining plates by grinding the tack welds.

3.12 Re-tap all nozzle retaining plates

Where necessary, re-tap all nozzle retaining plates with a M16 tap.

3.13 Manufacture new nozzle retaining plates

If needed manufacture new nozzle retaining plates. Cut a 225mm piece of a 50x10 flat bar. Chamfer the two ends of the flat bar. Drill and tap two holes with a M16 tap.

3.14 Jack burner side channels

Jack burner side channels to achieve the minimum width of 477mm. The following activities are for the different side channels:

- Jack SA nozzle compartment side channels
- Jack PF nozzle compartment side channels
- Jack Oil burner nozzle compartment side channels

3.15 Repair burner box front edges

Repair deformed front edges of burner boxes by cutting out a section of plate and welding in a new piece of plate.

3.16 Repair burner box halve joints

Halfway up the height of each burner box there is a flange joint. If indicated by the *Employer*, this joint is to be prepped, and seal welded from the inside.

3.17 Re-tap burner box face plate holes

All the threads on the burner box faceplate to be re-tapped with M16 Tap.

3.18 Repair burner box face damage threads

If indicated by the *Employer*, the damaged threads on the face plates holes are to be repaired. The damaged threads to be drilled out to 25mm and an insert welded into the hole. The *Contractor* is to supply the inserts. Insert dimensions to be M16 x 24.5mm OD x 25mm thick.

3.19 Remove burner tilt main bearing and inspect bearings

Remove burner tilt main shaft from burner box and inspect bearings for wear ensure main arm shaft and bearings are retained for re-use. The *Contractor* must ensure a 0.5 mm clearance on all the bearings. The outer main link must be completely removed for this test and replaced afterwards.

3.20 Inspect flange covers

Inspect burner box flange covers for deformation and for blurs on the flange face.

3.21 Repair flange covers

Grind away all high spots on flange covers.

3.22 Manufacture new flange covers

Where needed fabricate new flange covers.

3.23 Full inspections of SA dampers without actuator

With all the actuators removed all the SA dampers is to be inspected for free movement, worn bearings, damaged shafts, worn internal guide washers and damaged damper blades. The condition of the damper open and closed stops is to be recorded.

3.24 Replace worn SA damper shafts

If indicated by the *Employer*, worn SA damper shafts are to be replaced the shafts to be supplied by the *Employer*.

3.25 Replace worn or seized SA damper bearing/bushes

When the play on a bearing is excessive the bearing / bush needs to be inspected. The inspection is to indicate if the bush, bearing outer casing or both needs to be replaced. The necessary components are then replaced. The *Employer* supplies the bearing casings or bushes. When the bearing casing is removed to be replaced the *Contractor* is responsible for alignment of the shaft to the actuator position to ensure correct alignment an actuator needs to be installed and then again removed where these bearing casings are replaced.

3.26 Install new guide washers on SA damper shafts

There is supposed to be guide washers welded to the SA damper shafts to centralise the shafts in the burner box. If there are places where there are no washers, new washers need to be welded to the shafts when the shafts are in the correct position. The damper blade needs to be removed and reinstalled to be able to install these washers.

3.27 Replace worn guide washers on SA damper shaft

Worn SA shaft guide washers need to be replaced. These washers are welded to the shaft and needs to be cut from the shaft. New washers need to be welded to the shaft when the shaft is in the correct position. The damper blade needs to be removed and reinstalled to be able to install these washers.

3.28 Replace worn SA damper blades

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Worn or damaged SA damper blades need to be removed, and new blades cut from 5mm mild steel plate. The plate is supplied by the *Employer*. The dimensions of the new blade are supplied by the *Employer*.

3.29 Measure the SA damper blades clearances and trim if necessary

The clearance between the damper blades, the burner box as well as the dimensions of the burner box to be recorded. If the clearances are not on specification the *Employer* indicates and then the *Contractor* shall rectify.

3.30 Inspect for faulty SA damper internal stops and replace if necessary

Worn or broken SA damper stops to be replaced by cutting the existing stop from the burner box and welding a 50mm long 50 x 50 angle iron to the burner box at the correct position. The *Contractor* is responsible for cutting the angle iron supplied by the *Employer*. Before the new stops are welded to the burner box the *Contractor* is to ensure the damper is in the correct quadrant. The damper should be closed when turned clockwise as seen from the actuator and must be reset if different.

3.31 Adjustment of links connecting the two outer dampers

The outer link between the two outer dampers per burner needs to be re-adjusted to ensure the two dampers are synchronised.

