



## Quotation Advert

Opening Date: 2019-05-27   
Closing Date: 2019-06-10   
Closing Time: 11:00

### INSTITUTION DETAILS



Institution Name: King Edward VIII hospital   
Province: KwaZulu-Natal  
Department or Entity: Department of Health  
Division or section: Central Supply Chain Management  
Place where goods / services is required: KING EDWARD VIII HOSPITAL BOILER HOUSE  
Date Submitted: 2019-05-22 

### ITEM CATEGORY AND DETAILS

Quotation Number: ZND:  
KM 88V19  
Item Category: Services   
Item Description: COME AND INSPECT BOILER 1 AND 2 AS PER SCOPE  
\*QUOTES TO BE HANDED OUT AFTER SITE MEETING

Quantity (if supplies)

### COMPULSORY BRIEFING SESSION / SITE VISIT

Select Type: Compulsory Briefing Session   
Date: 2019-06-03   
Time: 11:00  
Venue: KING EDWARD VIII HOSPITAL OUTSIDE MAINTENANCE

QUOTES CAN BE COLLECTED FROM: KHULANI MTHEMBU

QUOTES SHOULD BE DELIVERED TO: KING EDWARD VIII HOSPITAL THROUGH BOX

### ENQUIRIES REGARDING THE ADVERT MAY BE DIRECTED TO:

Name: MISS NOMONDE NCIMF  
Email: KHULANI.MTHEMBU@KZNHEALTH.GOV.ZA  
Contact Number: 031 360 3446  
Finance Manager Name:

Finance Manager Signature:

  
No late quotes will be considered

# Scope of work

## Item Boilers 1 and 2 inspections

### Description

Carry out the following services at boiler no1 and 2 and boiler house area.

- 1) HF1-001a – oil reticulation
- 2) HF1-001b- HI pressure burner service (boiler no2)
- 3) HF1-001b- Low pressure burner service
- 4) HF1-001c – Shell and flue on boiler no1 and
- 5) HF1-001c - Shell and flue on boiler no2
- 6) HF1-001d – Boiler feed water
- 7) HF1-001e - Boiler house general
- 8) SB2-003, SB3-002, SB4-002, SB5-002.

(The above service is a 3<sup>rd</sup> yearly service with 3<sup>rd</sup> party inspector involvement)

All items (in any/all service schedule) regarding the term "inspector" is regarded to be inspected by the 3rd party inspector.

2<sup>nd</sup> scheduled inspection starting on 3rd month after first inspection to carry out scheduled inspection SB3-002

3<sup>rd</sup> scheduled inspection starting on 6th month after first inspection to carry out scheduled inspection SB3-002

4<sup>th</sup> scheduled inspection starting on 12th month after first inspection to carry out scheduled inspection SB3-002

**NB: Document to be attached to tender document that will form part of the bid evaluation process.**

- 1) Any artisan and semi-skilled person working on site shall have his SAQA record attached to the tender document.
- 2) All prospective sales representatives/manager/project leaders that is allocated shall attach their Project leader SAQA record qualification to the tender document.

#### Onsite rules:

- 1) No service schedule document/s shall be taken of site under any circumstances.
- 2) Any equipment repaired/tested shall be accompanied with a certificate of compliance prior any installation of such equipment.
- 3) No equipment/machinery will be left stripped for any reason with parts lying around.
- 4) Should any repairs needed to be found ,the item will be reassembled install as it was and full repairs required report is to be issued to end user for action.
- 5) No Parts/spares is to leave the premises without authorisation from security and stay off site for more than two days, unless valid reason.
- 6) Should any part/s for repairs stay of premises for more than two days, a full written report to be e-mailed on a daily basis to the end user and Maintenance manager till the part/s returns.
- 7) Tea and lunch time of staff intended to work on premises should be given to the end user on a letter head format signed by the C.E.O or director of the relevant company.









