Ref Document – NPL/Tender Document for Annual Rate Contract for AHP Operation & Maintenance

Schedule of Submission of Document

Sr. No	Description/Scope	Last date of Submission of Clarification by Contractor	Submission of Clarification Response from NBL	Last date of Submission of Techno-Commercial Bid
1	AHP Operation & Maintenance Activities on Daily basis for Period of 2 Years from 01.02.2019 till 31.01.2021	**25.10.2018**	**30.10.2018**	**15.11.2018**

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 AHP Operation and Maintenance activities of 2x700 MW Thermal Power Plant."

Contract shall be awarded to one of the Qualified Bidder meeting the set put 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 on E-Portal or any other method as selected by NPL.

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 units were commissioned on 1st February 2014 and 10th July 2014 respectively.

Rajpura Thermal Plant is among the best running power plant of the country having the performance parameters at par with the most efficient power plants across the globe.

The Ash handling plant of NPL was supplied, installed and commissioned by L&T Bulk Material Handling unit. It Consist both Wet and Dry Ash handling system. Total Ash in the form of Bottom ash, coarse ash and fly ash generated from two pulverized coal fired steam generators is removed by this system. Ash water is recovered from ash pond and recycled for further use through ash water recovery system. The complete system is controlled with the help of PLC system except silo unloading.

Mill reject system is supplied by M/s Macawber Beekay. It Consist dense phase pneumatic Conveying system. The Complete system is controlled by PLC system.

Recovery water system is supplied by M/s Clear water Limited. It Consist pre-treatment plant, clarifloculator, pumps and other accessories. The clarified water is reused is ash handling system.

NPL is looking for company/agencies of repute to take the Operation and Maintenance of its AHP who not only continue the present trends of operational excellence but also add value to take the AHP O&M on higher altitudes.

The objective of this document 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 O&M services for AHP.

2 INSTRUCTIONS TO BIDDERS

2.1 This contract covers following 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 Ash Handling Plant,

- Deployment of Control room operators for Control room & Compressors.
- Deployment of Field Operator at Various AHP Locations to monitor the operation of the ash water & slurry pump house, ESP area & collector tower, Bottom ash system & Economiser.
- Deployment of Helper at various AHP Locations for equipment cleaning of the ash water & slurry pump house, ESP area & collector tower, Bottom ash system & Economiser.

b. Annual Contract for round the clock operation of Mill reject system.

- Deployment of Control room operator for Mill reject Control room.
- Deployment of Field Operator at mill reject system to monitor the operation of mill.
- Deployment of Helper at Mill reject system to clean mill.

c. Annual Contract for round the clock operation of recovery water system.

- Deployment of Field Operator at recovery water system to monitor the operation of Pump house.
- Deployment of Helper at recovery water system to Pump house.

d. Annual Contract for round the clock Maintenance of Ash Handling Plant and Mill reject system and recovery water system.

- Deployment of adequate numbers of Maintenance Engineer, Mill Wright Fitter, Welder cum gas cutter, Rigger, Electrician, Helpers for scheduled/unscheduled jobs to carry out maintenance in AHP.

e. Deployment of Helpers for Housekeeping of Ash Handling Plant Mill Reject system and Ash water recovery system.

2.2 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.

2.3 Price Quote

Price should be quoted on monthly basis to complete the scope of works as mentioned in following clause. The manpower details mentioned below is a indicative minimum manpower required by NPL whereas deputation or mobilization of manpower may vary as per requirement of NPL.

2.3.1 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 mailing address indicated in the Tender Document. The NPL 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 in writing or by telex or mail to all prospective Bidders who have received the Bidding Documents.

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.

2.3.2 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.

2.3.3 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'.

2.3.4 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. Deviation indicated elsewhere will be rejected.

3 Brief Scope of Work

3.1 Scope of Supply / Work:

The scope of work under this purchase order shall be to carry out all AHP 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.

3.1.1 System Description:

3.1.1.1 Ash Handling System

i) Bottom Ash & Economiser Ash Handling System up to the Slurry Sump for each unit comprise the following:

1. Bottom ash handling system (Including bottom ash hopper, feed gate housing, clinker grinder, feed sump, jet pump, Ash water pumps, seal trough, BA overflow system, bottom ash transporting line with associated water & slurry isolation valves up to slurry sump).

2. Coarse ash / Economiser ash handling system (Including economizer ash hopper, Valve, expansion joint and flushing apparatus and common coarse ash discharge line from flushing apparatus to bottom ash hopper).

ii) FA System from ESP/APH/DUCT hopper to Filter Separator by vacuum conveying system for each unit comprise the following:

1. ESP hoppers, APH hoppers, duct hoppers & dry ash discharge line, valves, Dust collector, Bag filters, purge system, fly ash storage silo, Puddle stirrer, telescopic chute, Transport air compressors, vacuum producing equipment & associated vacuum line valves, breaker

and water lines and ESP hopper fluidizing air producing equipment and associated air and water line& valves.

iii) FA Wet System from Collector Tank to slurry sump by gravity for each unit comprises the following:

1. ESP hoppers, APH hoppers, duct hoppers & fly ash slurry disposal line, valves, wetting unit, air washer assembly, collector tank, slurry discharge line from collector tank to ash slurry sump, vacuum producing equipment & associated vacuum line valves, breaker and water lines and ESP hopper fluidizing producing equipments and associated air and water line &valves.

iv) Ash slurry transportation from Ash slurry sump up to ash pond and Ash Water system for two (2) units comprises the following:

1. Ash slurry sump, series of ash slurry pumps, slurry disposal pipelines, Seal Water Pumps, Bottom Ash HP Ash Water Pumps , LP Ash Water Pumps with drive motors for both units, FAHP Ash Water Pumps with drive motors, Economizer Ash Water Pumps with drive motors, Dust conditioner Water Pumps at FA silo area.

v) Fly Ash System from Filter separator unit to FA Silo (Dry Handling through pressure system) for two (02) units comprises the following:

1.Fly ash conveying screw compressors, air receivers, dry fly ash conveying pipes from Filter separator to dry ash silos, air pipe (pressure conveying) from receiver to Nuva Vessel with valves fittings, Nuva Feeder, RCC Silos.

2. Fluidizing air system for FA silos will comprise silo fluidizing blowers, electric air heaters (one for each blower); all necessary pipes, valves, fittings, hangers, supports; thermal insulation and cladding etc.

vi) Instrument Air System for both units comprise of:

Oil free screw type Instrument Air Compressors, Air Drying Plants, Air Receivers etc.

vii) Crane & Hoist:

1.Single girder EOT / under slung crane of adequate capacity provided in equipment rooms/pump houses e.g.- Ash slurry (3MT capacity) /ash water pump house (3MT capacity), Compressor house (7.5 MT Capacity), and others at any other building of AHS.

2.Electric hoists of adequate capacity for Compressor house MCC room, on top of silo, other building as required along with all accessories.

3.Manual operated hoist with monorail shall be provided for lifting and handling of clinker grinders, gear box, drive motors etc in BA hopper area, collector tank tower, top of ash slurry sump and all other AHS buildings.

3.1.1.2 Mill Reject System

1. Pneumatic conveying system has been envisaged for conveying of rejects from reject transport vessel to Mill reject silo. Mill reject system shall automatically (PLC control) discharge the tramp iron and other non-grind able material to mill reject silo.

2. Major System Components: i) Pyrite Hopper ii) Mill reject Transport vessel iii) Mill Reject Silo iii) Conveying air systems iv) Instrument Air systems having compressors v) Cooling Water System.

3. Number of Mills per Unit – 6, all having separate Mill reject system conveying reject coal to the Silo.

3.1.1.3 Recovery Water System

Recovery water system consists of recovery water pump to dispose water from ash dyke to reactor clarifier, Clarified water pumps, sludge pump and chemical dosing pumps. This system feed the recovery water from ash dyke to ash water sump after pre-treatment.

