

ESKOM GENERATION**2025****PROVISION OF SANDBLASTING FOR
OUTAGE 36 MONTHS AND
MAINTENANCE 60 MONTHS AT
CAMDEN POWER STATION****CONTRACT NUMBER :****CONTRACTOR :****CONTRACT AMOUNT :
(EXL. VAT)****CONTRACT AMOUNT :
(INCL. VAT)**

PROVISION OF SANDBLASTING FOR OUTAGE 36 MONTHS AND MAINTENANCE 60 MONTHS AT CAMDEN POWER STATION

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NOTES TO TENDERERS

1. Bills of Quantities

This document comprises Notes to Tenderers and Bills of Quantities and is hereafter referred to as "the Bills of Quantities".

The Tenderers are to note that this is a Contract with a Bills of Quantities.

2.1 CONTRACT DOCUMENTS

The contract documents will consist of:

2.1.1 The NEC3 Terms Service Contract 2013 together with all amendments.

2.1.2 These Bills of Quantities, including all annexures and supplementary documentation referred to therein.

2.1.3 Documents to be provided by the Contractor in terms of the requirements of these Bills of Quantities.

2.1.4 Construction Regulations 2014

2.1.5 Occupational Health and Safety Act of 1993

3 DRAWINGS

There are no drawings for this contract.

4 VALUE ADDED TAX

Tenderers should compute their rates from the net costs (excluding Value Added Tax). Value Added Tax at the current rate of 15% is to be added to the net sub-total on the final summary page by means of a single sum calculation to establish the tender price.

5 SCOPE OF WORK

As a guide only, the work comprises as follows:-

PROVISION OF SANDBLASTING FOR OUTAGE 36 MONTHS AND MAINTENANCE 60 MONTHS AT CAMDEN POWER STATION

6 ADDRESS WHERE DOCUMENTS CAN BE OBTAINED

Tender documents will be made available Electronically on an online portal to be provided by Eskom

7 POSSESSION OF SITE

The date of which possession of the Site shall be given to the Contractor shall be within 7 **working days** of the acceptance of this tender.

8 CONSTRUCTION PERIOD - DATES FOR PRACTICAL COMPLETION

The intended date for practical completion and penalty for each calendar day for non-completion shall be:

*OUTAGE 36 MONTHS
MAINTENANCE 60 MONTHS*

Tenderers are to note that the Contract will be delivered as a whole and NOT to be phased.

9 COMMON LAW OR BY-LAW REQUIREMENTS

No liability for not specifically mentioning any normal contractual, Common Law or By-Law requirements will be accepted by the Employer, or Contracts Manager.

10 ORDERING OF MATERIALS

No claims will be entertained due to non-availability of materials or labour. The Tenderer is therefore required to investigate and ensure that the specific materials and components required for the works will be available at the relevant estimated construction times, at the time of tendering.

11 CONTRACT PRICE ADJUSTMENT

The Contract Sum shall be subject to CPAP.

12. PRICED Bills of Quantities:

Tenderers must submit to the Contracts Manager a copy of the Bills of Quantities fully priced and extended, with his tender. After the Bills of Quantities has been checked, and when called upon, each page of the Bills of Quantities shall be initialed and the Index page and the Final Summary page signed in full.

13 DIFFERENCE AND DISCREPANCIES:

Should there be any difference or discrepancy between the prices or particulars contained in the official Tender Form and those contained in any covering letter from the Tenderer, the prices contained in the official Tender Form shall prevail.

Every Tenderer shall be deemed to have waived, renounced and abandoned any conditions printed or written upon any stationery used by him for the purpose of or in connection with the submission of his Tender, which are in conflict with the Conditions of Tender.

Tenderers are warned that any material divergence from the official conditions or specifications may render their Tenders liable to disqualification.

The Tenderers are to note that if there are any arithmetical errors in the Tenderers' form of tender in calculation of the Tender Sum, the Contracts Manager will correct the calculation accordingly.

