

**BHARAT HEAVY ELECTRICALS LIMITED  
RAMACHANDRAPURAM: HYDERABAD-32  
M&S (Gas Services / Boiler House)**

**Scope of Work**

**Name of the work: Annual Cleaning, Inspection, and License renewals of 20TPH&30TPH  
Boilers and connected steam lines.**

**I. 20TPH BOILER LICENCE RENEWALS:**

Boiler rating: 817 Square meters  
Work connected with Annual inspection of  
Boiler. Internal and external cleaning of Boiler  
Top and bottom drums internals, Economizer coils,  
Super Heater Coils and all pressure parts, Cleaning of Oil  
Burners, Connected equipment's and steam lines, FD fan  
Mountings, De-aerator internal and external cleaning etc.  
Removing, cleaning and refitting of drum internals.

**CLEANING WORKS TO BE CARRIED OUT IN OIL  
FIRED 20TPH BOILER**

- 1. Boiler (Furnace):-**  
It covers the water wall tubes, primary and secondary super heater coils, Boiler bank tubes,  
Burner's tec.
- 2. Super Heater:-**  
Surface Area: 185 Square meters
- 3. Upper drum:-**  
Size=ID 1080X 60mmTHKX 6020 mm length.
- 4. Boiler Bank**  
Bank Tubes dia 60mm X 5mm THK X 245 Nos.
- 5. Lower drum:-**  
Size=ID 904x 48mm THK X 4900 mm length.
- 6. Economizer:-**  
Surface Area: 280 Square meters
- 7. Air Pre Heater:-**  
Surface Area=472 Square meters
- 8. De-aerator (Internals)**

**Signature & Stamp of Tenderer**

## II. **30 T PH BOILER LICENCE RENEWALS:**

Boiler rating: 1280 Square meters.

Cleaning work connected with Annual inspection of Boiler. Cleaning of Internal and external of Boiler, Top and bottom drums internals, Economizer coils, Super Heater Coils and all pressure parts, Cleaning of Oil Burners, Connected equipment's and steam lines, FD fan Mountings, De-aerator internal and external cleaning etc. Removing, cleaning and refitting of drum internals.

### **CLEANING WORKS TO BE CARRIED OUT IN OIL FIRED 30TPH BOILER**

1. **Boiler (Furnace):-**

Size: 2896x7303 mm, Volume: 67 Cubic meters

2. **Super Heater:-**

Horizontal Primary Heater-Surface Area: 72.5 Square meters, No. of coils: dia 51x2880x12 Nos.  
Horizontal Secondary Heater-Surface Area: 68.8 Square meters, No.of coils: dia 51x2880x9 Nos  
Spacer Coils: dia 51x2880x2Nos (Total Heating surface area- 142 Sq.Metres)

3. **Upper drum:-**

Size=ID 1219x135mm THK X7861 mm length.  
Removing, cleaning and re-fixing of corrugated sheet baskets: 31 no's

4. **Lower drum:-**

Size=ID 762x 80mm THK X 7660 mm length.

5. **Boiler Bank**

621 tubes, dia 63.5mm.  
60 tubes, dia 51mm.

6. Baffle wall Tubes -dia 76.1mm X64Nos  
Furnace Side wall Tubes - dia 76.1mm X60Nos  
Rear wall tubes - dia 76.1mm X15Nos  
Corner wall tubes - dia 76.1mm X33Nos  
Boiler side wall tubes- dia 76.1mm X90 Nos  
Boiler bank tube@soot blower area- dia 76.1mm X60Nos  
Boiler shielded tubes- dia 76.1mm X38Nos

7. **Economizer:-**

Total Surface area=521 Square meters  
(C.I. Gilled tubes), Tube dia 38.1mm each 2438mm length, 12 coils each having 11 and ½ No's U- Tubes.

7. **De-aerator (Internals)**

8. **Connected Chimney Bottom ash**

Signature & Stamp of Tenderer

## Work Includes the following:-

1. The above work is required to be carried out by the Qualified Boiler repairs/Erectors/Steam pipe line installation organization under Indian Boiler regulations 1950. Category one.
2. The agency should adhere to safety norms as per IBR, insurance and other statutory formalities.
3. Arranging cup lock scaffolding to BHEL for 20&30TPH Boilers inspection **(should cover 200 square metre area with an elevation of 10 meters height)**
4. The agency is required to provide wire brushes, coconut brooms, soft brooms, painting brushes and tools etc. required for the above cleaning and inspection work and he is completely responsible for total quality of work.
5. The agency is required to arrange required manpower for completing the work. Work should be completed within stipulated time i.e. 30 days from the work commencement date.  
i.e. for a) Both 20 TPH & 30TPH boilers cleaning b) Connected steam pipe lines cleaning b) Offer for open inspection of both 20&30 TPH Boilers and connected steam pipe lines after cleaning c) Offer for hydraulic and steam test of both 20&30 TPH Boilers and connected steam pipe lines d) Painting of both boilers and auxiliaries (paint will be supplied by BHEL) e) Erection, Waiting and dismantling of Suitable scaffolding & Support System as required by the Boiler Inspectorate, Government of Telangana State and as per the annual inspection dates for 20&30TPH Boilers.
6. The boilers should be thoroughly cleaned, cup lock scaffolding should be erected, hydraulic test and steam test should be shown to IBR officials. IBR welding for any required pressure part repairs will be in the scope of contractor for successful hydraulic test.
7. The work should commence within 10 days from the date of issue of work order and should be completed within 30 days from the date of commencement of work.
8. Entire liaisoning with Director of Boilers for issue of 20 & 30TPH Boiler Licenses along with connected steam pipe lines with a validity of one year period from the date of issue of certificates, will be in the scope of contractor and these licenses should be submitted within 45 days from the date of commencement of work.
9. Final bill shall be released after submission of renewed Boiler and steam pipe line Licenses (along with completion of all works in the scope) to us with a validity of one year period from the date of issue of certificates for both 20TPH & 30TPH Boilers and connected steam pipe lines.
10. Penalty Clause: Penalty clause is applicable in case of delay in execution of work beyond 30 days from the commencement date (i.e. commencement date should not be more than 10 days from issue of work order) and incase of Non submission of Boilers & steam line licenses within 45 days from the work commencement date. Rate of penalty applicable is 0.5% per week or part thereof to a Max of 10% of total contract value.

**Signature & Stamp of Tenderer**