

**Tender Enquiry No. GPX-19-EN-05, Dated: 11/07/2019**

<b>Sub:</b>	<b>Labor oriented work/ labor assistance for routine/preventive maintenance of machines &amp; auxiliaries of Boiler house, Water treatment (WT) plant &amp; 6 MW DG plant.</b>
<b>Scope of work</b>	
<b>1.0 Daily Activities :</b>	
<b>1.1</b>	<b>DG Plant:</b>
1.1.1	Unloading of FO & Diesel from road tankers by connecting them to FO unloading pumps. Removal of oil spillage during decanting (Area-100 m <sup>2</sup> ). Dismantling of suction filters of unloading pumps, maintenance & fitting.
1.1.2	Removal of oil spillage nearby engine, DG auxiliaries and FO separator room (Area- 1000 m <sup>2</sup> ). Collecting and removal of oil/water from trenches of DG hall, tank farm area and FO separator room (Area-200 m <sup>2</sup> ). Maintaining the engine hall, FO separator room, annexes, stores and tank farm area properly cleaned (Area-2000 m <sup>2</sup> ).
<b>2.0</b>	<b>Weekly Activities</b>
<b>2.1</b>	<b>Boiler House:</b>
2.1.1	Dismantling maintenance & refitting of 02 nos. strainers of fuel supply line of boilers and 02 nos. basket filters of FO line.
2.1.2	Assistance in attending leakages of steam /water/compressed air/oil etc. in boiler area as per requirement.
2.1.3	Assistance in handling of spare parts/material /oil drums etc in GPX store as per requirement.
2.1.4	Handling of material like plates, angles , channels & plant spare parts etc required for boiler, WT & DG plant etc. as per requirement and this includes bringing of consumables & stock items from fabrication & FMS divisions to GPX store
<b>2.2</b>	<b>Water Treatment Plant:</b>
2.2.1	Maintenance of non-working valves of WT plant (Dismantling of valve, replacement of diaphragm and then refitting the valves) and assistance in arresting various leakages of acid and caustic lye from gauge glasses as per requirement.
<b>2.3</b>	<b>DG Plant:</b>
2.3.1	Topping up the lube oil in engine sump as per requirement, shifting of oil drums from oil store to engine hall, decanting the lube oil in the sump and removal of empty drums. Lubrication of fuel racks of fuel injection pumps and cleaning of engine hot box.
2.3.2	Attending leakages of water/compressed air etc. in DG area as per requirement.
<b>3.0 Monthly Activities</b>	
<b>3.1</b>	<b>Boiler House:</b>
3.1.1	Preventive maintenance activities like air filter cleaning, combicooler cleaning, oil level inspection and top-up if required of 02 nos air compressors of boiler house.
<b>3.2</b>	<b>Water Treatment Plant:</b>
3.2.1	Preventive maintenance (Dismantling ,maintenance, change of spare parts/gland filling etc and assembly as per requirement) of 03 nos. domestic water pumps, 03 nos. DM water pumps, 03 nos. degasser pumps & 02 nos. neutralizing pit pumps.
<b>3.3</b>	<b>DG plant:</b>
3.3.1	Dismantling, maintenance and fitting of oil filters/strainers of DG auxiliaries (Fuel supply pumps, Booster pumps, NTC pumps, FO/LO separator feed pumps, transfer pumps, fuel flow meter strainer & booster system differential filters)
3.3.2	Dismantling and maintenance/cleaning of Primary (24 Nos) and secondary filters (12 Nos). Maintenance and cleaning of viscous filters of charge air system of engine as per requirement & maintenance of other system related to charge air system.
<b>4.0 Bi- Monthly Activities</b>	
4.1	Dismantling of burner nozzle/gun assembly, Cleaning of the burner diffuser and refitting the same after maintenance.
4.2	Dismantling of FD fan suction filter cover, Removal of 02 nos. FD fan suction filter & Cleaning of the filters. After cleaning, refitting the filters and tightening FD fan cover.
4.3	Open the doors of APH (Air Pre heater), Remove collected soot deposit from APH and after cleaning tightening of doors of APH and Lubrication of moving parts i.e APH damper, Burner damper of 02 nos. boilers.
4.4	Preventive maintenance (As per requirement dismantling, maintenance, change of spare parts and assembly) of 04 nos. Fuel pump, 02 nos. ring main pump, 02 nos. LP dosing Pump & 02 nos. Phosphate dosing pump.
4.5	Preventive maintenance (As per requirement dismantling, maintenance, lapping & Greasing) of gate & globe valves connected with steam & water pipeline.