3.2 Detailed Scope of Work:

The contractor must deploy a site in-charge to execute & monitor all AHP operation and Maintenance activities on daily basis and is responsible for carrying out all instructions and gives a compliance report to EIC of AHP 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 involved in various AHP activities on or before 7th of every month.

3.2.1 AHP Operation

To carry out following operation activity contractor needs to deploy minimum 48 manpower as mentioned in annexure. The Contractor must keep additional manpower to compensate for leave/weekly off/absenteeism.

3.2.1.1 Deployment of Operators at Various AHP Locations.

To carry out the following works in AHP, the contractor needs to deploy either skilled ITI workmen with at least 4 to 5 years of AHP operation experience or graduate with at least 2 to 3 years AHP operation experience. In each shift at least 2 Control room operator & 4 Field operator need to be deployed for operating three streams at a time (Ash water & slurry pump house, ESP area & collector tower and Bottom ash system & Economiser) and it will be a round the clock operation. No absenteeism is allowed, and the contractor should have enough men for rest giving as well as for leave reserves.

a. Monitoring & ensuring the operation of the ash evacuation from bottom ash hopper, ESP hoppers, Economizer hoppers, APH & duct hoppers & stack hoppers within specified time or instructed by engineer in charge. Maintaining water level in bottom ash hoppers & sumps of all pump houses. Flushing/purging of wet ash, dry ash, ash slurry lines, bottom ash hopper & seal troughs etc. as per the SOP in every shift.
b. Maintain all operating parameters of ash fluidizing system, wet ash handling system, Dry ash handling system, Ash slurry system and Silo unloading system and inform to shift in charge if any deviation observed.
c. Trouble shooting & emergency handling of system during failure/outage of the sub-systems.
d. Collection of samples for fly ash, bottom ash, slurry, clarified water and handing over to our testing laboratory for analysis.
e. Monitoring and recording of all operating parameters and equipment running hour in log sheets, log books, formats as per our requirement and review of all operating data if required.
f. Strictly follow equipment changeover schedule and preventive maintenance schedule as provided by NPL.

g. Ensuring proper isolation of equipment /sub systems for permit to work as per instruction of NPL representative.

h. Follow up of changeover of slurry disposal lines at ash dyke as per system demand.

i. Maintain the cleanliness of associated equipments and systems.

j. Deployment of man power for dewatering from Trenches, sumps, pits with temporary/mobile dewatering pumps, if required.

k. Patrolling of ash slurry disposal lines starting from ash slurry pump house to discharge.

l. Ensure free flow of ash from hoppers by manual hammering/manual pocking as and when required on daily basis.

m. Checking of mechanical/ Electrical ash level indicator/ assemblies at regular interval and keep it normal by ensuring hopper emptiness by pocking or hammering on daily basis if required.

n. Complete emptiness of bottom ash hopper is to be confirmed from view glass/pock door and inspected by control room person before stopping the deashing process in each shift.

o. Deashing of economizer hoppers to be done with the coordination of field operator and avoid overflow of ash from flushing apparatus in case overflow takes place bidder will be responsible for cleaning.

p. Operation of ash slurry pumps to be performed with proper co-ordination with desk operator and must ensure that slurry sump is not over flowed in any case.

q. Emergency handling of system to be carried out during Failure /outage of the sub-systems with the help of field operator.

r. Proper de slugging of settling tank to be carried out by the operator as per system requirement/ instruction of NPL in charge.

s. Optimization of running of all equipment's to be done to avoid excess consumption of water, electricity, spares & consumable. No equipment should run idle.

t. Operations of the equipment's of water recycle system inside plant to be carried out with the help of field operator.

u. Operation of all system to be carried out manually during and till failure of auto system of equipment or sub system.

3.2.1.2 DEPLOYMENT OF OPERATORS AT MILL REJECTS HANDLING SYSTEM

To carry out the following works in AHP the contractor needs to deploy either skilled ITI or graduate passed with 4 to 5 years' experience men at mill reject system operator's experience. In each shift 1 no Control room Operator and 1 no field operator must deploy by contractor. It will a round the clock operation. No absenteeism is allowed, and the contractor should have enough men for rest giving & leave reserves.

a. Monitoring timely evacuation of Mill rejects to the Silo and subsequent emptying of Silo at a regular interval. Manual intervention may be done if required to clean out rejects, but it should preferably be operated in auto mode.
b. Operation of mill reject handling system to be carried out for removal of mill rejects and ensures the complete emptiness of pyrite hopper/ denseveyor at every time.
c. Recording of all operating parameters to be done in every shift in the log sheets, logbook provided by NPL.
d. Checking of mill reject chute to be done for any chock age.
e. Manual draining of oversize rejects, which are accumulated over grating of pyrite hopper to be done in every shift and dispose to reject store yard.
f. Strictly follow the equipment changeover schedule and preventive maintenance schedule as provided by NPL.
g. If any fire observed in mill/rejects system, intimate immediately to CCR, AHP control room & fire station.
h. All running equipment should check physically every hour and report to NPL Shift in charge.
i. Emergency handling of system to be carried out during Failure /outage of the sub-systems with the help of field operator.
j. Optimization of running of all equipment's to be done to avoid excess consumption of water, electricity, spares & consumable. No equipment should run idle.
k. Bidder should always ready to operate the system in manual mode if auto/semi auto system gets fail without any extra cost and remove it manually and dispose the reject up to reject yard on daily basis and keep area always clean.
l. Maintain the cleanliness of associated equipment and systems.

m. Deployment of man power for dewatering from Trenches, sumps, pits with temporary/mobile dewatering pumps, if required

3.2.1.3 DEPLOYMENT OF OPERATORS AT RECOVERY WATER SYSTEM.

To carry out the following works in AHP the contractor needs to deploy either skilled ITI or graduate passed with 2 to 3 years' experience men at recovery water system operator's experience. In each shift 1 no field operator & 1 no helper must deploy by contractor. It will a round the clock operation. No absenteeism is allowed, and the contractor should have enough manpower for rest giving & leave reserves.

a. Monitoring & ensuring the operation of recovery water system as and when required and supply water from ash dyke to ash water sump with proper chemical feeding and PH.
b. Chemical feeding, desludging and all other activity required to operate and maintain the recovery system healthy and supply good quality water to ash water sump.
c. Operation of recovery water system for feeding the clear water from ash dyke to ash water sump with proper conductivity and PH.
d. Feeding of chemical, making solution etc. will be done as per instruction of NPL in charge.
e. All running equipment should check physically every hour and report to NPL Shift in charge.
f. Maintain the cleanliness of associated equipment and system.
g. Deployment of man power for dewatering from Trenches, sumps, pits with temporary/mobile dewatering pumps, if required.

3.2.2 FIELD OPERATION & MAINTENANCE ACTIVITIES OF ASH HANDLING SYSTEM AND MILL REJECT HANDLING SYSTEM.

3.2.2.1 Field operation of Ash handling system: -

a. Manual hammering of all ESP, APH, and Duct & Eco hoppers are to be carried out for free flow of ash as per instruction of shift in charge / desk operator.

b. Check the proper seating of disc of NUVA feeder valve, FAD valve, ash intake valve & air intake valve or assembly and cleaning to be done if sticking of ash observed.
c. Outlet seal water of vacuum pump to be checked at every two hours for any ash carry over with seal water. Reporting to be made to shift in charge/ desk operator, if ash content is found in seal water.
d. Any ash / water leakages to be reported to shift in charge/ desk operator for immediate rectification.
e. Deashing of bottom ash hopper to be carried out along with desk operator and proper ash flow to be checked and confirmed from view glass and discharge point at ash slurry sump.
f. If any clinkers, foreign material or HFO found during deashing of bottom ash hopper, shift in charge to be informed immediately and make arrangement for removal and remove safely.
g. Normal water level to be maintained in bottom ash hopper & sumps of all water pumps.
h. Overflow of sumps to be avoided.
i. Flushing/purging of wet ash, dry ash, ash slurry lines, bottom ash hopper & seal trough are to be carried out as per instruction of Shift in charge / Desk operator.
j. Seal trough and eco flushing apparatus water level should maintain properly to avoid overflow as instructed and check it every hour and report to desk operator.
k. Every site operator should check all running equipment on every hour physically and report to desk operator.
l. Emergency handling of system to be carried out during failure/outage of the sub-systems as per instruction of shift in charge/Desk operator.
m. Adequate manpower along with necessary T & P are to be engaged for handling any abnormalities of the system.
n. Collection of samples for dry fly ash, bottom ash, ash slurry, clarified water and to be send to in-house NPL testing laboratory for analysis as per requirement.
o. Operation of equipment to be carried out as per instruction of shift in charge / desk operator and SOP.
p. Recording of all operating parameters to be done in log sheets, log books as furnished by NPL.