14 COMMUNICATION WITH MEMBERS OF THE CLIENT COMPANY OR PROFESSIONAL TEAM

A Tenderer shall not in any way communicate with a member of the Client Company or Professional Team or with any officer on a question affecting any contract or the supply of goods or for any work, undertaking or service which is the subject of a Tender during the period between the closing date for receipt of Tenders and the dispatch of the written notification of the Employer's decision on the award of the contract; provided that a Tenderer shall not hereby be precluded from obtaining from the Employer or his authorised representative information as to the date upon which the award of the contract is likely to be made or, after the decision upon the award has been made by the Contracts Manager to which the Employer had delegated its powers, information as to the nature of the decision or such information as was publicly disclosed at the opening of Tenders.

15 IMPORT PERMITS:

Tenderers must apply direct for any import permit and/or currency required, however the Contracts Manager will furnish successful Tenderers with a supporting statement if required.

16 Bills of Quantities:

No alteration, erasure, omission or addition is to be made to the text and conditions of these Bills of Quantities and should any such alteration, amendment, note or addition be made, the same will not be recognised, but the reading of the Bills of Quantities as prepared by the Contracts Manager will be adhered to.

It should be understood that the system of measurement herein adopted is the only system of measurement which will be recognised in connection with this contract. Before the signing of the contract, the Contracts Manager will be entitled to call for adjustments of individual rates and rectify discrepancies, as he considers necessary without alterations to the Tender amount.

6 Ensure that every employee or person (including visitors) who enters the site of the Works undergoes health and safety induction training pertaining to hazards identified on the site of the Works and upon such training having been successfully completed, the Contractor must issue written confirmation by a competent person to the trained employees or persons who shall be further instructed to carry such confirmation with them at all times whilst on the site of the Works;

7 Issue, on loan, the necessary personal protective equipment to visitors to the site of the Works; and

8 Be in good standing with the Compensation Commissioner at all times during the duration of the Contract.

9 The Contractor is to sign a Non-Disclosure Agreement prior to collecting or receiving any proprietary information from Eskom, drawings, documentation, reports and photographs

The Contractor will be deemed to have satisfied himself with his obligations in terms of the Act and to have allowed for all costs arising from compliance with the Act as no claim for extra costs arising from compliance with, and obligations in terms of the Act will be entertained.

17 PRICING OF THESE GENERAL NOTES

The Contractor must allow in his pricing for any additional costs arising from these "General Notes" as no later claims for additional costs will be considered.

18 TAX COMPLIANCE

Failure to provide mandatory information required in this Bid will result in the submissions being deemed null and void and shall be considered non-responsive. An Electronic Tax Compliance Status (TCS) System will be used to verify the bidder's tax compliance status so bidders must request a unique security personal identification number (PIN) from SARS which must be submitted with the bid

No alternative tender offers will be considered.

PROVISION OF SAND BLASTING FOR OUTAGE 36 MONTHS AND MAINTENACE 60 MONTHS AT CAMDEN POWER STATION

Item	Description	Unit	Qty	Rate	Amount
	<u>BILL OF QUANTITIES</u>				
	<u>BILL NO.01 - PRELIMINARIES AND GENERAL</u>				
	<u>FIXED CHARGES</u>				
	<u>ESTABLISHMENT OF FACILITIES ON SITE</u>				
1	Site Offices for staff and signs etc.	Sum	1		R
2	Storage sheds	Sum	1		R
3	Eating area	Sum	1		R
4	Ablution & latrine facilities	Sum	1		R
5	SAPS Vetting and /or Finger Print Check annually	Sum	1		R
	<u>Contractor's obligations in respect of the Occupational Health and Safety Act</u>				
6	Health and Safety Requirements (Safety File etc)	Sum	1		R
7	PPE annually	Sum	1		R
8	Medicals , Induction and annually	Sum	1		R
9	De- establishment	Sum	1		R
	TOTAL COST FIXED CHARGES (A)				R
	<u>TIME RELATED CHARGES</u>				
	<u>FACILITIES FOR CONTRACTOR</u>				
	<u>Operate and Maintain Facilities for the Contractor for the duration of construction</u>				
10	Offices & storage sheds	Sum	1		R
11	Ablution & latrine facilities	Sum	1		R
12	Tools & equipment	Sum	1		R
13	Enviromental requirements	Sum	1		R
14	Transport	Sum	1		R
	TOTAL COST TIME RELATED ITEMS (B)				R
	TOTAL COST A+B TRANSFERRED TO FINAL SUMMARY				R

