Offers are invited from the reputed registered Firms/Companies/Agencies having relevant experience for providing following services at 2 x 700 MW Nabha Power Limited, Super Critical Thermal Power Plant, Rajpura (Punjab)

"Services for period of at least two years to for CHP Operation and Maintenance activities of 2x700 MW Thermal Power Plant."

Contract shall be awarded to one of the Qualified Bidder meeting the required Qualification criteria through competitive bidding, interested parties are requested to submit their bid as below:

Part 1- Qualification Criteria Documents

Part 2 – Technical Bid Documents

Part 3- Price Bid Documents

The Price finalization may be done through E-Portal or any other method as selected by NPL.

Communication should be on below address

Head Procurement
Nabha Power Limited
Post Box 28, Near Village Nalash
Distt. Patiala 140401, Punjab
Contact Details - +91-1762-277251, Extension: 273. Fax: +91-1762-277256,
Email id - NPL.PROCUREMENT@larsentoubro.com

Table of Contents

1. Background: -

Nabha Power Limited (NPL) is a 100% subsidiary of L&T Power Development Limited (L&T PDL) presently operating 1400 MW (2 x 700 MW) coal fired Thermal Power Plant near village Nalash of Rajpura Tehsil in District Patiala, Punjab, India. The project was awarded to L&T PDL through (tariff-based) competitive (Case-2) bidding the process. Subsequently. Unit 1 & 2 were commissioned on 1st February 2014 and 10th July 2014 respectively.

NPL is among the best running power plants of the country having the performance parameters at par with the most efficient power plants around the globe.

The coal handling plant of NPL having state of art technology with crescent type wagon tippler supplied installed and commissioned by L&T Bulk Material Handling unit. The plant has been running with very high availability MTBF and low MTTR for its critical equipment since commissioning of the plant. The plant is designed to handle all types of coal including ROM with a capacity to handle coal requirement to the tune of 18,000- 20,000 TPD.

NPL is looking for associates of repute to up take the Operation and Maintenance of its CHP who will not only continue the trends of operational excellence as set but also take it forward and add value to its CHP operation and maintenance activities.

The objective of the documents is to provide guidelines and details to identify Qualified bidders at first and then in turn to discover the most Competitive Bidder who may be engaged to provide required services for CHP at NPL.

2. INSTRUCTIONS TO BIDDERS: -

1. This contract covers following major resources deployment for 2 x 700 MW units for a period of two (2) year.

a. Annual Contract for providing services related to round the clock operation of Coal Handling Plant and its Auxiliaries.

- Deployment of Field Operator at Various CHP Locations
- Deployment of Wagon Tippler Operator at CHP
- Deployment of Stacker Reclaimer Operator at CHP
- Deployment of Unskilled Helper at S/R for Equipment cleaning
- Deployment of Dozer Operator at CHP
- Deployment of Housekeeping Men at Various CHP Locations

b. Annual Contract for providing services related to round the clock Maintenance of Coal Handling Plant and Its Auxiliaries.

- Schedule "A" – Jobs in CHP
- Schedule "B" – Jobs in CHP
- Schedule "C" – Jobs in CHP
- Schedule "D" – Jobs in CHP

c. Required tools and tackles as applicable with minimum as mentioned in this tender document elsewhere to perform the services mentioned in the scope of works.

2. Location of the Plant

Nabha Power Plant is located at Rajpura District accessible by road & rail from Rajpura, which is in Punjab State. The nearest broad-gauge railway line is at Rajpura & Chandigarh. From Chandigarh, site is around 40 km away accessible by Road.

3. Price Quote

Price should be quoted as per BOQ provided in the format.

4. Bid Documents

I) The Bidder is expected to examine all instructions, forms, terms and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially

responsive to the Bid Documents in every respect may result in rejection of the Bid.

II) Clarification of Bidding Documents

Prospective Bidders requiring any further information or clarification of the Bidding Documents may notify the NPL in writing or by mail at the Nabha mailing address indicated in the Tender Document. The NPL will respond in writing to request for information or clarification of the Bidding documents which it receives not later than days mentioned in the document or prior to the deadline for the submission of Bids prescribed by the Owner. The NPL response (including an explanation of the query) will be sent through mail.

III) Amendment of Bidding Documents

- At any time prior to the deadline for submission of Bids, NPL may for any reason, whether at its own initiative or in response to a clarification requested by prospective Bidder, modify the Bidding Documents by amendment.
- In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, NPL may, at its discretion, extend the deadline for the submission of Bids.

5. LANGUAGE OF BID

The Bid prepared by the Bidder and all correspondence and documents relating to the Bid exchanged by the Bidder and the NPL shall be written in the English language. Any printed literature furnished by the Bidder may be written in another language, provided that this literature is accompanied by an English translation, in which case, for purpose of interpretation of the Bid, the English translation shall govern.

6. TIME SCHEDULE

The basic considerations and the essence of the 'Contract' shall be the strict adherence to the time schedule for performing the specified 'Works'.

7. SCHEDULE OF DEVIATION

Whenever bidder deviates from the specifications the same shall be listed out in the “Schedule of Deviation” attached as ANNEXURE-1 to these specifications. Only those deviations, which are listed in this Annexure, shall be considered. Anywhere indicated elsewhere will be rejected.

3. Brief Scope of Work: -

a. Scope of Supply / Work:

The scope of work under this purchase order shall be to carry out all CHP Operation and Maintenance activities on daily basis at 2x 700 MW Nabha Power Limited, as per Job descriptions given in the detailed Scope of work.

b. Detailed Scope of Work:

The contractor must deploy a site in-charge to execute & monitor all CHP operation and Maintenance activities on daily basis and is responsible for carrying out all instructions and gives a compliance report to EIC of CHP on daily basis. the site in charge is also responsible for maintaining a healthy working atmosphere at site & needs to take care of all statutory requirements at site. The site in charge needs to ensure wages payment to all his work force.

CHP OPERATION

1). OPERATION SERVICES AT VARIOUS CHP LOCATIONS

To carry out the following works in CHP, the contractor needs to deploy adequate Qualified resources. In each shift sufficient operators (as mentioned in annexure-) need to be deployed for operating three streams at a time (Stacking, Direct Bunkering and Reclaiming) and it will be a round the clock operation.

1.1. The contractor must deploy skilled men at different CHP locations such as Crusher House, Wagon tipplers, Stacker Reclaimers, Bunker Floors & all Transfer points etc.

1.2. These Field operators will be responsible for initial checking of all equipment's & instruments/ Gauges at various locations before giving clearance for its operation.

1.3. Every field operators needs to ensure good and proper housekeeping in their respective working area. DE, DS, Ventilation system & Sprinkler system operation for dust free CHP to be ensured by these men.

1.4. The operators are responsible for safety of Equipment's at their locations.

1.5. Operators must report any abnormality to CHP control room concerned immediately.

1.6. Operators to monitor any leakage in hydraulic system, Oil temperature or machine temperature, hopper & grizzly cleanliness, discharge chute condition.

1.7. Operators to monitor Conveyor Belt Conditions, Bearing temperatures, Pulley freeness, coal accumulation near pulleys, any damage to idlers & idler frames.

1.8. Operators must take care of the working of coal sampling units, In-line Magnetic Separators, Metal Detectors, Belt Weighers, Suspended Magnets Etc and give reports to CHP Control room for its proper functioning or defects.

1.9. Field operators need to monitor pull cord switches, Belt sway switches, Zero Speed switches, Emergency stop push Button. Also needs to reset these switches when asked by CHP control rooms.

1.10. Operators Need to monitor entire area under their control to avoid any fire hazards in CHP & must check the healthiness of the Fire Fighting Systems (like Fire Extinguishers, DV systems, LHS cables, IRD sensors, QBD nozzles) at their respective areas of deployment and have report to the CHP control room for any leakages, malfunctions and abnormalities in the said systems.

1.11. Needs to monitor the coal dust accumulations in cable trays & should clean & ensure it with the help of housekeeping labours.

1.12. They are completely responsible for keeping their working areas clean all the time.

1.13. They are also responsible for the chute inspection and ensuring cleaning their respective area of deployment and ensuring correct setting of Flap Gates & flow Dividers.

1.14. Any Oil, water and coal spillage from any of the CHP equipment's should be reported to CHP control room without any delay by these field operators.

1.15. Monitoring the Oil level in gear boxes/ hydraulic power packs and water flow in coolers is part of their job and any abnormality should be brought to the notice of CHP control room.

1.16. They need to strictly follow the work instructions of CHP control room and should not do anything of their own which will hamper the safety of CHP men and Equipment.

1.17. Every CHP operator needs to do the Equipment cleaning of each equipment which is not running after taking the required safety measures in consultation with Shift In charge. For this contractor should provide them sufficient waste cottons.

1.18. Contractor must provide fully charged hand torch lights-5 Nos & fully charged Search lights-3 in every shift and gumboots (For Tunnel area and rainy season) during night shifts.

1.20. Sewerage Treatment Plant operation and Coal Settling Pond and trench dewatering should be in Contractor scope.

1.21. They are also responsible for the proper operation of the Sump pumps at the tunnel areas and must ensure the emptiness of the sump pit always.

1.22 These operators must be vigilant always ensuring that there is no trespasser entering the CHP locations who may vandalize or steal the equipment or system. They must report to the CHP control room immediately in such happenings.

1.23. No persons should wear loose clothes (or) use blankets on duty.

1.24. All persons to be provided with the required PPEs like Helmet, Dust masks and Safety Goggles and their usage to be ensured and monitored by the contractor.

2. OPERATORS AT WAGON TIPPLER .

To carry out the following works in CHP the contractor needs to deploy either skilled ITI passed with 5 years' experience men or class X passed with at least 8 years CHP Wagon Tippler operator's experience. In each shift 2 Wagon tipplers will be in operation out of 4 no's and contractor must deploy at least 2 operators /Wagon tippler. It will a round the clock operation. No absenteeism is allowed, and the contractor should have sufficient men for rest giving & leave reserves.

2.1 Wagon tippler Operation (25 Tips/hr):

2.1.1 Ensure safe operation as per SOP.
2.1.2 Check All EPB in release conditions.
2.1.3 Check oil level.
2.1.4 Power Pack cooling line water inlet & outlet valves in open condition.
2.1.5 Ensure water supply.
2.1.6 Check all power pack healthiness.
2.1.7 Ensure all clamps (Tip side and Non-tip side) in released condition.
2.1.8 After physical checking clearance to be given to control room.
2.1.9 Check proper operation of all the cylinders.
2.1.10 Any Oil leakage or abnormality observed to be informed immediately to control room.
2.1.11 Close co-ordination with shunt man for safe & smooth operation.
2.1.12 Check Wheel gripper's proper operation.
2.1.13 Ensure CFDS will be in service during wagon unloading.
2.1.14 Check trouble free operation.
2.1.15 Co-ordination with WT control room & SCE.
2.1.16 Check healthiness of hopper.

2.1.17 Check Wagon is fully empty after unloading.
2.1.18 Co-ordination with Housekeeping labours to remove unwanted materials from hoppers and ensuring their safety while doing so.
2.1.19 Ensure good housekeeping at all locations of the Wagon Tippler Complex using compressed air.
2.1.20 They are responsible for reporting and removal of any foreign materials from the loaded wagons which may not be unloaded into the hopper.
2.1.21 They must clean all the sensors and gauges for the proper functioning of the system before giving clearance to start.
2.1.22 No persons should wear loose clothes (or) use blankets on duty.
2.1.23 All persons to be provided with the required PPEs like Helmet, Dust masks and Safety Goggles and their usage to be ensured and monitored by the contractor.

2.2 SAC Operation:

2.2.1 Ensure safe operation & follow SOP.
2.2.2 Check Power pack healthiness.
2.2.3 Check Proper operation of hydraulic cylinders.
2.2.4 Check trouble free operation of machine.
2.2.5 Check proper shunting on time.
2.2.6 Check Wagon tippler rail table alignment before placement of Wagon.
2.2.7 Check SAC operation in auto mode.
2.2.8 Operate SAC in maintenance mode if required.
2.2.9 Co-ordination with WT control room & SCE.
2.2.10 Check proper operation of Inhaul & Outhaul wheel choke.
2.2.11 Check conditions of wagons.
2.2.12 Ensure good housekeeping.
2.2.13 They must clean all the sensors and gauges for the proper functioning of the system before giving clearance for starting.

2.3 Apron Feeder Operation:

2.3.1 Ensure safe operation as per SOP.
2.3.2 Check all EPB in release conditions.
2.3.3 Check power pack healthiness.
2.3.4 Power pack cooling water line inlet and outlet valves in open condition.
2.3.5 Ensure water supply.
2.3.6 Physical check of AF, DF &DG and give clearance to control room.

2.3.7 Any oil leakage or abnormality observed to be informed immediately to control room.

2.3.8 Co-ordination with WT control room SCE.

2.3.9 Ensure good housekeeping.

2.3.10 They must clean all the sensors and gauges for the proper functioning of the system before giving clearance for starting

3. OPERATORS AT STACKER RECLAIMER.

To carry out the following works in CHP the contractor needs to deploy either skilled ITI passed with 5 years' experience men or class X passed with at least 8 years CHP STACKER RECLAIMER operator's experience. In each shift at both SR operators needs to be deployed and it will a round the clock operation. No absenteeism is allowed, and the contractor should have sufficient men for rest giving & leave RESERVES.

3.1. STACKER RECLAIMER OPERATORS

3.1.1 The contractor to deploy highly skilled Stacker Reclaimer operator in both the Stacker Reclaimers in each shift for round the clock CHP operation.

I. These Stacker Reclaimer operators will be responsible for initial checking of all equipment's in S/R before giving clearance for its operation to CHP control room.

II. Every S/R operator needs to ensure good and proper housekeeping in its Stacker Reclaimer working area.

III. These men are responsible for safety of Stacker Reclaimer Equipment's at locations.

IV. They must report any abnormality to CHP control room immediately.

V. They must monitor Conveyor Belt Conditions, lubrication systems, Bearing temperatures, Pulley freeness, coal accumulation near pulleys, any damage to idlers & idler frames etc.

VI. These men also must take care of the working of boom conveyors, Bucket Wheel, slewing Mechanism, Boom Luffing, Travel mechanism, Tripper movement & all hydraulics in S/R and give reports to CHP CNL room for its proper functioning / defects.

VII. The field operators need to monitor pull cord switches, Belt sway switches, Zero Speed switches and Emergency stop push Buttons. Also needs to reset these switches when asked by CHP control rooms.

VIII. Needs to monitor entire area under their control to avoid any fire hazards in any equipment/system, Coal Stock Piles and help in extinguishing it in CHP.

IX. Needs to monitor the coal dust accumulations in cable trays & should clean It with the help of housekeeping labours. Proper DS operation to be ensured.

X. They are completely responsible for keeping their working areas clean all the time.

XI. They must ensure correct quantity feedings as required by CHP CNL room.

XII. Any Oil and coal spillage from any of the CHP equipment's should be reported to CHP control room without any delay by these field operators.

XIII. Monitoring the Oil level in gear boxes and water flow in coolers is part of their job and any abnormality should be brought to the notice of CHP control room.

XIV. They need to strictly follow the work instructions of CHP control room and should not do anything of their own which will hamper the safety of CHP men and Equipment's.

XV. All field operators should be provided with a hand torch during night shifts.

XVI. Every SR operator needs to do the Equipment cleaning when it is not running for this the contractor should provide them sufficient waste cottons.

XVII. They must check all the interlocks of the conveyors/equipment, safety interlocks in every shift before starting the system and any discrepancy to be conveyed to CHP control room and note down and maintain S/R register in every shift.

XVIII. No persons should wear loose clothes (or) use blankets on duty.

XIX. All persons to be provided with the required PPEs like Helmet, Dust masks and Safety Goggles and their usage to be ensured and monitored by the contractor.

4. DEPLOYMENT OF UNSKILLED HELPER AT S/R FOR EQUIPMENT CLEANING.

4.1 In each shift an unskilled person must be deployed at S/R for cleaning the EQPTS. & monitoring the CRD cable winding / unwinding & report to SR operator in case of any abnormalities.

5. DEPLOYMENT OF DOZER OPERATORS AT CHP.

To carry out the following works in CHP the contractor needs to deploy TWO skilled ITI passed with 5 years' experience men or class X passed with at least 8 years CHP DOZER operator's experience. One dozer operator during general shift (9AM-6PM) & another operator in night shift (10PM to 6AM) needs to be deployed on all days. No absenteeism is allowed which can affect the operations adversely and the contractor should have sufficient men for Rest & Leave RESERVES.

5.1. DOZER OPERATORS

5.1.1. The contractor to deploy sufficient number of highly skilled DOZER operator for these, at least one during general shift & another during the night shift.

5.1.2. These DOZER operators are responsible for coal yard maintenance, coal compaction, proper levelling of all the 4 piles.

5.1.3. These DOZER operators should do the initial checking of battery condition, water level, Lube oil level and diesel levels in all tanks.

5.1.4. These DOZER operators are responsible for all Oil (Fuel & Lube.) filters cleaning, radiator cleaning etc.

5.1.5. These DOZER operators should thoroughly check the under carriage, transmission assy. & Engine first before operating the Dozer.

5.1.6. The Dozer operator should check whether the battery is getting charged during normal operation of dozer.

5.1.7. They should see that the machine is operating within the maximum allowed torque range.

5.1.8. The dozer operator needs to check the Hydraulic oil levels its leakages and its working pressure range all the time.

5.1.9. They must observe the freeness of operating handles, clutches & bucket luffing.

5.1.10. They must report any abnormality to CHP control room concerned immediately.

5.1.11. Any Oil and coal spillage from any of the CHP equipment's should be

reported to CHP control room without any delay by these field operators.

5.1.12. Monitoring the Oil level in gear boxes and water flow in coolers is part of their job and any abnormality should be brought to the notice of CHP control room.

5.1.13. They need to strictly follow the work instructions of CHP control room and should not do anything of their own which will hamper the safety of CHP men and Equipment's.

5.1.14. All field operators should be provided with a hand torch during night shifts.

5.1.16. Every Dozer operator needs to do the Equipment cleaning when it is not running for this the contractor should provide them sufficient waste cottons.

5.1.17. They must check the coal stock piles daily for any smoke or fire and help in extinguishing them.

6. DEPLOYMENT HOUSEKEEPING MEN AT VARIOUS CHP LOCATIONS.

To carry out PROPER HOUSEKEEPING works in CHP, the contractor needs to deploy unskilled men those who have already worked in similar type of CHP job. In each day approximately 42 men needs to be deployed for cleaning the complete CHP from Wagon tippler to unit bunkers. No absenteeism is allowed, and the contractor should have sufficient men for rest giving & leave.