q. Strictly follow the changeover schedule and preventive maintenance schedule of equipment as provided by NPL.
r. Proper isolation of equipment/sub systems as instructed by shift in charge to be done for permit to work.
s. Changeover of valve operations at Ash Dyke to be carried out as per NPL requirement.
t. Patrolling, reporting & recording of ash slurry disposal lines from ash slurry pump house to ash dyke.
u. Cleaning of all equipment and systems to be done on daily basis.
v. Dewatering of Trenches, sumps, pits to be carried out with mobile dewatering pump, if required.
w. Adequate manpower to be deployed for timely emptiness of ESP, Economizer,
x. APH & duct hoppers for carrying out internal inspection of hoppers during unit shut down.
y. Field operators in their respective locations should be available in all shifts.
z. No field operator should leave the site until the charge has been handed over to reliever.
aa. Operator always keep housekeeping maintain of their area and keep equipment's clean.
bb. All the drain sump pumps clear and get empty timely by operating the pump in auto or manual.
cc. Ash slurry and ash water pump house operators always be in touch with desk operator and capable to operate the system in manual mode if communication gets fail without overflow of sumps and if overflow takes place at any time operator should responsible to make it clean immediately.

3.2.3 Field operation of mill rejects handling system: -

a. Chute of mill reject system to be checked in every hour and cleaning to be done if found chocked.
b. Manual draining of oversize rejects, which are accumulated over grating of Pyrite hopper to. be done with desk operator in every shift.
c. Check pressure of seal air for complete sealing of dome valve.
d. Check pressure & temperature of cooling water to ensure the perfect cooling of dome valve.

e. Mill rejects to be transported from pyrite hoppers to mill reject silo in manual mode during any outage/ abnormalities.
f. Cleaning of mill reject spillage from pyrite hoppers in case of outage of the system to be carried out.
g. Cleaning of all equipment to be performed on daily basis.
h. Moisture traps of air receiver to be drained in every shift.
i. Field operators in their respective locations should be available in all shifts.
j. No field operator should leave the site until the charge has been handed over to reliever.
k. Check silo level and mark it in log books in every shift.
l. Purging of bag filter of ash silo to be checked in every shift and report to be give to shift In charge / desk operator.
m. Check timely evacuation of silo and mark it in log sheet.
n. Piping trench of should always make empty and clean.
o. Proper isolation of equipment/sub systems as instructed by shift in charge to be done for permit to work.
p. Recording of all operating parameters to be done in log sheets, log books as furnished by NPL.
q. Field operators in their respective locations should be available in all shifts.
r. 8 No field operator should leave the site until the charge has been handed over to reliever.
s. Operators always ensure to maintain housekeeping of their area and keep equipment's clean.
t. Strictly follow the changeover schedule and preventive maintenance
u. schedule of equipment as provided by NPL.

3.2.4 Field operation of Recovery Water System: -

a. Cleaning of all equipment to be performed on daily basis.
b. Field operators in their respective locations should be available in all shifts.
c. No field operator should leave the site until the charge has been handed over to reliever.
d. Piping trench of should always make empty and clean.

e. Proper isolation of equipment/sub systems as instructed by shift in charge to be done for permit to work.
f. Recording of all operating parameters to be done in log sheets, log books as furnished by NPL.
g. Field operators in their respective locations should be available in all shifts.
h. No field operator should leave the site until the charge has been handed over to reliever.
i. Operator always ensures to maintain housekeeping of their area and keep equipment's clean.
j. Shifting of chemical from NPL store to recovery water site / store.
k. Maintain the all sump level normal and keep ensure that overflow should not takes place.
l. Desludging of clarifier should be done as per schedule or instruction of NPL Engineer In charge.
m. No field operator should leave the site until the charge has been handed over to reliever.
n. Operator always ensures to maintain housekeeping of their area and keep equipment's clean.

3.2.5 HOUSE KEEPING

a. To carry out following housekeeping activity contractor needs to deploy minimum 7 manpower as mentioned in annexure. The Contractor must keep additional manpower to compensate for leave/weekly off/absenteeism.
b. Cleaning of all the equipment's and associated piping on daily basis installed in
c. Ash handling system, MRS & ash water recovery system.
d. Housekeeping of all the AHP buildings like TAC house, Pump houses, MCC Rooms chemical house etc on daily basis.
e. Cleaning of spillage ash from the floors of BAH, APH, Economizer hopper, Duct hopper, ESP area, FAE Tower, NUVA feeders etc on continuous basis.
f. Cleaning of all drains of ESP area, FAE Towers area, bottom hopper area, ash slurry & water pump house area, TAC house area, and Recovery Pump house area.
g. Cleaning of all the drain sumps, pits related to AHP, MRS, Recovery area.
h. Cleaning of the mill rejects from MRS area on continuous basis.

i. Cleaning of mill reject generated due to purging of mill and conveying line. Any spillage of mill rejects on cable trays, ducts should be cleaned immediately to avoid any fire incident.
j. Cleaning of all spilled ash and mill reject from roads, floors during transportation/ disposal to designated area as decided by NPL.
k. Sweeping and water washing, water sprinkling of ESP area, FAE Tower area, vacuum pump area, pumps houses etc to keep it completely clean all the times.
l. Collected ash and mill reject shall be disposed at the designated location as decided by NPL time to time.
m. Required tractor trolley along with operators shall be arranged for handling the ash, mill reject, scraps.
n. All tools and accessories required for housekeeping is in vendor scope.

3.2.6 MAINTENANCE

To carry out following maintenance activity contractor needs to deploy minimum 42 manpower as mentioned in annexure. The Contractor has to keep additional manpower to compensate for leave/weekly off/absenteeism

3.2.6.1 Regular Maintenance Work.

a. Continuous maintenance including routine, preventive, breakdown and opportunity maintenance of Ash handling plant including silo equipment's, Mill Reject system & Ash water recovery system shall be carried out with adequately skilled personnel round the clock. Repair/ replacement of defective components of the equipment/system if necessary as per guide lines of our Engineer.
b. Rectification of defects on daily basis for running/standby equipment and associated sub system. Defects to be attended within 24 hrs or as instructed by NPL engineer.
c. Mechanical maintenance of EOT Crane in pump houses, air compressor houses, or any other area covered under ash handling plant, Mill reject System & Recovery Water System, chain pulley blocks & pressure vessels and testing of the said equipments in presence of safety authority.
d. Repair/replacement of guards for coupling/chain/belt of rotating equipments.

e. Arrangement for Loading/Unloading & Transportation of spares /equipments / steels from our main store to work site inside the plant premises & ash dyke area to be done by contractor.

f. Arrangement for returning of old parts/ scraps/used lube oils/grease from site to our store or identified scrap yard.

g. Maintenance & operation of DG set at site, where power supply is not available. Consumable such as Diesel and Transportation of DG set to site & returning is in scope of contractor.

h. The contractor must provide all general certified T & P required for the work. Like as attached in Annexure-1.

i. All normal consumables required for maintenance and Daily housekeeping shall be arranged by contractor. Normal consumables include kerosene, diesel, petrol, WD-40 and anti-seize compound, markin cloth, cotton waste, jute, sponge sheet, emery paper, Anabonds, M-seal, feviquick & tap set, cutting/grinding wheel, hacksaw blades, cutting gas, general purpose MS welding electrodes, hand lamps with cables, torch, hand gloves, broom, etc.