PROVISION OF SANDBLASTING FOR OUTAGE 36 MONTHS AND MAINTENANCE 60 MONTHS AT CAMDEN POWER STATION

MAINTENANCE - BILL OF QUANTITIES

1. Boiler Pressure Parts

Item No.	Description	Size	Action	QTY	Rate	Amount
				A	B	A x B
1	Blow down vessel	200mm x 200mm	Sandblast	18	R	R
2	Evaporator LHS wall at 12ml	76mm OD x 500mm	Sandblast	156	R	R
3	Evaporator RHS wall at 12ml	76mm OD x 500mm	Sandblast	156	R	R
4	Evaporator front wall at 12ml	76mm OD x 500mm	Sandblast	266	R	R
5	Evaporator Front wall burner row a-e @18ml	76mm OD x 500mm	Sandblast	266	R	R
6	Evaporator front wall @ 29ml LHS and RHS	76mm OD x 500mm	Sandblast	400	R	R
7	Evaporator front wall @ 29ml	76mm OD x 500mm	Sandblast	266	R	R
8	Evaporator Rear wall @ 12ml	76mm OD x 500mm	Sandblast	266	R	R
9	Evaporator Rear wall @ 18ml	76mm OD x 500mm	Sandblast	266	R	R
10	Evaporator Rear wall @ 21ml	76mm OD x 500mm	Sandblast	266	R	R
11	Sat steam rear wall 32 ml	76mm OD x 500mm	Sandblast	266	R	R
12	Evaporator Front wall bottom slope dead space	76mm OD x 500mm	Sandblast	266	R	R
13	Evaporator Rear wall bottom slope dead space	76mm OD x 500mm	Sandblast	266	R	R
14	Evaporator front wall inlet header s-bends	76mm OD x 500mm	Sandblast	300	R	R
15	Evaporator rear wall inlet header s-bends	76mm OD x 500mm	Sandblast	300	R	R
					R	R
16	Evaporator Front wall bottom slope (nose tubes)	180m2	Sandblast	300	R	R
17	Evaporator Rear wall bottom slope (nose tubes)	147m2	Sandblast	300	R	R
18	Evaporator Rear wall top nose	126m2	Sandblast	300	R	R
19	Evaporator rear wall below top nose	47m2	Sandblast	300	R	R
20	Evaporator LHS wall at 12ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
21	Evaporator RHS wall at 12ml	77.2mm OD x 1000 mm	Sandblast	300	R	R
					R	R
22	Evaporator front wall at 12ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
23	Evaporator Front wall burner row c - e (18ml)	76.2mm OD x 1000 mm	Sandblast	300	R	R
24	Evaporator Front wall @ 29ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
25	Evaporator Front wall @ 29ml RHS and LHS	76.2mm OD x 1000 mm	Sandblast	300	R	R
26	Evaporator Rear wall @ 12ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
27	Evaporator Rear wall @ 18ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
28	Evaporator rear wall @ 21ml	76.2mm OD x 1000 mm	Sandblast	300	R	R
29	Superheater 4, 1st transition pieces	57.15mm OD x 500mm	Sandblast	300	R	R
30	Front screen tubes sb path 107/108 - w629	76.2mm OD x 1000 mm	Sandblast	104	R	R
31	Front screen tubes bottom bends w631	76.2mm OD x 1000 mm	Sandblast	104	R	R
32	Front screen tubes sb path 109/110 - w633	76.2mm OD x 1000 mm	Sandblast	104	R	R
33	Superheater 3 elements - w656	57.15mm OD x 6000mm	Sandblast	104	R	R
34	Superheater 3 elements - w657	57.15mm OD x 6000mm	Sandblast	51	R	R
35	Superheater 3 front bends - w658	57.15mm OD x 6000mm	Sandblast	200	R	R
36	Superheater 4 - w651	57.15mm OD x 6000mm	Sandblast	600	R	R
37	Saturated steam rear wall	76 mm OD x 2500mm	Sandblast	300	R	R
38	Saturated steam rear wall	76 mm OD x 2500mm	Sandblast	300	R	R
39	Rear bends	76 mm OD x 2500mm	Sandblast	300	R	R
40	Boiler doors & sb openings manipulation tubes	76 mm OD x 2500mm	Sandblast	1000	R	R
41	Superheater 4	57.15mm OD x 1300mm	Sandblast	300	R	R
42	Platen Elements(Unit 6-7)	76.2mm OD x 1500mm	Sandblast	32	R	R
43	Tube leak detectors attachment welds		Sandblast	5143	R	R
TOTAL				SUB TOTAL A		