3.32 Final internal inspection of SA dampers without actuators

When all the work on the dampers is complete a final inspection is to be done ensuring the following:

- Dampers free to turn
- Dampers in the correct quadrant
- Damper clearances as indicated by *Employer*

3.33 Installation of SA dampers actuators

The actuators to be reinstalled complete with couplings. The *Contractor* collects the Actuators from the C & I maintenance workshop. During installations the *Contractor* ensures correct alignment between the damper shaft and the actuator. Each actuator is to be reinstalled in its unique position as indicted by the permanent marking. The piping and cabling is to be installed by the *Employer*.

3.34 Transport new Oil burner nozzle, SA nozzles and Coal nozzles to 45' level and sort all nozzles in the correct order and position for each burner-box

The SA nozzles, Oil burner nozzles and PF nozzles are to be moved from the stores to 45' level (only the quantity to be replaced). The five different types of Air nozzles, Oil burner nozzles and the PF nozzles can all either be used for a LH or RH configuration. It is critical to assemble and install each burner the correct way. To ensure there is no re-work all the nozzles are to be stored on 45' level in the order and direction they are to be installed. During the total assembly and transportation process the position and direction of each nozzle should be clear. It is suggested that tags be installed on each nozzle to indicate the way it is to be installed and the position the link is to be installed. There is a ceramic insert in the PF nozzle and this requires the PF nozzles to be handled with care during the transport and installation process. For loading and of loading the burners onto trolleys there should be lifting equipment to ensure these nozzles do not fall. Ensure that, on each new tilting cola burner assembly, the horizontal connecting links is fixed to the boss on the cola pipe with the parking bolt. This will hold the nozzle horizontally.

3.35 Assembly of Oil burner register onto support bracket

The hand of the old register must be noted to ensure the new register is installed the correct way. Remove old air register from support bracket by removing locating pins. Note locating pins are welded to nozzle. Remove current tilt link from air register. Note locating pin is welded to nozzle. Move old air register to dedicated area close to the *Contractors'* yard. Cut the existing rear oil gun shroud tube to the dimensions as shown on drawing C7071-17-025.

Connect the existing horizontal tilt link onto the new air nozzle with new pin and weld pin as indicated in drawing 26.41/40031 sheet 28. Place the new air nozzle, support bracket and shroud tube into position to

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insert new pivot pins. Insert the ignite guide tube into the mounting tube on the oil burner swirled assembly. Fix the new air nozzle and oil swirled to the existing support bracket with new pivot pins and tack weld pins as indicated on drawing 26.41/40031 sheet 28. Welding of pins to nozzles to be according to BS EN10025/275. The *Contractor* indicates to the *Employer* the welding consumable to be used for this welding.

3.36 Assembly of SA nozzle registers onto support bracket

Remove old air register from support bracket by removing locating pins. Note locating pins are welded to nozzle. Remove current tilt link from air register. Note locating pin is welded to nozzle. Move old air register to dedicated area close to the *Contractors'* yard.

Tap both sides of support bracket with M16 tap as indicated on drawing C7071-17-030 for the parking bracket installation.

There are five different types of Air nozzles and each of the five nozzles can be used for either LH or RH handed positions. It is critical to install the nozzle the correct way around on the air support bracket and to install the tilt link on the correct position.

Fix tilt link to new register by welding the new pin as indicated on drawings C7071-17-010, C7071-1-011, C7071-17-012, C7071-17-015, and C7071-17-017. Consult drawing no: 26.41/40031 sheet 29 for the correct arrangement of the nozzles.

Fix new nozzle to existing support bracket with new pivot pins and tack weld according to drawings: C7071-17-010, C7071-1-011, C7071-17-012, C17-17-015, C7071-17-017.

Fix the SA nozzle in the horizontal position as indicated on drawing C7071-17-030.

Welding of pins to nozzles to be according to BS EN10025/275. The *Contractor* indicates to the *Employer* the welding consumable to be used for this welding.

3.37 Final inspection of burner box ready for re-installation of burner equipment

Before any burner equipment is reinstalled a final inspection is done in conjunction with the *Employers* representative to ensure the following is correct:

- All flanges of burner box are in a good condition
- All treads are correct
- The burner box side panels are not deformed
- The burner box base plates are not deformed
- The burner box tips are not burned or deformed.
- The minimum width in the burner boxes is 477mm
- The burner box flange covers are in a good condition
- All bearings are in a fair condition
- All the nozzles are assembled correctly and stored in the correct order for installation

3.38 Reinstall main burner tilt arms and bearings

Reinstall main burner tilt arms and tilt bearings. Install new shearing pins. Fix main tilt arm in the 0° position.