j. Contractor has to deploy adequate man power for ensuring the emptiness of ESP hoppers, Eco. Hoppers before & after water washing during unit shut down.

k. Preventive maintenance of equipment to be carried out on daily basis as per schedule provided by Engineer in charge.

l. Hard facing of grinding rollers & any other equipment shall be done as per instruction of NPL in charge.

m. Repairing/ replacement of suction & discharge manifold, water trap silencer of vacuum pump to be carried out as per instruction of NPL in charge.

n. Refurbishment of old damaged spares to be carried out by the contractor as per instruction of NPL in charge.

o. Repairing/replacement of seal water station (Pipe lines, valves & fittings) of ash slurry pump, vacuum pump, Excen. Crusher etc. to be carried out as per instruction of NPL in charge.

p. Standby equipment/spare assemblies of equipment are to be made available along with painting for meeting any outages.

q. Load testing of lifting tools tackles shall be carried out by contractor in the presence & as per direction of safety personnel.

r. Assistance to be delivered during testing of pressure vessels by the safety personnel.

s. Repair and maintenance of Expansion bellows of AHP, MRS & Recovery system as per instruction of NPL in charge.

t. Lapping of seat & gate for water line valve, TERSG, FAD, ash intake and air intake valve, KGV, equalizing valves to be done before fitting to the system.

u. Any surplus materials to be returned to store at contractor own cost.

v. Old damaged parts/scraps/used lube oils/grease to be returned to NPL store or identified location in scrap yard. Pipes/ scraps to be cut into specified size as per instruction of NPL Engineer.

w. During replacement of suction pipe, suction strainer of ash slurry pump, recycle water pump, ash water pumps (HP, LP & Eco pump), the cleaning of sump is covered in the contractor scope.

x. Test certificate of all Lifting tools mobilized by bidder shall be furnished by the contractor at the time of start of contract.

y. Calibration certificate of measuring instruments to be furnished by the contractor at the time of start of contract.

z. Daily checking/Top up/change of lubricants for all equipment to be done by skilled personnel (Oil man) as per lubrication schedule furnished by engineer in charge.

aa. Leakages observed in ash conveying pipe line (Dry & wet ash) to be attended by either gasket replacement or patch welding on top priority. If required, pipe to be replaced as per instruction of engineer in charge.

bb. Strengthening of existing support of all ash conveying pipelines (Dry ash pipelines, bottom ash discharge pipelines, collector tank discharge pipelines, bottom ash overflow discharge pipelines, ash slurry disposal line etc) and water pipe lines shall be done by the contractor by either providing extra support or by replacing old supports by new one.

cc. Working area to be kept clean after completion of maintenance work. All waste materials/ scrap to be removed/ disposed at identified scrap yard after completion of work.

dd. Adequate manpower to be deployed for carrying out maintenance of all planned jobs related to unit shut down within specified time period during forced unit shut down without affecting daily routine maintenance work.

ee. Maintenance of all air receiver tanks, pr vessels of AHP, Mill reject system and recovery water system is under bidder's scope.

ff. Patch refractory application, if required to be carried out in bottom ash hopper during forced unit shut down as per instruction of engineer in charge.

gg. Maintenance of dome valve assembly, pyrite hopper, plate valves, reject conveying line, bag filters, purge system and all associated air & water line etc. of mill reject system to be carried out as per schedule/ instruction of NPL in charge.

hh. Replacement of expansion bellows of mill reject system to be done as per instruction of NPL in charge.

ii. Daily maintenance logbook to be filled by the contractor on daily basis as per guidelines of NPL in charge.

jj. Supervision of annual overhauling work is covered under the scope of contractor.

kk. Hoist operation for maintenance work to be done by contractor.

ll. Contractor should always adhere to schedule during forced / routine shutdown by working round the clock.

mm. Vendor should arrange store management of material at site after issuing the material from NPL and maintain its all type of record as directed by NPL Engineer.

nn. Oil man is to be deployed to follow lubrication schedule of equipment's.

oo. Skilled Electrical and Control & Instrumentation personnel to be deployed for day to day routine maintenance.

pp. Minor Modification required in the existing system for smooth & reliable operation shall be done by vendor without any additional cost to NPL.

qq. For safe and reliable operation of system wherever platform or scaffolding is required at work place either temporary or permanent shall be prepared by vendor without any additional cost to NPL.

rr. Any light & small fabrication and erection work like tit-bit working platform, toe guard, hand railing etc. for safety concern and raised by safety officer or NPL Engineers is covered in contractor scope of work.

ss. Painting of equipment, valves, fittings, pipes etc. shall be done by the contractor where ever existing paints deteriorated as per instruction of NPL Engineers. Any new equipment's /fittings/pipeline etc installed also to be painted by the contractor without additional cost to NPL. All the paints required are to be supplied by NPL free of cost.

3.2.6.2 Other Maintenance Work

a. Welding of Cable tray if required by electrical team in AHP, MRS & AWRS.
b. Welding, cutting for process and instrumentation and maintenance of spares.
c. System up to first root valve of instruments. (Transmitter, Pressure gauge, level transmitter, Temp. Gauge, Analysers, Pressure switch, Temp. Switch, Limit switch).
d. Dismounting/mounting and Shifting of actuators, cylinders for any maintenance work.
e. Decoupling, Shifting, Dismantling of motors, alignment of motors,
f. Motor mechanical maintenance, replacement of bearings above 30 KW etc.

3.2.7 Various Equipment in AHP Area

SL. NO.	Description	QUANTITY		UNIT	CAPACITY
		Working	Stand by		
	PUMP				
1	Vacuum pump	4	2	Each	56.5 TPH
2	Drain pump (for vacuum pump area)	1	1	Each	45 cum/hr
3	Conditioning water pump	1	1	common	30 cum/hr
4	Silo area drain pump	1	1	common	30 cum/hr
5	FAHP water pump	2	1	common	
6	LP water pump	2	1	common	484 cum/hr
7	BAHP water pump	1	1	common	534 cum/hr
8	Ash slurry drain pump	1	1	common	30 cum/hr
9	Ash slurry pump series	2	1		740 cum/hr
10	Drain pit ejector pump	1	1	Each	
11	BA overflow transfer pump	1	1	Each	362 cum/hr
12	Economiser water pump	1	1		70 cum/hr
	TANK				

1	Collector tank	4		each unit	
2	BA overflow ground tank	1		each unit	
3	Air/water/oil convertor tank	4		each unit	
4	Settling/surge tank	1			531.12 cum
COMPRESSOR					
1	IA compressor	2	1	common	
2	Conveying compressor	5	1	common	113TPH
BLOWER					
1	ESP/Buffer hopper fluidising blower	2	1	common	1400cum/hr
2	Silo fluidising blower	3	1	common	
	SUMP				
1	Ash slurry sump	5			
2	Ash water sump	1			2160 cum
HOPPERS					
1	ESP HOPPER	108		Each	
2	APH inlet duct hopper	8		Each	
3	APH outlet duct hopper	8		Each	
4	duct hopper	4		Each	
5	Economiser Hopper	8		Each	
	Mill reject equipment				
1	Compressor	3	1	Each	
2	Pyrite hopper	12		Each	
3	Silo	2		Each	
	Recovery Water System				

1	Recovery water Pump	1	1	Each	
2	Clear water pump	1	1	Each	
3	Sludge disposal pump	1	1	Each	
4	Metal Tanks	1	1	Each	
5	Chemical dosing pumps	3	3	Each	
6	Clarifier Bridge Mechanism	1		Each	