I CERTIFY THAT THE SPECIFIED SERVICE WAS CARRIED OUT AS INSTRUCTED BY THE PROJECT LEADER OF THIS WORKS.						Parties responsible for works to sign below on site.
NAME OF SERVICEMAN (BLOCK LETTERS):				SIGNATURE:		Company project manager
NAME/S OF ASSISTANT/S: SEMI SKILLED:						SIGNATURE:
NAME/S OF ASSISTANT/S: UNSKILLED:						Company director
COMPANY NAME (BLOCK LETTERS):						SIGNATURE:
TIME IN:	TIME OUT:	TIME ON SITE:	DATE:			Official receiving document
FROM:	TO:	KM:	TO:	KM:	TOTAL KM:	SIGNATURE:



2.3	Repair all angel iron strips at entrance of each boiler hose retractable door.										
2.4	Remove all oil from floor and fill all floor cracks with 2 sand to 1 cement ratio cement and paint entire floor smooth.										
2.5	Fill in boiler house logbook correctly and sign it										

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1.13	Replace boiler line feed valves x2								
1.13	Test all pumps								
1.14	Test operation of outside emergency water storage tank filling ball valve								
1.15	Simulate low water condition in hotwell tanks and check that emergency water tank pump and light outside is operating and report.								
2.	<b>WATER TREATMENT EQUIPMENT</b> (to be done by 3 rd party specialized water treatment company only)								
2.1	Replace 24 volt power supply on softner head.								
2.2	Manually activate softner regeneration cycle.								
2.3	Test water with YES/NO tablets. if green - OK, if red - check the following:								
2.4	Check water flow drain (Indicates regeneration)								
2.5	Check brine tank - should be : full of course salt								
2.6	Check by-pass valve is closed								
2.7	Install new water meter with sensor for dosing timer and connect.								
2.8	Replace dosing pump and bleed.								
2.9	Check chemical levels in tanks								
2.10	Check pump settings are correct								
2.11	Check chemical & salt stock levels & record in logbook								
2.12	Ensure all off range boilers are correctly wet stored with chemicals.								



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**PROVINCE OF KWAZULU-NATAL  
DEPARTMENT OF PUBLIC WORKS  
PREVENTIVE MAINTENANCE SCHEDULE**

TYPE OF SERVICE : LOW PRESSURE OIL BURNER SERVICE  
 SCHEDULE FOR :  
 SCHEDULE FREQUENCY :

REF : HF  
 CODE : HF1-001b

INSTALLATION NAME : Boiler no2			REF :									
SERVICE PROVIDER :			ORDER No.:									
P.M. SERVICE			RUNNING REPAIRS (Apply for V.O. as Applicable)					OTHER REPAIRS REQUIRED SUBMIT QUOTATION				
ITEM	INSTRUCTION: CHECK, ADJUST, CLEAN AS REQUIRED	IN ORDER	OTHER NON-SPECIFIED RUNNING REPAIRS DONE	TIME TAKEN	DESCRIPTION OF SPARES USED	EX SITE STOCK	EX FIRMS STOCK	DESCRIPTION OF OTHER REPAIRS REQUIRED	EST. TIME REQ.	DESCRIPTION OF SPARES REQUIRED	QTY REQ	
	<b>Burner service</b>											
1.	<b>LOW PRESSURE OIL BURNER</b>											
1.1	Strip, clean entire block, inspect, report and assemble valve valve with new gasket											
1.2	Strip, clean entire block, inspect, report and assemble cup supply and return supply poppet/regulating valves.											
1.3	Strip, clean entire block, inspect, report and assemble balance piston.											
1.4	Strip, Clean and lubricate burner hinge bearings and ghries nipples and ghries.											
1.5	Meg ohm burner/fan motor and note readings											
1.6	Install new wire mesh on wind box suction side.											
1.7	Check fan operation											
1.8	Repair burner SQM50 modulator system to fully functional modulation operation.											
1.9	Remove and clean nozzle head, and replace shaft assembly (form customer)(on site)											