6.1 The contractor needs to deploy men at different CHP locations such as Wagon tippler unloading area, Crusher House, Stacker Reclaimer & its yard conveyors, Movable Trippers at Bunkers , all transfer points , all Conveyor galleries , MCC rooms, CHP Pump House , Pent Houses, CHP control room etc. and responsible for keeping these areas neat & clean all the time. No coal accumulation should be there near any of the Conveyor pulleys, receiving and discharge chutes.

6.2. The contractor should only deploy men at the conveyor stream which is not in service.

6.3. No men should be allowed to come close to the moving parts of conveyor idlers, Belt or Pulleys. No one should wear any loose cloths.

6.4. All housekeeping men should be provided with PPE's (Helmet, safety shoes & dust masks).

6.5. The contractor should supply all tools & tackles and consumables required for housekeeping. (Brooms & shovels of TATA make etc.).

6.6. Cleaning of all MCC's, control rooms, signalling room & wash room, toilets etc. in CHP is part of the contract & all consumable like naphthalene, acids,

soap, room fresheners, liquid hand wash, glass cleaners, tissue papers required for wash rooms & toilets is included in the contract scope.

The consumables of the following brand/quality to be provided:-

1. Room freshener : Air Wick or Godreg Aer
2. Liquid hand wash : Dettol or Lifebuoy
3. Glass cleaner : Colin

6.7. One office boy in general shift working is also part of the HK scope.

6.9 All cable trays of CHP conveyor gallery should be cleaned periodically to avoid any fire incidents.

6.10. Dewatering of all Tunnels, Cable trenches and Coal settling pond in CHP.

6.12. The contractor has to deploy at least two supervisors to monitor the housekeeping status in all areas of CHP.

6.13. The contractor has to ensure safety of all housekeeping men deployed at various CHP locations by his supervisors.

6.14. Every day he has to give location wise list of housekeeping labour deployed at CHP to the OPN H/K engineer.

6.15. No person should be allowed to smoke inside plant area / CHP area.

6.16. No shortcuts / unsafe practise should be allowed by the contractor inside plant premises.

6.17. No persons should wear loose clothes (or) use blankets on duty.

6.18. All persons to be provided with the required PPEs like Helmet, Dust masks and Safety Goggles and their usage to be ensured and monitored by the contractor.

B. CHP MAINTENANCE

Various Equipment's in CHP Area

1.	Crescent Wagon Tipplers (WT)	- 04 Nos.
2.	Side Arm Chargers (SAC)	- 04 Nos.
3.	Apron Feeder & Dribble Conveyor (AF & DC)	- 04 Nos.
4.	Vibrating grizzly feeders (VGF)	- 04 Nos.
5.	Coal Crushers (Model 1217 U) –CR.	- 04 Nos.
6.	Stacker cum Reclaimers (SR)	- 02 Nos.
7.	Belt Conveyors (BC)	- 12 Nos.
8.	Belt Feeders(BF) -03 Nos. & Reversible Belt Feeder (RBF)	- 04 Nos.
9.	Bunker Travelling trippers (TTR)	- 04 Nos.
10.	In line Magnetic Separator (ILMS) & Metal Detectors (MD)	- 04 Nos.
11.	Coal Sampling Unit (CSU)	- 04 Nos.
12.	Belt Weigher (scale) (BW)	- 06 Nos.
13.	Dozers	- 02 nos.
14.	Sump pumps	- 10 nos.
15.	DE, DS & CFDS system MTC.	
16.	Electric Hoists, LIFT & EOT cranes at CH, PH, all TP's & WT complex.	

MAJOR EQUIPMENTS AND ITS CAPACITY IN CHP

SL NO	EQUIPMENT DESCRIPTION	CAPACITY
1	CRESCENT WAGON TIPPLER	25 TIPS / HR.
2	SIDE ARM CHARGER	37.5 MT (60 WAGONS)
3	APRON FEEDER & DRIBBLE CONVEYOR	1775 MTPH
4	BELT CONVEYORS	2850 MTPH
5	VIBRATING GRIZZLY FEEDERS	1600 MTPH EACH
6	COAL CRUSHERS	1600 MTPH EACH
7	STACKER CUM RECLAIMERS	2850 MTPH
8	TRAVELLING TRIPPERS	2850 MTPH
9	BELT FEEDERS	2850 MTPH
10	REVERSABLE BELT FEEDERS	2850 MTPH

Following Points to be Considered to carry out AMC of CHP Work

1. The contractor must deploy Highly skilled, skilled, semi-skilled men for various CHP works in Crushers, Vibrating Grizzly Feeders, Apron Feeders, Dribble Feeder, Wagon Tippler, Side Arm Chargers, Stacker Reclaimer, Bunker Travelling trippers, Conveyors, ILMS, MD, SM, CSU, DE & DS systems, EOT, Elec. & Mechanical Hoists & other CHP related equipment & auxiliaries.
2. The contractor will be responsible for Preventive Maintenance, Brake down & Predictive maintenance jobs as well as modification works in CHP. No OT will be paid. In case of brake down contractor has to work round the clock for early restoration of equipment.
3. All T&P is in contractor's scope. Except torque wrenches, hydraulic jacks more than 50T & lifting chain blocks of more than 10 T capacity, all tools will be in contractor's scope.
4. The contractor may have to do some alteration / modification or rectification work in the existing plant.
5. Gas cutting & welding jobs is in the scope of contractor, gases & normal electrodes 6013 & 7018 (ISI approved) needs to be arranged by contractor himself.
6. Working time will be from 8:45 AM to 6:15 PM & lunch time is between 1:00 to 1:45 PM.
7. Bringing spares from store & depositing old items back to store will be in ' contractor's scope.
8. Timely completion of PM, BD & belt jointing work is very important, if the contractor fail to complete the job on time then the EIC may enforce suitable penalties to contractor.
9. The scope of work includes belt jointing by cold vulcanising or hot vulcanising method along with pulley lagging work.
10. Take up lifting, belt clamping, removal of idler frames; belt laying & belt pulling are part of the scope of contract.
11. Periodical oil replacement of gear boxes, FCU and bearing greasing of all equipment are part of the scope of contract.
12. Hydraulic oil replacement, topping up & filtration are part of the scope of contract.
13. Gear boxes, FCU and Bearing replacement in any of the CHP equipment is in the scope.
14. Any other CHP related work which is not mentioned above but desired by EIC also needs to be carried out by the contractor.
15. Site in charge, Mill wright Fitters, Gen Fitters and hydraulic fitter, Riggers & Welders all should have sufficient CHP experience and competency level for safe as well quality work completion.
16. Contractor should provide at least 2 KG/Month of Jaggery to all men working in CHP and keep record of the same.

TOOLS & PLANTS FOR MECHANICAL MAINTENANCE IN NPL SCOPE

1. Hydra / JCB for heavy material shifting.
2. HOT Vulcanising Machine.
3. EOT, Hoists, Cranes and Dozers.
4. Torque wrenches, hydraulic jacks More than 50 T & lifting chain blocks of more than 10 MT .
5. Winch machine for Belt laying & pulling. Any special pullers reqd.
6. Special Electrodes other than 6013 & 7018 required for CI, Cast steel, SS & any other special applications.
7. Lagging sheets, Hot & Cold Belt Vulcanising solutions.
8. Grease & lubricants.
9. All CHP spares & BELTS required.
10. Workshop facility for machining and drilling purposes.
11. Electricity inside CHP plant area.

TOOLS & PLANTS FOR MECHANICAL MAINTENANCE IN CONTRACTORS SCOPE

1. Portable Single-phase welding machine - 04 Nos.
2. Portable 3 Phase Welding Machine – 03 Nos.
3. Portable Single phase air blower for eqpt. cleaning – 03 nos.
4. Welding cables (+ & -) required for single & 3 phase welding m/c's (min 50 mtr/machine).
5. All type of buffing & grinding m/c and wheels required for belt jointing. (2 each).
6. Heating Blowers required for Belt jointing – 02 nos.
7. 1" Lifting slings (2mtr,3 mtrs.,6 mtrs.,9 mtrs.) – each 4 nos.
8. Hook chuck for belt pulling – 3 T capacity – 02 nos.
9. Hook chuck for belt pulling – 5 T capacity- 02 Nos.
10. Hook chuck for belt pulling – 7.5 T capacity – 02 nos
11. All type of ropes (wire + Manila) required for pulling jobs(500 Mtrs. Each).
12. Chain blocks - 1 T capacity – 2 nos.
13. Chain blocks - 2 T capacity- 4 Nos.
14. Chain blocks - 3 T capacity – 4 Nos.
15. Chain blocks - 5 T capacity – 4 Nos. (15 Mtrs. Lift long chain)
16. Chain blocks - 7.5 T capacity – 4 Nos. (15 Mtrs. Lift long chain)
17. Chain blocks - 10 T capacity – 4 Nos. (15 Mtrs. Lift long chain)
18. Pump operated Hydraulic jacks 10 MT, 20 MT, 30 MT & 50 MT– (02 button type+2pencil type) each.
19. Ring & D/E spanner up to M55 bolts size sets – 06 sets each.
20. DA (5) & O2 (15) Gases with 4 sets of cutting torches & HOSES.
21. Welding electrodes (6013 & 7018) std. ISI make (Make-D&H/L&T/ESAB/ADORE only) and its heaters reqd.
22. Hammers of Diff. sizes - 04 sets.
23. All sizes of hammering D/E & Ring spanner up to M70 bolt size-02sets
24. Dial gauges with magnetic stands / attachments – 6 sets.

25. Cotton waste, mark in cloth & diesel/kerosene required for equipment cleaning.
26. Belt splicing tool kits, C-clamps & frog clamp – 2 sets.
27. Greasing pumps – 4 + 1(Pneumatic Grease Gun)= 5 nos.
28. Measuring tapes (3 mtr.,5 mtr.,15 mtr & 30 mtr) – 2 set.
29. Allen key set up to 30mm: 03 sets.
30. Allen key set up to 1.25" : 03 sets.
31. Screw driver 12": 04 nos.
32. Cutting pliers 10": 04 nos.
33. Right angle – 60" : 05 nos.
34. Slide wrench up to 12": 06 nos.
35. Socket headed spanners: 03 sets.
36. Creep Winch - 5 T & 3T- 01 each
37. Chisel flat: 05nos.
38. Files – 250mm size (Flat, smooth, triangular, half round & round): each 02
39. Hacksaw: 05 nos.
40. Hand shovel: 04 nos.
41. Hand lamp: 06 nos.
42. 4-Cell Torch: 01 nos. to each fitter.
43. Water levelling tubes.
44. D – Shackle, 3T, 5T & 10T,15 T capacity: each 04 nos.
45. Slings 12mm: 03 mtrs., 10 mtrs and 16mm – 3mtrs: each 04 nos.
46. Vernier calliper – up to 300mm : 01 no
47. Vernier calliper – up to 450mm : 01 no
48. Micro-meters I/s & O/s-400 mm-02.
49. Master Level, Straight edge =1No. each.
50. 6 sets of tool boxes with all tools.
51. Search light rechargeable – 03 nos. for chute inspection.
52. Pipe wrench up to 18" size – 4 nos.
53. Lifting Belts (3T, 5T, 10T)-each 04 nos.
54. Drill machine including drill bits up to 18mm.
55. Nose plier (outer-3nos. & inner -3nos.)
56. 10T sheave pulley (Single Sheave-4Nos., Double sheave-2nos.)
57. 5 no. tyre mounted hand trolley.
58. Bench vice -1no.
59. Niddle & angle grinder with wheel-each 2 no.
60. Fire blanket.
61. Oil canes for lubrication.
62. Cord cutter 2nos.
63. Allen kay up to 20mm.
64. Brass bar for bearing fixing.
65. Tractor Trolley as per requirement-Will be deployed for two (2) shifts per week.
66. Consumables like Wire brushes, buckets & Emery papers etc.

67. Buffing machins for belt jointing=2Nos.
68. NOTE: The contractor should arrange all T&P required for CHP maintenance jobs which are not in NPL's scope.

III. SCHEDULE OF WORKS IN CHP.

SCHEDULE - "A" – JOBS IN CHP

1. Preventive Maintenance of Conveyors.
2. Preventive Maintenance of wagon tippler.
3. Preventive Maintenance of side arm charger.
4. Preventive Maintenance of apron feeder & dribble conveyor.
5. Preventive maintenance of crusher.
6. Preventive maintenance of stacker reclaimer.
7. Overhauling of fluid coupling.
8. Fluid coupling replacement.
9. Gear coupling replacement.
10. Drive alignment of conv. / hyd. Drives.
11. Replacement of conveyor drive pulley DE/NDE bearings.
12. Replacement of gear box internals.
13. Replacement of Conveyor Gear Box.
14. Replacement of complete crusher hammers set.
15. Replacement of conveyor drive pulley.
16. Crusher screens replacement.
17. Replacement of crusher breaker plate.
18. Overhauling of gear box.
19. Vibro-feeder shaft replacement.
20. Vibro-feeder bearings replacement.
21. Balancing of old usable crusher hammers.
22. VGF screens replacement.
23. Servicing / overhauling of water pumps.

SCHEDULE - "B" – JOBS IN CHP

1. Preventive maintenance of Vibro grizzly feeders
2. Preventive maintenance of movable trippers
3. Replacement of conveyor non- drive pulley
4. Preventive maintenance of rev. Belt feeders & belt feeders
5. Preventive maintenance of ILMS.
6. Servicing of coolers of scoop couplings.
7. Replacement of hold back.
8. Replacement of crusher hammers (single row).
9. Replacement of flap gate actuator.
10. Cleaning of Vibro grizzly feeder tray.
11. Over hauling of sump pumps / cleaning of its pits.
12. Over hauling of water pumps & compressors.

13. Take up lifting and freeing of pulley.
14. Replacement of resilient plate of FCU.
15. Replacement of oil seal of gearbox (input/ output).
16. Preventive maintenance works in EOT crane / elec. Hoists.

SCHEDULE - "C" – JOBS IN CHP

1. Preventive maintenance sump / water pumps & compressors.
2. Preventive maintenance works DS / DE / VENT. Fans.
3. Replacement of deck / seal plate
4. Preventive maintenance works in FF / yard sprinkler system.
5. Crusher liner plate replacement
6. Preventive maintenance of flap gates
7. Replacement of idlers
8. Skirt rubber replacement
9. Greasing of conveyor pulley bearings
10. Chute patching / repairing / liner fixing
11. Miscellaneous cutting / welding job
12. Other miscellaneous jobs in CHP.

SCHEDULE - "D" - JOBS IN CHP

1. Hot vulcanising of steel cord belts in CHP conveyors
2. Hot vulcanising of textile belts in CHP belt feeders
3. Hot vulcanising of textile belts in CHP conveyors
4. Cold vulcanising of textile belts in CHP conveyors
5. Cold lagging of conveyor pulleys in CHP.

IV. DETAILED SCOPE OF WORK FOR CHP MAINTENANCE ACTIVITIES.

A. SCHEDULE - "A" - JOBS IN CHP

1. PREVENTIVE MAINTENANCE OF CONVEYORS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts of motor, fluid coupling, gearbox & Plummer block. Checking oil level of gearbox and fluid coupling. Top up / replace oil as per requirement.
b) Tightening of coupling bolts (Fluid coupling / geared coupling).
c) Greasing of gear coupling / GTU pulley bearings.
d) Grease the tail pulley bearings.
e) Checking of belt scrapper and its rectification if any.
f) Checking of skirt rubber / skirt board & its supports and rectifications, if any.
g) Take up trolley checking & applying cadmium compound on wire ropes.
h) Identifying damaged idlers & Idler frames. Replace the same.
i) Checking the condition of Conv. Belt & joints healthiness.

2. PREVENTIVE MAINTENANCE OF WAGON TIPPLER

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts / body liner bolts / coupling bolts of motor, fluid coupling, gear coupling, oil pump and Plummer blocks.
b) Check the alignment of racks drive gear, support rail , rail table & side frame support roller assembly. Lubricate support rollers & rake with pinion.
c) Check oil level of G/boxes & hyd. oil tank top up / replace the oil as per requirement.
d) Cleaning / replacement of strainers of all Hyd. sys. in WT.
e) Greasing of gear coupling and bearings.
f) Check all Hyd. Brakes & adjust if reqd. Also check all body lines & its bolts.
g) Check for any Hyd. Oil leakage from hoses, joints & connectors, rectify it.
h) Clean all Hyd. Power pack, pump & hyd. Motors.
i) Check all rack & pinion fixing bolts for proper tightness & lubricate it properly.
j) Check all the Hyd. Cylinders for any oil leakage.
k) Check all wheel gripper assy., shoes & Hyd. Cylinders.

3. PREVENTIVE MAINTENANCE OF SIDE ARM CHARGER

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts / body liner bolts / coupling bolts of motor, fluid coupling, gear coupling, oil pump and Plummer blocks.
b) Check the alignment of SAC rails, track supports, spine bars, rakes & support rollers. Do realignment of any components if required. Lubricate it properly.
c) Cleaning / replacement of strainers of all Hyd. sys. in WT.
d) Greasing of gear coupling and bearings.
e) Check all Hyd. Brakes & adjust if required.
f) Check for any Hyd. Oil leakage from hoses, joints & connectors, rectify it.
g) Clean all Hyd. Power pack, pump & hyd. Motors.
h) Check the support & guide rollers.
i) Check the drive & idle sprockets.
j) Lubricate the bearings of support & guide rollers.
k) Check the CBC coupling for its freeness.
l) Check the Arm sheave & ropes for any damage, lubricate the same.

4. PREVENTIVE MAINTENANCE OF APRON FEEDER & DRIBBLE CONVEYOR.

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts of Hyd. Motor, gearbox & Plummer block. Checking oil level in Hyd. Oil tank. Top up / replace oil as per requirement.
b) Tightening of bolts drive sprocket segments.
c) Grease the Head & tail pulley bearings and all Plummer blocks.
d) Identifying damaged idlers & Idler frames. Replace the same.
e) Checking the condition of Conv. Belt link (sections) healthiness.

5. PREVENTIVE MAINTENANCE OF CRUSHER

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts / body liner bolts / coupling bolts of motor, fluid coupling, gear coupling, oil pump and Plummer blocks.
b) Check oil level of scoop coupling. Top up / replace the oil as per requirement.
c) Clean the scoop coupling & its shaft; it should be free of oil leakage.
d) Cleaning / replacement of suction strainers of scoop sump.
e) Greasing of gear coupling and rotor bearings.

f) Open the crusher inspection door. Clean accumulated coal. Check condition of crusher internals like screens, breaker plate, kick off plates, tramp iron chute etc.
g) Tightening of all bolts.
h) Check Hammers condition for thinning and replace the ones which got thinned beyond permissible limits
i) Crusher bearing greasing, Gear box oil level checking and replacement if reqd.
j) Oil cooler cleaning.
k) Do hard facing of rotor end disc, inner arms once in six months.

