

TENDER SPECIFICATION

NO.BHE/PW/PUR/RIT-MMS/660

FOR

RECEIPT, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION AND HANDING OVER OF COMPONENTS OF BOILER & AUXILIARIES, STEAM TURBINE & AUXILIARIES, TURBO-GENERATOR & AUXILIARIES, CONTROLS AND INSTRUMENTATION OF BOILER & TG PACKAGES, HP & LP PIPING, REFRACTORY & INSULATION, BHEL'S T&P, COMPONENTS & EQUIPMENTS OF VARIOUS OTHER ITEMS AND PROVIDING SERVICES FOR MATERIALS MANAGEMENT FOR 2x500 MW UNIT NOS. 5 & 6

AT

**RIHAND THERMAL POWER STATION,
RIHAND, DIST- SONEBHADRA, U.P.**

PART –I

(TECHNICAL BID SPECIFICATION, NOTICE INVITING TENDER & GCC)



Bharat Heavy Electricals Limited

(A Government of India Undertaking)

Power Sector - Western Region

345-Kingsway, Nagpur-440 001

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\$: Attached at the end of hard copy of Tender Specifications Part-I. Hosted in BHEL web page (www.bhel.com) as file titled “**NIT+GCC-660**”.

@: Issued as separate hard copy booklet ‘Tender Specifications Part-II (Price Bid-660)’. Hosted in BHEL web page (www.bhel.com) as file titled “**PRICE BID-660**”

Note:

Rest of the tender documents are included in Tender Specifications Part-I. Hosted in BHEL web page (www.bhel.com) as file titled “**TECH BID-660**”

BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR - WESTERN REGION
SHREEMOHINI COMPLEX
345-KINGSWAY, NAGPUR 440 001

TENDER SPECIFICATION DOCUMENT ISSUE DETAILS

TENDER SPECIFICATION NO. BHE/PW/PUR/RIT-MMS/660

NAME OF THE WORK: THE WORK OF RECEIPT OF MATERIALS, UNLOADING, VERIFYING, SHIFTING, STACKING, PRESERVATION AND HANDING OVER OF COMPONENTS OF BOILER & AUXILIARIES, STEAM TURBINE & AUXILIARIES, TURBO-GENERATOR & AUXILIARIES, CONTROLS AND INSTRUMENTATION OF BOILER & TG PACKAGES, HP & LP PIPING, REFRACTORY & INSULATION, BHEL'S T & P AND COMPONENTS & EQUIPMENTS OF VARIOUS OTHER ITEMS AND PROVIDING SERVICES FOR MATERIALS MANAGEMENT FOR 2x 500 MW, STAGE-III, UNIT No.5 & 6

AT

RIHAND THERMAL POWER STATION,

RIHAND, DIST- SONEBHADRA, U.P.

EARNEST MONEY DEPOSIT: Please see Special Conditions of Contract.

LAST DATE FOR TENDER SUBMISSION: Please obtain updated information from web page "<http://www.bhel.com>" → Tender Notifications → View Corrigendums.

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING PART-I AND PART- II ARE ISSUED TO:

M/s.

.....

PLEASE NOTE:
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

Dy. General Manager (Purchase)
Place: Nagpur
Date:

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
POWER SECTOR - WESTERN REGION
345-KINGSWAY, NAGPUR 440 001

PROCEDURE FOR SUBMISSION OF SEALED TENDERS

THE TENDERER MUST SUBMIT THEIR TENDERS AS REQUIRED IN TWO PARTS IN SEPARATE SEALED COVERS PROMINENTLY SUPERSCRIBED AS PART-I TECHNICAL BID AND PART-II PRICE BID AND ALSO INDICATING ON EACH OF THE COVERS THE TENDER SPECIFICATION NUMBER AND DUE DATE AND TIME AS MENTIONED IN THE TENDER NOTICE.

PART-I (TECHNICAL BID) COVER-I

EXCEPTING RATE SCHEDULE, ALL OTHER SCHEDULES, DATA SHEETS AND DETAILS CALLED FOR IN THE SPECIFICATION SHALL BE ENCLOSED IN PART-I "TECHNICAL BID" ONLY.

PART-II (PRICE BID) COVER-II

ALL INDICATIONS OF PRICE SHALL BE GIVEN IN THIS PART-II "PRICE BID". **EMD SHALL NOT BE INCLUDED IN THIS COVER.**

THESE TWO SEPARATE COVERS-I AND II (PART-I AND PART-II) SHALL TOGETHER BE ENCLOSED IN A THIRD ENVELOPE (COVER-III) ALONGWITH REQUISITE EMD AS INDICATED EARLIER AND THIS SEALED COVER SHALL BE SUPERSCRIBED AND SUBMITTED TO ADDL. GEN MANAGER (PURCHASE) AT THE ABOVE MENTIONED ADDRESS ON OR BEFORE THE DUE DATE AS INDICATED.

THE QUALIFIED TENDERER WILL BE INTIMATED SEPARATELY ABOUT THE STATUS OF THEIR OFFER.

TENDERER ARE REQUESTED TO MAKE SPECIFIC NOTE OF THE FOLLOWING CONDITIONS:

- CONTRACTOR SHOULD HAVE ADEQUATE RESOURCES INCLUDING MAJOR T&PS AT HIS DISPOSAL FOR THIS JOB.
- CONTRACTOR SHOULD HAVE SOUND FINANCIAL STABILITY.
- TENDERER SHOULD MEET QUALITY REQUIREMENT REGARDING WORKMANSHIP, DEPLOYMENT OF PERSONNEL, ERECTION TOOLS AND NECESSARY INSPECTION, MEASUREMENT & TESTING INSTRUMENTS.
- ALL INFORMATION AS CALLED FOR IN VARIOUS APPENDICES AND CLAUSES OF TENDER SPECIFICATION SHOULD BE FURNISHED IN COMPLETENESS. PLEASE REFER THE CHECKLIST.
- CLARIFICATION ON TENDER IF ANY, SHALL BE OBTAINED BY THE TENDERER BEFORE SUBMITTING THEIR OFFER.
- OFFERS MUST BE SUBMITTED WITHOUT ANY DEVIATION.
- OFFERS RECEIVED WITH ANY DEVIATION OR WITHOUT RELEVANT INFORMATION AS DESCRIBED ABOVE ARE LIABLE TO BE REJECTED. PRICE BIDS RECEIVED IN THE FORM OTHER THAN SPECIFIED IN PART-II (PRICE BID) ARE LIABLE TO BE REJECTED.
- In case customer approval is required for this package, bidder's offer will be accepted subject to approval of bidder by customer.

PROJECT INFORMATION

Owned by NTPC at Rihand Super Thermal Power Station the capacity of plant is being augmented by installation of additional 2x500 MW set adjacent to the existing unit. Rihand falls under district of Sonbhadra state of Uttar Pradesh. Site is located on the southern bank of Rihand reservoir near village Bijpur in district Sonbhadra of Uttar Pradesh having latitude and longitude of $24^{\circ} 01' 51''$ n and $82^{\circ} 47' 10''$ e respectively. The site is situated south east of Singrauli STPP.

Nearest railway stations are Singrauli on Howrah rail route and Renukut on Delhi rail route at a distance of 65 km and 75 km respectively from the project. Mirjapur station is approximately 200 km away from the project. Project is accessible by all season roads from Varanasi - Rabertsgang – Renukut or Singrauli – Waidhan road. The nearest air port is Varanasi.

OTHER IMPORTANT DATA

The project site lies in the seismic zone –III as defined in IS –1893.

The basic wind speed “ V_B ” at ten meters above the mean ground level is 47.0 meters / second.

Category of terrain is –2

Highest ambient temperature recorded in last 10 years is 43.3° C

Lowest ambient temperature recorded in last 10 years is 1.1° C

CHECK LIST

(VIDE PARA 1.3 OF SECTION-I OF GENERAL CONDITIONS OF CONTRACT)

| | | | |
|----|--|-------------------------------------|----|
| 1 | NAME OF THE TENDERER WITH ADDRESS | | |
| 2 | NATURE OF THE FIRM | LIMITED / PARTNERSHIP / PROPRIETARY | |
| 3 | EMD DETAILS (Rs. 2.0 LACS BY DD ONLY OR ONE TIME EMD) | | |
| 4 | VALIDITY OF OFFER (REQUIRED 6 MONTHS FROM DUE DATE) | | |
| 5 | MOBILIZATION TIME (NOT EXCEEDING 03 WEEKS FROM FAX LOI) | | |
| 6 | WHETHER NO DEVIATION CERTIFICATE FURNISHED | YES | NO |
| 7 | TENDERER HAS VISITED THE PROJECT SITE AND ACQUAINTED WITH THE SITE CONDITIONS | YES | NO |
| 8 | DETAILS OF CONCURRENT JOBS ARE FURNISHED (AS PER RELEVANT APPENDIX) | YES | NO |
| 9 | HEAD QUARTER'S ORGANISATION IS FURNISHED | YES | NO |
| 10 | PROPOSED SITE ORGANISATION IS FURNISHED | YES | NO |
| 11 | FINANCIAL STATUS OF THE COMPANY (RELEVANT ANNEXURE OF GCC) IS FURNISHED | YES | NO |
| 12 | PROFIT & LOSS ACCOUNT FOR PRECEDING THREE YEARS IS FURNISHED | YES | NO |
| 13 | LATEST SOLVENCY CERTIFICATE FROM THE BANKER IS FURNISHED | YES | NO |
| 14 | LATEST INCOME TAX CLEARANCE CERTIFICATE OR COPY OF PAN CARD ACCOMPANIED BY 'IT RETURN' COPY IS FURNISHED | YES | NO |
| 15 | MANPOWER DEPLOYMENT PLAN (AS PER RELEVANT APPENDIX) IS FURNISHED | YES | NO |
| 16 | MONTHWISE DEPLOYMENT PLAN FOR MAJOR T&P (AS PER RELEVANT APPENDIX) IS FURNISHED | YES | NO |
| 17 | ANALYSIS OF UNIT RATES QUOTED (AS PER RELEVANT APPENDIX) IS FURNISHED | YES | NO |
| 18 | POWER OF ATTORNEY ENCLOSED IN FAVOUR OF PERSON MAKING OFFER. | YES | NO |