3.2.8 List of Minimum Consumables, Tools, Tackles and Equipment to be maintained at site by the Contractor

I. Tools,Tackles and Equipment

Sl No	Description	Specification	Qty	UOM
1	Tool kit set with slandered tools	Standard manufacturer IS quality	As per technician strength	No
2	chain pulley block	3 MT	5	No
3	chain pulley block	1 MT	5	No
4	Allen Key Set	Appropriate size	6	Set
5	Box Spanner Set	Appropriate size	4	Set
6	Trifor (Hukchuk)	1 MT	2	No
7	chain pulley block	5 MT	3	No
8	Electric operated chain pulley block with long chain of 50 Mtr	1 MT	1	No
9	Wire rope	Up to 10 MT	2	Set
10	Grinding m/c			No
11	AG4		4	No
12	AG5		4	No
13	AG7		3	No
14	GQ4		1	No

15	FF2		2	No
16	Buffing m/c		1	No
17	Sling (Flat belt) 6 -8 mtr length	Up to 5 MT	2	Set
18	Sling (Flat belt) 3 -4 mtr length	Up to 5 MT	5	Set
19	Sling (Flat belt) 3 -4 mtr length	Up to 3 MT	5	Set
20	Welding machine Generator Transformer		3	No
21	Single Phase Portable Welding machine		6	No
22	Gas Cutting Set including cylinders		4	No
23	Hydraulic Jack 100 MM Ram length (50 T)		2	No
24	Hydraulic Jack 150 MM Ram length (30 T)		2	No
25	Pistal Drill Machine		1	No
26	Pipe wrench12”		6	No
27	Pipe wrench16”		6	No
28	Chain wrench 24”		4	No
29	Aluminium Ladder 10'		2	No
30	A type ladder 4'		2	No
31	A type ladder 6'		2	No
32	Movable platforms to work in ESP		6	No
33	Vernier Caliper 6", 12", 18"		2	Nos Each
34	Micrometre (Inside & Outside)(Up to 200MM)		1	No
35	Dial Indicator (Magnetic stand type make Mitutoyo)		10	No
36	Filler gauge (3" & 6" length)		5	Each
37	Thread Gauge (Inch & MM)		2	No Each
38	Air Hose (10 Mtr length)		4	No
39	DE shackle	Up to 5 MT	6	Set
40	DE shackle	Up to 3 MT	10	Set
41	24 V hand lamp with transformer		4	No
42	Spanners special (Like 38,50,55 mm)		1	Set

43	Oil barrel pump		1	No
44	Grease Gun		2	No
45	Dewatering Pump (Submersible Pump) (3HP & 5 HP)		2	No
46	Water Hose (25MM)		100	Mtr
47	Tractor with trolley (One For Mill reject and one for Housekeeping)		2	Nos
48	Pickup Van for maint work and available 24 hrs at site		1	No
49	BEARING PULLER 12" & 24"		1	No Each
50	C-CLAMP 4", 6", 8", 10", 12"		2	No Each
51	TAP SET 3 MM		2	Nos
52	TAP SET 4 MM		2	Nos
53	TAP SET 6 MM		4	Nos
54	TAP SET 8 MM		4	Nos
55	TAP SET 10 MM		4	Nos
56	TAP SET 12 MM		4	Nos
57	TAP SET 16 MM		4	Nos
58	TAP SET 20 MM		4	Nos
59	TAP SET 24 MM		1	Nos
60	TAP SET 27 MM		1	Nos
61	TAP SET 30 MM		1	Nos
62	TAP SET 36 MM		1	Nos
63	SCRAPPER BLADE		05	Nos
64	FILE FLAT 12`` ROUGH		10	Nos
65	FILE FLAT 12`` SMOOTH		10	Nos
66	FILE TRINGLE 12`` ROUGH		10	Nos
67	FILE TRINGLE 12`` SMOOTH		10	Nos
68	FILE ROUND 12`` ROUGH		10	Nos
69	FILE ROUND 12`` SMOOTH		10	Nos

70	NEEDLE FILE SETS		2	Sets
71	Copper Rod (1/2", 1", 1.5 ")		4	Each
72	Nylon Hammer		2	Nos
73	Scaffolding Pipe with clamp (5' & 10')		100	Each
74	Tarpoline (10'x 10')		5	Nos
75	SHIM CUTTER 12"		2	Nos
76	Nose Plier		2	Nos

Note - The minimum T & P mentioned above are not exhaustive and the Contractor has to deploy additional T&P as per site requirement to complete the scope of works in all respect without any additional cost to NPL.

3.2.9 Consumables

S.No.	Description	Qty	Uom
1	Anabond 666 -100gm	15	NOS
2	Anabond ht-red-85 gm	15	NOS
3	Anabond 203	2	NOS
4	Araldite-180gm	2	NOS
5	Deisel	10	LTR
6	M seal	5	KG
7	Markin cloth new	20	MTR
8	Cotton waste jute	50	KG
9	cotton cloth waste	10	KG
10	Masali -coir string-1/4"	20	KG
11	Fevi tite	5	NOS
12	Molikote-antiseize compound	2	NOS
13	Thread sealent	2	NOS
14	Welding electrode 6013	20	KG
15	Welding electrode 7018	20	KG
16	Rustoline	10	LTR
17	Teflon tape	25	NOS
18	Electrical tape	10	NOS
19	Wd -40	5	NOS
20	Emery paper (fine, medium, course)	20	NOS
21	Emery tape (fine, medium, course)	5	ROLL
22	Cutting wheels(For All grinders)	10	Nos Each
23	Buffing wheel	2	Nos
24	Lapping paste (coarse, Medium & Fine)	2	Nos Each
25	Prussian Blue 661 (For surface matching)	5	Nos

Note - The minimum T & P mentioned above are not exhaustive and the Contractor has to deploy additional T&P as per site requirement to complete the scope of works in all respect without any additional cost to NPL.

4 Qualification Criteria for Bidder

4.1 Technical Qualification Criteria

4.1.1 The Bidder should have minimum one running contract of same nature with complete operation and maintenance work of Ash Handling System in the Thermal Power Plants having unit capacity 500 MW & above and Running contract should have validity up to 30th June 2019

4.1.2 The Bidder should have executed minimum two contracts of similar work i.e operation and maintenance work of Ash Handling System during last three years of unit capacity of 500 MW and above.

4.1.3 Should have executed contract for operation and maintenance of Ash Handling plant with paid value of Minimum 02 crores/year in any of the 03 years in last 05 years.

4.1.4 The bidder should have established organization for not less than 7 years and have following persons on his payroll for last 5 years.

- Graduate Engineers with SEVEN Years or more industrial experience not less than 15 Numbers.
- Diploma with THREE Years or more industrial experience not less than 20 Numbers
- ITI Technicians with FIVE or more years of industrial experience not less than 40 Numbers.

4.1.5 Should have worked for operation support, mechanical maintenance and upkeeping of AHP plant and provide performance certificates for such work of 02 different unrelated clients (other than L&T).

4.2 Financial Qualification Criteria

4.2.1 The average annual turnover during last three years should be at least INR 2.5 Cr

4.2.2 Net worth of the bidder in the preceding year should not be less than INR 1.0 Cr.

4.3 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.