6. PREVENTIVE MAINTENANCE OF STACKER RECLAIMER

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts / body liner bolts / coupling bolts of motor, fluid coupling, gear coupling, oil pump and Plummer blocks.
b) Check oil level of FCU & G/ boxes top up / replace the oil as per requirement.
c) Cleaning / replacement of strainers of all Hyd. sys. in S/R
d) Greasing of gear coupling and bearings.
e) Check all Hyd. Brakes & adjust if reqd.
f) Check the slew BRG. Greasing auto pump & ensure proper lubrication.
g) Check for any Hyd. Oil leakage from hoses, joints & connectors, rectify it.
h) Clean all Hyd. Power pack, pump & hyd. Motors.
i) Check all Buckets fixing bolts & bucket teeth bolts for proper tightness.
j) Check the CRD's for its proper functioning.
k) Check all belts & pulleys for joints & lagging conditions.
l) Check all the Luffing Cylinders for any oil leakage.

7. OVERHAULING OF FLUID COUPLING

First ensure proper isolation of eqpt. & permit to work clearance.

a) Removal of hub from fluid coupling
b) Dismantling of fluid coupling.
c) Replace the damaged parts if any such as bearings, impeller, runner, diaphragm, etc.
d) Replace all oil seals in the FCU.
e) Assembling of fluid coupling.
f) Fixing of hub on shaft.
g) Oil tops up leakage checking and rectification any.

8. FLUID COUPLING REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.

a) Shifting of fluid coupling and resilience plate to site from Central stores (or) CHP stores.
b) Removing the existing fluid coupling.
c) Removing of multi disc.
d) Fixing of new hub on fluid coupling.
e) Fixing of resilience plate on motor boss, if necessary.
f) Fixing of fluid coupling.
g) Alignment checking and rectification if any.
h) Oil top up in fluid coupling for which no extra amount will be paid.
i) Removing and fixing of guards are in contractor's scope.
j) If any jig is required for that is to be arranged/fabricated by party.
k) Gas required for this job is in party's scope.
l) Shifting of old fluid coupling to CHP workshop (or) Central workshop.

9. GEAR COUPLING REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.

a) Shift new gear coupling to site from central stores / central workshop.
b) Fixing / removing of gear coupling guard.
c) Remove gear coupling bolts and parting plane bolts of gearbox.
d) Remove top half of gearbox and take out output shaft of gearbox from casing.
e) Remove gear coupling halves from pulley and gearbox.
f) Fix new gear coupling valves with sleeves on gearbox and pulley.
g) Place output shaft into its position in the casing and put top half of gearbox casing in position.
h) Tighten the parting plane bolts and check alignment with pulley and carry out corrections if any.
i) After completion of alignment, fix the coupling bolts and grease the coupling.
j) If any jig / clamp is required for removing gear coupling, that is to be fabricated by party for which steel only will be issued on free of cost and ownership of jig will be with NPL. Oil tray for heating is to be arranged by party.
k) Any gas required is to be arranged by party for which no extra amount will be paid.

10. DRIVE ALIGNMENT OF CONV. / HYD. DRIVES

First ensure proper isolation of eqpt. & permit to work clearance.

a) Making a clamp for fixing dial gauge.
b) First note down the misalignments in the total drive system.
c) Fixing of dial gauge and alignment checking and rectification.
d) The final readings should be within 0.1 mm both radial & axle.
e) Alignment details to be provided.
f) Shims will be given on free of cost.
g) Any welding required i.e., in party's scope.
h) The party should have mill right fitter.

11. REPLACEMENT OF CONVEYOR DRIVE PULLEY BEARINGS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Shifting of bearing and plumber block from central stores to site.
b) Take up lifting and freeing of drive pulley.
c) Decouple the drive from coupling.
d) Removal of old bearing and plumber block.
e) Fix new bearing on shaft and lock nut should be tightened properly.
f) Greasing of the bearing after proper cleaning.
g) Plummer blocks fixing.
h) Alignment with gearbox.
i) Re-coupling of the drive pulley.
j) Normalisation, trial run and rectification if any.
k) If any jig is required that is to be supplied / made by the party.
l) Gas is to be arranged by the party.
m) Lubricants will be arranged by NPL free of charge.
n) After replacing bearing the shaft should be checked with spirit level.

12. REPLACEMENT OF GEAR BOX INTERNALS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Shift all internals to be replaced to site from central stores.
b) Removal of coupling bolts and decoupling of the input / output shaft from fluid coupling / pulley.
c) Removal of top cover of gearbox.
d) Remove hub / gear coupling from input / output shaft.
e) Remove hold back.

f) Assemble new shaft(s) with new bearings, hub / gear coupling and hold back.
g) Clean gearbox inside and faces of gearbox
h) Re-fix the internals in gearbox.
i) Fix top cover by applying hold-tight.
j) Check the alignment.
k) Coupling of gearbox with fluid coupling/ pulley.
l) Trial run and rectifications, if any.
m) If any jig is required is to be made by party.
n) Gas is in party's scope.
o) Remove old bearings etc. and clean and deposit in CHP stores.

13. REPLACEMENT OF CONVEYOR GEAR BOX

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shift new gearbox to location.
b) Shift input shaft hub / output shaft gear coupling to site from central stores.
c) Fixing of input shaft hub / output shaft gear coupling on new gearbox (old hub / gear coupling has to be removed from old gearbox and mount on the new one).
d) Decouple the old gearbox on input and output side.
e) Removal of foundation bolts of gearbox.
f) Removal of old gearbox from its position.
g) Placement of new (assembled) gearbox in position.
h) Alignment of gearbox with pulley and motor / fluid coupling.
i) Fixing of coupling bolts after completion of alignment.
j) Trial run and rectifications, if any.
k) Shift old gearbox to CHP workshop or central workshop.
l) Remove old gear coupling from gearbox output shaft.
m) Remove coupling hub from input sift.
n) Clean the gearbox.
o) If any jig is required for this job that is to be made by party.
p) Gas is in contractor's scope.

14. REPLACEMENT OF COMPLETE HAMMERS SET.

First ensure proper isolation of eqpt. & permit to work clearance.

a) Shifting of new hammers to site and their balancing as per the instruction of EIC .
b) Proper balancing of hammers for A&C , B&D rows are to be ensured.
c) Collection of PFW.
d) Open the side windows of crusher cover on both sides and unlock the suspension bars.
e) Remove suspension bars and hammers of one row.
f) Fix new hammers and suspension bars.
g) Close the side windows after locking the suspension bars.
h) Repeat (c) to (f) to replace the hammers of other rows.
i) Trial run and rectifications, if any.
j) Shifting of old hammers to scrap yard.

15. REPLACEMENT OF CONVEYOR DRIVE PULLEY

First ensure proper isolation of eqpt. & permit to work clearance.

a) Lift the take up and free the damaged pulley.
b) Shift the new pulley to site.
c) Fix the sleeve ,BRGS on pulley with the Plummer blocks.
d) Removal of geared coupling bolts and foundation bolts of old pulley.
e) Removal of old pulley from location.
f) Placement of new pulley on location.
g) Check the level of pulley & rectify it.
h) Alignment of new pulley with the system.
i) Tightening of foundation bolts.
j) Greasing of both end bearings and geared coupling.
k) Lowering of take up.
l) Trial run and rectifications, if any.

16. CRUSHER SCREENS REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.

a) Proper working platform arrangement is to be fabricated inside Crusher discharge chute.
b) All bolts are to be removed by opening / gas cutting.
c) Damaged / worn out screen to be properly removed from location.
d) New screen is to be fixed by maintaining proper gaps.
e) Re-fixing of bolts and tightened by providing lock nuts.

f) Removal of Zigs from Crusher discharge chute.
g) Inspection doors to be closed after completion of job.
h) Gas, tools etc. are in Party's scope.

17. REPLACEMENT OF CRUSHER BREAKER PLATE

First ensure proper isolation of eqpt. & permit to work clearance.
a) Crusher cover to be opened (both front and back).
b) Breaker plate has to be brought from central store/CHP store by party for which no extra amount will be paid.
c) Remove old breaker plate cutting of bolts may be necessary.
d) Fix new breaker plate.
e) If any welding/cutting is required is to be borne by the party.
f) Crusher covers to be closed both front and back.
g) Old breaker plate is to be shifted to scrap yard or the area shown by Area Engr. / EIC.
h) Hydra / truck will be provided by NPL for shifting it from stores.

18. OVERHAULING OF GEARBOX

First ensure proper isolation of eqpt. & permit to work clearance.
a) Draining of oil from gearbox.
b) Removal of parting plane bolts and side cover bolts.
c) Removal of gearbox top cover & Removal of all internals.
d) Cleaning and inspection of all shafts, bearings.
e) Replacement of both input and output oil seals.
f) Cleaning of both halves of gearbox casing (Internally & externally)
g) Placement of all internals in position.
h) Apply HOLDITE at parting planes and place top cover.
i) Tightening of parting plane and side cover bolts.

19. VIBROFEEDER SHAFT REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shifting of new shaft to site.
b) Remove the drive belts , Pulley & drain the lube. Oil from tank.
c) Open the gear housing cover & remove both drive & driven gears.
d) Free the bearing housing from VGF body
e) Removal of old / damaged shaft.
f) Fixing of new shaft in position and BRG. housings at both ends.

g) Re-fix the gears by maintaining the correct position of eccentric masses.
h) Replace the oil seals.
i) Refill the Lube oil, fix the drive pulley & V belts.
j) Trial run and rectifications, if any.

20. VIBROFEEDER BEARINGS REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.
a) Remove the drive belts , Pulley & drain the lube. Oil from tank.
b) Open the gear housing cover & remove both drive & driven gears.
c) Free the bearing housing from VGF body
d) Removal of old / damaged Bearings from housings.
e) Fixing of new BRG in position and BRG. housings at both ends.
f) Re-fix the gears by maintaining the correct position of eccentric masses.
g) Replace all the oil seals.
h) Re-fix the bearing housing end covers.
i) Refill the Lube oil, fix the drive pulley & V belts.
j) Trial run and rectifications, if any.

21. BALANCING OF OLD USABLE CRUSHER HAMMERS.

a) Select & segregate good old reusable hammers from the old used hammers lot.
b) Take individual hammer weight & record it with numbers.
c) When complete set + 10 nos. achieved ask area Engr. to give its balancing sequence with each numbers.
d) Proper balancing of hammers for A&C , B&D rows are to be ensured.
e) Shift the Hammer set to Crusher floor where next replacement is due.
f) Shifting the useless scrap old hammers to scrap yard.

22. VGF SCREENS REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.
a) First clean the coal deposit on all the trays with a crow bar.
b) Then clean it with water jet & ensure that there is no coal.
c) Protect the conveyor belt below by continuous water washing it.
d) Remove the damaged screens.
e) Fix the new screens(one or more) properly.
f) Use proper fixing bolts of specified quality & number.
g) Do proper welding if instructed by EIC.

h) Take trail run & do the rectifications if any.

23. OVERHAULING OF WATER PUMPS / COMPRESSORS IN CHP

First ensure proper isolation of eqpt. & permit to work clearance.

a) Remove the coupling bolts after electrical isolation is ensured.
b) Remove the defective pump from the drive base frame.
c) Take the pump to O/H shop.
d) Open the pump & inspect all internal parts.
e) Replace the worn out / defective parts.
f) Re-assemble the pump carefully.
g) Replace all old seals / glands etc.
h) After assembling check the pump shaft for its freeness.
i) Shift the pump back to its working location.
j) Install the O/H pump & couple it to motor.
k) Take trail run & do the rectifications if any.

B. SCHEDULE - "B" - JOBS IN CHP

1.PREVENTIVE MAINTENANCE OF VIBRO GRIZZLY FEEDERS:

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation and coupling bolts of motor and body of VGF.
b) Check oil level of the chamber and top up / replace the same as per requirement.
c) Check for any deformation in foundation springs & side support rubber discs.
d) Inspect the inlet chute for any leakage of coal and rectify the same.
e) Inspection of tray liners & main foundation springs.
f) Clean the Vibro feeder tray.
g) Check drive, driven shaft, pulley and "V" belt condition.
h) Check skirt rubber condition and replace if necessary.
i) Check for any oil leakage from the BRG. Housing covers, rectify it.
j) Check the tightness of all housing & level indicator cover bolts.

2.PREVENTIVE MAINTENANCE OF MOVABLE TRIPPERS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts and coupling bolts of pulleys, motor & gearbox of LT drive and CRD drive.
b) Checking of oil level in gearboxes and top up/ replace the same as per requirement.
c) Greasing of all pulley bearings.
d) Lubricate the sprockets & its chain properly.
e) Flap gate Gear box bolts to be tightened & flap gate internal to be cleaned.
f) Operation of F/Gate to be checked.
g) Brake adjustment and checking the condition of Brake shoe.
h) Checking of rail clamp for effective application.

3.REPLACEMENT OF CONVEYOR NON DRIVE PULLEYS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Lift the take up and free the damaged pulley.
b) Shift the new pulley to site.
c) Properly fix the bearings & Plummer blocks on new pulleys.
d) Removal of foundation bolts of old pulley.
e) Removal of old pulley from location.
f) Placement of new pulley on location.
g) Check the level of pulley & rectify it.
h) Alignment of new pulley with the system.
i) Tightening of foundation bolts.
j) Greasing of both end bearings and geared coupling.
k) See and ensure that the pulley is freely rotating by hand.
l) Lowering of take up.
m) Trial run and rectifications, if any.

4.PREVENTIVE MAINTENANCE OF REV. BF & BELT FEEDERS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Tightening of foundation bolts of motor, fluid coupling, gearbox & Plummer block. Checking oil level of gearbox and fluid coupling. Top up / replace oil as per requirement.
b) Tightening of coupling bolts (Fluid coupling / geared coupling).
c) Greasing of gear coupling / GTU pulley bearings.

d) Grease the tail pulley bearings.
e) Checking of belt scrapper and its rectification if any.
f) Checking of skirt rubber / skirt board & its supports and rectifications, if any.
g) Take up trolley checking & applying cadmium compound on wire ropes.
h) Identifying damaged idlers & Idler frames. Replace the same.
i) Checking the condition of Conv. Belt & joints healthiness.
j) Periodical oil replacement of G / box. / FCU.

5. PREVENTIVE MAINTENANCE OF ILMS

First ensure proper isolation of eqpt. & permit to work clearance.
a) Tightening of foundation and coupling bolts of motor, gearbox and pulleys.
b) Checking oil level of gearbox oil and top up / replace if required.
c) ILMS Drive pulley and tail pulleys bearings greasing.
d) ILMS belt metal strips bolts checking.
e) Check the belt for any sway & adjust the tension, it should be at centre.
f) Trial run and rectifications, if any.

6.SERVICING OF COOLERS OF SCOOP COUPLINGS

First ensure proper isolation of eqpt. & permit to work clearance.
a) Clean dirt or foreign material from cooler with pressurized water and tubes surfaces with wire brush.
b) Check for any choking of inlet and outlet (water side and oil side)
c) Check plates and sealing healthiness.
d) Check whether adequate water pressure is available at coolers.
e) Check the flow meter is showing the correct readings or not.
f) Check packing / gaskets for healthiness.
g) Check for all piping's for any leakage.

7.REPLACEMENT OF HOLD BACK

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shifting of hold back to site from central stores.
b) Removal of hold back from gearbox.
c) Fix new hold back.
d) Filling of oil in hold back.
e) Shifting of old hold back to CHP workshop (or) central workshop.

f) Any jig required for removing hold back is to be made by party.
g) Gas for this job is in party's scope.

8.REPLACEMENT OF CRUSHER HAMMERS (single row)

First ensure proper isolation of eqpt. & permit to work clearance.
a) Open the side windows of crusher cover on both sides and unlock the suspension bars.
b) Identify the location of missing hammer(s)
c) Check the conditions of other hammers also to identify any other weak hammer.
d) Remove suspension bars up to a length so as to place new hammer(s) in position.
e) Fix new hammers (equal wt. of broken one) and removed hammers in position.
f) Close the side windows after locking the suspension bars.
g) Old serviceable hammers of equal weight only should be used.
h) Repeat (a) to (f) to replace missing / weak hammers of other rows.
i) Trial run and rectifications, if any.

9. REPLACEMENT OF FLAP GATE ACTUATOR

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shifting of new / repaired actuator to site.
b) Decouple existing actuator with flap gate lever.
c) Dismounting of old actuator after removal of foundation bolts.
d) Mounting of new / repaired actuator in position.
e) Check alignment with the flap gate actuator.
f) Tighten the foundation bolts.
g) Couple the actuator lever pin with flap gate lever.
h) Manually operate it to both sides & check the gaps.
i) Trial operation and rectifications.

10. CLEANING OF VIBRO GRIZZLY FEEDER TRAY

First ensure proper isolation of eqpt. & permit to work clearance.
a) Inspection doors are to be opened.
b) Coal accumulated to be removed by crow bars / shovels.
c) Vibro feeder Tray, screens, discharge chutes are to be cleaned thoroughly.

d) After cleaning the entire mentioned item it should be shown to area Engineer before closing all the inspection doors.

11. OVER HAULING OF SUMP PUMPS / CLEANING OF ITS PITS

First ensure proper isolation of eqpt. & permit to work clearance.
a) Remove the drive belts / coupling bolts after ensuring Elec. isolation.
b) Remove the sump pump from the pit.
c) Clean the sump.
d) Check the impeller, its key & key ways.
e) Replace the defective parts.
f) Grease the bearings & re-install the pump.
g) Fix back the drive belts / coupling bolts after ensuring Elec. isolation.
h) Tighten all bolts and coupling bolts.
i) Fixing of coupling guard.
j) Trial run and rectifications, if any.

12.OVER HAULING OF WATER PUMPS & COMPRESSORS

First ensure proper isolation of eqpt. & permit to work clearance.
a) Remove the drive belts / coupling bolts after ensuring Elec. isolation.
a) Check the impeller, its key & key ways.
b) Replace the defective parts.
c) Grease the bearings & re-install the pump.
d) Fix back the coupling bolts ..
e) Tighten all bolts and coupling bolts.
f) Fixing of coupling guard.
g) Trial run and rectifications, if any.

13.TAKE UP LIFTING AND FREEING OF PULLEY

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shifting of chain pulley blocks, slings, D- shackles, belt clamps etc to site.
a) Collect the PFW.
b) Clamping of belt.
c) Positioning of chain pulley blocks at take up.
d) Lifting of take up.
e) Pulling of belt to free the desired pulley.
f) Lowering of take after completion of job on that pulley.
g) De- clamping of belt.
h) Removal of T&P from site.