1.10	Install all new burner and boiler blue tinted sight glasses front and back with new gaskets.																			
1.11	Clean entire ducting from fan to and through burner and replace damper plates and all gaskets on air ducting from fan to burner and replace flexible air hose from fan to burner.																			
1.12	Replace PQ 300 pump with PQ 3000 pump and set pressure to 8 bar.																			
1.13	Replace boiler block low oil temperature switch and connect and set and note temperature.																			
1.14	Replace all delivery & return flexible connection pipes and copper pipes and fittings from and to and on burner and on all gauges.  Install gauge to indicate balance piston pressure with all fittings and flexible pipes.																			
1.15	Check ignition transformer.																			
1.16	Check burner main contractor for excessive arching.																			
1.17	Check photo cell and holder.																			
1.18	Check first fuel safety shut off solenoid valve.																			
1.19	Check second fuel safety shut off solenoid valve.																			
1.20	Check safety valve solenoid & operation.																			
1.21	Replace gas arc and ionisation probes and adjust gaps.																			
1.22	Clean burner cup.																			
1.23	Check HT lead to electrodes.																			
1.24	Check & clean burner casing.																			
1.25	Replace stack flue gas temp gauge and record flue gas temperature on all three stages.																			

	separately and note temperatures														
1.26	Record ambient temperature in boiler house														
1.27	Check & record "BURNER ON" steam pressure														
1.28	Check & record "BURNER OFF" steam pressure														
1.29	Replace burner control pressure stat.														
1.30	Check & record colour of smoke at stack														
1.32	Check, clean & tighten all burner control electrical connections and close all electrical boxes.														
1.33	Ensure drip tray is in position & sand is clean														
<b>2</b>	<b>TEST TO BE CARRIED OUT ON COMPLETION OF BURNER SERVICE</b>														
2.1	Check furnace purge cycle & record time														
2.2	Is HP cut-out working														
2.3	Is LP cut-in working														
2.4	Is low water level cut-out working														
2.5	Is flame sensing photocell working														
2.6	Check all burner safety devices in good order														
2.7	Check for ignition misfire														
2.8	Correctly adjust burner flame shape ( <i>Agents only</i> )														
2.9	If misfire/incorrect adjustments occur - fault must be rectified.														
2.10	Check burner modulating correctly ( <i>Agents only</i> )														
<b>3</b>	<b>EFFICIENCY</b> (to be done by agents only)														



3.1	Check air/fuel ratio & record CO2 reading and oxygen content in flue stack.																		
3.2	Check & record fuel consumption over 1 hour																		
3.3	Calculate fuel to steam ratio and submit calculations and report.																		
3.4	Check if fuel consumption is within specification with manufacturer and attach report.																		
3.5	Excessive consumption must be rectified																		
3.6	3 <sup>rd</sup> party stack emissions test is to be carried out and tested for all gasses emission limits and report is to be submitted.																		
4	<b>OPERATIONAL &amp; SAFETY CHECKS</b>																		
4.1	Blowdown gauge glasses in correct sequence. Check level returns within a acceptable time																		
4.2	Check tailpipes & tundishes for leaks. Tighten as required																		
4.3	Blowdown mobreys for probe chambers																		
4.4	Check feed pump cut-in																		
4.5	Check low water alarm operates bin the Center of normal water level and extreme low water level																		
4.6	Burner trips when extreme low water level is reached on gauge glasses.																		
4.7	Lubricate all valve spindles.																		
5	<b>INSTRUMENTATION &amp; CONTROLS</b>																		
5.1	Check pressure gauge is properly illuminated																		
5.2	Check pressure gauge (Red line is set at correct M.W.P.)																		



5.3	Check water gauge glasses & fittings for leaks. (Replace rubber cones on site glasses & graphite sleeves on site glass blow down valves as required) Ensure protector is in place										
5.4	Install chevron (white and red striped) boards behind each gauge glass protector.										
5.5	Fill in daily boiler checks in boiler log book and sign.										
5.6	Repair all panel lamps and electrical not working.										