2. HP Piping

The following components on HP piping require sandblasting in order to facilitate inspection:

Plant section	Action	Pipe size	Quantity(Per unit)	Number of unit	Total Quantity	Rate	Amount
					A	B	A x B
Turbine loops	Butt Welds	235.9mm OD x 500mm length per Unit	123	8	984	R	R
		197.5mm OD x 500mm length per Unit	51	8	408	R	R
	Stubs	152.4mm ID x as per drawing	51	8	408	R	R
		190.5mm ID x as per drawing	51	8	408	R	R
	Bends	235.9mm OD x 500mm length per Unit	123	8	984	R	R
		197.5mm OD x 500mm length per Unit	123	8	984	R	R
	Butt Welds	407mm OD x 500mm length per Unit	123	8	984	R	R
		372mm OD x 500mm length per Unit	123	8	984	R	R

Main Stream	Stubs	Sand Blasting	292.1 mm ID x as per drawing		123		8	984	R	R
	Bends		407mm OD x 500mm length per Unit		123		8	984	R	R
			372mm OD x 500mm length per Unit		123		8	984	R	R
Attemperator	Butt Welds	Sand Blasting	434mm OD x 500mm length per Unit		123		8	984	R	R
			355.6mm OD x 500mm length per Unit		123		8	984	R	R
	Stubs		434mm OD x as per drawing		123		8	984	R	R
	Bends		355.6mm OD x as per drawing		123		8	984	R	R
			355.6mm OD x as per drawing		123		8	984	R	R
Super Heater 1	Butt Welds	Sand Blasting	244.5mm OD x 500mm Length		123		8	984	R	R
			50.8mm OD x as per drawing		224		8	1792	R	R
	Stubs		57.15mm OD x as per drawing		48		8	384	R	R
	Bends		47.6mm OD x as per drawing		171		8	1368	R	R
Super Heater 2	Butt Welds	Sand Blasting	406mm OD x 500mm Length		123		8	984	R	R
	Stubs		54mm OD x as per drawing		224		8	1792	R	R
Super Heater 3	Butt Welds	Sand Blasting	355.4mm OD x 500mm Length		123		8	984	R	R
	Stubs		57.15mm OD x as per drawing		204		8	1632	R	R
Super Heater 4	Butt Welds	Sand Blasting	457mm OD x 500mm Length		123		8	984	R	R
	Stubs		57mm OD x as per drawing		204		8	1632	R	R
	Valve stubs		82.6mm OD x as per drawing		51		8	408	R	R
Steam Drum	Butt Welds	Sand Blasting	1901.825mm OD x 500mm Length		51		8	408	R	R
			76.2mm OD x as per drawing		204		8	1632	R	R
	Stubs		57.15mm OD x as per drawing		204		8	1632	R	R
			95.25mm OD x as per drawing		204		8	1632	R	R
	Nozzles		63.5mm OD x as per drawing		204		8	1632	R	R
			276.225mm OD x as per drawing		123		8	984	R	R
			400.5mm OD x as per drawing		123		8	984	R	R
			82.55mm OD x as per drawing		204		8	1632	R	R
			211.13mm OD x as per drawing		123		8	984	R	R
			238.125mm OD x as per drawing		123		8	984	R	R
Lower Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length		123		8	984	R	R
	Stubs		168.2mm OD x as per drawing		51		8	408	R	R
			76.2mm OD x as per drawing		51		8	408	R	R
Middle Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		51		8	408	R	R
Upper Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		51		8	408	R	R
Saturate Inlet Header	Butt Welds	Sand Blasting	244.47mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		51		8	408	R	R
50.8mm OD x as per drawing			256		8	2048	R	R		
Evaporator L/H Wall Outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		125		8	1000	R	R
168.275mm OD x as per drawing			51		8	408	R	R		
Evaporator R/H Wall outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		125		8	1000	R	R
			168.275mm OD x as per drawing		51		8	408	R	R
Evaporator L/H Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length		123		8	984	R	R
			76.2mm OD x as per drawing		125		8	1000	R	R
	Stubs		168.275mm OD x as per drawing		51		8	408	R	R
			139.7mm OD x as per drawing		51		8	408	R	R
Evaporator R/H Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length		123		8	984	R	R
			76.2mm OD x as per drawing		125		8	1000	R	R
	Stubs		168.275mm OD x as per drawing		51		8	408	R	R
			139.7mm OD x as per drawing		51		8	408	R	R
Evaporator Front Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length		123		8	984	R	R
	Stubs		76.2mm OD x as per drawing		177		8	1416	R	R
			168.275mm OD x as per drawing		51		8	408	R	R
Evaporator Rear Wall Inlet Header	Butt Welds	Sand Blasting	139.7mm OD x as per drawing		51		8	408	R	R
			298.45mm OD x 500mm Length		123		8	984	R	R
			76.2mm OD x as per drawing		177		8	1416	R	R