14.REPLACEMENT OF RESILIENT PLATE OF FCU

First ensure proper isolation of eqpt. & permit to work clearance.

a) Remove coupling guard of fluid coupling.

a) Remove coupling bolts and multidisc.

b) Remove fasteners of fluid coupling and resilient plate and remove the fluid coupling from location.

c) Remove the damaged resilient plate by removal of fasteners connecting resilient plate with the driving boss.

d) Fix new resilient plate on the driving boss using fasteners.

e) Mount the fluid coupling in place using fasteners.

f) Fit the multidisc and couple both half couplings.

15. REPLACEMENT OF OIL SEAL OF GEARBOX (INPUT/ OUTPUT)

First ensure proper isolation of eqpt. & permit to work clearance.

a) Remove coupling guard.

a) Decouple the input/ output shaft.

b) Remove parting plane bolts of gearbox.

c) Open the top cover of gearbox and remove the shaft (Input/ output whose oil seal need to be replaced).

d) Remove half coupling from shaft.

e) Remove damaged oil seal from end cover and fit new oil seal.

f) Fit the half coupling on the shaft and place the assembled shaft in position.

g) Apply HOLDITE on parting plane and place top cover of gearbox in position.

h) Tighten all parting plane bolts and coupling bolts.

i) Fixing of coupling guard.

j) Trial run and rectifications, if any.

16. PREVENTIVE MAINTENANCE WORKS IN EOT CRANE / ELEC. HOISTS.

First ensure proper isolation of eqpt. & permit to work clearance.

a) Ensure that the EOT / HOISTS is not in Service.

a) Remove the defective components from Hoist / EOT.

b) Install new parts in Hoist / EOT.

c) Check the oil level in all gear boxes & top up if required

d) Tighten all bolts after fixing with proper gaskets.

e) Cancel the PTW & check and rectify the defects if any.

C. SCHEDULE - "C" - JOBS IN CHP

1.PREVENTIVE MAINTENANCE Sump / Water Pumps & Compressors:

First ensure proper isolation of eqpt. & permit to work clearance.

a) Ensure that the equipment is not in service.
b) Grease all the bearings.
c) Check & arrest the water leakage.
d) Replace the gland packing if required.
e) Tighten all bolts after fixing with proper gaskets.
f) Tighten all foundation bolts.
g) Cancel PTW & test the pump for proper working.

2.PREVENTIVE MAINTENANCE WORKS DS / DE / VENT. FANS.

First ensure proper isolation of eqpt. & permit to work clearance.

a) Ensure that the equipment is not in service.
b) Remove the defective belts / other components/ bag filters.
c) Check the belt tension and correct it.
d) Install new valves / bag filters.
e) Tighten all bolts after fixing with proper gaskets.
f) Cancel the PTW & check and rectify the defects if any.

3. REPLACEMENT OF DECK / SEAL PLATE

First ensure proper isolation of eqpt. & permit to work clearance.

a) Plates required for this job are to be drawn from Central stores.
b) Old damaged seal plate or lip plate to be removed from its positions.
c) New seal plate or lip plate is to be fixed after cutting as per exact dimension.
d) Old damaged plates are to be shifted to scrap yard.
e) Cutting welding is in party's scope. Plates and fasteners will be issued free of cost.

4. PREVENTIVE MAINTENANCE WORKS IN FF / YARD SPRINKLER SYSTEM

First ensure proper isolation of eqpt. & permit to work clearance.

a) Ensure that the line is de-pressurised & water is drained completely.
b) Remove the defective valve / DV / water sprinkler from circuit.
c) Install new valves / DV / water sprinkler.

d) Tighten all bolts after fixing with proper gaskets.
e) Cancel the PTW & check and rectify the defects if any.

5. CRUSHER LINER PLATE REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shifting of new / hard faced liner plate to site.
b) Open the front doors of crusher.
c) Clean the crusher body & check for any damage & loose parts.
d) Removal of old / damaged liner plate from CR. body.
e) Fixing of new / hard faced liner plate in position.
f) Closing of front doors.

6. PREVENTIVE MAINTENANCE OF FLAP GATES

First ensure proper isolation of eqpt. & permit to work clearance.
a) Tightening of foundation bolts of actuator bracket and Plummer blocks.
b) Greasing of flap gate bearings.
c) Flap gate actuator bearing greasing.
d) Actuator pin checking.
e) Inspection of flap gate gap inside the chute.
f) Operating the flap gate once in both the directions for checking jamming.
g) Manually operate the gate to both ends & check the gap between the flap and chute, adjust if the gap is more than 2 – 3 mm.

7. REPLACEMENT OF IDLERS

First ensure proper isolation of eqpt. & permit to work clearance.
a) Shift idlers from main stores to the site.
b) Remove respective stand and replace the defective idler.
c) Re-installation of idler stand in position.
d) Shifting of defective idler to the designated location.
e) Replacement of 3 nos. troughing / carrying idlers or 2 nos. “V” type return idlers / one no long flat return idler will be consider as one unit.

8. SKIRT RUBBER REPLACEMENT

First ensure proper isolation of eqpt. & permit to work clearance.
a) Removal of old skirt rubber after loosening the fasteners

b) Cut the skirt rubber of required size from scrap conveyor or skirt rubber
c) Fixing the new skirt rubber & tightening the fasteners
d) Take trial run & adjust if required.
e) Complete one side skirt rubber will be considered as one unit.
f) If bolts / fixtures needs to be modified or replaced without additional cost.
g) Cutting welding if any for this job will not be paid extra.

9. GREASING OF CONVEYOR PULLEY BEARINGS

First ensure proper isolation of eqpt. & permit to work clearance.

a) Lubricants will be arranged by NPL free of charge.
b) Lock the pulley shaft by means of chain blocks.
c) Open the top cover of bearings.
d) Remove the old greasing completely from the housings.
e) Refill the fresh grease of reqd. Qty.
f) Put back the BRG top cover & fix the bolts , tight it with torque wrench.
g) 2 nos. BRGs. Of a pulley greasing is considered as one unit.

10. CHUTE PATCHING / REPAIRING / LINER FIXING

First ensure proper isolation of eqpt. & permit to work clearance in paper.

a) Measurement of patch to be applied in concurrence with NPL Maint. Engineer.
b) Cutting of the required size plate.
c) Shifting of welding accessories to site.
d) Ensure that hot permit to work has been issued.
e) Arranging proper scaffolding for climbing up to patch to be welded.
f) Removal of scaffolding after the patch work is over.
g) One liner fixing will be considered as one unit.
h) No extra cost will be paid for cutting / welding.
i) Spraying of water in and around the area of welding / cutting

11. MISCELLANEOUS CUTTING / WELDING JOB

First ensure proper isolation of eqpt. & permit to work clearance in paper.

a) Shifting of cutting / welding accessories to site.
b) The working area should be thoroughly cleaned first before starting work.

c) Shifting of items to be welded (example: plates, angles, pipes, etc.) weight of such items will not be more than 50 kgs.
d) All required precautions to be taken to prevent fire.
e) 2 Mtrs. Length of cutting / welding will be considered as one unit.
f) Water hose pipes should be kept ready before starting cutting.
g) After completion of welding work the area / area down below has to be water washed thoroughly to avoid fire.

12. OTHER MISCELLENOUS JOBS IN CHP

First ensure proper isolation of eqpt. & permit to work clearance in paper.

a) V- belt replacement in VGF / Vent. Fans / DE system
b) Hose pipe replacement.
c) Coupling guard removal and re- fixing.
d) Replacement of scrapper blades
e) Replacement of coupling bolts
f) Flap gate operation by hook chuck
g) RP gate operation by hook chuck
h) Replacement of valves up to 50 mm size.
i) Cleaning of spray nozzles.
j) Any maintenance / repairing work in fire fighting systems.
k) Gland packing / gasket replacement
l) Lubrication of slew bearing of stacker
m) Oil top up to 50 lts.
n) Cleaning of filters.
o) Gear box oil replacement in EOT cranes
p) Gear box oil replacement in Hoists.

D. SCHEDULE - "D" - JOBS IN CHP

1. HOT VULCANISING OF STEEL CORD BELTS IN CHP CONVEYORS

Position the joint which needs vulcanising in a convenient location at carrying side.Shift & keep ready the Vulcanising M/C at jointing location before PTW request.
Ensure proper power supply at working location.
First ensure proper isolation of Eqpt. & permit to work clearance.
Follow the belt manufacturers & Vulcanising KIT supplier's instructions carefully.

a) Clamp the belt on carrying side near belt jointing location.
b) Lift the take up and free the BELT of required length.
c) Pull the belt of sufficient length required for HOT vulcanising.
d) Clamp the belt on return side near belt jointing location.
e) Remove the idler frames at jointing location.
f) Remove the damaged portion of belt / weak joint.
g) Complete the joint preparation by splicing / cord buffing.
h) Ensure that the deck is in level / level it by wood & ply supports.
i) Place the Vulcanising M/C Bot. plate in position.
j) Align both the ends of belt properly to each other.
k) Use Hot Blowers is required if moisture is more.
l) Complete the joint preparation by placing Bot. cover rubber, Vul. solutions cords, inter-cords & top cover then cloths ect.
m) Prepare & cut the edges.
n) Complete heating & cooling at specified temperatures.
o) After cooling remove the vul. M/C.
p) Install the idler frames at jointing location.
q) Normalise the belt by removing the clamps & releasing the take up.
r) Take trail run & give clearance for load operation.

2. HOT VULCANISING OF TEXTILE BELTS IN CHP BELT FEEDERS

Position the joint which needs vulcanising in a convenient location at carrying side. Shift & keep ready the Vulcanising M/C at jointing location before PTW request.
Ensure proper power supply at working location.
First ensure proper isolation of Eqpt. & permit to work clearance.

Follow the belt manufacturers & Vulcanising KIT supplier's instructions carefully.

The above procedure laid down in **scope 01** of schedule 'D" needs to be followed except that the KIT & splicing method will be different for textile belts.

3. HOT VULCANISING OF TEXTILE BELTS IN CHP CONVEYORS

a) Position the joint which needs vulcanising in a convenient location at carrying side. Shift & keep ready the Vulcanising M/C at jointing location before PTW request.
b) Ensure proper power supply at working location.
c) First ensure proper isolation of Eqpt. & permit to work clearance.
d) Follow the belt manufacturers & Vulcanising KIT supplier's instructions carefully.

The above procedure lay down in **scope 01** of schedule 'D" needs to be followed except that the KIT & splicing method will be different for textile belts.

4. COLD VULCANISING OF TEXTILE BELTS IN CHP CONVEYORS

Position the joint which needs vulcanising in a convenient location at carrying side.

First ensure proper isolation of Eqpt. & permit to work clearance.

Follow the belt manufacturer's / supplier's instructions carefully for splicing methods.

a) Clamp the belt on carrying side near belt jointing location.
b) Lift the take up and free the BELT of required length.
c) Pull the belt of sufficient length required for COLD vulcanising.
d) Clamp the belt on return side near belt jointing location.
e) Remove the idler frames at jointing location.
f) Remove the damaged portion of belt / weak joint.
g) Complete the joint preparation by splicing.
h) Ensure that the deck is in level / level it by wooden ply supports.
i) Use Hot Blowers is required if moisture is more.
j) Complete the joint preparation by grinding / buffing & applying solution then drying it , repeating the same at both ends of belt . Complete jointing of belts.
k) Prepare & cut the edges.

l) Complete the joint by properly hammering to avoid air gaps.
m) Install the idler frames at jointing location.
n) Normalise the belt by removing the clamps & releasing the take up.
o) Take trail run & give clearance for load operation.

5. COLD LAGGING OF CONVEYOR PULLEYS IN CHP.

Position the joint which needs vulcanising in a convenient location at carrying side.

- First ensure proper isolation of Eqpt. & permit to work clearance.
- Supply of lagging sheets is in party's scope
- The above procedure lay down in scope 04 of schedule 'D" needs to be followed except that the freeing pulley removing the old lagging & Vul. Solution for lagging and lagging sheets required for Drive / Non Drive pulleys will be different.

4. Technical Qualification Criteria

1. The Bidder should have continuous experience of Mechanical Maintenance, Field Operations and housekeeping of Automated Coal Handling Plant of more than 1200 TPH capacity of a coal based thermal power station of unit 300 MW or more for not less than FIVE (05) Years as on 01-Apr-18. Such experience should be with more than two unrelated organizations.

2. The bidder should have carried out the operation support, mechanical maintenance & up keeping of coal handling plant and O&M experience in Conveyors, Wagon Tipplers and Stacker cum Reclaimers having Mechanical/Hydraulic drives of CHP and produce performance certificate at least from TWO different unrelated Clients.

3. Should have carried out Preventive, Predictive, Corrective, Breakdown & Annual Overhauling maintenance of various Mechanical Equipment's/Systems for CHP of not less than 300 MW unit and 600 MW station capacity in specific areas:

   a. Wagon Tippler (Hydraulic Type), Apron feeder, Diverter Gate, ILMS, Side Arm charger, Crusher, VGF, Conveyors, Travelling Tipper, Stacker cum Re-claimers, Bull Dozers, Bunker, Belt feeders, Idlers, Fluid/Scoop Coupling, Gear Box,

   b. Pumps, Heat Exchanger and hydraulic pumps and motors and all associated auxiliaries.

4. Should have executed contracts for Operations & Maintenance of Coal handling plant with a paid value of minimum 5.0 Cr INR in any of the 02 years in past 05 years.

5. The bidder should have well established Organization for not less than SEVEN Years and have following in its own payroll for last FIVE years:

   a. Graduate Engineers with TEN Years or more industrial experience not less than 10 Numbers.

   b. Graduate Engineers with FIVE Years or more industrial experience not less than 20 Numbers

   c. ITI Technicians with TEN or more years of industrial experience not less than 40 Numbers.

   d. ITI Technicians with specialization in Hydraulics of SEVEN or more years of industrial experience not less than 10 Numbers.

5. Financial Criteria for Bidder

1. The average annual turnover of the Bidder on standalone basis, in the preceding three (3) financial years as on the date of Techno-Commercial bid opening, should not be less than INR 5 Crores.
2. Net worth of the bidder in the preceding year should not be less than 1.5 cr.

Notwithstanding anything stated above, the Employer reserves the right to assess the capabilities and capacity of the Bidder / its Collaborators / Associates/ Subsidiaries/ Group companies to perform the contract, should the circumstances warrant such assessment in the overall interest of the Employer

NPL reserves the right to reject any or all bids or cancel / withdraw the invitation for Bids without assigning any reason whatsoever and in such case no Bidder / intending Bidder shall have any claim arising out of such action.

6. Indicative Resporces.

S. No.	DESCRIPTION	UOM	MANPOWER PER/DAY	Remark/Shift
1.	**A.** CHP AMC Site In charge	No	1	General
B. Operation				
2.	Field Operators in CHP	Nos	36	Manpower should be in Shift (Shift is of 8 Hrs)
3.	Stacker Reclaimer & Dozer Operations in CHP	Nos	8	
4.	At WT-Wagon Un-coupling & re-coupling Assistance.	Nos	6	
B. Sub Total Operation			**50**	
C. Maintenance				
5.	Unskilled manpower for House-keeping	Nos	39	All are in General shift
6.	MTC. Supervisor	No	1	
7.	Mill Wright Fitter (2 Nos) & Belt Jointer (1 No)	Nos.	3	
8.	GEN. & HYD. Fitter	No	3	
9.	Welder	No	4	
10.	Rigger	No	5	
11.	Semi Skilled Helpers	No	14	
C. Sub Total			**69**	
	Total (A+B+C)		**120**	

Qualification requirement

Sr. No.	Manpower Description	Education & Experience
1.	Site Supervisor	B Tech /BE– 4 to 6 Years' Experience
2.	Field Operator	ITI – 3 to 5 Years' Experience/ 10th – 5 to 8 Years' Experience.
3.	Mill Weight Fitter	ITI – 3 to 5 Years' Experience/ 10th – 5 to 8 Years' Experience.
4.	Belt Jointer	ITI – 3 to 5 Years' Experience/ 10th – 5 to 8 Years' Experience.
5.	Gen. Fitter & Hyd. Fitter	ITI – 3 to 4 Years' Experience/ 10th – 5 to 8 Years' Experience.

6.	Welder	ITI – 3 to 4 Years' Experience/ 10th – 5 to 8 Years' Experience.
7.	Rigger	ITI – 3 to 4 Years' Experience/ 10th – 5 to 8 Years' Experience.
8.	Semi-Skilled Helpers	2 to 3 Years' Experience
9.	Housekeeping Manpower	Experience not required

NOTE- BIDDER TO MAINTAIN THE RRSOURCES ON DAILY BASIS AND ADDITIONAL REQUIREMENTS TO MEET THE LEAVE/WEEKLY OFF/ ABSENTESIM TO BE AT BIDDER'S COST.

7. Evaluation Criteria

1. **Responsive Check.**
2. **Bid Evaluation**

Responsive Check

The Bid submitted by the bidder shall be scrutinised to establish "Responsiveness"

1) Bids not received by the due date and time.
2) Sufficient information not submitted in the Bid to be evaluated and/or information not submitted in specific format.
3) Bids not signed by authorised signatory and/or sealed in the manner and to the extent indicated in this RFQ document.
4) Any request for change in scope of work or change from the bidding company or change in ownership has not been permitted by the procurer/Authorised Representative.

Bid Evaluation for Qualification

1) Bid Evaluation will be carried out Considering information furnished by the bidder as per prescribed format. This step would involve evaluation of the Bid of the Bidding company/Bidding Consortium.

2) The bidding Company must fulfil the minimum financial and qualification requirement mentioned in Section 4 and Section 5 together.

3) Bidder Should be registered Company. Copy of certificate of Incorporation to be submitted in this regard.

4) Though minimum qualification criteria is mentioned in the respective clauses however a of weightage based scorecard of the bidder shall be calculated based on following:

   a. Each point in Sec 4 & Sec 5 shall carry 5 marks each on meeting minimum requirement.
   b. For each incremental 50% on technical criteria wrt minimum requirement an additional 2 marks will be added
   c. For each increment of ONE count in number of unrelated client wrt minimum requirement and additional 2 marks will be added.
   d. For each incremental 20% on time duration wrt minimum requirement an additional 3 marks will be added.
   e. For each incremental 50% on Financial capacity wrt minimum requirement an additional 1 marks will be added

5) The bidders having a score card of at least 25% more than the bare minimum score card which could be obtained in meeting the criteria as set in Sec 4 & Sec 5 shall be considered as Qualified Bidder.

Copy of the work order along with completion certificate from the client should be submitted by bidder. Additionally, bidder should also submit payment receipt received from client as its final instalment of the contract.