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NAME/S OF ASSISTANT/S: SEMI SKILLED:						SIGNATURE:
NAME/S OF ASSISTANT/S: UNSKILLED:						Company director
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PROVINCE OF KWAZULU-NATAL  
DEPARTMENT OF PUBLIC WORKS  
PREVENTIVE MAINTENANCE SCHEDULE

REF : HF  
CODE : HF1-001b

TYPE OF SERVICE : HI PRESSURE OIL BURNER SERVICE  
SCHEDULE FOR :  
SCHEDULE FREQUENCY :  
INSTALLATION NAME : Boiler no1

REF :

ORDER No.:

P.M. SERVICE		RUNNING REPAIRS (Apply for V.O. as Applicable)						OTHER REPAIRS REQUIRED SUBMIT QUOTATION			
ITEM	INSTRUCTION; CHECK, ADJUST, CLEAN AS REQUIRED	IN ORDER	OTHER NON-SPECIFIED RUNNING REPAIRS DONE	TIME TAKEN	DESCRIPTION OF SPARES USED	EX SITE STOCK	EX FIRMS STOCK	DESCRIPTION OF OTHER REPAIRS REQUIRED	EST. TIME REQ.	DESCRIPTION OF SPARES REQUIRED	QTY REQ
<b>Burner service</b>											
1.	HI PRESSURE OIL BURNER										
1.1	Clean and lubricate burner slide pins										
1.2	Meg ohm burner/fan motor and note readings										
1.3	Replace air diffuser plates										
1.4	Check fan operation										
1.5	Check burner control box										
1.6	Remove and clean nozzle head assembly										
1.7	Install all new burner sight glasses										
1.8	Repair loose air damper & linkages										
1.9	Replace all burner oil piston pump seals and oil and test and set oil pressure to 28 bar										
1.10	Replace burner heater pack low oil temp thermo stat, heater pack hi temp thermostat & set and record temperature.										
1.11	Replace all delivery & return flexible connection pipes in burner										

	area																			
1.12	Check ignition transformer																			
1.13	Check burner main contractor for excessive arcing																			
1.14	Replace photo cell and holder.																			
1.15	Check low fibre solenoid valve																			
1.16	Check high fibre solenoid valve																			
1.17	Check safety valve solenoid & operation																			
1.18	Check ignition electrodes & set gaps between:																			
1.19	Clean electrodes and adjust gaps																			
1.20	Replace all 3 stages nozzles with Danfoss 13usg 60 degree h-type (hollow cone) nozzles.																			
1.21	Check HT lead to electrodes																			
1.22	Check & clean diffuser																			
1.23	Check & clean burner casing																			
1.24	Probe chambers to be opened & probe tips cleaned with emery tape on off ranger boilers (EVERY 3 MONTHS MAXIMUM)																			
1.25	Replace stack flue gas temp gauge and record flue gas temperature on all three stages separately and note temperatures																			
1.26	Record ambient temperature in boiler house																			
1.27	Check & record "BURNER ON" steam pressure																			
1.28	Check & record "BURNER OFF" steam pressure																			
1.29	Replace first nozzle pressure switch and check burner control pressure stat.																			
1.30	Check & record colour of smoke at stack																			



1.31	Check & tighten all burner control electrical connections																			
1.32	Ensure drip tray is in position & sand is clean																			
2	<b>TEST TO BE CARRIED OUT ON COMPLETION OF BURNER SERVICE</b>																			
2.1	Check furnace purge cycle & record time																			
2.2	Is HP cut-out working																			
2.3	Is LP cut-in working																			
2.4	Is low water level cut-out working																			
2.5	Is flame sensing photo cell working																			
2.6	Check all burner safety devices in good order																			
2.7	Check for ignition misfire																			
2.8	Check for burner blow back																			
2.9	If misfire or blow back occur - fault must be rectified																			
2.10	Is burner modulating correctly																			
3	<b>EFFICIENCY</b>																			
3.1	Check air/fuel ratio & record CO2 reading and oxygen content in flue stack																			
3.2	Check & record fuel consumption over 1 hour																			
3.3	Calculate fuel/steam ratio																			
3.4	Check if fuel consumption is within specification with manufacturer and attach report.																			
3.5	Excessive consumption must be rectified																			
3.6	Check CO2 level in flue gas																			
3.7	3 <sup>rd</sup> party stack emissions test is to be carried out and tested for all																			