| | | | |
|----|---|-----|----|
| 19 | DETAILS OF SIMILAR WORK DONE IN LAST SEVEN YEARS (AS PER RELEVANT APPENDIX) AND SUPPORTING DOUCMENTS FURNISHED. | YES | NO |
| 20 | PROGRAMME FOR THE SUBJECT WORK FURNISHED | YES | NO |
| 21 | BIDDER HAS FMILIARIZED HIMSELF WITH ALL RELEVANT LOCAL LAWS & CONDITIONS. | YES | NO |
| 22 | WHETHER ALL THE PAGES OF THE TENDER DOCUMENTS ARE READ, UNDERSTOOD AND SIGNED | YES | NO |
| 23 | <p>WHETHER THE FOLLOWING DETAILS PERTAINING TO YOUR BANK ACCOUNT DULY ENDORSED BY THE BANK HAVE BEEN FURNISHED {TO ENABLE BHEL RELEASE PAYMENTS THROUGH ELECTRONIC FUND TRANSFER (EFT/RTGS) AS SPECIFIED IN SECTION 12 }</p> <ol style="list-style-type: none"> 1. Name of the Company 2. Name of Bank 3. Name of Bank Branch 4. City/Place 5. Account Number 6. Account type 7. IFSC code of the Bank Branch 8. MICR Code of the Bank Branch | YES | NO |

NOTE: STRIKE OFF YES OR NO, AS APPLICABLE

DATE:

SIGNATURE OF TENDERER

DECLARATION BY BIDDER'S AUTHORIZED SIGNATORY

REFERENCE: TENDER SPECIFICATION No. BHE/PW/PUR/RIT-MMS/660

I, _____ HEREBY CERTIFY THAT ALL THE INFORMATION AND DATA FURNISHED BY ME WITH REGARD TO THIS TENDER SPECIFICATION ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I HAVE GONE THROUGH THE SPECIFICATIONS, CONDITIONS AND STIPULATIONS IN DETAIL AND AGREE TO COMPLY WITH THE REQUIREMENTS AND INTENT OF THE SPECIFICATION. I FURTHER CERTIFY **THAT I AM DULY AUTHORISED REPRESENTATIVE OF THE UNDERMENTIONED BIDDER AND A VALID POWER OF ATTORNEY TO THIS EFFECT IS ALSO ENCLOSED.**

DATE:

SIGNATURE OF AUTHORIZED SIGNATORY WITH SEAL

CERTIFICATE OF NO DEVIATION

REFERENCE: TENDER SPECIFICATION No. BHE/PW/PUR/RIT-MMS/660

I/WE, M/s

HEREBY CERTIFY THAT NOTWITHSTANDING ANY CONTRARY INDICATIONS/ CONDITIONS ELSEWHERE IN OUR OFFER DOCUMENTS, I/WE HAVE NEITHER SET ANY TERMS AND CONDITIONS NOR THERE IS ANY DEVIATION TAKEN FROM THE CONDITIONS OF BHEL'S TENDER SPECIFICATIONS, EITHER TECHNICAL OR COMMERCIAL, AND I/WE AGREE TO ALL THE TERMS AND CONDITIONS MENTIONED IN BHEL'S TENDER SPECIFICATION WITH ASSOCIATED AMENDMENTS AND CLARIFICATIONS.

Date:

Signature of the Bidder

**CERTIFICATE CONFIRMING
KNOWLEDGE ABOUT SITE CONDITIONS**

REFERENCE: TENDER SPECIFICATION No. BHE/PW/PUR/RIT-MMS/660

We, M/s
hereby declare and confirm that we have visited the project site as referred in BHEL's Tender Specification under reference above and acquired full knowledge and information about the site conditions. We further confirm that the above information is true and correct and we shall not be eligible for any additional payment of any nature due to lack of knowledge or non-familiarization of site conditions.

BIDDER'S NAME AND ADDRESS:

SIGNATURE & OFFICIAL SEAL OF BIDDER'S
AUTHORISED SIGNATORY

PLACE:

DATE:

SECTION-3

OFFER OF THE BIDDER

To,
The Dy. General Manager (Purchase)
Bharat Heavy Electricals Limited
Power Sector - Western Region
Shreemohini Complex
345, Kingsway
Nagpur 440 001

Dear Sir,

I/we hereby offer to carry out the work detailed in tender specification no .BHE/PW/PUR/RIT-MMS/660 issued by Bharat Heavy Electricals Limited, Power Sector-Western Region, Nagpur, in accordance with the terms and conditions thereof.

I/we have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Instructions to tenderers
2. General conditions of contract
3. Special conditions of contract
4. Other sections, appendices, schedules and drawings.

I/we have deposited / forwarded herewith the earnest money deposit for a sum of Rs. 2,00,000 (Rupees two lakh only) details of EMD payment are furnished in the check list.

EMD shall be refunded should our offer not be accepted / EMD need not be refunded and the amount may be treated as "one time EMD" for erection and commissioning tenders of BHEL-PSWR, Nagpur. Should our offer be accepted, i/we further agree to deposit security deposit for the work as provided for in the tender specification within the stipulated time as may be indicated by BHEL, Power Sector-Western Region, Nagpur.

I/we further agree to execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

Place:
Date:

Signature of bidder:
Address:

Witnesses with their address

| Signature | Name | Address |
|-----------|------|---------|
| 1. | | |
| 2. | | |

SECTION-4
SPECIAL CONDITIONS OF CONTRACT
SCOPE OF WORK

4.1 BROAD SCOPE OF WORK

The scope of work of this tender specification of material handling and materials management services for 2x500 MW unit no. 5 & 6 at NTPC Rihand Super Thermal Power Station, Rihandnagar shall broadly be as under:

- Unloading of **all types of heavy consignments and/or over-dimensional consignments** (e.g., boiler drum, transformer etc) directly from trailers / wagons by suitable crane or by jack and sleeper method (all to be arranged by the contractor), including leveling of the unloading area and attendant work.
- Receipt of materials dispatched by road transport on door delivery basis at the BHEL stores and unloading thereof.
- Collection of materials dispatched by road transport/ rail on godown delivery basis from transporters'/railway godowns, loading at transporters/ railway godown, local transport up to BHEL stores/ storage yard in Rihand project and unloading thereof.
- Preliminary verification of materials at the time of unloading from rail/ road transport vehicle or while receiving consignments from railway/ transporters' godown - as the case may be, reporting immediately the discrepancies like damages and shortages noticed.
- Detailed verification of materials with reference to packing list and loading advice slip after unpacking of boxes & crates; repacking, where called for, after detailed verification; preparation of receipt inspection reports.
- Stacking and storing at BHEL open storage yard/ covered stores/ closed & semi-closed sheds in Rihand project, submission of stacking/storing records.
- Preservation of the materials in accordance with BHEL's preservation manual and/or as per BHEL's instructions.
- General cleaning, grass cutting and upkeep of storage yard, covered and semi-closed stores sheds within the quoted rates for unloading, verification and stacking.
- Providing Materials Management Services (refer clause no. 4.12.).
- Re-handling and restacking of materials as and when called for by BHEL. This also includes excess/redundant/ scrap materials returned to stores by BHEL's erection contractors.
- Handling and loading of outgoing materials those are to be sent to other destinations.

