



Quotation Advert

Opening Date: 2019-05-06 
Closing Date: 2019-05-20 
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 MAINTENANCE
Date Submitted: 2019-05-02 

ITEM CATEGORY AND DETAILS

Quotation Number: ZNQ:
KM 12119
Item Category: Services 
Item Description:

CARRY OUT WATER TREATMENT AS PER SCOPE OF WORK ATTACHED.
[3 YEAR CONTRACT]

Quantity (if supplies)

COMPULSORY BRIEFING SESSION / SITE VISIT


Select Type: Compulsory Briefing Session 
Date: 2019-05-18 
Time: 11:00
Venue: KING EDWARD OUTSIDE MAINTENANCE DEPARTMENT

QUOTES CAN BE COLLECTED FROM: ZODWA NHLAWI ZANA
QUOTES SHOULD BE DELIVERED TO: KING EDWARD VIII HOSPITAL TENDER BOX

ENQUIRIES REGARDING THE ADVERT MAY BE DIRECTED TO:

Name: KHULANI MTHEMBU
Email: KHULANI.MTHEMBU@KZNHEALTH.GOV.ZA
Contact Number: 031 360 3346
Finance Manager Name: MISS NOMONDE NQUMI

Finance Manager Signature:


No late quotes will be considered

SCOPE OF WORK: BOILER WATER TREATMENT

SUPPLY AND INSTALL THE FOLLOWING:

- 1 Chemical dosing station at boiler house:
 - 1.1 Chemical tanks for dosing required chemicals in boiler feed water tanks
 - 1.2 Adjustable chemical dosing pumps to dose chemicals in boiler feed water tanks
 - 1.3 Water meter and pulse sensor (connect to counter)
 - 1.4 Pulse counter in IP65 rating box housing and connected to three pin plug and plugged in available wall socket.(mount on wall in appropriate position)
 - 1.5 Install all new dosing pump piping, check valves and strainers and secure to prevent any chemical leakages outside the boiler feed water tanks.
 - 1.6 Replace TDS probes on boiler no1 and 2.

- 2 Test equipment for daily testing by onsite Artisan:
 - 2.1 PH pen (Hana make)
 - 2.2 TDS meter with probe
 - 2.3 Hardness mg/L CaCO₃ test kit

CHEMICAL TREATMENT CHEMICALS (CONTRATOR TO SUPPLY AND APPLY THE FOLLOWING CHEMICALS)

- 3 Chemical Treatments: corrosion and scale inhibitors which contains the following components, in the form of:
 - 3.1 Sulphite as an oxygen scavenger.
 - 3.2 Phosphate as a scale inhibitor.
 - 3.3 Caustic as an alkalinity builder.
 - 3.4 Neutralizing amine as a corrosion control agent.(Steam line protection)
 - 3.5 A grade marked salt for softner brine tank

Chemically treat and maintain system water to meet following standards:

Parameter	Control Limits
Boiler Water:	
pH:	10.5-11.5
TDS, $\mu\text{S}/\text{cm}$:	2000-3000 neutralized sample
OH alkalinity, mg/L CaCO_3 :	150-300
M alkalinity, mg/L CaCO_3 :	<700
sulphite, mg/L SO_3 :	30-60
phosphate, mg/L PO_4 :	40-80
Dissolved oxygen	MAX 0
Boiler Feed water:	
hardness, mg/L CaCO_3 :	<2
Softener Outlet:	
hardness, mg/L CaCO_3 :	<2
Boiler Condensate at steam line exit point:	
pH (for systems not used for humidity control):	8.5-9.5
TDS, $\mu\text{S}/\text{cm}$:	<50
hardness, mg/L CaCO_3 :	<2

WEEKLY WRITTEN REPORTING INFORMATION REQUIRED:

4 Submit a written report of actual water treatment activities:

4.1 Times and date

4.2 System status.

4.3 Problems encountered.

4.4 Actions taken.

4.5 Compositions of all chemicals solutions used. (MSDS certificates to be attached on wall at place of adding chemicals).

Inspection results as follows:

4.6 Current operating boiler water and standby boiler:

4.6.1 PH level.

4.6.2 TDS concentration.

4.6.3 Sulphite concentration.

4.6.4 OH and M Alkalinity concentration.

4.6.5 Phosphate concentration.

4.6.6 Dissolved oxygen in boiler water

4.6.6 Hardness mg/L CaCO₃

Final condensate:

4.6.7 PH level.

4.6.8 TDS concentration.

4.6.9 Hardness mg/L CaCO₃

5. MSDS of all testing Products used to be attached

WATER TEST EQUIPMENT (WATER TREATMENT SPESIALIST ON SITE TESTING TOOLS MUST HAVE)

- .1 Supply one of each of the following water test kits specified:

- 1 pH test kit.
- 2 Sulphite test kit.
- 3 P&M Alkalinity test kit.
- 4 Phosphate test kit.
- 5 TDS or Conductivity Meter.
- 6 Water hardness test kit.

Scope of works:

The manufacture and installation and commissioning of 36kw electrical free standing boiler at N-Block.

1. Roof.

Install 6 meter long roof (IBR) (same type and construction as opposite roof with side boards) and wood trusses (to support roof) between N block and N block passage to cover heat exchanger area.(fall of roof to use existing available guttering)

2. Free standing 36kw package boiler in CSSD

3. Move and mount in N Block hot water plant.

4. Repair boiler level control probes on free standing boiler.

5. Replace (PQM60) boiler feed water pump in boiler housing frame and connect pump suction side to condensate tanks

6. Connect boiler steam supply to heat exchanger.

7. AIA (3rd party) hydraulic boiler inspection to be carried out.

8. Free standing boiler condensate tank addition

PQM60 boiler feed water (to be installed new) pump is to take water from condensate collection tank Water from condensate collection tank and feed boiler through

9. Install cobra (brass ball float valve) in tank to feed fresh water into collection tank when needed.

10. Install water meter on in coming line of water to condensate tank.

11. Power supply for free standing boiler

12. Install suitable 50mm PVC armored cable supporting current draw from free standing boiler to nearest DB with available current capacity.

13. Cable capacity must maintain 60 amp continuous current draw minimum.

14. Existing electrical panel additional configuration and installation:

14.1 All three pressure switches (with a range of 5 bars) switch on all 3 contactors (20 amps each) on initial startup.

14.2 Each contactor must kick out in three phases as

14.3 A three contactor (connected to Danfoss pressure switches) modulating system is to be install that will allow each 4 kw element of each of the 12 kw element unit to drop out and come in as steam demand is needed.

14.4 Each 4 kw element of the 12kw element unit is to run on each separate phase for load balancing purposes.

15. Install +-70 meter cable (to be confirmed by yourself onsite)from substation 4 plant room (it has currently 250 amp main isolating switch)

16. Hand over all relevant AIA boiler inspector onsite testing documents.

17. COC certificate to be issued on hand over of installation.

Please note : any materials or spares not in this document must be allowed for to complete the installation.