	gasses emission limits and report is to be submitted.																		
4	<b>OPERATIONAL &amp; SAFETY CHECKS</b>																		
4.1	Blowdown gauge glasses in correct sequence. Check level returns within a acceptable time																		
4.2	Check tailpipes & tundishes for leaks. Tighten as required																		
4.3	Blowdown motbrays for probe chambers																		
4.4	Check feed pump cut-in																		
4.5	Low water alarm operates																		
4.6	Burner trips																		
5	<b>INSTRUMENTATION &amp; CONTROLS</b>																		
5.1	Check pressure gauge is properly illuminated																		
5.2	Check pressure gauge (Red line is set at correct M.W.P.)																		
5.3	Check water gauge glasses & fittings for leaks. (Replace rubber cones on site glasses & graphite sleeves on site glass blow down valves as required) Ensure protector is in place																		
5.4	Install chevron (white and red striped) boards behind each gauge glass protector.																		
5.5	Fill in daily boiler checks in boiler log book and sign.																		
5.6	Repair all panel lamps and electrical not working.																		

I CERTIFY THAT THE SPECIFIED SERVICE WAS CARRIED OUT						OFFICIAL STAMP:			
NAME OF SERVICEMAN (BLOCK LETTERS):				SIGNATURE:					
NAME/S OF ASSISTANT/S: SEMI SKILLED:									
NAME/S OF ASSISTANT/S: UNSKILLED:									
COMPANY NAME (BLOCK LETTERS):						NAME OF RESPONSIBLE OFFICIAL ON SITE:			
TIME IN:		TIME OUT:		TIME ON SITE:			DATE:		
FROM:		TO:		KM:	TO:		KM:	TOTAL KM:	SIGNATURE:











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TYPE OF SERVICE : STEAM BOILERS  
SCHEDULE FOR : ANNUAL INTERNAL INSPECTION & SERVICE

INSTALLATION NAME :		REF :	
SERVICE PROVIDER :		ORDER No.:	
ITEM	INSTRUCTION: CHECK, ADJUST, CLEAN AS REQUIRED	IN ORDER	OTHER NON-SPECIFIED RUNNING REPAIRS DONE
1.	Close, chain and lock the Crown valve		
2.	Drain the boiler		
3.	Remove manhole and mudhole covers		
4.	(To be carried out by 3 <sup>rd</sup> party water treatment specialist only) 3 <sup>rd</sup> party to inspect water side and acid cleaned if necessary and acid washed. Before boiler is drained, a 3 <sup>rd</sup> party water treatment specialist is to certify the water is safe (PH7) and certification to be attached to this service schedule.		
4.	Wash out water side sludge and scale deposits when PH is 7.		
5.	Remove duct covers and clean duct for 3 <sup>rd</sup> party AIA inspector and attach report to this service schedule.		
6.	Lower the feed tank level and inspect (by company doing the service) for corrosion. (Attach report)		
7.	Service the boiler as per schedule SB3-002 (3 Monthly)		
8.	Provide a 32 volt lead lamp for the 3 <sup>rd</sup> party AIA Inspector's use		
9.	Ensure that the boiler register and boiler house logbook are available for the 3 <sup>rd</sup> party AIA Inspector		
10.	After completion of the internal 3 <sup>rd</sup> party AIA inspection and with the written (copy to be attached on this service schedule) approval of the 3 <sup>rd</sup> party AIA Inspector, fit new gaskets and replace the manhole and mudhole covers.		
11.	Hydraulic pressure test the boiler to 1.25 x the permissible working pressure to ensure all gaskets, tube valve/cocks seals are not leaking. Only items that are excluded by the 3 <sup>rd</sup> party AIA inspector's report in writing, may be blanked off for this test (attach exclusion 3 <sup>rd</sup> party AIA letter). (This test must be done in the presence of 3 <sup>rd</sup> party AIA inspector, user and company doing the test)		
13.	Raise the steam pressure and float the safety valves at the 3 <sup>rd</sup> party's written authorised working pressure (proof to be attached to this service schedule). Record the pressure at which the safety valves lift on this schedule and in the boiler house logbook.		
14.	If all is in order put the boiler on range as instructed by the 3 <sup>rd</sup> party AIA Inspector's commissioning BOILER PASSED reason and attach report to this service schedule.		



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