4.2 Scope of work is further detailed in various clauses hereafter.

DETAILS OF MAJOR PACKAGES TO BE HANDLED ARE AS UNDER:

1. Steam Generator, fans, mills, feeders, ducts & dampers, along with their auxiliaries and trim piping
2. Electrostatic Precipitator (ESP) and its auxiliaries.
3. Power Cycle Piping system
4. SG piping and TG cycle piping, tanks, vessels etc.
5. Chemical dosing system
6. Equipment Cooling Water System
7. Air Compressor
8. Mill Reject handling system
9. Passenger Elevators for Boiler , TG and ESP/VFD control room
10. Motors
11. LT Switch Gear, Power Cables, Control Cables
12. Cabling, earthing & Lighting Protection
13. VFD for ID Fan
14. Electrical Actuators with Integral Starters
15. Steam Turbine, Turbo-Generator & Auxiliaries, .
16. Lube Oil & Control Oil System
17. HP & LP Heaters, Heat exchangers
18. Unit Lube Oil purification system
19. Central lube oil purification system
20. Turbine gland sealing system
21. Turbine integral piping
22. Generator seal oil system
23. Generator stator water cooling system
24. Generator rotor cooling system
25. Water cooled condenser
26. Online Tube Cleaning System

27. Condensate Extraction Pump
28. Deareator feed water heater (with storage tank)
29. Turbine driven boiler feed pump
30. Motor driven boiler feed pump with VFD
31. HP/LP bypass system
32. EOT Crane
33. Equipment Cooling Water System
34. Hydrogen Generation Plant
35. Boiler & aux controls & instrumentation and accessories and cables, trays etc
36. STG & aux controls and instrumentation and accessories
37. Generator protection relay panels and auxiliaries
38. Station Control & Instrumentation system
39. Thermal insulation package
40. Other BHEL supplied (manufactured/bought out items) packages
41. Construction equipments of BHEL including high capacity cranes sent in dismantled condition and other items received from other sites/locations.

(Hauling of special wagon & rack carrying the generator stator from the Rihand siding to the project and unloading of generator stator at site is excluded from the scope of work).

Some of the major heavy consignments are:

| <u>SN</u> | <u>Description</u> | <u>Approx wt of single assembly</u> |
|------------------|---|--|
| 01 | Boiler Drum | 230 MT |
| 02 | Ceiling Girder – Heaviest Piece | 50 MT |
| 03 | Water-wall Inlet Header – Heaviest Pc | 50 MT |
| 04 | Wind Box | 33 MT |
| 05 | Generator Rotor Package | 74 MT |
| 06 | Generator Exciter with End Cover | 43 MT |
| 07 | Turbine Modules | 88 MT |
| 08 | LP Cylinder Casings | 55 MT |
| 09 | LP Rotor | 96 MT |
| 10 | HP Heaters | 60 MT |
| 11 | Mill Base Assy. | 60 MT |
| 12 | Cabins/Crawlers of 75T /100T/150T Cap Crawler Cranes of BHEL | Up to 50MT each |

The weights indicated above are only the tentative indication and should in no way become a basis for any claim on account of any variation in actual weight.

4.3

The intent of specification is to provide material handling and materials management services according to the most modern and proven techniques and codes. The omission of specific reference to any method, equipment or materials necessary for proper and efficient unloading, transportation, verification, stacking & preservation etc shall not relieve the contractor of the responsibility of providing such facilities to complete the work without any extra compensation.

4.4

The work shall be executed under usual conditions affecting major thermal power projects in an existing power plant and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with personnel of customer's contractors, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

4.5

All the work shall be carried out as per the instructions of BHEL engineer. BHEL engineer's decision regarding correctness of the work and method of working shall be final and binding on the contractor.

4.6

The contractor shall perform all required services which may not be specified herein but nevertheless required for the completion of work within quoted rates.

4.7

All necessary certificates and licenses required to carry out this work are to be arranged by the contractor expeditiously.

4.8

All cranes, transport equipments, handling equipment, tools, tackles, fixtures, equipment, manpower, supervisors/engineers, consumables (excluding those indicated as BHEL scope), etc required for this scope of work shall be provided by the contractor.

4.9

All expenditure including taxes and incidentals in this connection will have to be borne by the contractor unless otherwise specified in the relevant clauses elsewhere here. The contractor's quoted rates shall include of all such contingencies. In this connection refer relevant clause of general conditions of contract.

4.10 RESPONSIBILITIES OF CONTRACTOR AND SCOPE OF WORK RECEIPT, UNLOADING, VERIFICATION AND STACKING ETC

4.10.1

It will be responsibility of the contractor to keep in touch with officials of BHEL regarding advance information about arrival of consignments. The contractor shall collect lorry way bills, railway receipts or other such dispatch documents.

4.10.2

The contractor shall remain in regular contact with the concerned transporters or railways based on the dispatch details obtained as stated above and make all necessary arrangements for collection / receipt of the consignment as applicable. Contractor shall take advance action to deploy all necessary resources for local transportation, handling and unloading of the anticipated consignments so as to ensure no loss of time upon arrival of the consignments.

4.10.3

Payment of demurrage/ wharfage etc., which result due to contractor's fault, shall be the responsibility of contractor and to his account. If BHEL has to make payment of such demurrage/ wharfage together with freight (payment of freight alone is in BHEL's scope), the amounts so paid as demurrage/wharfage for the reasons stated above shall be paid to BHEL by the contractor forthwith or shall be recovered from the bill payments due to the contractor.

4.10.4

It would be responsibility of the contractor to examine the packages, consignments etc. Immediately on arrival and bring to the notice of BHEL authorities regarding loss/damage/shortage/discrepancy, if any, observed in the consignments before taking delivery of the same.

4.10.5 INCOMING AND OUTGOING SMALLS

Contractor shall arrange collection, from transporters' godowns, of materials (smalls) dispatched by road transport on godown delivery basis, loading at transporters godown, local transport up to BHEL/client's stores/site and unloading. Payment for loading at the transporter's godown, unloading at stores/storage yard/site, verification and stacking will be made as per unit rate vide item Sl.No. A.1 of rate schedule and terms of payment as per section-12. However, for transport of smalls from godown to site, pro-rata payment @ Rs. 5/ per km for total to and fro distance, as certified by BHEL engineer, shall be made. No other payment such as minimum charges for carrier etc will be made. All arrangements including transport, labour and other T&P etc is in contractor's scope. Prior approval of BHEL engineer should be obtained for such trips to transporters' godown(s). These godowns are expected to be located within a radius of 70 km approx from the project site.

Similarly, for any smalls to be sent to different locations/sites from site and which needs to be brought to transporter's/railway godown for booking same arrangement as above shall be adopted.

In case of consignments in smalls, the weight of package shall be checked with the invoiced weight of the packages and any discrepancies shall be reported immediately to BHEL/transporter.

4.10.6

For all such consignments, observations regarding loss/damage/shortage/ discrepancy is to be recorded in appropriate document and informed to BHEL. In case it becomes necessary to take '**open delivery**' from the authorities, contractor shall make all arrangements for taking open deliveries. All expenses connected therewith shall be to the account of contractor. Any loss that accrues to BHEL on account of such failures shall be debited to the contractor and recovery effected from his running bills.

4.10.7

Any discrepancy/shortage/damage found in the consignment after taking clean delivery from the carriers shall be the responsibility of contractor and the resultant loss to BHEL on such account shall be recoverable from the contractor.

4.10.8

Consignments are expected to arrive during any time of the day, and count down for demurrage/wharfage will start immediately, unloading of such consignments may be necessitated even in the night or round the clock. Contractor shall arrange to deploy his resources immediately and continue round the clock on such occasions without any additional cost to BHEL. Contractor shall arrange necessary spot lighting for working at night. The contractor shall similarly unload consignments arriving on weekly off days and holidays.

4.10.9

Unloading at storage area/work site, stacking and restacking if necessity arises, of heavy/sophisticated equipments like tubed wall panels of boiler, heavy motors, coal mill components, heavy bearing pedestals, fan impeller and servomotors, electrical panels and TG equipment like heavy turbine components, pumps, panels, etc. Shall be done as per storage and preservation manual of BHEL and/or as per directions of BHEL engineer.

4.10.10

The contractor shall verify the consignments in detail within the time frame prescribed by BHEL. Contractor shall arrange all facilities to open packages - where required in the presence of BHEL engineer, verify the contents, repack wherever and whenever called for and properly stack them as per storage manual or/and as may be directed by BHEL.

4.10.11

The material shall be so stacked that it should facilitate easy identification, retrieval and handling for issue as and when need arises.

4.10.12

Pre-defined identification system of the locations of open storage yard, semi-closed shed, covered stores as well as storage racks has to be designed by the contractor with the approval of BHEL. Contractor shall put up prominent identification boards of segmental locations (for open and semi-closed stores) or inscription (on the storage racks) with clear visibility from a distance. Contractor shall also arrange to display plot

plan at regular intervals in the covered/semi-closed/open storage. The contractor shall arrange proper displays/signs for various requirements as per instructions of BHEL.

4.10.13

The contractor shall execute the work in a professional manner. The stores shall be handled with due care and diligence. The contractor at his risk and cost shall make good any loss to BHEL due to contractor's lapse.

4.10.14

Loading on to the transporter's trailer/truck for onward transmittal to other destinations is also scope of work of contractor. Payment for these shall be made as per relevant items of rate schedule.

4.10.15 HANDLING OF MATERIALS ARRIVING ON RAILS

NTPC Rihand is not having any Railway siding for the project. Normally all the consignments shall be sent through Road.

4.10.16 HEAVIER CONSIGNMENTS

4.10.16.1 BOILER DRUM

Boiler drum will be arriving in its special rail wagon inside the project premises. Contractor shall unload the boiler drum using jack & sleeper / suitable crane (to be arranged by the contractor) from the special wagon. Contractor shall also carry out the necessary leveling & consolidation of the unloading area and attendant work.

4.10.16.2

The rate applicable for unloading and other activities as specified above shall be the agreed rate for item no. A.1 of Rate Schedule.