5 Indicative Resources

S. No.	DESCRIPTION	UOM	MANPOWER PER MONTH	Remark/Shift (Shift is of 8 Hrs)
1.	AHP & Mill Reject Area Site In charge	No	1	General
A.	**AHP Operation**			
1.	Operation Site In charge	Nos	3	1 in Each Shift
2.	Operator for Control Room & Compressors	Nos	6	2 in Each Shift
3.	Field Operator in Ash Water & Slurry Pump House	Nos	3	1 in Each Shift
4.	Field Operator in ESP Area & Collector Tower	Nos	6	2 in Each Shift
5.	Field Operator in Bottom Ash System & Economiser	Nos	3	1 in Each Shift
6.	Helper in Ash Water & Slurry Pump House	Nos	3	1 in Each Shift
7.	Helper in ESP Area & Collector Tower	Nos	6	2 in Each Shift
8.	Helper in Bottom Ash system & Economiser	Nos	3	1 in Each Shift
A.	**Sub Total**		**33**	
B.	**Mill Reject System Operation**			
1.	Control Room Operator in Mill Reject Control room	Nos	3	1 in Each Shift
2.	Field Operator in Mill area	Nos	3	1 in Each Shift
3.	Helper in Mill area	Nos.	3	1 in Each Shift
B.	**Total**		**9**	
C.	**Recovery Water System Operation**			
1..	Field Operator in Pump House	Nos	3	1 in Each Shift
2.	Helper in Pump House	Nos	3	1 in Each Shift
C.	**Total**		**6**	
D.	**AHP & MILL Reject System Maintenance**			
1.	Maintenance Engineer	Nos	3	1 in Each Shift
2.	Technicians (General Fitter)	Nos	8	2 in General & 2 in Each Shift
3.	Mill Wright Fitter	Nos	2	2 in General

4.	Welder Cum gas cutter	Nos	5	2 in General & 1 in Each Shift
5.	Rigger	Nos	5	2 in General & 1 in Each Shift
6.	Electrician	Nos	3	1 in Each Shift
7	Helpers	Nos	18	9 in General & 3 in Each Shift
D. Sub Total			**44**	
E. Helpers for Housekeeping of AHP, MRS & AWRS		**Nos**	**7**	**7 in General**
Total A + B + C + D + E			**100**	

Qualification requirement

1) Site Supervisor or Site In charge- 7 to 10 Years Exp (Common for O&M) with full time B Tech/B.E./Diploma.

2) Operation Shift In charge - 5 to 7 Years Exp (Operation) with full time B.Tech /B.E./Diploma.

3) Control Room Operator – 4 to 5 Years relevant Exp with full time Diploma/ITI.

4) Field Operator – 2 to 3 Years relevant Exp with will full time ITI/Graduate.

5) Semi-Skilled Helpers - 2 to 3 Years Exp.

6) Maintenance Engineers – 5 to 7 years relevant Exp with full time B tech/BE/Diploma.

7) Technicians (General Fitter) – 4 to 6 years' experience with Full time ITI.

8) Mill Wright Fitter - 4 to 6 years' experience with Full time ITI.

9) Welder cum gas cutter - 4 to 6 years' experience with Full time ITI.

10) Skilled Rigger – 5 to 7 years' experience.

11) Electrician - 4 to 6 years' experience with Full time ITI.

12) Housekeeping Manpower – Exp not required.

6 Evaluation Criteria

6.1 **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 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.

6.2 **Bid Evaluation for Qualification**

6.2.1 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.

6.2.2 The bidding Company must fulfil the minimum technical & financial qualification requirement mentioned in clause 4.

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

6.2.4 Though minimum qualification criteria are as mentioned in the respective clauses however a of weightage-based scorecard of the bidder shall be calculated based on following:

a. Each point in Cl 4 & Cl 5 shall carry 5 marks each when the requirement is met.
b. For each incremental 50% on technical capacity wrt minimum requirement an additional 2 marks will be added.
c. For each incremental 20% on time duration wrt minimum requirement an additional 3 marks will be added.

d. For each incremental 50% on Financial capacity wrt minimum requirement an additional 3 marks will be added

e. Relation to addition of marks on the 6.2.4 a to 6.2.4 d till maximum of 10 Marks for each criterion.

6.3 The bidders having a cumulative score of at least 25% more than the bare minimum cumulative score which could be obtained in meeting the criteria as set in Cl 4 shall be considered as Qualified Bidder.

6.4 The bidder to quote for percentage reduction from current specific consumption of AHP i.e, KW/Ton (Average of Last year Consumption). The weightage of 10% will be given while evaluating the bid price.

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.

7 Other Terms & conditions of Contract.

7.1 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.

7.2 The contractor can raise RAB in after completion of each month during the contract period.

7.3 Accommodation and transportation (Minimum 2 vehicles) are in contractor's scope.

7.4 **Screening of the Manpower before Deployment at Site:** The screening of Site In-charge, Millwright Filler, Normal Fitter, Welder and Riggers will be done by NPL before deployment at NPL Site. NPL will complete the screening in 08 working hours.

7.5 **Attendance System:** The attendance of the Deployed Manpower will be done on Biometric basis. The Biometric Attendance Machine will be provided and installed by NPL. However, till the installation of Biometric Attendance Machine, manual attendance record will be maintained by the Contractor.

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

7.7 **Canteen Services:** Canteen services will be provided to the Contractor on chargeable basis.

7.8 **Computer & Internet Facility:** Computer and Internet facility will not be provided by NPL. The same will be arranged by the Contractor at his own cost.

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

7.10 AHP 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.

7.11 If he contractor fails to fulfil the prescribed T&P as per list at all the time otherwise else penalties may be imposed on contractor.

7.12 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

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

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

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

7.16 Any modification / fabrication works 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.

7.17 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.

7.18 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

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

7.20 Additional Manpower

7.20.1 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:

a. Unskilled Manpower:Rs. _____ per day.
b. Semi-skilled Manpower: Rs. _____ per day.
c. Skilled Manpower: Rs. _____ per day (including welder, Gen &

Hyd. fitter & rigger).

d. Highly Skilled: Rs _____ per day (including MWF).
e. Tractor Trolley including Driver & Diesel: Rs _____ per day.

7.20.2 The mobilization period for the additional manpower will be within 12 hrs (10% of the total contract manpower) and shall be 05 working days (for >10% of total contract manpower). 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.

8 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 AHP 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.

8.1 References

8.1.1 NPL NIT Published

8.1.2 Tender specifications issued by NPL to bidders

8.1.3 Bid Clarifications issued by NPL

8.1.4 Bids submitted by the Bidders

8.1.5 Subsequent communication with the Bidder if any

8.2 Scope of Supply / Work:

The scope of supply under this purchase order shall be to provide Services for AHP Operation and Maintenance activities on daily basis as per Scope of work issued (clause 3) 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.

8.3 Price and Price Basis:

8.3.1 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.

8.3.2 All the required manpower, vehicles & equipment's etc shall be arrange by supplier without any extra cost implication to NPL.

8.3.3 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.

8.3.4 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.

8.3.5 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.

8.4 Taxes and Duties:

8.4.1 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.

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

8.4.3 Advance tax is not applicable.

8.5 Mobilization Period & Contract Period:

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

8.5.2 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

8.6 **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 to a form of any of the Indian Bank. The amount of Bid Security is 20 lacs 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

8.7 Payment Terms:

8.7.1 100% 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 till Contract

period + 3 months claim period. PBG Shall be extended for the next year at least two months prior to the completion of first year 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.

8.7.2 GST shall be paid along with bills after fulfilment of following terms.

g) Submission of copy of registration certificate issued by GST Authority (to be furnished only once).

h) Claim of GST amount with percentage (%) separately shown on the invoices.

8.7.3 The contractor along with monthly invoice shall submit P.F Challan, Xerox copies of wages register of previous month, Xerox copies of attendance sheet of respective month & statement indicating the employee and employer's P.F contribution of previous month with respect of employees employed by him for the contract at NPL site.

8.8 Delivery Date/ Time completion Period:

8.8.1 Time is the essence of the contract and timely completion of work shall be of utmost importance.

8.8.2 The Contract will be initially for a Period 2 Year from 01.02.2019 to 31.01.2021.

8.8.3 The period can be extended with an escalation of ..... % YOY by NPL for another one year which will be on sole discretion of NPL.

8.9 Recovery Clause:

8.9.1 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.

8.9.2 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.

8.10 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.

8.11 Penalty Clause/Reward Clause.

8.11.1 If the contractor failed to deploy adequate resources for AHP 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 AHP equipment availability resulting in low bunker levels (less than 65%), then NPL may impose a penalty up to 5% of monthly RAB 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.

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

8.11.3 If any area in AHP 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.

8.11.4 Monthly if percentage of availability of AHP equipment falls below 99% excluding the Preventive/planned/shutdown maintenance then 2 – 5 % of monthly RAB amount will be deducted as penalty depend on delay in execution / defect rectifications.