3.39 Reinstall burner tilt arms and bearings

Install tilt arms, shafts, centralising spacers and bearings for all the nozzles without fastening the tilt bearings. Tack weld internal and external links in position. Ensure that grab screw is tightened into new dimple hole on tilt shaft. Pull bearing outwards until internal link is touching side of burner box. After each specific nozzle is installed fastened all tilt bearings in position.

3.40 Adjustment of tilt flat bar external stop

With all the tilt arms connected move the main tilt arm upwards until the arm angle representing a negative 30° nozzle angle. Adjust to the bottom tilt flat bar stop to prevent any further movement. Lock the bottom stop in position.

Move the main tilt arm downwards until the arm angle representing a positive 30° nozzle angle. Adjust to the top tilt flat bar stop to prevent any further movement. Lock the top stop in position.

3.41 Install SA nozzle

Before these actions start the *Contractor* supplies a safe work procedure for the rigging of this equipment. Ensure the check sheets for the burner box where nozzles are to be installed are completed and all is acceptable. Lift and transfer the assembly into the compartment. Centralise the nozzle assembly in the compartment and bolt down the air support bracket. If the nozzle does not have a 10mm minimum clearance all round, unbolt the bracket, remove the tack welds on the support bracket washers and fit new washers. Reposition and bolt down. Tack welds the new washers.

3.42 Install Coal Nozzles

Before these actions starts the *Contractor* supplies a safe work procedure for the rigging of this equipment. Ensure the check sheets for the burner box where nozzles are to be installed are completed and all is acceptable.

Apply ladder tape gasket material to the flanges, using impact adhesive to hold in position.

Lift the PF nozzle feed and tube assembly in insert it into its position on the burner box. Care should be taken to ensure the nozzle is not bumped against other equipment.

Check that the side clearance of the outside of the nozzle assembly to the side channels of the burner box are a minimum of 10mm each side. Check that the top and bottom clearances of the bell of the nozzle assembly to the division plates of the burner box are a minimum of 10mm.

Bolt up the fabricated burner coal pipe flange to the wind-box flange and adjacent compartment flanges. Tighten the bolts on the loose flange to the adjacent compartment.

3.43 Install Oil burner nozzles

Before these actions starts the *Contractor* supplies a safe work procedure for the rigging of this equipment. Ensure the check sheets for the burner box where nozzles are to be installed are completed and all is acceptable.

Lift and transfer the oil burner assembly into the oil compartment.

Centralise the nozzle assembly in the compartment and bolt down the air support bracket. If the nozzle does not have a 10mm minimum clearance all round, unbolt the bracket, remove the tack welds on the support bracket washers and fit new washers. Reposition and bolt down. Tack weld washers if needed.

3.44 Manufacture and install new flat bar connecting burner tilts to main burner tilt arm

Cut tow 50mm x 10mm flat bars to 4400mm and 4860mm length respectively. The 4400 is called the bottom flat bar and the 4860mm called the top flat bar. Join these two pieces of flat bar by bolting two 200mm pieces of flat bar on either side of the joint with a total of 4 M20 bolts, two bolts on either side

Mark the flat bars to be by welding the specific burner box number to the flat bar. Weld two 100mm pieces of flat bar that the centres are 1460mm from the bottom of the bottom flat bar. Drill a 30mm hole 1460mm from the bottom of the bottom flat bar.

Connect the bottom flat bar to the main tilting arm and join the two flat bars. With the main burner tilt arm fixed at 0° position ensure that the top SA nozzle tilting arm is perfectly horizontal and mark and drill a 20mm hole for the tilt pin.

Insert the tilt pin on the top SA nozzle tilting lever. Mark and drill the holes for all the tilting levers ensuring each lever is perfectly horizontal. The *Contractor* to indicate to the *Employer* the procedure to ensure the tilting external arms are exactly horizontal when the hole for the pin is marked and drilled.

Install the tilt pins on all the tilting levers. Ensure the correct washers and split pins are used.

Weld the new top tilt stop bracket assembly to the wind-box channel at the top of the box. Fit the new tilt stop rod and clevis to the vertical tilt lever, reconnecting the top compartment external tilt lever with the new longer pin.