4.10.17 SHIFTING/RE-STACKING/RE-ARRANGING

Over a period of time, restacking/rearranging of the materials stacked earlier may arise due to various reasons. The handling of such items will also be in the scope of this contract. The restacking/ re-handling may be necessitated for any equipment/ materials covered within this work specification. Contractor shall deploy necessary resources like manpower, T&P, equipments etc to carry out this exercise including proper inscription of identification marks if needed, preparation and submission of list of items restacked, updating stock records about change in location etc.

Restacking and rearranging shall be applicable for materials returned by BHEL's erection contractors also.

Separate item rate shall be quoted for restacking/re-arranging/ shifting of staked materials as asked under item no. A.3 of the rate schedule.

4.11 OTHER POINTS

4.11.1

This is an extension project in already running plant and there is likely to be usual constraints on basic infrastructure facilities. Contractor, therefore, before submission of tender, shall visit the site and assess the local conditions and availability of infrastructures, entry and traffic restrictions and get acquainted with general procedures by customer related to BHEL/its agencies' and interface activities. Claims for not having proper knowledge on site condition shall not be entertained.

4.11.2

The distances indicated in these specifications if any are only approximate. However, the bidders should assess the various distances and site conditions by visiting site before submitting their offer. No additional/extra claims for any variation in this regard will be entertained.

4.11.3

Contractor shall arrange for cutting and removal of vegetation growth/grass etc in the storage yard as and when called for by BHEL as incidental to work. BHEL will take appropriate action at the risk & cost of the contractor in case of failure in this regard.

4.11.4

If the contractor or his workmen or employees break, deface, injure or destroy any part of a building, road, kerbs, fence, enclosures, water pipes, cables, drains, electric or telephone posts or wires, trees or any other property or to any part of erected equipments, stored components etc. Within the project premises or outside the contractor shall make the same good at his own expenses.

4.11.5 Exclusion from Scope:

Following activities are excluded from the scope of work under the present tender specification:

- 1) Shifting/Dragging of Boiler Drum from Unloading Area
- 2) Unloading and Shifting of Generator Stator

4.12 SCOPE OF WORK FOR PROVIDING MATERIALS MANAGEMENT SERVICES

According to the contract between BHEL and NTPC, the schedule of important milestones for unit-5 & 6 of the project is as follows.

- | | |
|----------------------------------|-----------------------------------|
| a) Start of Material Receipt: | Aug 2009 |
| b) Boiler Drum Lifting: | Apr 2010 (U-5) and Aug 2010 (U-6) |
| c) Synchronization: | Jan 2012 (U-5) and May 2012 (U-6) |
| d) Trial Operation: | Apr 2012 (U-5) and Aug 2012 (U-6) |
| e) Completion of all Facilities: | Aug 2012. |

However due to unforeseen circumstances, the aforesaid schedule may get altered during execution of work at project. Contractor shall provide the Materials Management Services as per actual progress of the project.

4.12.1 THE MAJOR AREAS OF MATERIAL FLOW (IN & OUT) WILL BE:

- (i) Main Plant equipment of Boiler, Turbine, Turbo-Generator, Piping and their auxiliaries etc.
- (ii) Electrical and C&I packages: Major supplies will include Cables, Instruments and Panels etc.

Approx quantum of material will be around **88000 MT** for the entire scope of work.

As is normal to any project execution, the flow of material may not follow linear pattern. Thus the requirement of mm services will vary from month to month. Similarly issue of materials to erection agencies may vary from month to month depending upon the stage of completion. After major receipts and issues, the thrust will shift towards final reconciliation with erection agencies. From time to time, the contractor shall modulate his resource deployment in consultation with BHEL for effective & satisfactory delivery of required mm services in all respect.

4.12.2 SCOPE OF MATERIALS MANAGEMENT SERVICES

The contractor under this contract shall provide following four categories of services towards proper materials management at the project site.

(a) SUPERVISION SERVICES (Maximum three service points simultaneously)

- (1) Scope includes supervision of various activities as follows.
 - (i) Receipt, unloading, carrying out receipt inspection, detailed verification, stacking and regular stock verification of project materials at site.
 - (ii) Preparing various reports at appropriate stages and reporting damage/loss during receipt as well as storage and any other associated responsibility as assigned by BHEL from time to time. Responsibility shall include the following activities:
 - A. Examination of incoming consignments to detect any loss or shortage or outward damage and recording it on the LR/LWB before making acknowledgement of it's receipt from the transporter and simultaneously obtaining endorsement of the vehicle driver on the same.
 - B. Reporting such discrepancy to BHEL immediately on receipt of consignment.
 - C. Assisting BHEL in lodging insurance claims in respect of loss/damage as stated above.
 - (iii) Issue of materials to BHEL's erection contractors, preservation of stacked materials, re-stacking/re-handling as necessary, progressive and

final reconciliation with BHEL's erection agencies and preparation of necessary document/record in respect of these activities.

(iv) Return of excess/defective materials by various erection contractors of BHEL.

(v) Loading and dispatch of outgoing materials.

(2) Expected minimum quality of service

Contractor shall render the supervisory services by ensuring deployment of requisite personnel with adequate educational qualification of engineering/technical background, having thorough experience in related field to enable understanding the intricacies of and special requirements involved in handling of project materials, inconsistencies and uncertainties associated with in/out flow of materials, project activities at odd hours & holidays and irregular working hours. Contractor shall ensure prompt and timely availability of such services as and when required by BHEL.

(b) PRESERVATION OF COMPONENTS (One service point)

Contractor shall arrange for preservation of components as per BHEL's storage and preservation manual and/or as per instructions of BHEL engineers.

One or more of following methods shall be adopted for preservation.

- 1) Coating with preservative paints/lubricant/inhibitors
- 2) Capping/wrapping/covering
- 3) Filling/immersion in oil/chemicals etc
- 4) HT motors

For preservation of HT motors, space heaters have to be kept energized to avoid ingress of moisture. Insulation resistance has to be measured and recorded at specified intervals till these are issued for erection. BHEL will provide necessary cables, switches etc. For this, however contractor shall install, operate and maintain the same.

BHEL will provide free of cost all preservatives like preservative oil, lubricants, chemicals, inhibitors, caps etc except primers & paints. Contractor shall provide red oxide zinc chromate (ROZC) primer conforming to IS:2074 of reputed manufactures (e.g. Asian paints, Berger, Shalimar Paints or any other BHEL-approved manufacturer) required for preservation shall be provided by the contractor and used for this purpose.

In the process the identification marks, component/material codes, match marks may have to be repainted. This work after preservation components are to be stacked properly, periodical reports on the preservation carried out should be submitted to BHEL in the prescribed formats.

(c) RECORD KEEPING (Maximum three service points simultaneously)

Contractor shall prepare, maintain and update various mm records, associated with materials management operation of BHEL at project site. Two systems of record keeping/capturing information & data at various stages are in vogue viz.

- i. Manual ledgers & records.
- ii. Computerized database application: BHEL has developed a software application named Site Operations Management System (SOMS) / Material Management package that captures all the data in the entire chain of transactions starting with master list of project materials, records of dispatch, receipt, inspection, issue, return, consumption etc.

Some of these records are master shipping/packing list, LR/RR register, daybook register, stock register, records of issues to & return of materials in respect of various erection subcontractors, insurance claim records, periodical status reports in various formats covering desired aspects and output information as per BHEL/client's requirement.

BHEL will provide necessary hardware, software & stationary etc for the above. Contractor shall take utmost care of ensure that these properties and records are protected from any damage or loss. BHEL will recover the cost of such property / expenses of restoration from the contractor with 30% overhead charges in case of any loss/damage attributable to negligence/failure on contractor's part.

D. SECRETARIAL & OTHER MISC. SERVICES (Maximum four service points simultaneously)

These services shall include secretarial services at BHEL office and stores, services of office boy, messenger/peon, carpenter, Electrician's services.

4.12.3 PARAMETERS AND QUANTIFICATION OF MM SERVICES, PERIODIC MONITORING

For the purpose of delivery of the aforesaid MM Services and progressive monthly billing by the contractor and release of payment thereof by BHEL, there shall be an action plan jointly agreed by BHEL and contractor. This action plan shall be drawn at the beginning of each quarter/each month/any convenient number of months as per actual project need. The plan shall detail the following aspects.

- Plan period (number of months planned).
- List of activities/targets to be carried out/achieved by the contractor under the scope of these mm services in the defined plan period.
- Identification of necessary resources to be deployed by the contractor for delivery of the planned activities/targets in the defined plan period.

- Deciding on the break up of the assigned amount towards mm services in the plan period towards each of its four components (supervision, preservation, record keeping and secretarial services) for the purpose of monthly billing by contractor.

4.12.4 PRICE AND STAGE PAYMENT

Contractor shall include the price for rendering complete materials management services (generally described as in the preceding clauses, including providing all necessary resources excepting those indicated specifically as BHEL scope) in the various item rates of material handling activities as appearing in the rate schedule of price bid. **Contractor shall not quote any separate item rate/price for MM Services in the rate schedule.**

For further details of progressive payment and final payable amounts, please refer Section-12 (SCC).