8.11.5 If there is fire in AHP 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.

8.11.6 If there is any absenteeism of Field Operator Rs 750/- per day for one day and will be 1500/- per day from second day onwards will be imposed and deducted.

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

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

8.11.9 In the event of not meeting the quoted improvement in average specific power consumption (SPC) of AHP measured on quarterly basis, Vendor will be liable for imposition of penalty equivalent to the 125% of the amount at average variable cost of energy of NPL for **Additional Energy Consumed** during the quarter. Vendor will also be rewarded for achieving higher improvement then quoted in average specific power consumption of AHP measured on quarterly basis with the 75% amount at average variable cost of energy of NPL for **Additional Energy Consumed** during the quarter. The point of such measurement shall be decoded mutually after award of contract.

Ex:

NPL current SPC for AHP -	18 KWH/T
Reduction quoted by vendor	2%
Target SPC	17.64 KWH/T

Case-I

Achieved by vendor	17.50 KWH/T on Quarterly basis
Difference from target	0.14 KW/T
Ash handled in quarter	270000 T
Additional Energy Consumed	270000 x .14 =37800 KWH
Variable Cost at NPL (sample)	2.0 Rs
Penalty shall be	1.25x37800x2.0 = 94500 RS

Case-II

Achieved by vendor	17.74 KWH/T on Quarterly basis
Difference from target	0.10 KW/T
Ash handled in quarter	270000 T
Additional Energy Consumed	270000 x .10 =27000 KWH
Variable Cost at NPL (sample)	2.0 Rs
Reward shall be	0.75x27000x2.0 = 40500 RS

8.11.10 The cumulative annual Penalty charges shall be capped at 10% of the basic yearly contract amount.

8.12 **Communication**: All correspondences to this Contract should addressed to:

Head Procurement
Nabha Power Limited
PO Box No. 28, Near Village Nalash, Rajpura, Distt-Patiala, Punjab ,PIN - 140401
Email: Prateek.gupta@larsentoubro.com

8.13 Invoicing Instructions:

All correspondences pertaining to Invoicing should be addressed to:

Head Mechanical Maintenance

Nabha Power Limited

PO Box No. 28, Near Village Nalash, Rajpura, Distt-Patiala, Punjab, PIN - 140401

8.14 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.

8.15 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.

8.16 Warranty /Defect Liability:

The Contractor's liability for warranty shall be limited to a period of 6 months against the poor workmanship from the date of completion of any work/job assigned, In case such poor workmanship leads to rework/replacement of spares/refilling of consumables then contractor shall be liable to pay for the same to NPL.

8.17 Format and Signing of Bid:

8.17.1 The bid including all documents to be signed by a duly authorized representative of the Bidder to bind him to the contract. The authorization shall be in form of Power of Attorney to be submitted in prior to date & time for opening of bid.

8.17.2 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.

8.18 Definitions:

Owner / NPL: M/s Nabha Power Limited, Rajpura, Punjab.

Contractor / Contractor/Bidder:

Either Party – Both NPL & Contractor

8.19 Enclosures: _____

9 General Conditions of the Contract (GCC)

9.1 Suspension of Work:

9.1.1 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.

9.1.2 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.

9.1.3 NPL will not be liable for any payment for the suspension period other than any work/services completed prior to start of suspension period.

9.2 Termination at Default:

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

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

9.2.2 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.

9.2.3 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 noncompetitive levels and to deprive NPL of the benefits of free and open competition.

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

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

9.2.6 Commits a breach of the Contract.

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

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

9.2.9 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.

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

9.2.11 Fails to comply with statutory requirements.

9.3 Termination at Convenience:

9.3.1 Termination for convenience: NPL can terminate the contract with notice period of One 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.

9.4 Force Majeure:

9.4.1 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:

a. Natural phenomena, including but not limited to floods, droughts, earthquakes, epidemics, storm & lightning substantially affecting Work;
b. Acts of any Government, including but not limited to war, declared or undeclared, priorities, quarantines, embargoes, nationalisation, confiscation;
c. Accidents such as fire and explosions;
d. Strikes or industrial disputes (which are not related to the breach of agreement with the employees by either Parties), and sabotage.
e. Riots, civil commotion, insurrection, act of terrorism, belligerence, hostilities, and revolution.

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

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

9.4.4 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.

9.4.5 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.

9.4.6 The parties hereto shall consult with each other and take all reasonable steps to minimize 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.

9.5 Aggregate Liability:

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

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

9.5.3 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.

9.6 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.

9.7 Contractor's Labours and Compliances:

a. 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.

b. 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.

c. 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.

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

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

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

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

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

i. 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.

j. 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.

k. 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.

9.8 Compliance under Welfare of the Employees:

The contractor will comply with the following:

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

9.8.2 Canteen facilities for 250 or more contract workers.

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

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

9.8.5 Compliance related to health, hygiene and sanitation.

9.9 Before Commencement of Work:

The Contractor or his nominated representative will comply the following on the day, prior to start of the work at NPL Site:

9.9.1 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.

9.9.2 Contractor/ its nominated person will mark attendance, provide uniform and safety equipment as required.

9.9.3 Contractor/ its nominated person will obtain work permit duly signed by the site in charge in whose department they will be working.

9.10 Quality, Environment, Health & safety:

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

a. 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.

b. 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.

c. 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.

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

e. 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.

f. 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.

g. 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.

9.11 Quality & Environment: The contractor will comply with the following:

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

9.11.2 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.

9.11.3 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.

9.12 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.

9.13 **L**anguage**:** Contract language will be English only.

9.14 Completion Certificate:

Contractor shall inform NPL in writing on completion of the works and thereby request for Completion Certificate. Completion Certificate will be issued by NPL when the above specified works are completed fully to the satisfaction of NPL. In case of monthly running bills or stage payments, completion as per the billed quantities is to be obtained from Engineer In Charge and should be submitted with the bill.

9.15 Contractor to Indemnify NPL

Contractor/Vendor agrees to indemnify NPL and keep NPL, its officers, directors and employees indemnified and harmless from (i) any loss, damage, cost or expense

(including reasonable attorney fees) (Loss) arising from any claim, demand, assessment, action, suit or proceeding (Claim) arising or occurring during the performance of the Contract or thereafter as a result of negligence on the part of the Contractor/Vendor and/or on the part of his employees/representatives ; (ii) any Loss or Claim arising from or related to breach of any of the terms of this Contract/Agreement on the part of the Contractor/Vendor and/or on the part of his employees/representatives; and (iii) any Loss or Claim arising from any violation/infringement on the part of the Contractor/Vendor and /or on the part of his employees/representatives of any government regulations, statutory duties and compliances etc.

9.16 Right to Examine, inspect and investigate

Owner/NPL shall have the right to examine, inspect and investigate, at any time the Drawings, Documents and Resources deployed by the Contractor for fulfilling its scope/obligations under the Contract. Advance intimation to be given to Contractor wherever necessary as felt by Owner, Contractor to ensure and facilitate the process without any delay and hindrance.

9.17 Assignment, Subcontracting and Subletting:

The contractor will comply with the following:

9.17.1 The contractor will not subcontract any work allotted to him to any other agency without written approval from the NPL Management

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

9.18 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.

9.19 Idle Time:

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

9.20 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.

9.21 Arbitration:

9.21.1 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.

9.21.2 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.

9.21.3 The arbitration shall be conducted in accordance with the provisions of The Arbitration and Conciliation Act 1996 of India and its amendment(s).

9.21.4 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 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.

9.22 Insurance

9.22.1 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.

9.22.2 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.

9.22.3 **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.

9.23 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

10 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

DECLARATION OF SITE VISIT BY THE BIDDERS

We hereby declare that we have visited the said Site of Work and have acquainted and satisfied thoroughly with the existing Site Condition.

Signature.....

Designation.....

.....

(COMPANY SEAL)

Company.....

.....

Date.....