8. Other Terms & Conditions of Contract.

1. Before Commencement of O&M Works, Contractor & NPL team will Jointly record the current Condition, performance parameters and plant datum, which shall form the reference for Contractor performance evaluation during O&M period.

2. The contractor can raise a RA Bill in each month completion.

3. Accommodation and transportation arrangement is in contractor's scope.

4. The screening of Site In-charge, Millwright Filler, Normal Fitter, Welder and Riggers will be done by NPL before deployment at NPL Site.

5. The attendance of the Deployed Manpower will be done on Biometric basis. The Biometric Attendance Machine will be provided and installed by NPL. However, bidder to maintain his own manual/ biometric attendance record which may be asked by NPL at any point of time.

6. No Overtime charges will be paid by NPL. Overtime charges, if applicable, are included in the unit rates.

7. Canteen services will be provided to the Contractor on chargeable basis.

8. Computer and Internet facility will not be provided by NPL. The same will be arranged by the Contractor at his own cost.

9. The contractor to maintain one (1) utility vehicle for material shifting with in CHP or from plant main store.

10. CHP is a round the clock working plant & the contractor may needs to mobilise the additional persons at site to attend the break-down work as per site requirement. The mobilization period for additional manpower will be 12 hrs from the intimation from NPL side.

11. In case the Contractor fails to maintain full prescribed T&P as per list all the time he may have to face penalties. The audit of these T&P can be done by NPL at any point of time without prior information to Contractor.

12. Any of Contractor's consumables / non-consumables, tools & plants, equipment shall be taken out by the Contractor after the completion of contract period. The materials will be taken out after submission of all documents as per NPL Policy.

13. The contractor should ensure that no untoward incidents or law and order problems were created by his men.

14. The contractor must provide all safety equipment's to all his men including the rain coat & Gumboots.

15. Suitable uniform in Compliance with the weather condition is to be provided at work place along with clear mentioning the Contractor Company/Logo name on the uniform & helmet.

16. All field operators should be provided with a usable hand torch during night shifts.

17. Any modification / fabrication work up to 20 MT per Annum will be done by the Contractor on free of cost basis. In case the quantities exceeded above 20 MT per Annum, the rates of the work will be jointly agreed between NPL & Contractor before commencement of work.

18. Conveyor belt replacement up to 100 meters length, per instance, is in the scope of the Contractor. In case the belt replacement length is more than 100 metres, additional manpower will be deployed at the unit rates mentioned in the PO.

19. Contractor will provide the required technical support for identification of spare requirement. The spare list will be provided on fortnightly basis. Procurement of spares will be done by NPL.

20. Contractor should provide at least 2 KG/Month/per person of Jaggery to all men working in CHP.

21. <u>Vehicle Entry Pass</u>
    All mandatory documents to be submitted

- (RC Book/Insurance Policy/PUC/Driving licence to security.

- Gate Pass process to be followed.
- Vehicle to be parked at designated place only.

22. Additional Manpower

For Annual Shutdown works and for carrying out any other activity not specifically mentioned in the scope of work, the Contractor will deploy additional manpower as per the requirement of NPL. The cost of the additional manpower for 8 hours per day will be paid extra to the Contractor:

- Unskilled Manpower :Rs. _____ per day.
- Semi-skilled Manpower: Rs. _____ per day.
- Skilled Manpower: Rs. _____ per day (including welder, Gen &
- Hyd. fitter & rigger).
- Highly Skilled: Rs _____ per day (including MWF, Belt Jointer).
- Tractor Trolley including Driver & Diesel: Rs _____ per day.
- The mobilization period for the additional manpower up to 10 number in total will be within 12 hrs from the date of issue of PO/intimation from NPL. In case the extra manpower is not deployed by the Contractor within the time frame as per the NPL Requirement, NPL will carry out the work at the risk & cost of the Contractor plus 10% service charge.

9. Special Conditions of Contract (SCC).

The Special Conditions shall form a part of the Tender documents and Specifications for Annual Operation and Maintenance Contract for CHP of 2x700 Mw Thermal Power Plant.

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract / Instructions to Bidders/Technical Specifications.

All capitalized words and expressions used in this SCC but not defined herein shall have the same meaning as ascribed to them in the General Conditions of Contract.

1. **References**

1.1. NPL NIT Published
1.2. Tender specifications issued by NPL to bidders
1.3. Bid Clarifications issued by NPL
1.4. Bids submitted by the Bidders
1.5. Subsequent communication with the Bidder if any

2. **Scope of Supply / Work:**

The scope of supply under this purchase order shall be to provide Services for CHP Operation and Maintenance activities on daily basis as per Scope of work issued and in strict compliance to the specification and terms & conditions stipulated in this purchase order and documents under References as mentioned at '1.0 References' above.

3. **Price and Price Basis:**

3.1. Total Contract price should be quoted on FOR NPL Site Basis, inclusive of O&M Charges, Testing, specification, P&F and Documentation, Transportation from Contractor works to NPL at NPL site and transit insurance charges etc. including but not limited to the "Scope of Works" pf the Tender Documents.
3.2. All the required manpower, vehicles & equipment's etc shall be arrange by supplier without any extra cost implication to NPL.
3.3. Contract price shall be as specified in the LOI/PO/WO as applicable. This contract price shall be deemed to cover all the responsibilities and obligations of the Contractor under the Contract.

3.4. The prices shall remain firm & fixed till the completion/execution of the Contract irrespective of variation in prices/ taxes/ duties/ levies on input raw material / bought-out items, foreign exchange fluctuation in international currencies, freight or any other charges.

3.5. Any revision / introduction of new taxes, duties, levies by the statutory bodies within the contract period will be paid by NPL extra as applicable. However, in case withdrawn of existing tax and/or duties by the statutory bodies, same will not be paid by NPL from the date of implication.

4. **Taxes and Duties:**

4.1. The PO Amount is inclusive of all taxes & duties existing as on date including: GST@18%, However, same shall be paid extra against submission of Invoice and document proof.

4.2. No other Taxes and duties will be paid by NPL.

4.3. Advance tax is not applicable.

5. **Mobilization Period & Contract Period:**

5.1. **Mobilization Period:** 100% resources will be mobilized within 30 days from the date of issue of PO.

5.2. The contractor should strictly adhere to the schedule. In case any delay is anticipated, the Contractor shall notify the Purchaser in writing immediately explaining the cause of delay and arrangement for recovering the delay

6. **Bid Security Deposit:**

Bidder is required to furnish a Declaration in form of DD in Favor M/s NABHA POWER LMITED valid for not less than 120 days from the date of bid submission. Bid Security should be submitted from any of the Indian nationalized Bank. The amount of Bid Security to be arrived @2.5% of the Total Amount offered by the bidder for the works for two years.

The Bid Security will be released to the success full bidder within 10 days of submission and acceptance of PBG as envisaged in the SCC herewith while for the other bidders the same shall be released with 15 days from the date of commercial finalization of this contract and receipt of LOI/PO.

7. **Payment Terms:**

7.1. 100% payment of monthly RA Bill with 100% taxes & duties shall be released within 60 days after the receipt of Invoice at NPL Site and submission of following documents to NPL:

a) Original Commercial invoice duly signed
b) Copy of the Attendance Record and Wage Register
c) Copy of the PF Challan indicating the Name and PF Code for each employee, for the preceding month for which the invoice is submitted.
d) Contractor Compliance undertaken in NPL Format
e) Submission of Performance Bank Guarantee equivalent to 10% of the Annual Basic Contract amount as per NPL Format, valid for One year + 3 months claim period from the effective date of Contract. PBG Shall be extended for the next year after renew of the contract.
f) For the prices mentioned in this PO, Income tax TDS or any other tax, if applicable will be deducted from Service Provider bills, as per statutory requirements. The necessary certificate shall be issued by NPL at an appropriate time.

8. **Delivery Date/ Time completion Period:**

8.1. Time is the essence of the contract and timely completion of work shall be of utmost importance.
8.2. The Contract will be initially for a Period 2 Year from 01.08.2018 to 31.07.2020.
8.3. The period can be extended with an escalation of ……. % YOY by NPL for another one year which will be on sole discretion of NPL.

9. **Recovery Clause:**

i. In case of any damage of equipment/machinery due to negligence of contractor or any other reasons attributed to contractor or poor workmanship, the decision of Engineer in Charge regarding the amount of recovery shall be final and binding. However, the amount shall be restricted to 10% of contract value. Recovery will be affected from the monthly bills and/or retention money/security deposit.

ii. If the contractor fails to execute the work as per directions of NPL Engineer (I/c) within the time frame given. NPL shall get the work done by third party at the risk & cost of contractor.

10. **Liquidated Damages**

In case of any failure whatsoever towards timely mobilization of resources due to any reasons attributable to Contractor, the Contractor shall be liable to pay to the owner liquidated damages, and not by way of penalty, an amount calculated at the rate of 0.5% of the Basic PO Amount for each week of delay or part thereof subject to a maximum of 5.0% of the Basic PO Amount.

11. **Penalty Clause**

I. If the contractor failed to deploy adequate resources for CHP Operation, Maintenance and House-Keeping on day to day basis, consequently the works suffers on account of this or there is abnormal delay in rectification of defects that causes poor CHP equipment availability resulting in low bunker levels (less than 65%), then NPL may impose a penalty up to 5% of monthly RA BILL after warning the contractor in advance at least twice in a month. If any unsafe condition arises due to poor house-keeping, then also the same penalty is applicable.

II. Failure to comply with the requirements of HSE as per NPL safety Manual, penalty as mentioned therein will be levied.

III. If any area in CHP is found to be unclean, then 10-25 % one day's housekeeping cost will be recovered from the contractor depends on the areas found unclean.

IV. Monthly if percentage of availability of CHP equipment falls below 99% then 2 – 5 % of monthly RA BILL amount will be deducted as penalty depend on delay in execution / defect rectifications.

V. In case the rake un-loading is delayed at NPL Wagon Tipplers because of non-availability of equipment's for the reasons attributable to the Contractor (or) non-deployment of adequate resources, penalty @ 2% of the basic monthly amount will be deducted from Contractor's RA bill.

VI. If there is fire in CHP due to poor Housekeeping a minimum penalty of Rs. 25,000 or the cost of damaged item (whichever is more) will be recovered from the contractor.

VII. If there is any absenteeism of Field Operator (s) leading to adverse impact on shift operations, the same will attract a penalty of Rs 7500 per incident per stream (Bunkering, Stacking, Reclaiming)

VIII. The owner(NPL) shall have the right to deduct the Penalty from any amount due or becoming due.

IX. In case of non-availability of Required Tools & Tackles a penalty of Rs 2500 per incident shall be levied to the Contractor.

X. Payment or deduction of Penalty shall in no way relieve the supplier from completing the works and discharging all its other obligations under this Contract.

XI. The cumulative annual Penalty charges shall not be more than 10% of the basic yearly contract amount.

XII. The penalty will be imposed on discretion of owner/its representative/EIC.

12. **Communication**: All correspondences related to this Tender Document shall also be addressed to:
Mr. Amol Mohanrao Godbole
Procurement
Nabha Power Limited
PO Box No. 28, Near Village Nalash, Rajpura, Distt-Patiala, Punjab,PIN - 140401
Ph No. 7901707647
Email – amolmohanrao.gobole@larsentoubro.com

13. **Invoicing Instructions:**

All correspondences pertaining to Invoicing should be mentioned in final contract or PO issued by NPL.

14. **Force Majeure & Termination:**

If any unforeseen major reduction in generation or force majeure happens, due to contractor's negligence, the contract will be liable for termination without any notice. If the work performed by the contractor is unsatisfactory, NPL reserves the right to withdraw the contract by giving one-month notice.

15. **Assignment and subletting of the contract:**

The contractor shall not assign or sub-let any part of the contract to any other party or agency.

16. **Warranty /Defect Liability:**

The Contractor warrants for poor workmanship for the work executed should be 12 month from the date of taking over, during which period, the Contractor stands responsible for rectification of defects/failures that may appear in the works due to design fault, defective materials or bad workmanship. Standards as per the contract, and/or use of inferior material by the contractor. Owner/Purchaser shall give due notice to contractor and afford necessary access to him to the facilities at site for performing its obligations during aforesaid latent defect and warrantee period.

17. **Format and Signing of Bid:**

i. The bid including all documents by a duly authorised representative of the Bidder to bind him to the contract. The authorization shall be indicated by written power shall be submitted in scan prior to date & time for opening of bid.
ii. The Bidder shall furnish information as described in the relevant paragraph of the Bid Form on commission or gratuities, if any, paid or to be paid to agents relating to this Bid, and/or to contract execution if the Bidder is awarded the Contract.

18. **Definitions:**

i. Owner / NPL: M/s Nabha Power Limited, Rajpura, Punjab.
ii. Contractor/Contractor:Bidder/or the Person whose tender is accepted by Owner.
iii. Sub-Contractor: Any person or firm or company (other than the Contractor) to whom any part of the work has been entrusted by the Contractor with the written consent of the owner.
iv. Either Party – Both NPL & Contractor
v. EIC: Engineer Incharge means person/firm appointed by the owner to act as a Engineer for the Purpose of Contract.
vi. Authorized Signatory – Officer or Representative with the Power to Commit or sign the document in behalf of Organization.
vii. Unrelated Client/Organization: Client/Organization not having same parent Organization/Group.

19. Enclosures:
- Layout Plan of CHP.
- Safety Manual of NPL.

10. General Conditions of the Contract (GCC)

1. Suspension of Work:

1.1. NPL reserves the right to suspend and reinstate execution of the whole or any part of the works without invalidating the provisions of the contract. Orders for suspension or reinstatement of the works shall be issued by the Engineer in Charge to Contractor in writing. The time for completion of the works shall be extended for a period equal to duration of the suspension.

1.2. NPL however, shall not be responsible for any liabilities if suspension or delay is due to some default on the part of Contractor or their sub-contractor or any agencies outside the control of the Owner.

2. Termination at Default:

NPL reserves the right to terminate the Contract with 7 days' notice, if

2.1 Contractor's performance is found to be not as per the standard accepted norms or under any non-compliance of acceptance criteria.

2.2 Contractor is adjudged bankrupt or insolvent, has a receiving order issued against it, makes a general assignment for the benefit of its creditors, or, if Contractor is a corporation; a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if Contractor takes or suffers any other analogous action in consequence of debt; Contractor assigns, subcontracts or transfers the Contract or any right or interest therein other than in accordance with the Contract.

2.3 Contractor, in the judgment of the Owner has engaged in Corrupt or Fraudulent Practices in competing for or in executing the Contract. "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of any of NPL's Personnel or representative (s) in the procurement process or in contract execution. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of NPL and includes collusive practice among Contractors (prior to or after Contract submission) designed to establish Contract prices at artificial non-competitive levels and to deprive NPL of the benefits of free and open competition.

2.4 Disregards or violates any material Laws, policies, Permits or clearances.

2.5 Delays in executing the Contract results in reaching cap of Liquidated Damages due under the terms of the Contract.

2.6 Commits a breach of the Contract.

2.7 Abandons, ceases its performance of the Work or repudiates the Contract.

2.8 Persistently fails to timely correct Defects and deficiencies in accordance with the terms of the Contract.

2.9 Fails to pay to NPL any material amounts due not otherwise disputed in good faith to the Owner by the date required for such payment.

2.10 Fails in co-ordination with other Contractor working in the same or adjacent projects.

2.11 Fails to comply with statutory requirements.

3. Termination at Convenience:

3.1 Termination for convenience: NPL can terminate the contract with notice period of Three month without any financial implication. In case of termination NPL shall not be responsible for any payment whatsoever, except for the payment of Contract Price for the work completed and accepted by NPL.

4. Force Majeure:

4.1 Force Majeure means any circumstances beyond the control of the Contractor or the Owner, as the case may be, which substantially affect the performance of the Contract, such as but not limited to:

4.1.1. Natural phenomena, including but not limited to floods, droughts, earthquakes, epidemics, storm & lightning substantially affecting Work;

4.1.2. Acts of any Government, including but not limited to war, declared or undeclared, priorities, quarantines, embargoes, nationalisation, confiscation;

4.1.3. Accidents such as fire and explosions;

4.1.4. Strikes or industrial disputes (which are not related to the breach of agreement with the employees by either Parties), and sabotage.

4.1.5. Riots, civil commotion, insurrection, act of terrorism, belligerence, hostilities, and revolution.

4.2 Provided either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes.

4.3 The Scheduled Completion Period shall be extended by a reasonable time.

4.4 With the occurrence of a Force Majeure, the Owners shall not withhold payments due under this Contract, unless the modus operandi of the payment is affected by such Force Majeure.

4.5 If Force Majeure applies at any time prior to the Scheduled Completion Period

the parties shall meet to discuss a revised schedule for the completion of the Contract.

4.6 The parties hereto shall consult with each other and take all reasonable steps to minimise the losses of either party resulting from Force Majeure. In case of strike or lockout, the Contractor shall, as soon as possible, give written notice thereof to the Owner or the Engineer, but the Contractor shall nevertheless constantly endeavour to prevent delay and shall do all that may reasonably be required to the satisfaction of the Owner or the Engineer to proceed with the Works.

5. Aggregate Liability:

5.1 The aggregate liability of the Contractor under this Purchase Order shall not exceed 100% of the Basic Contract Amount.

5.2 The Contractor's financial liability under this Contract shall expire with the expiration of the Defects liability period.

5.3 The aggregate liability however will not be limited to the amount as mentioned Clause 1.2 in case any of Contractor's activity leads to adverse impact on Environment or Public Property, the limit of liability in such cases shall be to the limit of correction of such adverse impact to normal conditions.

6. Statutory Compliance:

The contractor shall be responsible to comply with all the necessary statutory compliances as applicable under the laws of India and the state of Punjab. The Contractor shall produce all the necessary documents on demand from NPL.

7. Contractor's Labours and Compliances:

7.1 It is clearly understood and accepted by both parties that this agreement and the contract/P.O. between the parties evidenced by it are on principal to principal basis and nothing herein contained shall be constituted or understood as constituting either party the agent or representative of the other under any circumstances.

7.2 The Contractor shall be responsible for payment of compensation/salary/wages of the persons nominated by them for execution of the work under the given contract. The supervision and control of such persons shall be with the contractor. There will not be any relation of employer-employee between NPL and such persons. The Contractor hereby confirms that any time during the contract period the manpower deployed by the Contractor is not entitled to and will not claim any employment with NPL.

7.3 The contractor agrees to comply to all relevant laws/statutes, like Employees' Provident Fund Act, Employees' State Insurance Act, Workmen's

Compensation Act, Building and Construction Workers Act, etc. in respect of the persons engaged/deployed by him for execution of work under the Contract/Purchase Order.

