

## Gas and Power Plant Division

**Subject: Annual overhauling of 02 nos. oil fired boilers (Reg. No. MP 4965 & MP 4966, capacity 12 TPH each) for open inspection/dry test and hydraulic test as per Indian Boiler Regulation Act.**

**TENDER ENQUIRY NO. : GPX/19/EN/15, Dated: 14/03/2020**

Below annual overhauling work for dry & hydraulic test of boilers as per Indian Boiler Regulation is to be carried out for Boiler Reg. No. MP 4965 & MP 4966.

**Boiler details- Oil Fired, Fire Tube Wet back Package boiler**

**Working Pressure- 14 Kg/cm<sup>2</sup>, Capacity- 12 TPH Each**

**Fuel being used- Furnace oil**

### Scope of work

1. Open front smoke tube doors & back smoke tube doors of boiler, open 01 no. top manhole cover & 02 nos. bottom manholes cover of boiler. Remove burner from the boiler.
2. Remove mobry & 02 nos. gauge glasses.
3. Removal of 02 nos. safety valves 10 nos. isolating valves which includes steam stop valve, mobry & gauge glass isolating valves, vent line isolating valve & blow down valve.
4. Open Air pre heater windows & its bottom duct window.
5. Thorough cleaning of fire tube with wire brush for removal of scale/soot deposit. Brush must pass through the full tube length.
6. Cleaning of water side of boiler shell by emery cloth/paper.
7. Cleaning of combustion chamber of boiler by emery cloth/paper & removal of soot deposits/clinker from combustion chamber.
8. Internal cleaning of tubes of air pre heater.
9. Removal of ash/carbon deposits from APH & from its bottom duct, clean drain valve of APH.
10. Cleaning of FD fan suction filter by blowing compressed air & refit after cleaning.
11. Removal of ash/deposits collected at bottom from chimney.
12. Repair the furnace refractory for any damage if required.
13. Fixing of metallic gasket & asbestos rope/tape wherever necessary to arrest flue gas leakage.
14. Internal cleaning of burner nozzle & diffuser using diesel.
15. Removal of top flange & bottom side flange of drain pipe of mobry & internal cleaning of mobry by wire brush.
16. Internal cleaning of gauge glass header by wire brush.
17. Replacement of body joint of gauge glass.
18. After above work produce boiler for dry test/open inspection to boiler inspection authority.
19. After open inspection of boiler by boiler inspection authority, Assembly of all the above open parts i.e. mobry, gauge glasses, all removed isolating valves, main steam stop valve, manhole covers using new gasket joints.
20. Dummy safety valves flanges at boiler shell and make boiler ready for hydraulic testing.
21. After above work do the hydraulic testing of boiler in presence of boiler inspection authority.
22. After hydraulic testing install safety valves at its place.
23. Close all open doors/windows of air pre heater & its bottom duct.
24. Close all the open doors of boiler properly tighten the door with door seal/asbestos tape/asbestos rope to avoid any flue gas leakage.
25. Refitting of boiler burner at its place.
26. Make sure that all the removed parts & open door has been fitted properly with sealing & gasket to avoid any leakage.

(Note: Dry & hydraulic test of boiler shall be carried out as per directions received by boiler inspector & it can also be done on same day)

### SPECIAL CONDITIONS:

1. Co-ordination with the office of boiler inspector for carrying out open inspection/dry test & hydraulic test of the boiler as per IBR is in scope of supplier. However all statutory fee as per IBR rules shall be paid by BHEL to IBR office.
2. Contractor has to take the work permit from engineer incharge, before starting the work.
3. Contractor has to ensure the working of their staff safely by issuing them safety items like, hand gloves, marking cloth, safety belts, nose mask etc.