Re-install the old bottom stop clevis and rod.

3.45 Connection and alignment of SA nozzle

While the main tilt arm is fixed at the horizontal position reconnect the inner tilt link to the inner tilt arm by adjusting the turn buckle until the pin can be inserted. Tack welds the pin in place as indicated on drawings: 26.41/40031 sheet 17, 26.41/40031 sheet 18, 26.41/40031 sheet 19, 26.41/40031 sheet 26, 26.41/40031 sheet 27. Remove the barking bracket. Lock the turnbuckle with the locking screw. Return the parking brackets the dedicated position at the *Employer* store, connect a chain block on the internal tilt link remove

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the external tilt arm pin and test that the individual burner can tilt more than positive and negative 30°. The activity will have to be witnessed by the *Employer*. Reinstall the external tilt link pin.

3.46 Connection and alignment of oil burner nozzle

Connect a chain block on the inner tilt link of the oil burner nozzle and test if the nozzle can operate through the positive and negative. Tilt the nozzle to a perfectly horizontal position and adjust the inner turnbuckle until the pin connecting the inner tilt link to the inner tilt arm can be inserted. Tack weld the pin as indicated on drawing 26.41/40031 sheet 28. Lock the turnbuckle in position.

3.47 Connection and alignment of PF nozzle

While the main tilt arm is fixed at the horizontal position reconnect the inner tilt link to the inner tilt arm by adjusting the turn buckle until the pin can be inserted. Tack weld the pin in place as indicted on drawing: 26.41/40031 sheet 16. Remove the parking bolt. Connect a special clamp to the external tilt arm and fix chain block to this clamp. Remove external tilt arm pin. Test that the total angle of movement of the nozzle is more than positive and negative 30°. Move nozzle to the horizontal position and re-connect the external tilt arm.

3.48 Install square to round including bend connected to burner feed tube

Install the square to round including bend connected to burner feed tube. After installation of all these bends check the adjustment of the constant load hanger supporting these bends.

3.49 Final inspection of tilt operation

When all the nozzles on a burner box is installed and connected the *Contractor* with the *Employer* does the final inspection to ensure the installation and operation is correct.

3.50 Re-install oil burner and SA nozzle faceplate covers

After burner final operation inspection apply ladder tape gasket material to the nozzle flanges, using impact adhesive to hold in position. Employer supplies ladder tape and impact adhesive. Fit the compartment faceplate covers.

3.51 Replace faceplate cladding

Manufacture and install new faceplate cladding boxes from 1.6mm plate. The *Employer* supplies the material

3.52 Inspection of propane system

The total propane system including the main station excluding the main isolation valve to be pressure tested for leak detection. For the pressure test to be successful no pressure decay is allowed over a 9hr period. All defects are recorded.

3.53 Commissioning of the PF piping system

During the first start up the mills the *Contractor* search for PF leaks and attends to defects.

4. Repair of the spares

4.1 In-between the IR or GO outages (preferably) or during an outage, re-tile the PF burner feed pipe which are damaged if there is no contract between the Employer and other tile *Contractor*. Refer to 240-56239143 Pulverised Fuel pipework ceramic lined standard for tolerances and installation considerations. The adhesive used shall withstand furnace radiation temperatures of up to 1400°C. The tiles shall not come off whilst the PF burner is in operation or stored. Tiles shall be intact for a minimum of 6 years.

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It must be noted, the Employer is struggling with the tiles coming off inbetween outages, the Contractor is welcome to recommend better adhesives for the application. Book the refurbished PF burner feed pipes back to the Employers stores.

4.2 Repair the flexible pipes on the oil burner and ignite guide tubes (that's what normally gets damaged). Book the refurbished oil burner and ignite guide tubes back to the Employer's stores.

5. Repairs during weekend outages or ad-hoc basis

5.1 Scope of work during weekend outages depend on defects like stuck oil guns, secondary and core air dampers bearings that have seized, burner tilt alignment, premature worn PF burners, repair of damaged tilt links. The defects shall be repaired as per the *Employer's* request.

5.2 If requested, conduct the secondary and core air damper tests. Open the manhole at the bank wind-box and verify the open and close positions.