Economiser Header U6&U7	Stubs	Sand Blasting	168.275mm OD x as per drawing	51	8	408	R	R	
			139.7mm OD x as per drawing	51	8	408	R	R	
L/H Wall Economiser Outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	123	8	984	R	R	
			168.275mm OD x as per drawing	51	8	408	R	R	
	Stubs		50.8mm OD x as per drawing	51	8	408	R	R	
			127mm OD x as per drawing	51	8	408	R	R	
Economiser R/H Outlet Header	Butt Welds	Sand Blasting	273mm OD x 500mm Length	123	8	984	R	R	
			50.8mm OD x as per drawing	51	8	408	R	R	
	Stubs		48.26mm OD x as per drawing	222	8	1776	R	R	
Economiser L/H Outlet Header	Butt Welds	Sand Blasting	273mm OD x 500mm Length	123	8	984	R	R	
			50.8mm OD x as per drawing	51	8	408	R	R	
	Stubs		48.26mm OD x as per drawing	222	8	1776	R	R	
Economiser Inlet Header U6&7	Butt Welds	Sand Blasting	244.47mm OD x 500mm Length	123	8	984	R	R	
			88.9mm OD x as per drawing	51	8	408	R	R	
	Stubs		60mm OD x as per drawing	98	8	784	R	R	
Economiser Inlet Header U1-5&8	Butt Welds	Sand Blasting	273.1mm OD x 500mm Length	123	8	984	R	R	
			88.9mm OD x as per drawing	51	8	408	R	R	
	Stubs		48.26mm OD x as per drawing	236	8	1888	R	R	
SUBTOTAL (B)									R

4. Boiler Valves

ITEM NO.	COMPONENTS	AREA	m2	QTY	RATE	AMOUNT
				A	B	A x B
1	0 HAD20 AA601	Boiler Drum Safety Valve	1	20	R	R
2	0 HAD20 AA602	Boiler Drum Safety Valve	1	20	R	R
3	0 HAD20 AA603	Boiler Drum Safety Valve	1	20	R	R
4	0 HAD20 AA604	Boiler Drum Safety Valve	1	20	R	R
5	0 HAD20 AA605	Boiler Drum Safety Valve	1	20	R	R
6	0 HAD20 AA606	Boiler Drum Safety Valve	1	20	R	R
7	0 HAH40 AA201	Super Heater 4 Safety Valve	1	20	R	R
8	0 HAH40 AA601	Super Heater 4 Safety Valve	1	20	R	R
SUBTOTAL C						R

TOTAL A + B + C TRANSFERRED TO FINAL SUMMARY PAGE	R
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OUTAGE - BILL OF QUANTITIES**1. Boiler Pressure Parts**