7.4 Attendance, Wage and PF Records: The contractor will comply with the following:

7.4.1. Attendance shall be maintained by the Contractor for all his workers.

7.4.2. Wages Register will be prepared as per the attendance.

7.4.3. Payment will be made before 7th of subsequent month as per minimum wages act.

a. Copy of the above shall be maintained by the contractor and shall be produced whenever required by NPL.

b. The company shall not be bound to contest any claim made against it under section -12 of the workmen's compensation Act, except on the written request of the contractor and upon his giving to the company will scrutiny for all costs for which the company might become liable in consequence of contesting such claim.

c. Contractor has to take an Insurance policy with comprehensive coverage of their workers under Employees Compensation Act, 1923 and renew it from time to time before expiry. In absence of the policy, contractor shall not engage any labour for any work.

d. The Contractor shall, in the event any of his workmen/employee sustains any injury or disablement due to an accident arising out of and in the course of his employment, provide necessary medical treatment and pay periodical wages/compensation as applicable, under the Employees Compensation Act, 1923.

8. Compliance under Welfare of the Employees:

The contractor will comply with the following:

8.1.1 Provision of potable drinking water, shelter and toilets separate for males & females, as per laid down legal compliances.

8.1.2 Canteen facilities for 250 or more contract workers.

8.1.3 Crèche facility if 30 or more female employees are working at site.

8.1.4 Strict prohibition against employment of children, below eighteen years of age.

8.1.5 Compliance related to health, hygiene and sanitation.

9. Before Commencement of Work:

The Contractor or his Security and Safety Inspector will comply the following on the day, prior to start of the work at NPL Site:

9.1. All contract workmen along with him or with his Security and Safety Inspector will report at Main Gate at given time on the first day of work, to enable making of Photo ID Card.

9.2. Contractor's Security Inspector will mark attendance, provide uniform and safety equipment as required.

9.3. Contractor/ Security Inspector will obtain work permit duly signed by the site in charge in whose department they will be working.

10. Quality, Environment, Health & safety:

10.1. Health and Safety: The contractor will comply with the following: -

10.1.1. The contractor is required to take adequate steps to ensure the safety for his workers or staff employed by him or his sub-contractors and he shall abide by the safety precautions and instructions enforced concerning safety to the plant and personnel at NPL site.

10.1.2. All employees will be given adequate Safety Training before they are asked to work at NPL site. A certificate duly signed and stamped by Safety Department will be handed over to NPL representative.

10.1.3. Contractor will provide all Safety Equipment and PPEs to all the workmen working at the site, as per the type of work and Safety Guidelines of NPL. In case the contractor fails to provide necessary personal protective equipment to the workers and tools tackles etc. confirming the rules in force and for safe execution of work, the same shall be provided by the NPL Engineer In-Charge in charge of the work on the expenses of the contractor.

10.1.4. Contractor's Security Inspector will ensure all Safety and Health related Compliance are followed at NPL site.

10.1.5. NPL's Site In charge, Safety In charge, HR & Admin representatives are authorized to check for any Safety Violation and will recommend suitable deductions / action against the respective contractor for not complying with Safety Instructions and the respective contractor Security Inspector will take immediate action as directed.

10.1.6. The contractor shall take all necessary safety precaution for his worker working inside the plant premises and shall be responsible for any first aid/emergency treatment and any subsequent treatment for his

employee/workmen engaged by him. He shall have workmen compensation policy for all his workmen. He shall abide by all fire, safety and environment policies and statutes of NPL.

10.1.7. The contractor is required to take adequate steps to ensure the safety for his workers or staff employed by him or his subcontractors and he shall abide by the safety precautions and instructions enforced concerning safety to the plant and personnel at NPL site. In case the contractor fails to provide necessary personal protective equipment to the workers and tools tackles etc. confirming the rules in force and for safe execution of work, the same shall be provided by the company's Engineer in charge of the work on the expenses of the contractor.

10.2. Quality & Environment: The contractor will comply with the following:

10.2.1. The standards of the quality to be followed as per standard/mutually agreed Field Quality and material quality assurance plan.

10.2.2. Contractor will make all good efforts to ensure that there shall be no adverse impact on environment within and surrounding NPL by the way of activities being carried out under the works of the purchase order.

10.3. Contractor will ensure that disposal of all type of waste to be done as per the procedures laid down by owner and in case there is no reference then the same shall be disposed as per the standards practices being followed in the Industry of similar type and size.

11. Law Governing the Contract:

The Contract shall be governed by and be construed in accordance with the Laws of the state of Punjab without giving effect to any choice of law or conflict of Law, Provision or Rule.

12. Language: Contract language will be English only.

13.Contractor to Indemnify NPL:

The Contractor/Contractor will indemnify and shall keep indemnified and harmless NPL and its directors, officers and employees from and against all claims, demands, losses and damages, penalties, expense and proceedings connected with the implementation of this contract or arising from any breach or non-compliance whatsoever by him/them or any of the person/s nominated by the contractor pursuant hereto of or in relation to any such matter as aforesaid or otherwise arising from any act or omission on the part of the contractor/Contractor or that on the part of his employees/representatives,

whether wilful or not, and whether within or without NPL's Site or premises.

14. Assignment, Subcontracting and Subletting:

The contractor will comply with the following:
15.1. The contractor will not subcontract any work allotted to him to any other agency without written approval from the NPL Management.

15.2. If the permission is granted, a similar agreement will be signed with the subcontractor, who shall qualify as per above guidelines.

15. Water and Electricity:

All necessary arrangement for water and electricity for completion of the work at site will be in the scope of Contractor. NPL will provide the both at one point near the vicinity of the work and the Contractor will extended the same to the working area at his own cost. Apart from this the contractor will take care of Security, Safety and their Establishment at their own risk & cost.

16. Idle Time:

No idle time/ downtime shall be payable for whatsoever reasons to Contractor.

17. Damage to Property:

Under conditions of any act of contractor whether carried out deliberately or not, involves damage or spoilage of NPL's property or interest, will attract severe deductions as decided by NPL on case to case basis.

18. Arbitration:

18.1. If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Contractor, arising out of, in relation to, or in connection with the Order (including, in relation to the validity of the whole or any part of the Contract), whether during the progress of work under the Order or after the completion thereof or whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be referred to and settled by the Purchaser, who, within a period of thirty (30) days after being requested shall give written notice of his decision to Contractor.

18.2. In the event the Purchaser fails to notify their respective decision as aforesaid, within thirty (30) days after being requested, or in the event the Contractor is not satisfied with any such decision, either party may require and claim within a further period of thirty (30) days after the expiry of the

first mentioned period of thirty (30) days that the matter in dispute be referred to arbitration as here in after provided.

18.3. The arbitration shall be conducted in accordance with the provisions of The Arbitration and Conciliation Act 1996 of India.

18.4. Notwithstanding anything to the contrary in this Order, the Contractor shall not be entitled to refer any dispute in respect of its obligations to pay liquidated damages for arbitration, unless he has paid the liquidated damages which are claimed to be due under the Order by the Purchaser. The liquidated damages so paid or the relevant portion thereof shall be refunded to the Contractor in the event it is finally decided by the Arbitrators that such liquidated damages are not payable, or that a reduced sum is payable by the Contractor to the Purchaser.

19.Insurance

19.1 The contractor shall obtain a suitable insurance cover for its own and subcontractor's supervisors/and those deputed at site in connection with the supervision services against illness, accident and death for a value not less than 10 lacs per person

20.1 The contractor shall obtain following insurance policies and submit the details to the EIC.

a)Third party Liability Cover wherever applicable,

b) Workmen Compensation Policy,

c)Insurance for all equipment, motor vehicles etc.

20.3 Workmen's Compensation Insurance

The contractor shall take all risk Insurance Policy to cover all his workmen, staff including its subcontractors, applicable under the Employee Compensation Act 1923 as amended from time to time and also insurance cover for third party liability. The contractor shall keep the Owner indemnified from all liabilities arising out of his action in pursuance of this Contract.

21. Jurisdiction:

The court at Rajpura, Punjab shall have exclusive jurisdiction to entertain and try all matters arising out of this contract. The court at Rajpura, Punjab shall have exclusive jurisdiction to entertain

11.GATE PASS FORMALITIES

Guidelines to Contractors & Contractor Manpower

1.Statutory Compliance

Documents required to Issue form V

- Establishment In-Corporation Certificate.
- PF in-corporation certificate (If Manpower 20 or more).
- Professional Tax In-Corporation certificate.
- Employee/workmen Compensation policy.
- Application for Form V to obtain labour licence.
- All other applicable law statutory compliance.

2.Gate Pass Process

Document required to Issue the Gate Pass

For Temporary Gate Pass (for Two week Only) documents required are:

- Request Letter by contractor for issuing the gate pass (duly signed by the NPL authorised person under which supervision the contract is carried out
- Undertaking letter by Contractor /sub-contractor with the workers personal (with One latest passport Size Photograph attested by Vendor+ ID Proof) detail.(Format is available)
- Copy of Insurance Policy (under Workmen Compensation Act) of worker/ ESI, as and when applicable at site
- Copy of LOI/Purchase Order issued.
- Copy of Registration Under Provident Fund.

For Permanent Gate Pass documents required are

- 4 latest Photographs (Passport Size (Colour)
- Copy of ID Proof of concern person
- Copy of Medical Fitness Certificate
- Copy of Safety Training Certificate by Safety Department & the same will attest the Gate Pass request letter
- Copy of Insurance Policy under Workmen Compensation Act of the person/ ESI, as and when applicable at site.
- Copy of LOI/Purchase Order issued to contractor.
- Copy of Registration Under Provident Fund.

(Contractor will attest the workers photographs with their company seal/stamp in case of Temporary or Permanent gate pass. Specified format for (Temporary +Permanent) gate pass is available.

If, contractor is deploying 20 or more person on any day during the month ,he will be asked for Labour License (as per Contract Labour Regulation & Abolition Act, 1970). Form V shall be issue to contractor for getting the same.

Contractor will show all original documents like WC Policy, Medical Certificate of workers & ID Proof of worker etc. before submitting the duplicate copy to office to getting the Gate Pass.

12.Formats for Bid(Annexures)

Annexure -1

SCHEDULE OF DEVIATION FROM GENERAL AND TECHNICAL SPECIFICATIONS

All the deviations from the general and technical specifications shall be filled by Bidder/Contractor clause by clause in this schedule.

Sr. No	Section	Clause No	As per Tender Document	Deviation

The bidder here by certifies that the above mentioned are the only deviations from OWNER's General/ Technical Conditions of this enquiry. The bidder further confirms that in the events any other data and information presented in the BIDDER's proposal and accompanying documents are at variance with specific requirements laid out in the OWNER's General /Technical Specifications, then the latter shall govern and will be binding on the BIDDER for quoted price.

COMPANY SEAL

SIGNATURE ……
NAME ……
DESIGNATION ……..
COMPANY ……
DATE ……

ANNEXURE - 2

FORMAT OF COVERING LETTER

(On the Letter Head of Bidding Company/Lead Member)
Bidders Name:
Full Address:
Telephone No:, E-mail address:, Fax/No:

To,
Head Procurement
Nabha Power Limited
Post Box 28, Near Village Nalash
Distt. Patiala 140401, Punjab

Sub :- AMC for CHP Operation & Maintenance for Nabha Power Limited
Ref :- RFQ dated (Date)

Dear Sir,
We, the undersigned Bidder having read and examined in detail the RfQ document of Tender Document of-AMC for CHP Operation & Maintenance for Nabha Power Limited,We confirm that neither we nor any of our Parenti Affiliate/ Ultimate Parent has submitted Bid other than this Bid directly or indirectly in response to the aforesaid RFQ document.

CONTACT PERSON
Details of contact person are fumished as under:

Name
Designation, Company
Address
Phone Nos., Fax Nos.
E-mail address

We are enclosing herewith the Bid with duly signed formats,as desired by you in RFQ for your consideration.

Dated the _____ day of _____ of 20

(Signature, Name, Designation and Seal)*
Business Address:
Name and address of Authorised Signatory.

ANNEXURE – 3

Monthly Rates

(On the Letter Head of Bidding Company/Lead Member)
Bidders Name:
Full Address:
Telephone No:, E-mail address:, Fax/No:

To,
Head Procurement
Nabha Power Limited
Post Box 28, Near Village Nalash
Distt. Patiala 140401, Punjab

Sub :- AMC for CHP Operation & Maintenance for Nabha Power Limited Monthly Rates

Period 1st Aug 2018 to 31st July 2019

Sr.No	Description	Qty	Monthly Rates	Total
1.	CHP Operation Services	12 Month		
2.	CHP Maintenance Service	12 Month		
3.	House Keeping Services	12 Month		

Period 1st Aug 2019 to 31st July 2020

Sr.No	Description	Qty	Monthly Rates	Total
1.	CHP Operation Services	12 Month		
2.	CHP Maintenance Service	12 Month		
3.	House Keeping Services	12 Month		

Note – Apart from above rates vendor has to submit breakup of the cost offferd.

ANNEXURE – 4

Extra Manpower Rates

Schedule of Rates for executing the jobs in item rate including Supervision and T&P for the following categories.

Manpower Per day Rates

S. No.	DESCRIPTION	UOM	Unit Rate/Day	Remark
1	CHP AMC'S Site In-Charge	Day		
2	Field Operators in CHP	Day		
3	Stacker Reclaimer & Dozer Operations in CHP	Day		
4	Unskilled manpower for House-keeping	Day		
5	MTC. Supervisor	Day		
6	Mill Wright Fitter (2 Nos) & Belt Jointer (1 No)	Day		
7	GEN. & HYD. Fitter	Day		
8	Welder	Day		
9	Rigger	Day		
10	Semi Skilled Helpers	Day		
11	At WT - Wagon Un-coupling & re-coupling Assistance	Day		
	Total			

Note – Apart from above per man day rates, Monthly rates should be quoted by Bidder.

ANNEXURE – 5

DEPLOYMENT OF MANPOWER

Contractor has to Indicate deployment of Manpower againt area mentioned below mentioning category of Manpower against Operation, Maintenance & Housekeeping requirement.

S. No.	DESCRIPTION	UOM	MANPOWER PER/DAY	Remark/Shift
1.	**A.** CHP AMC Site In charge	No		General
B. Operation				
2.	Field Operators in CHP	Nos		Manpower should be in Shift (Shift is of 8 Hrs)
3.	Stacker Reclaimer & Dozer Operations in CHP	Nos		
4.	At WT-Wagon Un-coupling & re-coupling Assistance.	Nos		
B. Sub Total Operation				
C. Maintenance				
				All are in General shift
5.	MTC. Supervisor	No		
6.	Mill Wright Fitter (2 Nos) & Belt Jointer (1 No)	Nos.		
7.	GEN. & HYD. Fitter	No		
8.	Welder	No		
9.	Rigger	No		
10.	Semi Skilled Helpers	No		
C. Sub Total				
D. Housekeeping Manpower				
11.	Unskilled Manpower for Housekeeping	Nos.		
	Total (A+B+C+D)			

ANNEXURE – 6

FORMAT OF DISCLOSURE

(On the letterhead of Bidding Company/Each Member in a Bidding Consortium)

Disclosure

We hereby declare that the following companies with which we have direct or indirect relationship are also separately participating in this Bid process as per following details.

S.No.	Name of the Company	Relationship

In case there is no such company please fill in the column "name of the company" as Nil.

Further we confirm that we don't have any Conflict ofInterest with any other company participating in this bid process.

Signature of Auth Representative/Signatory

ANNEXURE – 7

GATE PASS FORMALITIES

FORM FOR TEMPORARY GATE PASS

CONTRACTOR : .....

SUB CONTRACTOR : .....

WORK SITE :.....

PERIOD FROM : ..... PERIOD TO.....

THROUGH HOD/EIC NAME & SIGN (NPL) : .....

.....

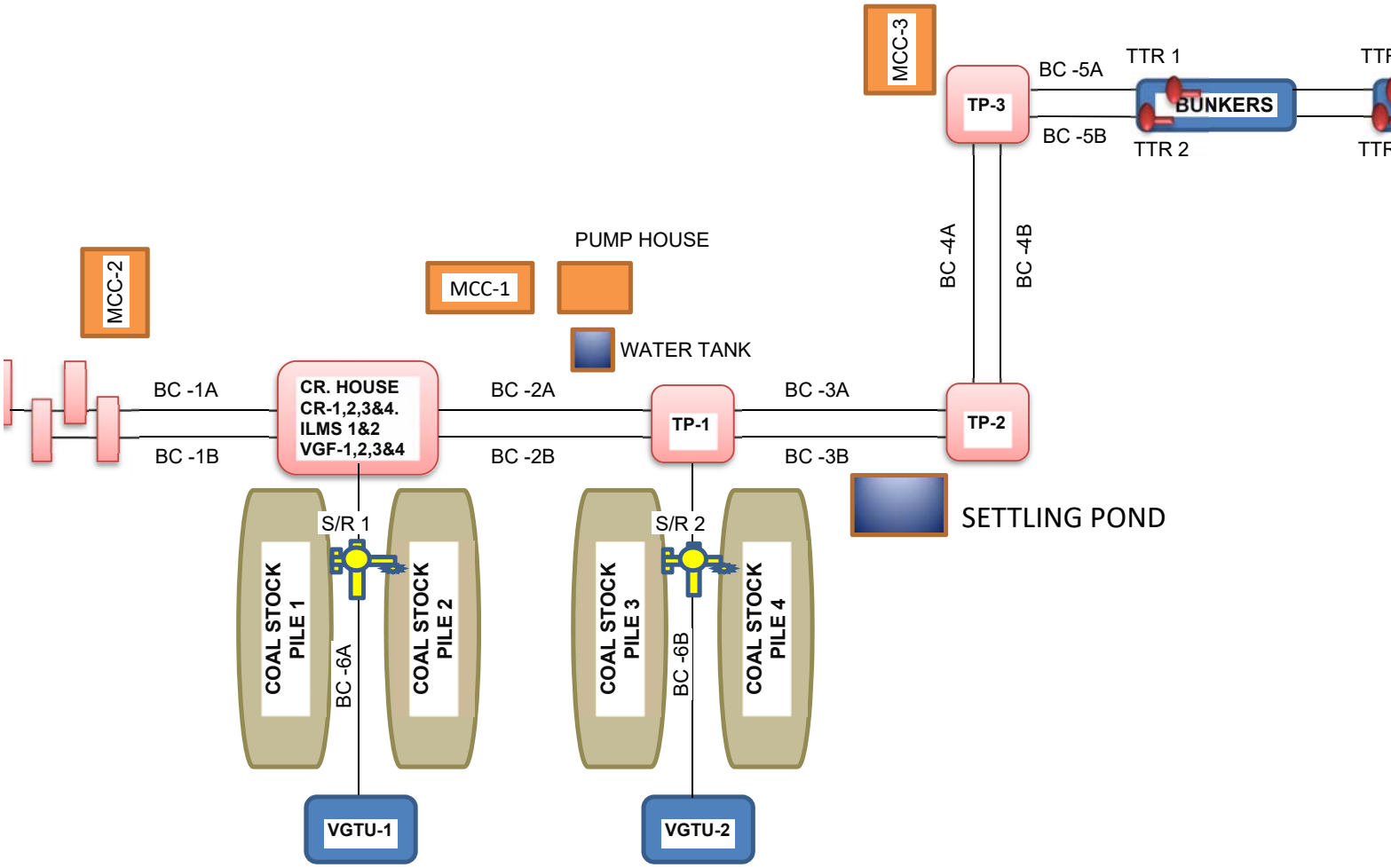
S.No.	NAME	ADDRESS	CONTACT NO.	AGE	PHOTO

SIGN CONTRACTOR : .....