4.12.5 DEFICIENT/UNSATISFACTORY MM SERVICES & NOT RENDERING MM SERVICES

4.12.5.1

Contractor shall render the mm services as per the jointly agreed plan and parameters thereof as described in “parameters and quantification of mm services”. In case the contractor fails in delivering/rendering these services partly or totally, either qualitatively or quantitatively in the concerned plan period, BHEL will take the following recourse.

- Deficient/unsatisfactory services:

In case the level/quality of mm services is found not in compliance with the plan (either in terms of deficiency in quality or quantity or both, with regard to the mutually agreed/identified resources), BHEL will communicate the same to the contractor on record. Contractor shall immediately take corrective action to eradicate the complaint. BHEL will not make any payments for such period / number of days when services are found deficient/ unsatisfactory. Payment will be made for the period /number of days of satisfactory services on pro-rata basis as per the following formula.

$$P = P_a \times D_s / D_m, \text{ where}$$

P = amount payable for rendering a particular service satisfactorily in a billing month.

P_a = amount **assigned** towards the particular service for the concerned month as per agreed plan.

D_s = number of equivalent days including Sundays and BHEL holidays of **satisfactory** services in the particular billing month.

D_m = total number of days including Sundays and BHEL holidays in the particular **billing month**.

In addition to 'no payment' for the unsatisfactory/deficient services period, a penalty @ 5% applied on the pro-rata amount of the deficient period i.e. 5% of ($P_a - P$) will be levied on the contractor. This penalty will be recovered from the running account bill of the same month.

4.12.5.2 NOT RENDERING THE SERVICES AT ALL

In the event, the contractor fails to render a particular service during the month (either part of the month or full) BHEL will not make any payment towards that service for such period. Additionally, a penalty @ 15% will be levied as under.

| | |
|--------------------------------------|---|
| For no services in the entire month: | 15% of the total monthly assigned amount. |
|--------------------------------------|---|

| | |
|---|---|
| For no services during part of the month: | 15% of the pro-rata amount for the defaulting period as per formula given earlier here. |
|---|---|

4.12.5.3 IRREVOCABLE PENALTY AND DISALLOWED AMOUNT

It shall be specifically noted that the payment disallowed for deficient or nil service in a particular month and/or penalties levied on similar ground, shall not be considered for release in any subsequent month even if the contractor takes corrective action in the later stage.

4.13 EXPLANATION ABOUT THE SCOPE OF MM SERVICES

1. General

The resources deployed for mm services by the contractor shall be at the exclusive disposal of BHEL on a full time basis. These shall not be used for any activities associated with the regular material handling activities (like receipt, unloading, verification, stacking and regular stock verification of project materials).

2. Supervision services

Working level supervision of each work spot shall be in the scope of contractor under regular material handling work. On the other hand, supervisory services under mm services shall be at one level higher than working level supervision being done as contractor's responsibility towards material handling work. BHEL requires that these services shall be to oversee and monitor the various operations/activities of material handling process. MM supervisory services shall ensure setting broad guidelines to the working level supervisors, monitoring progress of overall plan vis-à-vis implementation, proper and prompt traceability of stock in the stores, identification of corrective & preventive actions in material handling & storage work and implementation of a systematic process to finally ensure achievement of the project schedule.

3. Preservation of components

Contractor's scope under this mm services work includes handling of the materials that requires preservation, as well as handling of other materials around the former in order to make proper access/approach for work. Contractor shall deploy necessary supervisors, labourers and T&P for all such activities.

4. **Record keeping**

Creation and maintenance of proper records of dispatch, receipt, stock, issue, return, damage, insurance claims, preservation, restacking, receipt inspection, stock verification etc. Of project materials are vital in nature. Contractor shall ensure that all such records are created and updated promptly to facilitate latest possible information to BHEL and concerned erection agencies of BHEL. Records shall be created and maintained in BHEL's computerized data base programme (named 'SOMS') as well as in hard copy (registers, file, folder etc.) as a back-up. The contractor shall deploy adequate number of personnel with proficiency in computerized data base operations for operating SOMS. Contractor shall also deploy adequate personnel for creation & maintenance of manual records with experience in materials management work.

5. **Secretarial & other miscellaneous services**

These shall include services of personal assistance in the official work of BHEL's construction manager, clerical services for correspondences and record keeping to various departments of BHEL site (erection, commissioning, finance & accounts, stores/material management etc).

Scope shall also include services of office boy at BHEL office and stores, messenger/peon for receipt and local distribution of correspondences (dak), collection/delivery of correspondences from/to post office or courier office and similar nature of services.

Services of Carpenter with helper shall be exclusively used for unpacking and packing the boxes after verification of materials wherever directed by BHEL Engineer. Similarly the services of Electrician with helper shall be used for maintenance of the Electrification work in stores, storage yard, office building etc.

SECTION-5

SPECIAL CONDITIONS OF CONTRACT

5.0 OBLIGATIONS OF THE CONTRACTOR (TOOLS AND TACKLES, CONSUMABLES, INFRASTRUCTURES, ETC.)

5.1 TOOLS AND PLANTS

5.1.1

Contractor shall provide all the Tools & Plants that are required for the scope of work covered in this tender specification. BHEL will provide, on sharing basis, only the tools and plants for this work specifically provided in these specifications elsewhere. Contractor shall submit proposed T&P deployment plan along with offer.

5.1.2

The contractor shall provide necessary wooden/concrete sleepers for unloading & storage of materials including for the needs at unloading bay/ location.

5.1.3

Incase the contractor does not deploy/delays the deployment of major T&P such as cranes with reference to the actual project requirement, BHEL will recover non-refundable penalty in the following manner:

1. In respect of 40 Ton capacity mobile crane: @ Rs. 2,000/- per day of delay.
2. In respect of 18 Ton capacity pick & carry crane: @ Rs. 500/- per day of delay
3. In respect of 8 Ton capacity pick & carry crane: @ Rs. 500/- per day of delay.

5.1.4

Further, in the event of contractor failing to arrange the required tools and plants and other resources envisaged as his scope as also the non-availability of the T&P owing to breakdown, or otherwise, BHEL will take appropriate action at contractor's risk and cost.

5.1.5

The T&P arranged by the contractor shall be in proper working condition, and shall not lead to unsafe conditions.

5.1.6

Contractor shall provide the crane operator and necessary crew for 75 Ton capacity crane. Further, the diesel for the same will be in contractor's scope. Refer Section-7 for detailed provision in this regard.

5.2 CONSUMABLES

5.2.1

The contractor shall provide all consumables required for carrying out the work covered under this scope of work excepting those specifically included in the scope of BHEL.

5.2.2

If at any time during the execution of work, it is noticed that the work is suffering on account of non-availability of consumables from the contractor's side BHEL will take appropriate action at his cost and risk.

5.3 FIELD OFFICE AND STORES, LOCALIZED LIGHTING, LABOUR COLONY ETC

5.3.1

The contractor shall make his own arrangements for field office cum stores. Only the open land for the same will be provided by customer/ BHEL free of charge inside the plant premises as available. After the completion of work, contractor shall dismantle his constructions and handover the vacant land to BHEL/customer.

5.3.2

The contractor at his cost shall arrange for temporary localized lighting for unloading, verification and stacking activities. All temporary wiring must comply with regulations and will be subjected to engineer's inspection before connecting to supply point.

5.3.3

Construction power will normally be made available at one point in the project site or at the discretion of BHEL, at more points free of charge. The contractor shall arrange at his own cost drawl and distribution of power from this point onwards. Contractor shall be responsible for fulfillment of all requirements including statutory requirements in this regard.

5.3.4 LABOUR COLONY

Customer/BHEL will not provide any land for construction of labour colony. Contractor shall make his own arrangements for labour colony including lighting, water, sanitation etc with hygiene and comply with all requirements.

5.3.5 CONSTRUCTION WATER

BHEL/Client will make water for construction purpose at one single point in the site free of charges. Duty and taxes for water, if levied by the government/concerned authorities, shall be payable by the contractor at actual.

5.3.6 SITE CLEARANCE AND REMOVAL OF CONTRACTOR'S ESTABLISHMENT

On completion of work, contractor shall remove all his establishments and T&P and other items brought by him for this work, level the ground and return to BHEL/client. BHEL shall take necessary action in this regard at contractor's risk and cost including imposing non-refundable penalty in the event contractor fails to clear site within specified period by BHEL/client. On completion of contract, the contractor shall return the labour license to the Labour Commissioner and submit a proof of having canceled the labour license to BHEL/Mahagenco.

5.3.7 COMPLIANCE WITH LABOUR LAWS

5.3.7.1

The contractor is expected to employ his regular skilled employee with experience for specific and appropriate requirements of work. No female labourer shall be employed after darkness. No person below the age 18 Yrs shall be employed.

5.3.7.2

Contractor's employees shall wear identification badges while on work at site.

5.3.7.3

It is to be specifically noted that BHEL and client place special emphasis on compliance with labour laws. Accordingly contractor shall be required to promptly and regularly pay all dues as per central, state and local government laws, acts, regulation etc as may be applicable from time to time in this regard. In case of his non-compliance with any provision contractor shall indemnify BHEL and Mahagenco from and against all liabilities, damages, penalties, demands etc.