4.6	Open smoke tube doors of boiler and cleaning of tubes.
4.7	Clean strainers of OPH heater condensate drain line, steam trap line, compressed air regulators filter (Total 09 strainers). Cleaning of LP dosing Tank & removal of deposits from tank and Dismantling and maintenance of boiler feed pump suction strainers (04 nos.).
4.8	Replacement of asbestos tape/rope of boiler doors & burner assembly duct to arrest flue gas leakage as per requirement. Replacement of water and steam line gasket joints to arrest leakages as per requirement.
<b>5.0 Quarterly Activities</b>	
<b>5.1</b>	<b>Boiler House :</b>
5.1.1	Assistance in maintenance/repairing of steam & condensate, DM water process pipelines associated valves & steam traps as per requirement
<b>5.2</b>	<b>Water Treatment Plant:</b>
5.2.1	Assistance in maintenance of acid/caustic storage tanks (02 nos), acid & caustic dilution tanks (08 nos) , ammonia measuring tank ( 01 no.) , gauge glasses of all the tanks and maintenance of pipelines connected with all tanks.
<b>5.3</b>	<b>DG plant :</b>
5.3.1	Dismantling, maintenance and fitting of 9 Nos. fuel oil filters & 3 Nos safety filters of fuel filter unit and 8 Nos. lube oil filters & 4 Nos. safety filters of filter unit of engine fuel oil.
5.3.2	Assistance in Inspection & preventive/breakdown maintenance & top up of oil in air compressors of DG plant.
<b>6.0</b>	<b>Half Yearly activities:</b>
<b>6.1</b>	<b>DG plant :</b>
6.1.1	Dismantling, maintenance and fitting of suction strainer of 2 Nos. water pumps of cooling tower. Inspection of the pumps, replacing the worn out parts, gland packing and assembly & cleaning of diesel line filters of unloading area.
<b>7.0</b>	<b>Yearly activity</b>
<b>7.1</b>	<b>Boiler House:</b>
7.1.1	Assistance in preventive maintenance (Dismantling, maintenance, change of spare parts and assembly) of Boiler Feed Pumps ( 04 nos. pump), Hydraulic testing of boiler valves approx (25 nos.) & lapping of valves as per requirement.
<b>7.2</b>	<b>Water Treatment Plant :</b>
7.2.1	Overhauling of the all the 10 no. units of water treatment plant by removal of top covers of units, removal of resin, activated carbon, pebbles and sand from the units, cleaning of the same and then filling back to units and tightening the top cover of units. The above 10 no. units include 02nos. mechanical filter, 02 nos. activated carbon filter, 02 nos. cation unit, 02 nos. anion units & 02 nos. MB units.
7.2.2	Maintenance/ welding work of domestic water storage tank (01 no) & Hotwell tanks(02 nos.) to arrest water leakages as per requirement including Internal cleaning of the tanks & removal of sludge deposits if any found inside the tank.
7.2.3	Maintenance of 02 nos. DM water storage tanks.
<b>7.3</b>	<b>DG plant:</b>
7.3.1	As per requirement assistance in dismantling, maintenance and fitting of fuel injection nozzles (18 Nos.) and defective fuel injection pumps (3 Nos. approx.) of engine. Dismantling, maintenance (removing of scale deposits) and re fitting of LT/HT & lube oil Plate heat exchangers (3 Nos.) and Charge Air Coolers (2 Nos.) of engine. Maintenance of return fuel pump.
7.3.2	Cleaning of LO centrifugal filters
7.3.3	Loading of FO sludge in road tanker (one No. each three months) by connecting with sludge loading/temporary pump and cleaning the oil spillage if any during sludge loading or shifting of sludge in sludge pit etc.
7.3.4	Removal of sediments from the Cooling tower sump.

## SPECIAL CONDITIONS:

1. Period of Contract: Contract period will be for one year from the date of start of contract.
2. The contractor has to ensure the completion of activities in time as per schedule and has to deploy the man power accordingly.
3. Based on past experience daily 6-7 mandays (unskilled) shall be required for completion of work. However sometimes no. of daily labor required may increase based on the requirement and total no. of labour deputed in a year will be maximum 1800.
4. Daily working hrs is 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. Normally 01 labour shall be required in 2<sup>nd</sup> shift (from 3:00 PM to 11:00 PM) and rest labour shall be required in 1<sup>st</sup> shift (7:0 AM to 4:00 PM).but based on requirement shift timing can be changed without assigning any reason to the contractor. 2<sup>nd</sup> shift labour shall be deputed in all working days including Sunday & holiday based on requirement.
5. The contractor has to work during night as well as during holidays and Sundays according to the exigencies of the works.
6. The contractor has to provide safety appliances such as hand gloves, aprons, safety shoes and safety goggles to their staff during working.
7. 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.
8. 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.
9. 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.
10. The contractor has to ensure the safety of their workmen during the work.
11. Contractor shall engage only adult workers who have attained the age of 18 years and maintain appropriate records of his employees deployed to carry out the job(s).
12. All the activities of this works contract are related to each other, therefore total work of all the activities essentially have to be done by the single contractor only.
13. 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.
14. The contractor has to ensure the following compulsorily.
  - a. Employment card as per rule no 76 of contract labor (Regulation & Abolition) MP rules, 1973
  - b. Appointment letter to his employees.
  - 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 wage rules prevailing in BHEL BHOPAL.**
  - n. Contractor has to make payment of workers through bank.**
  - o. Submit employee and employer contribution as per Shram Kalyan Nidhi Adhiniyam 1982.
15. Work should be supervised either by the contractor himself or by qualified authorized supervisor of the contractor all the time during the execution period.
16. **Contractor shall ensure the payment of statutory minimum wages as well as additional wage recommended by BHEL.**

**Note: -**

1. After completion of the above activities/apart from above activities, if there is any spare time, the contractor shall deploy his workers for general upkeep of the plant and surrounding areas to keep them free from undesirable items and vegetations.
2. Apart from above activities, labor assistance work may be carried out in other breakdown maintenance activities in boiler, DG & WT plant area or other areas of plant, where boiler maintenance person of GPX will carry out the work.
3. Any other specialized work apart from scope of work will be carried out by OEM or their authorized agency & shall not be covered under this contract.