5.3 Conduct PF piping works as described in section A when required.

5.4 Removal of the burner tilt cylinder to C&I and replacement thereof if defective.

5.5 Refurbish HP pump A and B

5.6 Refurbish Fuel Oil Pressure regulating valve.

Interpretation and terminology

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
BCEA	Basic Condition of Employment Act
C&I	Control and Instrumentation
EMD	Electrical Maintenance Department
GO	General Overhaul
HP	Hold Point
IR	Interim
LRA	Labour Relations Act
MSDS	Material Safety Data Sheet
OHSA	Occupational Health and Safety Act
PF	Pulverised Fuel
PSR	Plant Safety Regulation
QCP	Quality Control Plan/Product
RA	Risk Assessment
WP	Witness Point

Management strategy and start up.

The *Contractor's* plan for the *service*

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- The *Employer* will provide a plan during IR and GO. On emergencies the *Contractor* will develop a plan and submit it to the *Employer* for approval.
- The *Contractor* adheres to programmes submitted by the *Service Manager*.
- The *Contractor* adheres to the *Employer's* maintenance planning system. The *Contractor* supplies information to the *Service Manager* that allows the *Service Manager* to update the planning system. This information is submitted within the time periods and as agreed with the *Service Manager*.

Management meetings

- Meeting will be held as and when required by the *Service Manager* or the *Contractor*.
- 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.

Contractor's management, supervision and key people

- The *Contractor* appoints employees with sufficient knowledge in their area of expertise.
- The *Contractor's* employees on site should be able to conduct pre-job brief and RA. The *Employer* will conduct the RA and pre-job briefs with *Contractor's* Safety Officer. It will be required that the pre-job brief and RA be conducted daily.
- The *Contractor* employs only people who have received sufficient training to ensure that they comply with the Act.
- The *Contractor* appoints a person who liaises with the *Employer's* designated Safety Officer. The appointed person, on the request of the *Service Manager*: Undertakes safety audits at the Site and on the *Contractor's* employees.
- refuses any employee, Sub-*Contractor* or agent of the *Contractor* access to the Site if such person is found to commit any unlawful act or any unsafe working practice or is found to be not authorised or qualified in terms of the Act.
- issues the *Contractor* with a work stop order should he become aware of any unsafe working procedure or conditions of non-compliance with the Act, Regulations and Procedures by the *Contractor*.

Provision of bonds and guarantees

Not applicable

Documentation control

- The *Contractor* will compile QCP's of work to be done and which will be approved by the *Employer*.
- Any alteration to existing plant needs to be updated on Arnot specification drawing. All drawings to be made available for use and archiving.
-

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;
- (add other as required)

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

Contract change management

Not applicable

Records of Defined Cost to be kept by the *Contractor*

Not applicable

Insurance provided by the *Employer*

First read TSC3 Core Clause 86.1 and then add anything necessary for the management of insurance related issues such as a cross reference to where procedures for making claims can be found. Also provide contact details for persons capable of being able to answer any insurance related queries the *Contractor* may have, as well as to whom the information required by Marine Insurance (if any) may be addressed.

Training workshops and technology transfer

Not applicable

Design and supply of Equipment

Not applicable

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

Equipment

Not applicable

Information and other things

Reports must be submitted to the *Employer* after each service.

Management of work done by Task Order

- The *Contractor* performs work in accordance with the prior use of a Task Order from the delegated *Service Manager* or his delegate and completes it within the period specified in the Task Order.

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- Should the *Contractor* be unable to supply the resources required to complete a Task Order within the period specified, he immediately notifies the delegated *Service Manager* to this effect. The notification includes recommendations as to how the work can be completed.
- The Task Order is complete when the content and deliverables called up in the activity listed in the Task Order and any additional requirement have been provided and all work complies with appropriate standards, requisite QCP and sound engineering practice to provide reliable generating plant.
- An emergency work is work required when normal administration cannot be achieved and allows the *Contractor* to start work on a verbal instruction by *Service Manager*. *The Contractor*, without prior issue of a Task Order, but upon the verbal instruction of the *Service Manager* or *Supervisor*, provides the works in an Emergency. The task Order is confirmed in writing within 24 hours.