It will be essential to provide all requisite documents as evidence of compliance for a particular month along with monthly running bill of immediate subsequent month. Failing which contractor's bill shall not be released for payment, and all consequences thereof shall be contractor's responsibility.

BHEL engineer, however, in consideration of certain exceptional situations may grant relaxation at his discretion with regard to time frame of submission of these documents.

5.3.7.4

As far as possible, unskilled labourer shall be engaged from the local area of the site

5.3.7.5

The contractor shall at all times have due regard to the local religious festivals and customs.

5.3.7.6

The contractor in the event of his engaging 20 or more workmen at site shall obtain independent license under Contract Labour (Regulation & abolition) Act from the concerned state labour authorities,

5.4 TAXES, DUTIES, LEVIES

5.4.0 TAXES, DUTIES, LEVIES

Refer to Clause 2.8.4 of General Conditions of Contract. Notwithstanding anything contained therein, the following provisions shall be applicable for this contract.

5.4.1

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.

5.4.2 Service Tax & Cess on Service Tax

Service Tax and Cess on Service Tax as applicable on output Services are excluded from contractor's scope; therefore contractor's price/rates shall be **exclusive** of Service Tax and Cess on Output Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and deposit the same with the concerned tax authorities, such applicable amount will be paid by BHEL.

Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor shall submit serially numbered Service Tax and Cess Invoice, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely,

- I. The name, address and the registration number of the contractor,
- II. The name and address of the party receiving taxable service,
- III. Description, classification and value of taxable service provided and,
- IV. The service tax payable thereon.

All the four conditions shall be fulfilled in the invoice before release of service tax payment.

Contractor shall obtain prior written consent from BHEL before billing the amount towards such taxes.

With introduction of Cenvat Credit Rules 2004, which came into force w.e.f. 10.09.2004, Excise Duty paid on Input Goods including Capital Goods and Service Tax paid on Input Services that are used for providing the output services can be taken credit of against the Service Tax payable on output services. However BHEL may opt for availing the abatement provision in which case cenvat credit may not be available on input duty.

5.4.3 VAT (Sales Tax /WCT)

As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be **exclusive** of the same. Where such taxes are required to be paid by the contractor, this will be reimbursed on production of proof of payment made to the authorities by the Contractor. In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. The contractor has to take all necessary steps to **minimize tax on input goods** by purchasing the materials from any registered dealer of the concerned state only. In case contractor opts for composition, it will be with the prior express consent of BHEL. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.

5.4.3 Modalities of Tax Incidence on BHEL

Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.

5.4.5 New Taxes/Levies

In case the Government imposes any new levy/tax on the output service/ goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same **before opening of Price Bid**. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

5.5 SUBMISSION OF PERIODICAL REPORTS

Contractor shall submit periodical reports in respect of following aspects of operation:

- Consumption of welding electrodes and gases
- Consumption of construction power
- Availability and utilization of BHEL's cranes
- Manpower reports
- Progress reports - periodically
- Field calibration / test reports
- Safety reports as specified in Section-9 of SCC

BHEL at site will inform formats for these reports.

It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures lay down by the customer for making gate passes. Where permitted, by customer/ BHEL, to work beyond normal working hours, the contractor shall arrange necessary work permit for working beyond normal working hours.

SECTION-6

SPECIAL CONDITIONS OF CONTRACT

6.0 CONTRACTOR'S OBLIGATION IN REGARD TO EMPLOYMENT OF SUPERVISORY STAFF AND WORKMEN

6.1 SUPERVISORS AND LABOURER

Contractor shall deploy in adequate strength labour, technicians and engineers/supervisors for this work.

6.2

It is the responsibility of the contractor to engage his workmen in shifts and or on overtime basis for achieving the target set by BHEL. This target may be set to suit BHEL's commitments to its customer or to advance date of completion of events or due to other reasons. The decision of BHEL in regard to setting the target will be final and binding on the contractor.

6.3

Contractor shall employ only qualified engineers/supervisors and workmen for this job. They shall have professional approach in executing the work having adequate knowledge/experience in the fields of material handling and materials management, quality assurance procedures, planning, safety etc that are required to be undertaken for the type of work as per these specifications.

6.4

Contractor shall obtain necessary work permits from BHEL/ customer prior to taking up any work. He shall arrange for display of due and necessary caution notices/ boards etc.

6.5

The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or another contractors or agencies. Cost of damage, if any, to life and property arising out of such violation of statutory regulations shall be borne by the contractor.

6.6 WATCH AND WARD

Contractor shall arrange and provide watch and ward round the clock for the materials/equipments issued to him.

6.7

Contractor shall implement local labour laws; maintain necessary records and co-ordinate with the local labour authorities on all matters of labour and industrial relations.

6.8

The contractor shall comply with the applicable law, rules and regulation etc; with regard to employment of labour. He shall obtain labour license.

The scope includes getting the licenses and approvals from the statutory authorities, arranging for inspection of electrical inspector periodically as per BHEL engineer's instructions, submitting documents etc. And following up the matter with them as and when necessary for the work involved in this scope. All expenses, fees, levies etc have to be borne by the contractor.

SECTION-7

SPECIAL CONDITIONS OF CONTRACT

7.0 OBLIGATIONS OF BHEL

7.1 FACILITIES PROVIDED BY BHEL

7.1.1 CONSTRUCTION POWER

Refer section-5.

BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.

7.1.2 CONSTRUCTION WATER

Refer section-5.

7.1.3 TOOLS AND PLANTS

BHEL will make available T&P listed in the relevant appendix free of charge. Further details are as under:

7.1.3.1 CRANE TO BE PROVIDED BY BHEL

7.1.3.1.1

BHEL will make available 1 (one) 75 TON capacity crawler crane free of charges to the contractor on sharing basis. This crane will be used for handling some of the heavy consignments as listed in clause no 4.2 of SCC. Bidder shall note that all the aforesaid heavy consignments are not within the capacity of 75 Ton crane; hence bidder shall arrange necessary T&P and implements to handle such heavier consignments which are beyond the capacity of BHEL's 75 Ton crane. Decision of Construction Manager BHEL shall be final and binding in this regard.

7.1.3.1.2

Contractor shall lay necessary sleeper beds, backfilling of approaches wherever necessary for safe movement of the cranes as directed by BHEL. The contractor shall provide sleepers for this purpose. Contractor shall transport the equipments and components/sub assemblies/attachments of BHEL equipments to & fro between BHEL stores and location of use.

7.1.3.1.3

Crane will be initially issued with existing assembled condition. Any alteration/ addition like boom reduction/extension, assembly of components/sub-assemblies needed for modulating the capacity/reach/other features of cranes and restoration to the state as directed by BHEL shall be the contractor's responsibility.

7.1.3.1.4

The day-to-day upkeep and running maintenance like filling / topping up of lubricants, changing filters etc, of BHEL owned cranes shall be the responsibility of the contractor. Spares if any, required in normal course will be provided by BHEL. Major breakdowns will be attended to by BHEL. The crane provided by BHEL will be withdrawn for regular and capital maintenance as per the respective schedule of maintenance. As far as possible such schedules will be intimated to the contractor in advance and may be

adjusted depending on the work requirements at site. However no claim whatsoever will be entertained on account of non-availability of crane.

7.1.3.1.5

Contractor shall provide the operators & helpers for BHEL owned cranes. Fuel for the crane is in contractor's scope.

7.1.3.1.6

Where the services of the crane provided by BHEL are to be shared by other agencies/ contractors of BHEL, the contractor's responsibilities defined above will also be apportioned accordingly to the beneficiary agency. BHEL engineer in this regard will advise the working arrangements at site and in any case his decision shall be final and binding.

7.2 OTHER ISSUES

7.2.1

The DU/ DESS nos supplied by manufacturing units as part of supply for handling of materials will be provided free of charge to the contractor on returnable basis.

7.2.2

BHEL will provide tarpaulins and/or such other covering material for covering the materials at BHEL storage yard. Contractor shall do necessary work for covering the materials with the covering material provided by BHEL.

SECTION-8 (Rev 01, 24/01/2009)

SPECIAL CONDITIONS OF CONTRACT

8.0 Inspection/Quality Assurance/Quality Control/ Statutory Inspection

8.1 Various inspection/quality control/quality assurance procedures/methods at various stages of erection and commissioning will be as per BHEL/customer quality control procedure/codes and other statutory provisions and as per BHEL engineer's instructions.

8.2 Preparation of quality assurance log sheets and protocols with customer/ consultants/statutory authority, welding logs, NDE records, testing & calibration records and other quality control and quality assurance documentation as per BHEL engineer's instructions, is within the scope of work/specification. These records shall be submitted to BHEL/customer for approval from time to time.

The protocols between contractor and customer/ BHEL shall be made prior to installation for correctness of foundations, materials, procedures, at each stage of installation, generally as per the requirement of customer/ BHEL. This is necessary to ensure elimination of errors or keeping them within tolerable limits and to avoid accumulation and multiplication of errors.

8.3 A daily log book should be maintained by every supervisor/engineer of contractor on the job in duplicate (one for BHEL and one for contractor) for detailing and incorporating alignment/clearance / centering / leveling readings and inspection details of various equipments etc.