Item No.	Description	Size	Action	QTY (per area)		Rate	Amount
				A	B	C	A x B x C
1	Blow down vessel	200mm x 200mm	Sandblast	1	13	R	R
2	Evaporator LHS wall at 12ml	76mm OD x 500mm	Sandblast	105	13	R	R
3	Evaporator RHS wall at 12ml	76mm OD x 500mm	Sandblast	105	13	R	R
4	Evaporator front wall at 12ml	76mm OD x 500mm	Sandblast	177	13	R	R
5	Evaporator Front wall burner row a-e @ 18ml	76mm OD x 500mm	Sandblast	177	13	R	R
6	Evaporator front wall @ 29ml LHS and RHS	76mm OD x 500mm	Sandblast	300	13	R	R
7	Evaporator front wall @ 29ml	76mm OD x 500mm	Sandblast	177	13	R	R
8	Evaporator Rear wall @ 12ml	76mm OD x 500mm	Sandblast	177	13	R	R
9	Evaporator Rear wall @ 18ml	76mm OD x 500mm	Sandblast	177	13	R	R
10	Evaporator Rear wall @ 21ml	76mm OD x 500mm	Sandblast	177	13	R	R
11	Sat steam rear wall 32 ml	76mm OD x 500mm	Sandblast	266	13	R	R
12	Evaporator Front wall bottom slope dead space	76mm OD x 500mm	Sandblast	177	13	R	R
13	Evaporator Rear wall bottom slope dead space	76mm OD x 500mm	Sandblast	177	13	R	R
14	Evaporator front wall inlet header s-bends	76mm OD x 500mm	Sandblast	200	13	R	R
15	Evaporator rear wall inlet header s-bends	76mm OD x 500mm	Sandblast	200	13	R	R
						R	R
16	Evaporator Front wall bottom slope (nose tubes)	180m ²	Sandblast	200	13	R	R
17	Evaporator Rear wall bottom slope (nose tubes)	147m ²	Sandblast	200	13	R	R
18	Evaporator Rear wall top nose	126m ²	Sandblast	200	13	R	R
19	Evaporator rear wall below top nose	47m ²	Sandblast	200	13	R	R
20	Evaporator LHS wall at 12ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
21	Evaporator RHS wall at 12ml	77.2mm OD x 1000 mm	Sandblast	200	13	R	R
					13	R	R
22	Evaporator front wall at 12ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
23	Evaporator Front wall burner row c - e (18ml)	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
24	Evaporator Front wall @ 29ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
25	Evaporator Front wall @ 29ml RHS and LHS	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
26	Evaporator Rear wall @ 12ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
27	Evaporator Rear wall @ 18ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
28	Evaporator rear wall @ 21ml	76.2mm OD x 1000 mm	Sandblast	200	13	R	R
29	Superheater 4, 1st transition pieces	57.15mm OD x 500mm	Sandblast	204	13	R	R
30	Front screen tubes sb path 107/108 - wf29	76.2mm OD x 1000 mm	Sandblast	69	13	R	R
31	Front screen tubes bottom bends - wf31	76.2mm OD x 1000 mm	Sandblast	69	13	R	R
32	Front screen tubes sb path 109/110 - wf33	76.2mm OD x 1000 mm	Sandblast	69	13	R	R
33	Superheater 3 elements - wf66	57.15mm OD x 6000mm	Sandblast	68	13	R	R
34	Superheater 3 elements - wf67	57.15mm OD x 6000mm	Sandblast	34	13	R	R
35	Superheater 3 front bends - wf68	57.15mm OD x 6000mm	Sandblast	204	13	R	R
36	Superheater 4 - wf51	57.15mm OD x 6000mm	Sandblast	408	13	R	R

37	Saturated steam rear wall	76 mm OD x 2500mm	Sandblast	200	13	R	R
38	Saturated steam rear wall	76 mm OD x 2500mm	Sandblast	200	13	R	R
39	Rear bends	76 mm OD x 2500mm	Sandblast	200	13	R	R
40	Boiler doors & sb openings manipulation tubes	76 mm OD x 2500mm	Sandblast	200	13	R	R
41	Superheater 4	57.15mm OD x 1300mm	Sandblast	204	13	R	R
42	Platen Elements(Unit 6-7)	76.2mm OD x 1500mm	Sandblast	21	13	R	R
43	Tube leak detectors attachment welds		Sandblast	14	13	R	R
SUB TOTAL A							R

2 HP Piping

The following components on HP piping require sandblasting in order to facilitate inspection:

Plant section		Action	Pipe size	Quantity(Per unit	No of Outages A	Number of unit	Total Quantity B	Rate C	Amount A x B x C
Turbine loops	Butt Welds	Sand Blasting	235.9mm OD x 500mm length per Unit	80	13	1	80	R	R
			197.5mm OD x 500mm length per Unit	14	13	1	14	R	R
	Stubs		152.4mm ID x as per drawing	2	13	1	2	R	R
			190.5mm ID x as per drawing	4	13	1	4	R	R
	Bends		235.9mm OD x 500mm length per Unit	18	13	1	18	R	R
			197.5mm OD x 500mm length per Unit	2	13	1	2	R	R
Main Stream	Butt Welds	Sand Blasting	407mm OD x 500mm length per Unit	14	13	1	14	R	R
			372mm OD x 500mm length per Unit	64	13	1	64	R	R
	Stubs		292.1 mm ID x as per drawing	20	13	1	20	R	R
	Bends		407mm OD x 500mm length per Unit	2	13	1	2	R	R
			372mm OD x 500mm length per Unit	23	13	1	23	R	R
Attenuator	Butt Welds	Sand Blasting	434mm OD x 500mm length per Unit	5	13	1	5	R	R
			355.6mm OD x 500mm length per Unit	35	13	1	35	R	R
	Stubs		434mm OD x as per drawing	3	13	1	3	R	R
	Bends		355.6mm OD x as per drawing	6	13	1	6	R	R
			355.6mm OD x as per drawing	9	13	1	9	R	R
Super Heater 1	Butt Welds	Sand Blasting	244.5mm OD x 500mm Length	5	13	1	5	R	R
			50.8mm OD x as per drawing	50	13	1	50	R	R
	Stubs		57.15mm OD x as per drawing	32	13	1	32	R	R
	Bends		47.6mm OD x as per drawing	60	13	1	60	R	R
Super Heater 2	Butt Welds	Sand Blasting	406mm OD x 500mm Length	3	13	1	3	R	R
	Stubs		54mm OD x as per drawing	224	13	1	224	R	R
Super Heater 3	Butt Welds	Sand Blasting	355.4mm OD x 500mm Length	1	13	1	1	R	R
	Stubs		57.15mm OD x as per drawing	204	13	1	204	R	R
	Butt Welds		457mm OD x 500mm Length	3	13	1	3	R	R

Super Heater 4	Stubs	Sand Blasting	57mm OD x as per drawing	204	13	1	204	R	R
	Valve stubs		82.6mm OD x as per drawing	3	13	1	3	R	R
Steam Drum	Butt Welds	Sand Blasting	1901.825mm OD x 500mm Length	3	13	1	3	R	R
			76.2mm OD x as per drawing	150	13	1	150	R	R
	Stubs		57.15mm OD x as per drawing	12	13	1	12	R	R
	Nozzles		95.25mm OD x as per drawing	3	13	1	3	R	R
			63.5mm OD x as per drawing	6	13	1	6	R	R
			276.225mm OD x as per drawing	6	13	1	6	R	R
			409.5mm OD x as per drawing	6	13	1	6	R	R
			82.55mm OD x as per drawing	3	13	1	3	R	R
			211.13mm OD x as per drawing	6	13	1	6	R	R
			238.125mm OD x as per drawing	28	13	1	28	R	R
Lower Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length	2	13	1	2	R	R
	Stubs		168.2mm OD x as per drawing	6	13	1	6	R	R
			76.2mm OD x as per drawing	21	13	1	21	R	R
Middle Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length	2	13	1	2	R	R
	Stubs		76.2mm OD x as per drawing	27	13	1	27	R	R
Upper Platen Header	Butt Welds	Sand Blasting	219.025mm OD x 500mm Length	2	13	1	2	R	R
	Stubs		76.2mm OD x as per drawing	27	13	1	27	R	R
Saturate Inlet Header	Butt Welds	Sand Blasting	244.47mm OD x 500mm Length	6	13	1	6	R	R
	Stubs		76.2mm OD x as per drawing	60	13	1	60	R	R
			50.8mm OD x as per drawing	256	13	1	256	R	R
Evaporator L/H Wall Outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	7	13	1	7	R	R
	Stubs		76.2mm OD x as per drawing	125	13	1	125	R	R
			168.275mm OD x as per drawing	14	13	1	14	R	R
Evaporator R/H Wall outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	7	13	1	7	R	R
	Stubs		76.2mm OD x as per drawing	125	13	1	125	R	R
			168.275mm OD x as per drawing	14	13	1	14	R	R
Evaporator L/H Wall inlet	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	7	13	1	7	R	R
			76.2mm OD x as per drawing	125	13	1	125	R	R