Annexure - 3

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 AHP Operation & Maintenance for Nabha Power Limited
Ref :- RFQ dated (Date)

Dear Sir,
We, the undersigned Bidder having read and examined in detail the Tender Document of- AMC for AHP 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, in I original + 2(two) copies 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 ofprincipal Officer.
To be signed by Managing Director/ Chief Executive Officer who should also be full time director on the Board.

Wherever the format is signed by the Manager of the Company, it will also be permissible subject to the following two conditions:

(a) The Company should confirm through a copy of Board Resolution attested by Company Secretary that the concerned person is appointed as Manager as defined under the Companies Act, 1956 for the purpose in question.

(b) The Company Secretary also certifies that the Company does not have a Managing Director or CEO.

Annexure – 4

DECLARATION FOR premature TERMINATIONS

(On the Letter Head of Bidding Company/Lead Member)

Bidders Name:

Full Address:

Telephone No:, E-mail address:, Fax/No:

It is confirmed that there has there been (…….Nos.) contract terminated prematurely in last FIVE years- as on date of bid submission.

Details of premature termination(s) are as below:

SN	Client	Works details	Contract period	period served till termination-	Reason of Termination

Annexure - 5

Executive Summery

1.1.a Name of the Bidding Company.

1.1.b Lead Member in the Bidding Consortium.

1.1 Details of Bidding Consortium

Sl. No	Name of the Company	Role Envisaged	Details of the experince and financial Capability

1.2 Details of the contact person

Name

Designation

Company

Address

Phone Nos.

Fax Nos.

E-mail address

Signature _____

For

_____

Bidder's Rubber Seal and Full address

Date:

Place:

Annexure - 6

Manpower Rates

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/Month	Remark
1	AHP AMC'S Site In-Charge	Month		
2	Operation Site In charge	Month		
2	Operator for Control Room & Compressors	Month		
3	Field Operator in ESP Area & Collector Tower	Month		
4	Field Operator in Bottom Ash System & Economiser.	Month		
5	Control Room Operator in Mill reject area	Month		
6	Field Operator in Mill area	Month		
7	Maintenance Engineers	Month		
8	Technicians (General Fitter)	Month		
9	Mill Wright Fitter	Month		
10	Welder Cum Gas Cutter	Month		
11	Rigger	Month		
12	Electrician	Month		
13	Semi Skilled Helpers	Month		
14	Unskilled Helpers	Month		
	Total			

Annexure - 7

FORMAT FOR FINANCIAL REQUIREMENT

(on the letter head of Bidding Company/Each Member in a Bidding Consortium)

To,
Head of Procurement
Nabha Power Limited
Near Village Nalash, Rajpura
Patiala -147001, (Punjab)

Dear Sir,

Sub: Response to RFQ for AMC of AHP Opeartion & Maintenance for Rajpura Thennal Power Project

We certify that the _____ [insert name of the Bidding Company/Member in a Bidding Consortium) had Company turnover at least double or more than total cost work quoted based on audited annual accounts during any of the last three financial years. This Internal Resource Generation has been calculated in accordance with instructions provided.

Exhibit (i): Applicable in case of Bidding Company

For the above calculations, we have considered Internal Resource Generation of Bidding Company and/ or Parenti Affiliate for the financial year -----as per following details:

Name of the Company	Relationship with Bidding Company Parent/Affiliate	Internal Resource Generation (Rs.Crore)	Five Times the Internal Resource Generation (Rs, Crore)
Company 1			

Total			

* The column for "Relationship with Bidding Company" is to be filled only in case the financial capability of Parent/Affiliate has been used for meeting Qualification

Annexure - 8

FORMAT FOR FINANCIAL REQUIREMENT

Internal Resource Generation Requirement to be met by [insert name of the Member] in proportion to the Equity Commitment: Rs. Crore (Equity Commitment *('Yo)*

For the above calculations, we have considered Internal Resource Generation by Member in Bidding Consortium and/ or Parenti Affiliate for financial year as per following details:

Name of Member:-[Insert Name of Member]

Name of the Company	Relationship with Member	Internal Resource Generation (Rs.Crore)	Five Times the Internal Resource Generation (Rs, Crore)
Company 1			

Total			

* The column for "Relationship with Bidding Company" is to be filled only in case the financial capability of ParentiAffiliate has been used for meeting Qualification Requirements and fonn 9D has to be filled for each of such companies.

Signature of
Chief Executive Officer/Managing Director/Manager**

Signature and Stamp of
Statutory Auditor

(Please also affix common seal of Bidding Company/ Member in a Bidding Consortium)

Date;

Note:

1. The above response sheet should be signed and cetiified as true by the Chief Executive Officer/Managing Director being full time Director/Manager** and Statutory Auditor of the Bidding Company or Member, in case of a Consortium.

2. Along with the above fonnat, in a separate sheet, details of computation of Internal Resource Generation duly certified by Statutory Auditor.

•• Wherever the fonnat is signed by the Manager of the Company, it will also be pennissible subject to the following two conditions:

(a) The Company should confinn through a copy of Board Resolution attested by Company Secretary that the concerned person is appointed as Manager as defined under the Companies Act, T956 for the purpose in question.

(b) The Company Secretary also certifies that the Company does not have a Managing Director or CEO. "

Annexure - 9

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 Chief Executive Officer/Managing Director/ Manager* *

Note: The above disclosure should be signed and certified as true by the Chief Executive Officer/Managing Director being full time Director oflhe Bidding Company/ Manager** or of the Member, in case of a Consortium.

** Wherever the disclosure is signed by the Manager of the Company, it will also be permissible subject to the following two conditions:

(a) The Company should confirm through a copy of Board Resolution attested by Company Secretary that the concerned person is appointed as Manager as defined under the Companies Act, 1956 for the purpose in question.

(b) The Company Secretary also certifies that the Company does not have a Managing Director or CEO. "

Annexure -10

PERMANENT GATE PASS APPLICATION FORM

CONTRACT WORKERS

Ser No._____

PHOTO DULY STAMPED

NAME OF CONTRACTOR :_____

NAME OF SUB CONTRACTOR :_____

NAME OF THE CONTRACT WORKER : _____

DESIGNATION : _____ AGE _____ GENDER : M/F

FATHER/HUSBAND NAME : _____

IDENTIFICATION MARKS : _____

WORK AREA : _____ POLICE VERIFICATION: YES/NO

MEDICAL FITNESS VALID UPTO : _____ SAFETY TRAINING VALID UPTO _____

PRESENT ADDRESS		**PERMANENT ADDRESS**	
VILLAGE		VILLAGE	
POST OFFICE		POST OFFICE	
TEHSIL		TEHSIL	
DISTRICT		DISTRICT	
STATE		STATE	
PIN CODE		PIN CODE	
CONTACT No.		CONTACT No.	
SALARY A/C NO. _____ **NAME &ADDRESS OF BANK**:		**AADHAR CARD No**._____	

_____ _____ _____ **IFSC CODE** : _____	_____ **(SIGN OF INDIVIDUAL)**

UNDERTAKING

I, the undersigned certify that the details furnished above are correct & true to best of my knowledge. I take the complete responsibility for the conduct and behaviour of the said person engaged by me during work at NPL site. I will follow all Safety & Security Rules & Procedures while working at NPL site. I am aware that loss/non return /misuse of this Gate Pass shall make us liable for penalties as decided by the NPL authority.

Annexure -11

Safety Manual

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) has implemented 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 (qualification - Graduation + 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.

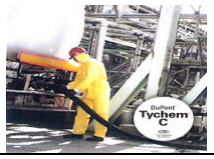
11.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

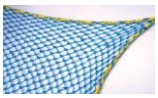
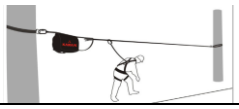
- **General:** "PPE Hazard Assessment" means the process of identifying, selecting, and documenting appropriate personal protective equipment (PPE) for workplace hazards.
- Contractor shall provide, at its own expense, and enforce the use of all appropriate job specific PPE's and any posted Company requirements.
- 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