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4. It is responsibility of the contractor to execute the total work and contractor shall not offload the work to any sub-contractor.
5. Only 24 volt supply shall be used for any lighting purpose inside the boilers.
6. The contractor will put only adult workers who have attained the age of 18 years and who are physically fit & healthy for carrying out work above work.
7. BHEL will not be responsible for any loss to persons or property of labourers caused due to negligence or full disobedience of any order issued by the Engineer-Incharge of BHEL. No safety appliance and accessories will be provided by BHEL.
8. The contractor will be responsible for any loss or damage caused by his workmen to any of the property of BHEL and same will be recovered from contractor's bill.
9. The contractor has to work during night as well as during holidays and Sundays according to the exigencies of the works.
10. Tentative period for overhauling of each boiler during contract period will be as follows:
  - a) Boiler No. MP-4965 July -2020
  - b) Boiler No. MP-4966 June -2020

(However above schedule are likely to be changed as per the requirement).

11. Contractor has to arrange manpower & tools for the work. All the tools required for above work shall be in scope of contractor. However Brush for cleaning, emery paper & emery cloth, asbestos tape/asbestos rope, Compressed asbestos fibre gasket, nut bolt required for above work shall be provided by BHEL free of cost and also basic facilities like water and electricity required for above work will be made available by BHEL at one site point free of cost.
12. For cleaning of boiler smoke tubes, tube cleaning machine (Electrically driven motor with flexible shaft) shall be provided by BHEL. However in case of failure/non availability of cleaning machine contractor has to carry out cleaning of tubes manually.
13. During overhauling of boiler, work shall be checked by supervisor in charge deputed by BHEL.
14. **Compensation of Delay:-**

If the contractor fails to maintain the required progress in terms of work order or to complete the work and clear the site on or before the contract or extended date period of completion, he shall without prejudice to any other right or remedy of company/ corporation on account of such breach pay as agreed compensation amount calculated as stipulated below:

- a) 0.5% (Half) percent per week of contract value.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the total contract value.

**The contractor has to complete the activities of boiler overhauling within 10 working days (Here working days means working days of BHEL Bhopal) from the date of handing over the boiler to him for each boiler. i.e boiler is to be made ready for hydraulic testing within 10 working days from the date of handing over the boiler. Failure in the same will result in penalty as per above LD clause.**

**GENERAL CONDITIONS:**

1. The contractor has to ensure the completion of activities in time as per schedule and has to deploy the man power accordingly.
2. Daily working hrs are 7.00 A.M. to 4.00 P.M. The contractor will have to complete the activities beyond 4.00 P.M. if found necessary.
3. The contractor has to provide safety appliances such as hand gloves, aprons, safety shoes, helmet and safety goggles etc. to their staff during working.
4. If at any time the work is not found satisfactory, remaining work will be awarded to any other suitable agency on the risk and cost of contractor.
5. Work should be supervised either by the contractor himself or by qualified authorized supervisor of the contractor all the time during the execution period.
6. Contractor has to maintain appropriate records of his employees deployed to carry out the work.
7. Contractor shall be responsible for making payment of wages not later than 7th of the succeeding month and to ensure disbursement of wages in the presence of the authorities representative of contract operating division who shall record under his signature at the end of entries in the Register of wages.
8. All the activities of the work are to be performed by the contractor; if contractor fails in completing activities of any boiler then payment for the same will not be made.
9. The contractor has to ensure the following compulsorily.
  - a. Employment card as per rule no 76 of contract labour (Regulation & Abolition) MP rules, 1973
  - b. Appointment letter to his employees.

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- c. Annual leave with wages including EL, CL, National Holiday & Festival holiday.
- d. Leave record register.
- e. Shall engage only adult workers who have attained the age of 18.
- f. Work to be done on second/third shift, overtime, Sundays or on other declared holidays with written permission.
- g. Obtain insurance cover for his employees/equipments, tools etc. & third party insurance coverage at his own cost.
- h. Remit Provident fund contributions in prescribed 3A & 6A forms
- i. ESI contributions in Form 6.
- j. Submit challans of PF & ESI contributions every month.
- k. Provide Personal protective equipments for his employees
- l. Distribute wage slip each month to his employees
- m. Ensure payment of wages to contract workers as per minimum wage act 1948 and present wage rules prevailing in BHEL BHOPAL i.e. payment of statutory minimum wages as well as additional wage as recommended by BHEL Bhopal in presence concerned dept. representative and payment through bank account for contracts more than 6 Months period.
- n. Submit employee and employer contribution as per Shram Kalyan Nidhi Adhiniyam 1982.

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