High pressure welding details like serial number of weld joints, welders name, date of welding, details of repair, heat treatment etc. will be documented in welding log as per BHEL Engineer's instructions.

Record of radiography containing details like serial number of weld joints, date of radiography, repairs, if any, re-shots etc shall also be maintained as per BHEL Engineer's instructions.

Record of heat treatments performed shall be maintained as prescribed by BHEL.

8.4 The performance of welders will be reviewed from time to time as per the BHEL standards. Welders' performance record shall be furnished periodically furnished for scrutiny of BHEL's Engineer. Corrective action as informed by BHEL shall be taken in respect of those welders not conforming to these standards. This may include removal/ discontinuance of concerned welder(s). Contractor shall arrange for the alternate welders immediately.

8.5 All the welders shall carry identity cards as per the proforma prescribed by BHEL/Customer/Consultant. Only welders duly authorized by BHEL/customer/consultant shall be engaged on the work.

8.6 Contractor shall provide all the measuring monitoring devices (MMDs) required for completion of the work satisfactorily. These MMDs shall be of brand, quality and accuracy specified by BHEL Engineer and should have necessary calibration and other certificates as per the requirement of BHEL Engineer. Decision of BHEL Engineer regarding acceptance or otherwise of the measuring instruments/gauges/tools for the work under this specification, is final and binding on the contractor. The indicative list of MMDs required for this work and to be made available by the contractor is given in relevant appendix. The list will be reviewed by BHEL and the contractor shall meet any augmentation needed wherever required.

8.7 It is the responsibility of the contractor to prove the accuracy of the testing/measuring/calibrating equipments brought by him based on the periodicity of calibration as called for in the BHEL's quality assurance standards/BHEL Engineer's instructions.

8.8

Any re-laying or re-termination of cables/re-erection of instruments/ recalibration of instruments etc. required due to contractor's mistake or design requirement and found at any stage inspection, shall be carried out by the contractor at no extra cost.

- 8.9 BHEL, Power Sector – Western Region (PSWR) has already been accredited with ISO 9002 certification and as such this work is subject to various audits to meet ISO 9002 requirements. One particular aspect which needs special mention is about arrangement of calibration of instruments by the contractor. Contractor shall ensure deployment of reliable and calibrated MMDs (Instrument Measuring and Test Equipment). The MMDs shall have test / calibration certificates from authorised / Government approved / Accredited agencies traceable to National / International Standards. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such MMDs so that work does not suffer when the particular equipment / instrument is sent for calibration. Also if any MMDs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall ie repeat the readings taken by that instrument, failing which BHEL may deploy MMD and retake the readings at Contractor's cost.
- 8.10 Re-work necessitated on account of use of invalid MMDs shall be entirely to the contractor's account. He shall be responsible to take all corrective actions, including resource augmentation if any, as specified by BHEL to make-up for the loss of time.
- 8.11 In the courses of erection, it may become necessary to carry repeated checks of the work with instruments recently calibrated, re-calibrated. BHEL may counter/ finally check the measurements with their own MMDs. Contractor shall render all assistance in conduct of such counter/final measurements.
- 8.12 Vibration indicators / vibration recorders / vibration analysers will be provided by BHEL for checking and analysing vibration levels of rotating equipments with necessary operators. Contractor shall provide necessary labour for carrying out such tests.
- 8.13 Total Quality is the watchword of the work and Contractor shall strive to achieve the Quality Standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and Quality Standards. Contractor shall provide the services of Quality Assurance Engineer.
- 8.14 Stage Inspection By FES/QA Engineers**
- Apart from day-to-day inspection by BHEL Engineers stationed at Site and Customer's Engineers, stage inspection of equipments under erection and commissioning at various stages shall also be conducted by teams of Engineers from Field Engineering Services of BHEL's Manufacturing Units, Quality Assurance teams from field Quality Assurance, Unit/Factory Quality Assurance and Commissioning Engineers from Technical Services etc. Contractor shall arrange all labour, tools and tackles etc for such stage inspections free of cost.
- 8.15 Any modifications suggested by BHEL FES and QA Engineers' team shall be carried out. Claims of contractor, if any, shall be dealt as per Section 13, and provided such modifications have not arisen for reasons attributable to the contractor.

Statutory Inspection of Work

- 8.16 The work to be executed under these specifications has to be offered for inspection, at appropriate stages of work completion, to various statutory authorities for compliance with applicable regulations.

The work related statutory inspections, though not limited to, are as under:

- 1) Inspectorate of steam boilers and smoke nuisance
- 2) Factory Inspector, Labour Commissioner, Electrical Inspector PF Commissioner and other authority connected to this project work

The scope includes getting the approvals from the statutory authorities, which includes arranging for inspection visits of statutory authority periodically as per BHEL Engineer's instructions, arranging materials for ground inspection, taking rub outs for the pressure parts to

be offered for inspection, submitting co-related inspection reports, documents, radiographs etc and following up the matter with them. Contractor shall also make all arrangements for offering the Products / Systems for inspection at location, as applicable, to the concerned authority.

- 8.17 Contractor should be qualified to execute pressure parts & piping work coming under the purview of IBR, for which he should register himself with CIB of state concerned. contractor also should be aware of the latest IBR regulations and Electricity Act, including the amendments thereof.
- 8.18 All fees connected with the contractors for testing his welders / men / workers and testing, inspection, calibrating of his instruments and equipments, shall be paid by the contractor. It shall be contractor's responsibility to obtain approval of Statutory Authorities, wherever applicable, for the conducting of any work which comes under the purview of these authorities.
- 8.19 Other fees like fees for periodic visits, hydraulic test fees, light up inspection fees etc. shall be borne by the contractor.
- 8.20 Payment of Registration fees for Boiler is excluded from the scope.
- 8.21 BHEL shall pay the ground inspection fees of Boiler Inspectorate. All other arrangements for site visits periodically by Boiler Inspector to site, for obtaining Inspection certificate etc, will have to be made by contractor.
- 8.22 The quality management system of BHEL, Power Sector – Western Region (PSWR) has already been certified and accredited under ISO 9002 standards in this regard. The basic philosophy of the quality management system is to define the organizational responsibility, work as per documented procedures, verify the output with respect to acceptance norms, identify the non-conforming product/ procedure and take corrective action for removal of non-conformance specifying the steps for avoiding recurrence of such non-conformities, & maintain the relevant quality records. The non-conformities are to be identified through the conduct of periodical audit of implementation of quality systems at various locations/stages of work. Suppliers/vendors of various products/services contributing in the work are also considered as part of the quality management system. as such the contractor is expected not only to conform to the quality management system of BHEL but also it is desirable that they themselves are accredited under any quality management system standard.

Field Quality Assurance

- 8.23 Contractor shall carry out all activities conforming to the approved Field Quality Plan (FQP) as revised from time to time. Total quality shall be the watchword of the work and contractor shall strive to achieve the quality standards, procedures laid down by BHEL. He shall follow all the instructions as per BHEL drawings and quality standards. Contractor shall provide the services of quality assurance engineer as per the relevant clauses.

SECTION-9

SPECIAL CONDITIONS OF CONTRACT

Safety, Occupational Health and Environmental Management

BHEL PSWR has been certified for Environmental Management under ISO 14001:1996 standard and Occupational Health & Safety under OHSAS 18001 by DNV. In order to comply with the above standards, it shall be the endeavour of BHEL and all its subcontractors to meet and implement the requirements by following the guidelines issued under Environmental, Occupational Health and Safety Management (EHS) manual a copy of which will be available with the BHEL Site-in-charge.

Contractor shall also enter into a "Memorandum of Understanding" as given in clause 9.9 in case of award of contract.

9.0 Responsibility of the Contractor in Respect of Safety of Men, Equipment, Material and Environment.

9.1 The Contractor shall:

9.1.1

Abide by the Safety Regulations applicable for the Site/Project and in particular as mentioned in the booklet "Safe Work Practices" issued by BHEL. Contractors are also to ensure that their employees and workmen use safety equipments as stipulated in the Factories Act (Latest Revision) during the execution of the work. Failure to use safety equipment as required by BHEL Engineer will be a sufficient reason for issuance of memo, which shall become part of Safety evaluation of the contractor at the end of the Project. Also all site work may be suspended if it is found that the workmen are employing unsafe working practice and all the costs/losses incurred due to suspension of work shall be borne by contractor. A comprehensive list of National Standards from which the contractor can draw references for complying with various requirements under this section is given under 9.10

9.1.2

Hold BHEL harmless and indemnified from and against all claims, cost and charges under Workmen's Compensation Act 1923 and 1933 and any amendment thereof and the contractor shall be solely responsible for the same.

9.1.3

Abide by the Procedure governing entry/exit of the contractor's personnel within the Customer/Client premises. All the contractors employees shall be permitted to enter only on displaying of authorized Photo passes or any other documents as authorized by the Customer/Client.

9.1.4

Be fully responsible for the identity, conduct and integrity of the personnel/workers engaged by them for carrying out the contract work and ensure that none of them are ever engaged in any anti national activity

9.1.5

Prepare a signboard giving the following information and display it near work site:

- i) Name of Contractor
- ii) Name of Contractor Site-in-charge & Telephone number
- iii) Job Description in short
- iv) Date of start of job
- v) Date of expected completion
- vi) Name of BHEL Site-in-charge.