Health and safety, the environment and quality assurance

Health and safety risk management

The *Supplier* shall comply with the occupational health and safety Act 85 of 1993 requirements: all applicable procedures and standards in their recent revisions. Eskom Life Saving Rules and other Eskom safety rules and requirements not limited to:

- Driven Machinery Regulations
- Fossil Fire Fuel regulations
- Plant Safety Regulations
- Working At Heights Standard
- Regulation For Hazardous Chemical Agents
- Confined space standard
- Occupational Hygiene management
- Control of noise is through wearing hearing protection
- Dust, dust suppression or as the last resort issue dust mask
- Waste, put waste in the correct waste bin
- Water to be conserve, use as little as possible
- Adhere to all Eskom lifesaving rules
- Submission of monthly health and safety statistics is mandatory

A. Road Safety

- a. Speed limit: 40km/h
- b. By passing Speed humps not allowed
- c. Transporting People at the back of the bakkie is not allowed
- d. Buckle up always
- e. Park only at demarcated areas

B. Sanitation

- a. Toilets for both genders are available at the plant

C. Emergency

- a. The emergency number for Arnot is 013 297 9222 Pax:5222
- b. Emergency alarms are tested every Wednesday 10H00

D. Access

Before access can be granted the following must be met:

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- a. Safety file with all the requirements to be submitted and approved prior site establishment and access
- b. SHE Induction attendance is compulsory
- c. All applicable trainings, statutory requirements and guidelines to be strictly adhered to. Use safety file and OHS specification as reference

COMPULSORY COMPLIANCE TO 5 IDENTIFIED LIFE SAVING RULES:

Rule1: Open, Isolate, Test, Earth, Bond, and/or Insulate before touch
(That is, any plant operating above 1 000 V)

No person may work on any electrical network unless:

- He/she is trained and authorised as competent for the task to be done.
- A pre-task risk assessment to identify all risks and hazards has been conducted prior to any work commencing.
- An equipotential zone is created for each worker on the job site by earthing, bonding, and/or insulating according to approved procedures.
- All conducting material is connected, all staff on site wear electrical safety shoes, and insulating techniques are applied according to standards; and
- The authorised person (team leader) has certified and shown all team members that the apparatus is safe to work on.

Rule 2: Hook up on heights

Working at height is defined as any work performed above a stable work surface or where a person puts himself/herself in a position where he/she exposes himself/herself to a fall from or into.

No person may work at height where there is a risk of falling unless:

- A pre-task risk assessment to identify all risks and hazards has been conducted prior to commencing any work at height.
- He/she is appropriately trained.
- He/she is appropriately secured during ascending and descending and
- He/she is using an approved fall arrest system where applicable.

Rule 3: Buckle up

No person may drive any vehicle on Eskom business and/or on Eskom premises unless the driver and all passengers are wearing seat belts.

Rule 4: Be Sober

- 1 No person is allowed to work under the influence of drugs and alcohol.
- 2 "Under the influence" means the use of alcohol, drugs, and/or a controlled substance to the extent that
 - 1 He individual's faculties are in any way impaired by the consumption or use of the substances; or
 - 2 The individual is unable to perform in a safe, productive manner; or
 - 3 The individual has a level of any such substance in his/her body that corresponds to or exceeds accepted medical/legal standards; or
 - 4 The individual has a level of alcohol in his/her body that is greater than 0.02% blood alcohol concentration.

This includes any level of an illegal substance in the body, irrespective of when the substance was used.

Rule 5: Ensure that you have a permit to work

Where an authorisation limitation exists, no person shall work without the required Permit to Work (PTW), which is governed by the Plant Safety Regulations, Operating Regulations for High Voltage Systems (ORHVS) etc.

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No plant is to be returned to service without the cancellation of all permits on that plant in accordance with procedure.

NB: In the case of live work, a "live work declaration form" is to be completed by the authorised person who is the person responsible for the safe execution of work according to relevant standards and procedures.

Please ensure that these rules are understood and communicated with the urgency that they deserve. If any of these rules are unclear or the consequences not understood, please do not hesitate to discuss it with Eskom.

We would like to continue our current partnership and therefore urge your support in the implementation and upholding of these rules.

Environmental constraints and management

- **Environmental requirements**

The *Contractor* ensures that all goods, services or *works* supplied in terms of the Contract conform to all applicable environmental legislation.

The management and staff at Arnot Power Station are committed to generate low cost power without compromising its responsibility towards the natural environment. Arnot Power Station management has decided to implement and align its environmental management system in compliance with SABS ISO 14001:2004 as a means of managing impacts to and ensuring continual improvement of the environment in which it operates.

The *Contractor* need to comply with ISO 14001 on environmental management.

- **The environmental policy for Arnot Power Station is set out below:**

We are committed to sustainable development and will actively work to reduce the impact on the natural environment resulting from the power generation process.

We commit to continual improvement in our performance and aspire to minimum harm to people and the environment

- **Whenever we conduct our business, we will:**

- L : Legal compliance
- I : Improve continuously
- M: Management of natural resources
- P: Prevention of pollution

- **Refuse Disposal**

The *Contractor* is responsible to keep the work area clean of any rubble.