DATE : .....

13. Enclosure

NABHA POWER LIMITED 2X700 MW
LAYOUT DIAGRAM



WT – WAGON TIPPLER
ILMS – INLINE MAGNETIC SEPERATOR
VGF – VIBRATING GRIZZLE FEEDER
VGTU – VERTICAL GRAVITY TAKE-UP
TP – TRANSFER POINTS
CH – CRUSHER HOUSE
CR - CRUSHER
S/R – STRAKER/RECLAMER
BC – BELT CONVEYOR
FG – FLAP GATE
TTR – TRAVELLING TRIPPER

LARSEN & TOUBRO
It's all about Imagineering

NPL
Nabha Power Limited

Contractor Safety Manual



NABHA POWER LIMITED

Near Village Nalash,
P B No. 28,
Rajpura-140401
Punjab

MISSION : Zero Harm

No Harm to any NPL Stakeholder

INDEX

1.0 INTRODUCTION/PURPOSE

- Nabha Power Limited (NPL) is going to implement this Contractor Safety Manual to allow the contracting Organization to conduct the business at NPL as safely as possible. The manual is an agreement between NPL & the contracting agency to achieve the mission of Zero Harm.
- We **INSIST** that the contractor agency must familiarize his people with the contents of this manual and abide by all Rules and Guidelines mentioned there in the manual.
- Contractor shall be solely responsible for the safety of his employees, sub-contractors and agents during execution of the work

2.0 SCOPE

The NPL Contractor Safety Manual applies to all the Contractors providing services for Nabha Power Limited.

3.0 DEFINITIONS

- NPL: Nabha Power Limited
- The Factories Act: The Factories Act, 1948
- Contractor**:** Organization who is contracted by NPL to perform work or services for NPL at NPL premises.
- Subcontractors: Organization that is contracted by the Contractor to perform work or services for NPL at NPL premises.
- Contractor Employee: Any employee or service provider of a Contractor or Subcontractor.
- Contractor Lead: The person designated by a Contractor and is responsible for Safety of the Contractor Employees.
- NPL Contact (EIC, Engineer in charge): The NPL employee who is responsible for NPL's contract with the Contractor. This responsibility may be designated, but the contact will be clearly identified prior to start of the work.

4.0 GENERAL RESPONSIBILITIES:

- NPL intends to hire only those Contractors who can provide services in a safe and healthy manner. By accepting a contract, the Contractor commits that he has the required skills, experience, expertise and commitment to perform work in a safe and healthy manner, and will allow only those Contractor Employees who are properly trained and supervised to work at NPL premises.

- If a contract between NPL and a Contractor allows for the Contractor to subcontract, the Subcontractor must have all the skills, experience, expertise and commitment to perform work in a safe and healthy manner, and that the Contractor will allow only those Subcontractor Employees who are properly trained and supervised to work at NPL premises. The Contractor is also responsible for providing this Contractor Safety Manual to the Subcontractor before work on NPL premises begins.

- A Contractor is responsible to keep NPL informed about its activities, and the activities of its Subcontractors. This is to be accomplished by the Contractor Lead with the NPL Contact.
- NPL is not responsible for safety and health policies or practices of any Contractor or Subcontractor. This Manual is to provide guidance to Contractors and Subcontractors on how they can satisfy their own

responsibilities in this regard.

5.0 SAFETY REQUIREMENTS:

- Contractor shall have sufficient knowledge, experience and understanding of thermal power plant work practices, safety & health hazards and other regulatory requirements pertaining to the work to be performed.
- Contractor shall perform the work using qualified workers who are adequately trained in the requirements of their particular job and skilled in the work assigned to them.
- Contractors shall provide proof of worker credentials (training, Qualification certificates, license etc.) on request/joining.
- Contractor shall comply with the requirement of Punjab Factory Rules, 1952 and other central & State laws, rules, regulation & time to time released orders of governing authority.
- Contractor shall comply with all company posted requirements, information provided by the company on site specific hazards and emergency response plans.
- Contractor shall review this manual with his employees, sub-contractors and consultants.
- Contractor shall have dedicated safety representative at the work site all the times. Contractor shall provide the qualifications of the proposed safety representative to company for review and approval.
- Contractor dedicated safety representative (qualified- BSc + Diploma in Industrial safety/ diploma in engg + diploma in industrial safety/ B.E + diploma in industrial safety) shall perform inspection of operations, facilities and equipment's used in the performance of the work and participate in joint inspections, audits with company on request. Contractor shall immediately address any unsafe conditions, equipment's or action identified during inspection.
- Contractors shall ensure workers comprehend job specific safety related information including individuals in English, Hindi, Punjabi or any language which is easily understandable.
- Regularly Scheduled Safety Meetings: Contractor shall conduct regularly scheduled safety meetings. Attendance shall be required by all workers. Contractor shall keep a written record of the meetings that includes date, location, names or signatures of attendees, and topics covered. Contractor shall inform workers of factual circumstances resulting in incidents and near misses and discuss how to correct and prevent such situations from recurring.
- Daily Toolbox talk Meetings: Contractor shall conduct and document a daily morning safety meeting with all applicable workers to discuss Work activities, address any safety and health concerns for the Work to be performed, review any near miss incidents and how they could have been avoided, and prepare or review the appropriate Job Safety Analysis. Contractor shall provide such documentation to NPL upon request.

6.0 WORKPLACE REQUIREMENTS:

- Professional Conduct - Contractor shall conduct itself in a professional manner at all times while on Company Property. Horseplay, practical jokes, any type of harassment, abusive or objectionable language, or other inappropriate behavior on the job shall not be tolerated.

- Consequences for Non-Compliance - Working safely is a condition of employment at NPL. Any Contractor violating these rules and/or procedures will be required to permanently leave NPL premises.

- Weapons **-** All firearms, knives and other weapons are strictly forbidden at all NPL premises, whether or not a concealed weapons permit has been issued under applicable law.

- Acts and threats of violence (physical or verbal) are strictly prohibited.

- Contractor shall inform its employees, suppliers, and subcontractors before entering Company Property that Company and its authorized representatives can search the person, vehicle, and other property of individuals while entering or departing from Company Property.

- The possession or use of narcotics, drugs, or intoxicating beverages of any kind is prohibited on NPL premises. Contractor shall immediately remove from the Workplace any individual who found in drug and alcohol testing violation.

- Contractor shall not bring unauthorized individuals (e.g., friends, relatives, or observers) onto Company premises.

7.0 SITE ACCESS

- Signing In: Each Contractor Employee must sign in upon arriving each day. Biometric systems are available at the front gates of NPL facility.
- Signing in lets NPL know that you are here, provides you with an ID Card and indicates that you agree to our confidentiality requirements.
- Each Contractor Employee must carry his ID card when entering or providing services at NPL.

8.0 SAFETY PROGRAM

- The Contractor will have a safety program that outlines the requirements for performance of Contractor Employees specific to their activities. The Contractor is responsible for ensuring that this safety program meets the requirements of law, including but not limited to compliance with applicable Factories Act and other legal requirements.
- The Contractor will ensure that Contractor Employees have been trained prior to performing any activity at NPL
- The Contractor will ensure that its employees know the requirements outlined in this manual prior to beginning any work activity.
- The Contractor will communicate specific hazards found at NPL that may affect the safe work of Contractor Employees (e.g., working with chemicals, working in confined places, Electrical Hazards.
- The Contractor will be responsible for the direct supervision of Contractor Employees.

9.0 EMERGENCY RESPONSE AND EQUIPMENT

- Access to exits and to any emergency equipment (e.g., safety showers, eyewash fountains, firefighting equipment) must be kept clear at all times.
- The Contractor is responsible for communicating emergency procedures to Contract Workers. At all NPL facilities, immediate evacuation is required when audible alarm is sounded and/or an announcement is made to evacuate.
- Contractor Employees must leave by the closest/safest exit, as quickly as possible. After exiting the building, Contractor Employees must assemble in the building parking lot or marked Safe Assembly Point and report immediately to the Contractor Lead
- The Contractor Lead is responsible for informing their NPL contact that the evacuation of all Contractor Employees was successful.

10.0 SPILLS AND INCIDENTAL RELEASES OF HAZARDOUS MATERIALS

- Contractor Employees must report any spill of chemicals or hazardous materials to their NPL contact immediately.
- A Contractor bringing any chemical or hazardous material onto NPL premises is required to provide their NPL contact with an MSDS for each substance, and to use only approved, labeled containers for these substances.
- Provisions for spill prevention, response, and disposal of wastes generated from any potential clean-up activities from Contractor chemicals / hazardous materials must be discussed with the NPL contact before starting work with these substances.

11.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

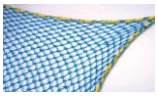
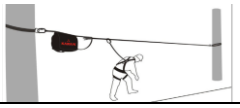
- **General:** "PPE Hazard Assessment" means the process of identifying, selecting, and documenting appropriate personal protective equipment (PPE) for workplace hazards.
- Contractor shall provide, at its own expense, and enforce the use of all appropriate job specific PPE's and any posted Company requirements.
- Contractor shall ensure that all workers are trained in the proper use of applicable PPE's prior to performing Work.
- Approved hard hats, hard-toed boots or shoes, and safety glasses shall be worn on all Company worksites.
- Loose or floppy clothing, neck chains, loose jewelry, or loose long hair is prohibited.
- Rings shall be removed when working in areas where they could catch on moving objects or sharp protrusions or come into contact with electrical circuits.
- Clothing, including gloves, shall not be cleaned by blowing with compressed air, blowing with compressed gases, or washing in a flammable liquid

TO HAVE UNIFORMITY IN THE USAGE OF PPE'S, APPROVED MODELS AND MAKE OF PPE'S AS MENTIONED BELOW ARE ONLY ACCEPTABLE AT NPL WORKPLACE.

LIST OF PPES & SAFETY EQUIPMENT'S (APPROVED MAKE/MODEL)			
S.No.	**Item**	**Make/Model**	**Photograph**
1	Industrial Safety Helmet	Joseph leslico / Karam/ 3M/Savior make with ratchet. IS 2928 & EN 397 approved Qty: White Color & Green colour	
2	Safety Shoes	LIBERTY make "WARRIOR" brand / Allen Cooper / Karam / Bata low-cut 2mm thick leather safety shoes with IMPORTED Esjot alloy toecaps & Double density directly injected PU black & Grey sole. (Article No.7198 –ST-DD-319) with ISI mark No.IS:15298: Size: 5 to 14: Color Black	
3	Ear Plug	Honeywell / Karam/ 3M™ E-A-R™ UltraFit™ cloth/cotton Corded Earplugs, in poly bags/Carrying Case 2. Reusable, Triple flange design. NRR 25 dB	

		Karam EP 02 / 3M 32,dB	
4	Ear muff	Leslico / Karam /3M Hard hat mounted 1450 ear muff- NRR 23 dB	
		Helmet attachable ear muff EP 23, NRR 27 dB, EN 352- 1; 2002	
5	safety spectacles (shaded/clear)	Karam / 3M™ Virtua™ / UVEX Protective Eyewear, 11326-00000-100 Clear Temples Clear Hard Coat Lens 100 ea/case 3M™ Virtua™ Protective Eyewear, 11327-00000-20 Gray Hard Coat Lens, Gray Temple 20 ea/case Karam/3M™ Virtua™ / UVEX Protective Eyewear, 11329-00000-20 Clear Anti-Fog Lens, Clear Temple 20 ea/case Kara / 3M™ Virtua™ / UVEX Protective Eyewear AP, 11815-00000-20 Gray Hard Coat Lenses 20 ea/cs' & 3M™ Virtua™ Protective Eyewear AP, 11819-00000-20, Clear Hard Coat Lenses 20 ea/cs'	 
6	Goggles (for chemical handling)	Karam make / UVEX/ 3M ES 009 clear, Confirms to EN 166:2001 Karam / UVEX / 3M 1621 safety goggles for splashes (can be worn over prescription lens). ANSI Z87.1-2003	
7	Respirators (dust mask)	3M / Leslico / Venus 8210 dust respirator, N 95 , NIOSH approved	
8	Welding Respirators	3M / Leslico / Venus welding respirator 8512, NIOSH approved	
9	Half face mask	3M / Venus half face piece reusable respirator 6200 series (medium size)(to be used with cartridges),NIOSH approved	

10	Chemical cartridge With attachment and retainer	3M / Venus organic vapour/acid gas cartridge 6003,NIOSH approved 3M N95 particulate filter 5N 11, NIOSH approved	
11	Reflective jackets (for own staff)	Reflectosafe With Reflective tape : 3M / Tango / Udyogi , Reflective Tape: 5 cm wide, Total length – 232 cm. Colour – Fluorescent Green	
12	Reflective jackets (for workers)	Reflective Tape - Micro prismatic reflective tapes 5 cm wide, total length - 260 cm. Front Opening Type Colour - Fluorescent Orange	
13	Cotton gloves	Cotton PVC Dotted Gloves make Midas / LESLICO / 3M / Honeywell For general handling/maintenance Type: 7 Gauge Size: 25 cms Weight: 60 gms/pair Dott Colour: Blue	 
14	Gloves (acid/alkali, cut resistant, leather)	Acid/alkali gloves, Leather hand gloves, Nitrile gloves, cut resistant Kevlar gloves, dotted gloves, welding gloves make Midas/ LESLICO / 3M / Honeywell / Polysol	
15	Chemical protective clothing	Chemical protective clothing by Udyogi plastics / DuPont Tychem / Microgard / Microchem	
16	Electrical safety gloves	Sperian electrosoft (marketed by Suresafety) or Honeywell , Beige natural latex insulating glove.CE certified, EN 60903. Must be used with a leather underglove. Class 4.:- Category AZC.Thickness: 3.4 mm. Handling of high voltage to 36 000 volts. Class 3:- Category RC.Thickness: 2.9 mm. High voltage to 26 500 volts Class 2:- Category RC.Thickness : 2.3 mm. High voltage to 17 000 volts Class 1:- Category RC.Thickness 1.5 mm maximal voltage of 7500 volts Class 0:- Category RC. Thickness 1 mm. up to 1,000 volts	

		Honeywell / 'Saviour' Electrex Model No.– ELECTREX-33, ERDA Approved-Tested as per IS: 4770, 1991 (marketed by Suresafety), Provides protection from 33 KV Test voltage Electrical operations	
		Honeywell / 'Saviour' Electrex Model No.– ELECTREX-11, ERDA Approved-Tested as per IS: 4770, 1991 (marketed by Suresafety), Provides protection from 11 KV Test voltage Electrical operations	
17	Full Body Safety harness	Karam / Unicare / Udyogi brand full body harness model: Rhino PN 23 with PN 351 Double Lanyard Scaffolding hook and energy absorber. Conforms to EN 361: 2002, CE approved.	
18	Retractable wire rope fall arrester	Karam / Unicare/ Udyogi brand, PCGS 15, PCGS 20, PCGS 25. EN 360	
19	Fall arrester with energy absorber	Karam / Unicare / Udyogi PN 2000 B. EN 353	
20	Anchorage webbing slings	Karam / Unicare / Udyogi brand Concrete anchor strap PN 805 and PN 806 (lengths 1.0m, 1.5 m, 2.0 m). EN 795	
21	Anchorage SS wire rope	Anchorage SS wire rope Karam PN 814. EN 795 or Unicare / Udyogi	
22	Safety net	Karam / Garware/ Udyogi / Safetech make Safety net made from Polypropylene ropes. Mesh size:- 25 mm & 100 mm, Size:- 10 m X 5 m, mesh rope:- 2mm/4mm double cord, with overlay net	
23	Temporary horizontal lifeline	Karam / Unicare / Udyogi PN 3000, EN 795 Class B, made up of 30 mm polyester webbing and ratchet tensioner. Both ends fitted with auto locking steel karabiners.	
24	Vertical lifeline	Karam / Unicare / Udyogi, 3 strand polyamide twisted rope of dia 14 mm, one end loop and other end stop knot. 10 m to 200 m (PN 910 to PN 9200)	

25	Work positioning lanyard	Karam / Unicare / Udyogi make work positioning lanyard with ring type adjuster PN 241 . Made of 14 mm dia polyamide 3 strand twisted rope. Steel karabiner PN 112 at both ends. Manual ring type adjuster. EN 358	
26	Fire blankets	Udyogi make Fire blanket compact, wall mounted, easy to use made of asbestos free Material in size : 1.2mtr X 1.8mtr	
27	Gas welder's glass	Karam ES 003 / Honeywell/ Unicare fitted with IR 5 lens. EN 166	
28	Arc welder's glass	Karam / Honeywell / Unicare ES 004 fitted with IR 11 lens. EN 166	
29	Helmet attachable welding shield	karam / Honeywell make ES 71. It fits standard helmet with 30 mm slot. Confirms to EN 175 and ANSI Z 87.1. (To be fitted with IR 5 / IR 11 lens, sandwiched betwwen two polycarbonate lens, confirming to EN 166 and ANSI Z 87.1)	
30	Helmet attachable grinding shield	Karam ES 51 (02)/ Honeywell or Joseph Leslico. CE certified	
31	Eye Wash Bottle	Unicare make UEWB 12 / Udyogi EW – 500 ML	
32	Barricading tape	Made up of virgin quality pvc material tubing pattern. Roll red & white colour with "DANGER/STOP & CAUTION/WORK IN PROGRESS" letters in Hindi &English Size : 3" Make : SAFE-T-PLUS / PRIMA or equivalant	
33	Life buoy	Unicare make The Life Buoy is manufactured in durable high visibility orange synthetic material and requires no maintenance. Moisture proof and non-inflammable. The H-Glow reflective material fixed in the indentations identifies victims in distress. Approved by the Mercantile Marine Department to SOLAS spec.	