Header	Stubs	Sand Blasting	168.275mm OD x as per drawing	14	13	1	14	R	R
			139.7mm OD x as per drawing	9	13	1	9	R	R
Evaporator R/H Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	7	13	1	7	R	R
			76.2mm OD x as per drawing	125	13	1	125	R	R
	Stubs		168.275mm OD x as per drawing	14	13	1	14	R	R
			139.7mm OD x as per drawing	9	13	1	9	R	R
Evaporator Front Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	10	13	1	10	R	R
			76.2mm OD x as per drawing	177	13	1	177	R	R
	Stubs		168.275mm OD x as per drawing	3	13	1	3	R	R
			139.7mm OD x as per drawing	16	13	1	16	R	R
Evaporator Rear Wall Inlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	10	13	1	10	R	R
			76.2mm OD x as per drawing	177	13	1	177	R	R
	Stubs		168.275mm OD x as per drawing	3	13	1	3	R	R
			139.7mm OD x as per drawing	16	13	1	16	R	R
L/H Wall Economiser Outlet Header	Butt Welds	Sand Blasting	298.45mm OD x 500mm Length	6	13	1	6	R	R
			168.275mm OD x as per drawing	3	13	1	3	R	R
	Stubs		50.8mm OD x as per drawing	49	13	1	49	R	R
			127mm OD x as per drawing	1	13	1	1	R	R
Economiser R/H Outlet Header	Butt Welds	Sand Blasting	273mm OD x 500mm Length	2	13	1	2	R	R
	Stubs		50.8mm OD x as per drawing	49	13	1	49	R	R
			48.26mm OD x as per drawing	222	13	1	222	R	R
Economiser L/H Outlet Header	Butt Welds	Sand Blasting	273mm OD x 500mm Length	2	13	1	2	R	R
	Stubs		50.8mm OD x as per drawing	49	13	1	49	R	R
			48.26mm OD x as per drawing	222	13	1	222	R	R
Economiser Inlet Header U6&7	Butt Welds	Sand Blasting	244.47mm OD x 500mm Length	4	13	1	4	R	R
	Stubs		88.9mm OD x as per drawing	18	13	1	18	R	R
			60mm OD x as per drawing	30	13	1	30	R	R
Economiser Inlet Header U1-5&8	Butt Welds	Sand Blasting	273.1mm OD x 500mm Length	4	13	1	4	R	R
	Stubs		88.9mm OD x as per drawing	18	13	1	18	R	R
			48.26mm OD x as per drawing	100	13	1	100	R	R
SUBTOTAL (B)									R

BOILER VALVES						
ITEM NO.	COMPONENTS	AREA	m2	RATE	No of Outages	AMOUNT
			A	B	C	A x B x C
1	0 HAD20 AA601	Boiler Drum Safety Valve	1	R	10	R
2	0 HAD20 AA602	Boiler Drum Safety Valve	1	R	10	R
3	0 HAD20 AA603	Boiler Drum Safety Valve	1	R	10	R
4	0 HAD20 AA604	Boiler Drum Safety Valve	1	R	10	R
5	0 HAD20 AA605	Boiler Drum Safety Valve	1	R	10	R
6	0 HAD20 AA606	Boiler Drum Safety Valve	1	R	10	R
7	0 HAH40 AA201	Super Heater 4 Safety Valve	1	R	10	R
8	0 HAH40 AA601	Super Heater 4 Safety Valve	1	R	10	R
SUBTOTAL C						R

TOTAL A + B + C CARRIED TO FINAL SUMMARY	R
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**PROVISION OF SANDBLASTING FOR OUTAGE 36 MONTHS AND MAINTENACE 60 MONTHS AT CAMDEN
POWER STATION**

FINAL SUMMARY

ITEM	DESCRIPTION	AMOUNT
1	Bill No.01 - PRELIMINARIES AND GENERAL	R
2	Bill No.02 - MAINTENANCE BOQ	R
2	Bill No.02 - OUTAGE BOQ	R
	SUB TOTAL	R
	VAT @15%	R
TOTAL BID PRICE (INCL. VAT) - TRANSFERRED TO FORM OF OFFER AND ACCEPTANCE		R