All waste introduced and/or produced on the *Employer's* premises by the *Contractor* for this contract, is handled in accordance with National Management Waste Act No. 59 of 2008 and Waste Management procedure: SHQP ENV 079.

The *Employer* provides colour coded bins for refuse disposal.

The *Employer* empties these bins.

Contractor keeps the work area clean of any rubble, and to places all refuse into the bins provided.

The *Contractor* ensures that all workers under his control strictly adhere to the correct use of refuse bins:

Blue bins: - Scrap metal only

White bins: - Lagging and general household rubbish

Red bins: - Oil contaminated waste

Blue and green drums - Waste grease

The *Contractor* shall comply with the environmental criteria and constraints stated in **Annexure B**.

Quality assurance requirements

- The *Contractor* complies with the quality procedures and codes relevant for each Task Order. The *Contractor* also advises on the appropriate use of other applicable standard and codes of practice.
- The *Contractor* supplies QCP for the scope one week prior to the work commencing. The QCP will have all the activities to ensure quality of the work to be undertaken.

Procurement

There is a cross reference from the core clause 11.2(6) definition of Disallowed Cost to the Service Information regarding procurement procedures. This part of the Service Information MUST include any such procedures to be able to administer Disallowed Cost.

People

Minimum requirements of people employed

Refer to conditions of Tender, SHE Specification and Construction Regulations

BBBEE and preferencing scheme

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

The criteria set out as per the Invitation to Tender shall apply

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

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

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

[Insert the agreed ASGI-SA Compliance Schedule here]

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

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

Subcontracting

Preferred subcontractors

There is no preferred *Contractor*, but all preferred subcontractors need to be approved by Eskom

INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING GO'S, INTERIM AND EMERGENCIES ON AN "AS WHEN REQUIRED" BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION

Subcontract documentation, and assessment of subcontract tenders

Not applicable

Limitations on subcontracting

Not applicable

Attendance on subcontractors

Not applicable

Plant and Materials

Specifications

The *Contractor* will comply with all the specifications as stated in the description of the service.

Correction of defects

Defects are to be corrected by the *Contractor* as soon as it comes to the *Contractor's* attention. Any defect notified by the *Service Manager* to the *Contractor* is to be corrected within 24 hours.

Contractor's procurement of Plant and Materials

Contractor is to transport and store materials as stated in the description of the service.

Tests and inspections before delivery

Not applicable

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

Not applicable

Working on the Affected Property

***Employer's* site entry and security control, permits, and site regulations**

Security

- All site access is controlled through the designated access gate. The *Contractor* is informed of the access procedure through site regulations and that such procedures may change depending on the prevailing security situation.
- The *Contractor* will be restricted to the working areas associated with his place of work. The *Contractor* is forbidden to enter any other areas and must ensure that his employees abide by these regulations.
- The chief protective services may with valid cause remove any of the *Contractor's* personnel from the 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 services, constitutes a security risk.
- The *Contractor* book in any tools, cabins, furniture, PC's, etc. at the security office before entering. The copy of the tool list needs to be kept in a safe place, as it will be the only acceptable document allowed to remove the items after contract completion.

Fire Precaution

- Any tampering with the *Employer's* fire equipment is strictly forbidden. All exit doors, fire escape routes, walkways, stairways and stair landing must be kept free of obstruction and not be used for work or storage at any time. Firefighting equipment must remain accessible at all times.
-

INSPECTION, MAINTENANCE AND REPAIRS OF PF PIPING AND PF BURNER SYSTEMS DURING GO'S, INTERIM AND EMERGENCIES ON AN "AS WHEN REQUIRED" BASIS FOR A PERIOD OF 48 MONTHS AT ARNOT POWER STATION

IN CASE OF FIRE: CONTACT CONTROL ROOM AT EXTENSION 5035

Plant Safety and High Voltage Regulations

- On request from the *Contractor*, the *Employer* isolates the required plant from all sources of danger as described in the plant safety and High Voltage Regulations. The *Contractor* conforms to all rules and regulations applicable to plant safety.

Barricading and Screens

- The *Contractor* provides and installs barricades and warning devices to ensure that equipment and persons are not exposed to danger or to prevent access to dangerous areas.
- All welding, flame cutting and grinding work is properly screened to protect persons from arc flashing or eye injuries.
- All gratings are covered with an adequate protective screening when welding or flame cutting in the vicinity is undertaken strictly in accordance with the *Employer's* directive SP SER 003.