34	Life jacket	Unicare make •MMD approved to Solas Specifications •With Solas Reflective Tape, Signaling Whistle and Light Quick turning time and high free board in water •Buoyancy : 17.5 Kg •Light that is automatically activated when in contact with sea water/ petroleum products. •Size : 80 X 37 X 10cms. Approved by the Mercantile Marine Department to SOLAS spec.	

12.0 ELECTRICAL SAFETY

- Qualified Person – A designated worker who has the skills and knowledge related to operation of the electrical equipment and installations to be employed who should have received training to recognize and avoid the electrical hazards involved. Usually, this is a licensed electrician or someone with certain equivalent experience and training. A person can be "qualified" to work with certain equipment and methods and still be "unqualified" for other work.
- Contractor shall perform all electrical Work in accordance with the current editions of applicable central, state and local laws, rules, regulations, and standards.
- Installation of electrical systems or modifications to electrical systems shall be done under the supervision or direction of a licensed electrician.
- Contractor shall ensure that workers near overhead power lines know the voltage of the line and the safe approach distance.
- Contractor shall be aware of, and take precautions to prevent, the build-up of static electricity in areas with a potential Hazardous Atmosphere.
- Only qualified Person shall discharge all stored electrical energy and shall verify that equipment is de-energized and proper Lockout/Tagout (LO/TO) procedures have been implemented prior to beginning electrical Work.
- All power lines shall be considered energized unless proper measures have been taken to de-energize.

13.0 LOCKOUT/TAGOUT (LOTO)

- Contractor shall ensure compliance with all requirements of company LOTO procedure.
- Contractor shall ensure that its workers are adequately trained in LOTO and applicable energy control procedures.
- LOTO energy control procedures shall be followed prior to work on any equipment or process where stored energy or the unexpected energizing of equipment could cause injury to a worker. Potential energy sources include electrical, mechanical, pneumatic, hydraulic, thermal, chemical, natural gas, and all forms of potential and stored energy.
- Repairs, maintenance, or alterations shall not be made on equipment in operation. All equipment shall be shut down and a LOTO device placed in a manner that the equipment cannot be accidentally started.

- Contractor shall ensure that a briefing is conducted with all workers affected by a LOTO operation before each shift, and more frequently if warranted by personnel changes or changes in the scope of Work. The briefing should include the following items:
- The specific equipment or process involved, along with any related equipment;
- The estimated length of time required to complete the task;
- The hazards involved in performing repairs or maintenance, including the potential hazards to workers if the equipment or process is prematurely energized; and
- A review of the site-specific energy control procedure.
- To ensure the machine or equipment has been properly locked out of service prior to starting any Work, a Qualified Person shall attempt to turn on the power source to verify that the machine or equipment does not become energized.

14.0 HOT WORK

- "Hot work" means riveting, welding, flame cutting or other fire or spark-producing operation. No hot work is to be performed without first obtaining an NPL Hot Work permit, except in designated locations including Workshop and facilities Maintenance areas.
- Your NPL contact will help you identify the need for and to complete required permit requirements.

15.0 COMPRESSED GAS SAFETY

- Compressed gas cylinders must be secured in an upright position and kept away from sources of heat or flame at all times.
- All compressed gas cylinders must be legibly marked with either their chemical or trade name.
- All compressed gas cylinders not in use must have their top caps securely tightened.
- Where different gases are stored, they must be grouped by types. Groupings shall separate the flammable gases from the oxidizing gases.
- All oxygen cylinders must be stored not less than 20 feet from fuel gas cylinders or other flammable gasses.
- Compressed gas cylinders may not be dropped, dragged, rolled on their side or struck violently.
- A compressed gas cylinder may only be lifted by cradles or enclosed platforms when using a crane or hoisting device.
- A frozen or ice-clogged valve shall be thawed either by warm air or use of warm water and dried before using. Boiling water or a flame shall not be used. Force shall not be applied to a valve or cap to loosen a cylinder frozen in place.

- A cylinder shall not be placed where it will become a part of the electrical circuit by accidental grounding or where it may be burned by electric welding arc. A cylinder shall not be placed so that hot slag or flame will reach it or it shall be protected by a fire resistant shield.
- Flammable gas cylinders including LPG cylinders may not be stored within 25 feet of an emergency exit.
- Flashback arrestors/preventers are required on all cylinders and torches.

16.0 CONFINED SPACES

- Confined space entry requires an NPL Confined Space Entry Permit. The Contractor is responsible for compliance with the standards for any entry by a Contractor Employee.
- Confined space entry training is also a prerequisite for any entrants or attendants as part of this program.
- Entry equipment must be provided by the Contractor and calibration information must be available upon request.
- Emergency rescue procedures, equipment and personnel are the responsibility of the Contractor.

17.0 LADDERS

PORTABLE LADDERS:

- Contractor shall ensure that all workers have been trained in the proper use, placement, care and maximum load carrying capacities of the ladders used.
- Contractor shall inspect all ladders before use. Any damaged or unsafe ladders shall be tagged and taken out of service.
- Portable ladders shall be set at the correct angle. The distance from the foot of the ladder to the structure should be equal to 1/4 the length of the ladder.
- Workers shall keep both hands free for climbing, descending, and performing Work on a ladder. Carrying hand tools or equipment while climbing on a ladder is prohibited unless secured in a pocket or on a belt. Articles that are too large to be carried in a pocket or on a belt shall be lifted and lowered by a hand line.
- Workers shall not rush, but shall take one step at a time and face the ladder while climbing and descending.
- Only one person at a time shall be on the ladder.
- Portable ladders shall have anti-slip safety feet and be secured at the top before work begins in order to prevent the ladder from shifting. A second person shall hold the ladder until the climber can secure it at the top.
- Ladders shall extend at least 3 feet above the point of support when gaining access to a roof or other area.
- Contractor shall use fall protection on ladders when additional significant hazards such as impalement, rotating machinery, or electrical shock are present.

- Ladders shall be maintained free of oil, grease, and other slipping hazards.
- Workers shall maintain their body's center of gravity between the side rails at all times while working from a ladder. In addition, workers shall avoid work from a ladder that involves significant pushing, pulling, or any action that may dislodge the person from the ladder.
- The top two steps of a step ladder shall not be used as steps. This requirement does not apply to step ladders with three steps or less or to step ladders with a guard rail-equipped work platform at the top.

18.0 SCAFFOLDING:

- Scaffolds or elevated platforms shall be constructed, maintained, and used in accordance with the applicable regulations and company standards.
- Contractor shall ensure that a Competent Person is assigned to supervise scaffold erection, dismantling, alteration, and movement.
- Contractor shall ensure that all scaffold materials and planking are thoroughly inspected for defects prior to use.
- Where there is a hazard to workers working below an elevated scaffold, toe boards shall be in place.
- Climbing or working from the handrail, mid-rail, or brace members of the scaffolding is prohibited.

19.0 FALL PROTECTION

- Definitions:

a) Fall Protection Competent Person – A person who is knowledgeable of:

b) The fall hazards at the worksite;

c) Correct procedures for assembling, maintaining, disassembling, and inspecting fall arrest equipment; and

d) The operation of guardrail systems, Personal Fall Arrest Systems (defined below), warning line systems, safety monitoring systems, and other protection to be used.

e) Personal Fall Arrest System – A system used to arrest a person in a fall from a working level at height. It consists of an anchorage, connectors, and body harness. It may include a lanyard, deceleration device, lifeline, or combination of these.

- A Personal Fall Arrest System shall be worn:

a) On work surfaces were potential drop is greater than 6 feet (1.8 meters).

b) When working on unfinished structures greater than 6 feet (1.8 meters) in height where the work surface is without guardrails, toe boards, or gated access ladders;

c) When working on areas within 6 feet (1.8 meters) of the edge of a work surface greater than 6 feet in height or within 6 feet of any unguarded opening, skylight, service duct, stairwell, or elevator shaft on a roof or unfinished level of a structure;

d) When working along unguarded locations at the edge of a well, pit, shaft, excavation, trench, or similar location 6 feet or more in depth when the excavation is not readily seen because of plant growth or other visual barrier;

e) Whenever deemed necessary by a safety officer.

- Contractor shall inspect all components of a Personal Fall Protection System before each use and replace if necessary. Fall protection equipment that has been subjected to impact loading shall be immediately removed from service and shall be inspected by the manufacturer before reuse or destroyed and replaced.
- Contractor shall ensure that components of a Personal Protection System are free from defect such as cuts, tears, abrasions, mold, undue stretching, missing or degraded stitching, alterations, or additions that might affect its efficiency. Contractor shall also inspect for damage due to chemical exposure, deterioration, distorted hooks, or faulty hook springs, loose or damaged mountings, non-functioning parts, wearing, or internal deterioration in the ropes or webbing.
- Contractor shall follow the manufacturer's recommended procedures for fitting, adjusting, using, inspecting, testing, and caring for fall protection equipment.
- A Personal Fall Arrest System shall not be used as a primary suspension device for positioning, or as a retrieval system, or for transporting materials.
- Contractor shall evaluate the compatibility of all fall arrest systems and anchorage points prior to use.
- Contractor shall calculate tie-off distances accurately to limit a fall to a maximum of 6 feet, considering lanyard elongation, Work position, proximity to fall area, and the location of fall hazards. The anchorage and tie-off points should be located to avoid obstructions in the potential

20.0 CHEMICAL SAFETY

- NPL uses a variety of chemicals that Contractors may encounter. NPL maintains MSDS's for these chemicals. Contractors may request a copy of any/all MSDS's for chemicals to which they are (or may be) exposed by contacting their NPL contact.
- Use of NPL chemicals by a Contractor for any purpose must be authorized in advance by the NPL contact.
- A current MSDS must be readily available and maintained by the Contractor for all chemicals brought onto NPL premises.

21.0 HAND TOOLS

- All hand tools, including portable electrical tools, and other equipment brought onto NPL premises must be in safe condition. NPL reserves the right to prohibit the use of defective tools, ladders, etc. and dictate the removal of defective equipment.

22.0 CRANES AND HOISTS

- NPL owned Overhead Cranes and Hoists are not to be operated by Contractors unless they receive advance authorization from the NPL contact.
- Upon authorization, only Contractor Employees for whom the Contractor has provided training sufficient to meet the standards for cranes and hoists (including applicable licensing) will be allowed to operate this equipment.
- Contractor owned Cranes and Hoists must be operated under the requirements of Safety Standards for Overhead and Gantry Cranes and Monorail Systems. This includes training/licensing requirements, equipment inspection, and safe equipment operation requirements.
- Any crane, hoist or rigging system that is not safe to operate must be tagged out of service and not operated until repaired/serviced.

23.0 HOUSEKEEPING

- Job site housekeeping is the contractor's responsibility and the job site must be as clean and orderly as possible while work is being performed. Good housekeeping practices are of utmost importance in preventing injuries.
- DO NOT LITTER. Contractors are responsible to keep the work area(s) in a neat and orderly condition at all times. All material must be cleaned up as the job progresses.
- All roadways, passageways, and operating areas must be kept clear at all times

24.0 WASTE DISPOSAL

- Proper identification of waste generated during work on-site is critical. All wastes must be segregated and managed according to applicable regulatory requirements.
- The Contractor is responsible for the removal of any waste generated.
- It is the responsibility of the Contractor to ensure proper waste management practices while performing services for NPL. Prior to any work, the Contractor will assess what wastes will be generated and communicate to the NPL contact any hazardous, non-hazardous, universal or construction wastes that will be generated and the methods that will be used to collect, manage, and dispose of these wastes.
- Discharge of any material onto the ground is strictly prohibited by State/National Laws and NPL HSE policy. If any spill/discharge occurs, report it immediately to your NPL Contact (i.e. leak from truck of oil, gas, or product being transported).
- Any questions regarding proper classification and/or disposal of wastes generated must to be brought to the attention of your NPL contact.

25.0 ROOF WORK

- The portion of a roof where Contractors are working must be kept free of slippery conditions.
- All roof work performed on NPL premises must be conducted in accordance with Safety Standard for Fall Protection.

26.0 RIGGING

- All rigging must be done in accordance with applicable regulations.

27.0 OVERHEAD WORK

- Contractor shall ensure that workers are trained to recognize the hazards of working around overhead utility lines and how to minimize the chance of contact.
- Contractor shall take precautions to ensure the safety of workers and ensure the integrity of the existing overhead utility lines.
- Contractor shall conduct a hazard assessment to identify and mitigate hazards prior to working around overhead utility lines. The hazard assessment shall include the following:
- Identifying all overhead utility lines (on or off the worksite) that may be impacted by the Work;
- Verifying that appropriate signage and visual warning devices are installed to alert workers to the hazards;
- Clearly marking or otherwise restraining all lifting or boom-type equipment to show the maximum height or extension possible as measured from ground level or to limit the maximum limit of extension, respectively; and
- Using adequately trained and dedicated spotters at locations where equipment and vehicles pass or work under or around utility lines.
- Physical barriers: Non-conductive, highly visible devices (e.g., goal posts, barricade tape) set outside the limits of approach (limits shall vary by jurisdiction, land restriction, and voltages) on both the coming and going away sides.
- Site-specific controls prescribed and authorized for use by the utility owner (e.g., shielding, de-energizing, bonding, insulating).
- Keep all equipment attachments in the lowest possible position when traveling under overhead utilities.
- Use dry tag lines made of a nonconductive type material when working near energized lines.
- All ladders used around power lines shall be made of non-conductive materials;
- Use only non-conductive chokers, slings, and lifting devices during material handling activities;
- Keep materials bonded at all times when transporting conductive loads, (e.g., pipe, air compressor, pumps) in the proximity of high voltage lines.

- All overhead work must be conspicuously barricaded or otherwise marked to prevent anyone from walking or driving under the work area.
- Overhead work creating sparks requires a Hot Work Permit.
- Overhead work creating falling debris requires additional protection for personnel and equipment that may be affected by the falling debris
- All scaffolds must have full flooring within the frame, with cleats, toe boards, and railings and meet BIS requirements.

28.0 ELEVATED WORK

- General: When working overhead, Contractor shall protect people below. Contractor shall ensure that tools, materials, and equipment subject to falling from height are adequately secured before Work is performed. Tools and materials shall be handed up or down, but never thrown. When it is necessary to hoist tools with a rope, exercise care to ensure the tools are securely attached to the line or loaded into a container and there is no danger of them being dropped.

29.0 WORK ZONE TRAFFIC CONTROL

- If a Work activity is conducted on or near a road, Contractor shall comply with all applicable regulations.
- Contractor shall provide all signs, barriers, flaggers, and other notification necessary to protect its workers and the public from damage, injury, or loss. Barricades at public areas (e.g., road crossings) shall have flashing lights/ reflective during hours of darkness.
- All work conducted in on or near a road at night requires the use of high visibility traffic vests.

30.0 PENALTY SYSTEM

- On non-compliance of PPEs and other safety instructions, following penalties will be imposed on the contracting agency as per below mentioned violations. The amount towards the violation shall be deducted from monthly bill of the contracting agency.

S.No.	Violation	Penalties
1	Non-use of any of PPE like Safety Helmet with chin strap, Safety shoes by individuals	1st- Rs100/instance 2nd- Rs 500/Instance 3rd –Cancellation of gate pass
2	Non-use of Full body Harness at height	
3	Repetition of violation by employees of same contractor within a week	
4.	Over speeding or wrong side driving	
5.	Non reporting of accident	
6.	Working without work permit	

7.	Non-use of proper tools & tackles i.e. Cutting torch without Flash back arrestor at both ends, grinder without Guard, Lifting tools and tackles without certification etc.	
8	Allow to work on visitor pass	
9	Overloading during material handling	
10	Smoking at workplace	
11	Non-use of PPE's as per the job requirement.	

IN CASE AGENCY OR INDIVIDUAL IS A FREQUENT DEFAULTER, A RED MARK SHALL BE RECORDED IN HIS PERFORMANCE RECORD & THE AGENCY SHALL BE BARRED AND BLACK LISTED FOR REPETITIVE NON COMPLIANCES ON FRONT OF SAFETY.

31.0 ACCIDENT REPORTING AND INVESTIGATION

- The Contractor must immediately report any injury, illness, or near miss that occurs at NPL premises to the NPL contact.
- The information related to the incident must be provided to NPL contact as per the NPL Incident reporting and investigation Procedure.

32.0 GENERAL RULES TO FOLLOW

- Always store materials in a safe manner. Tie down or support piles if necessary to prevent falling, rolling, or shifting.
- Dust scraps, oil or grease should not be allowed to accumulate. Good housekeeping is a part of the job.
- Trash piles must be removed as soon as possible. Trash is a safety and fire hazard.
- Remove or bend over the nails in lumber that has been used or removed from a structure.
- Immediately remove all loose materials from stairs, walkways, ramps, platforms, etc.
- Do not block aisles, traffic lanes, fire exits, gangways, or stairs.
- Avoid shortcuts – use ramps, stairs, walkways, ladders, etc.
- Standard guardrails must be erected around all floor openings and excavations must be barricaded. Contact your supervisor for the correct specifications.
- Do not remove, deface or destroy any warning, danger sign, or barricade, or interfere with any form of protective device or practice provided for your use or that is being used by other workers.
- Get help with heavy or bulky materials to avoid injury to yourself or damage to material.
- Keep all tools away from the edges of scaffolding, platforms, shaft openings, etc.
- Do not use tools with split, broken, or loose handles, or burred or mushroomed heads. Keep cutting tools sharp and carry all tools in a container.
- Know the correct use of hand and power tools. Use the right tool for the job.
- Know the location and use of fire extinguishing equipment and the procedure for sounding a fire alarm.
- Proper guards or shields must be installed on all power tools before use. Do not use any tools without the guards in their proper working condition. No "homemade" handles or extensions (cheaters) will be used!
- All electrical power tools (unless double insulated), extension cords, and equipment must be properly

grounded.

- All electrical power tools and extension cords must be properly insulated. Damaged cords must be replaced.
- Do not operate any power tool or equipment unless you are trained in its operation and authorized by your firm to do so.
- All electrical power equipment and tools must be grounded or double insulated.
- Use tools only for their designed purpose.

UNDERTAKING

I have read, understood and agree to comply with all the requirements as set out within this Contractor Safety Manual. I understand, it is my responsibility to brief all employees under my supervision on all safety requirements included in the manual and abide by the guidelines, site specific rules & protocols as mentioned.

Contracting Agency Name:

Stamp & Signature:

Date:

Contact Number (Mob):

NPL Purchase Department:

Date:

Thank you for taking the time to read and understand the stipulations required to carry out work for NPL.

Please return this signed undertaking to:

Purchase Department

Nabha Power Limited

PO Box No. 28

Village Nalash

Rajpura