Speed Limit

- All vehicles are driven with due consideration for personnel and property. A maximum speed limit of 40km/h is adhered to on the premises at all times.

Reporting of accidents

- The *Employer* follows an accident prevention policy that includes the investigation of all accident involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incident. The *Contractor* is expected to co-operate fully to achieve this objective. Risk Management is informed within 24 hours of any injuries or damages to property or equipment.
- This report does not relieve the *Contractor* of his legal obligation to report certain incident 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.

Site Regulations

- All *Contractors'* employees entering the site are medically fit. A full medical examination is carried out by a registered Occupational Health worker who issues a certificate confirming the medical fitness of the employee. The examination consists of an eye test, heart function, lung function, chest X-Ray, blood pressure, hearing function, previous occupational injuries, epilepsy, allergies, asthma and verification of work in elevated / confined spaces. Basically full examinations are allowed to work on site.

People restrictions, hours of work, conduct and records

- The *Contractor* will keep records of all employees. The *Service Manager* will have access to them at any time.

Health and safety facilities on the Affected Property

- The *Contractor* to apply safety awareness at all times through continuous training.
- The *Contractor* to have a daily toolbox talks, periodic site inspections, job observations, risk assessments, safety equipment checks and safety talks with all employees.
- Medical centre facility for first aid will be provided.

Environmental controls, fauna & flora

Not applicable

Cooperating with and obtaining acceptance of Others

The *Contractor* might encounter other parties also doing work in the *Contractor's* designated work area. Co-operation and liaison between different parties are expected by the *Employer*.

Records of *Contractor's* Equipment

- All equipment, welding panels, compressors, pneumatic tools, electrical equipment complies with a relevant SABS code of practice and all documentation related to this is made available as and when required.

Equipment provided by the *Employer*

- Scaffolding will be supplied.

Site services and facilities

Provided by the *Employer*

- Portable water
- Sanitary facilities
- Site office
- Canteen
- Portable water
- Electricity

Requirements regarding the container:

- It will be the *Contractor's* responsibility to maintain the container for the entire contract period.
- The container will be reused for other contracts held with the *Contractor* depending on its condition and decision will be taken upon negotiation.
- The container will remain on Arnot site.

Provided by the *Contractor*

- All equipment needed for the performance of the work is supplied by the *Contractor*, unless specifically stipulated by the contract.

Control of noise, dust, water and waste

Not applicable

Hook ups to existing works

Not applicable

Tests and inspections

Description of tests and inspections

During the course of the work, the *Service Manager* will do inspections on the work being conducted. The Site manager is also expected to do inspections during the course of the work. The Supervisor will on a daily basis do inspections. After the completion of work in the various areas, the *Service Manager*, Plant Engineer, Site Manager, Quality Controller and Supervisor will do final inspections.

Materials facilities and samples for tests and inspections

Not

applicable

List of drawings

Drawings issued by the *Employer*

Employer to provide drawings.

Drawing number	Revision	Title
26.41/40031 sheet 16	3	Arrangement of PF burner compartment
26.41/40031 sheet 17	2	Arrangement of top straight secondary air compartment
26.41/40031 sheet 18	3	Arrangement of offset secondary air (oil) compartment
26.41/40031 sheet 19	2	Arrangement of offset secondary air compartment
26.41/40031 sheet 26	2	Arrangement of straight secondary air (coal) compartment
26.41/40031 sheet 27	3	Arrangement of bottom straight secondary air compartment
26.41/40031 sheet 28	4	Arrangement of oil burner compartment
26.41/40031 sheet 29		ARRANGEMENT OF BURNER BOX - ELEVATION
26.41/40031 sheet 32	0	Arrangement of burner box top tilt stop
26.41/40031 sheet 31	1	Key sketch for fitting nozzle assemblies
26.41/36054/001	0	BOILER DEFLECTOR PLATE - UNIT 4
26.41/36054/002	3	Medium Rifle Plate
C7071-17-025	0	Existing oil burner igniter guide tube modification
C7071-17-030		Layout showing parking bolt bracket for existing Eskom air nozzle tilt lever
C7071-17-028	0	Detail of burner box tilt stop bracket
C7071-17-029	0	Detail of burner box tilt stop lever assembly
26.41/40031 sheet 31	1	Key sketch for fitting nozzle assemblies