9.1.6

Abide by the rules and regulations existing during the contract period as applicable for the contractors at the Project premises.

9.1.7

Observe the timings of work as advised by BHEL Engineer-in-charge for carrying out the contract work.

9.2 **SPECIAL CONDITIONS**

9.2.1 **Safety**

9.2.1.1 **Safety Plan**

Before commencing the work, contractor shall submit a "safety plan" to the authorized BHEL official. The safety plan shall indicate in detail the measures that would be taken by the contractor to ensure safety to men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder.

The contractor shall submit "safety plan" before start of work. During negotiations, before placing of work order and during execution of the contract, BHEL shall have right to review and suggest modifications in the safety plan. Contractor shall abide by BHEL's decision in this respect.

9.2.1.2

The contractor shall take all necessary safety precautions and arrange for appropriate appliances and/or as per direction of BHEL or its authorized person to prevent loss of human lives, injuries to men engaged and damage to property and environment.

9.2.1.3

The contractor shall provide to his work force and also ensure the use of Personnel Protection Equipment (PPE) as found necessary and/or as directed and advised by BHEL officials without which permission is liable to be denied.

- Safety helmets conforming to IS 2925/1984 (1990)
- Safety belts conforming to IS 3521/1989
- Safety shoes conforming to IS 1989 part-II /1986(1992)
- Eye and face protection devices conforming to IS 2573/1986(1991), IS 6994 (1973), part-I (1991), IS 8807/1978 (1991), IS 8519/1977(1991).
- Other job specific PPEs of standard ISI make as may be prescribed

9.2.1.4

All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, cages, safety nets, ladders, equipment, etc used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item found to be unsafe.

9.2.1.5

All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carryout all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed.

9.2.1.6

The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.

9.2.1.7

The contractor shall adopt all fire safety measures as per relevant Indian Standards

9.2.1.8

Where it becomes necessary to provide and/or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down by the relevant government acts, such as petroleum act, explosives act, petroleum and carbides of calcium manual of the chief controller of explosives, Government of India etc. The contractor in all such matters shall also take prior approval of the authorized BHEL official at the site.

9.2.1.9

Proper means of access must be used e.g. ladders, scaffolds, platforms etc. No makeshift access such as oil drums or pallets shall be used. Design of these will be in accordance with relevant standards and certified by competent persons before use.

9.2.1.10

Temporary arrangements made at Site for lifting , platforms, approach access etc should be properly designed and approved before being put to use.

9.2.1.11

All excavations and openings must be securely and adequately fenced/barricaded and warning signs erected when considered necessary as per relevant code of practice.

9.2.1.12

No persons shall remove guardrails, covers or protective devices unless authorized by a responsible supervisor and alternative precautions have been taken

9.2.1.13

Access ways, means of escape and fire exits shall be clearly marked, kept clear and unobstructed at all times

9.2.1.14

Only authorized persons holding relevant license will drive and operate site plant and equipments e.g. cranes, dumpers, excavators, transport vehicles etc

9.2.1.15

Only authorized personnel are allowed to repair, commission electrical equipments.

9.2.1.16

Gas Cylinders shall be handled and stored as per Gas Cylinders Rules and relevant safe working practices

9.2.1.17

All wastes generated at Site shall be segregated and collected in a designated place so as to prevent spillage/contamination/scattering at Site, until the waste is lifted for disposal to designated disposal area as advised by BHEL official.

9.2.1.18

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural day light is not adequate for clear visibility.

9.2.1.19

The contractor shall train adequate number of workers/supervisors for administering "FIRST AID". List of competent first aid administrators should be prominently displayed.

9.2.1.20

The contractor shall display at strategic places and in adequate numbers the following in fluorescent markings

- Emergency telephone numbers
- Exit, Walkways
- Safe working load charts for wire ropes, slings, D shackles etc
- Warning signs

9.2.1.21

The contractor shall be held responsible for any violation of statutory regulations (local, state or central) and BHEL instructions that may endanger safety of men, equipment, material and environment in his scope of work or other contractors or agencies. Cost of damage, if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

9.2.1.22

In case of a fatal or disabling injury/accident to any person at construction sites due to lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

9.2.1.23

In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.

9.2.1.24

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from payments due to the contractor after notifying the contractor suitably and giving him opportunity to present his case.

9.2.1.25

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so, and/or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

9.2.1.26

Emergency Response

BHEL will have an Emergency Response Plan for each Project Site in consultation with the Owner as the case may be, detailing the procedure for mobilization of personnel and

equipment, and defining the responsibilities of the personnel indicated, in order to prepare for any emergency that may arise in order to ensure the priorities of

- Safeguard of life
- Protect assets under construction or neighbouring
- Protect environment
- Resumption of normal operations as soon as the emergency condition is called off

All Contractors shall also be part of the Emergency response Plan and the personnel so nominated shall be aware of their duties and responsibilities in an emergency response situation.

9.2.1.27

At least 5% Contractors supervisors and workmen shall undergo training in administering 'First Aid'. The trained persons should represent for all categories of work and for all areas of work. Adequate number of trained persons should be available for each shift. These first aides shall be included in the emergency response team. Contractor employees and workmen are encouraged to participate in first aid training programmes whenever organized by BHEL.

9.2.2 OCCUPATIONAL HEALTH

9.2.2.1

Specific occupational health hazards will be identified through the hazard evaluation processes in consultation with BHEL engineers and the necessary prevention/reduction/elimination methods implemented.

9.2.2.2

All personnel working in an activity with a potential risk to health shall be made aware of all those risks and the actions they must take to reduce/control/eliminate the risk

9.2.2.3

Safety coordinator shall conduct periodic checks to ensure that every group of workers engaged in similar activities are aware of potential risks to health and the actions required to be taken to mitigate the risk

9.2.2.4

In order to protect personnel from associated health hazards, the following main areas will be focused

- Issue of approved Personnel Protective Equipment
- Verification that the PPE are adequate/maintained and worn by all staff involved in operations that are potentially hazardous to their health
- Ensure that the personnel deployed are physically fit for the operation/work concerned
- Provide hygienic and sanitary working conditions

9.2.2.5

Contractor workers employees engaged in noise risk areas shall be issued with hearing protection aids and the use of the same will be enforced. Further, these workers will be educated on the hazards of noise

9.2.2.6

Contractor workers engaged in dust environment shall be issued with necessary dust protection aids and the use of the same shall be enforced

9.2.2.7

Workers engaged in exposure to bright light/rays as in welding or radiation shall be issued with eye protection devices and the use of the same shall be enforced

9.2.2.8

Adequate arrangements shall be made to provide safe drinking water

9.2.2.9

Health monitoring records on at least sample basis for contractor employees & workmen shall be maintained for persons engaged in specified categories of work. These shall include

- Noise induced hearing loss
- Lung Function test
- Ergonomic Test
- Eye Test for Welders, Grinders, Drivers etc

9.2.3.0 HYGIENE and HOUSEKEEPING

9.2.3.1

Good house keeping and proper hygiene is one of the key requirements of Occupational Health Safety and Environment management. Towards this the contractor shall encourage his workers and supervisors to maintain cleanliness in their area of work.

9.2.3.2

The Contractor shall arrange to place waste bins/chutes at convenient locations for the collection of scrap and other wastes. The bins shall be clearly marked and segregated for metal, non-metal, hazardous and non hazardous wastes.

9.2.3.3

BHEL may take up appropriate remedial measures at the cost of the contractors if the contractors fail in good house keeping and if there is an imminent risk of pollution

9.2.4 ENVIRONMENT MANAGEMENT

9.2.4.1

BHEL has a sound environmental management system, which is to be maintained and implemented by all the contractors. The system allows for project specific objectives to be set and developed sensitive to client requirements, applicable environmental legislation and BHEL's own objectives and policy. BHEL engineers will assess and monitor the environmental impact of their work and lay out objectives for their minimization. The contractors shall implement the objectives for continual improvement of environmental performance. BHEL shall regularly audit environmental impacts and their improvements.

9.2.4.2 WASTE MANAGEMENT

9.2.4.3.1

The objective of waste management is to ensure the safe and responsible disposal of waste, ensuring that it is correctly disposed of and being able to audit the process to ensure compliance.

9.2.4.3.2

Chemical wastes if any shall be collected separately and disposed of to BHEL designated refuse yard as per BHEL advice.

9.2.4.3.3

No dangerous chemicals, noxious waste products or materials will be disposed off on or off site without approval obtained through BHEL.

9.2.4.3.4

All disposal of wastes generated during construction shall be in accordance with all relevant legislation.

9.2.4.3.5

Acid and alkali cleaning wastes shall be neutralized to acceptable norms before disposal to the designated area.

9.2.4.3.6

All necessary measures shall be taken to ensure safe collection and disposal of waste oils. In particular to ensure the prevention of their discharge into surface waters, ground waters, coastal waters or drainages

9.3 SUPERVISION

9.3.1

Contractor must provide at least one full time on site safety coordinator when the manpower engaged is in excess of 50 for the contract activities in the premises. If the manpower is less than 50, the on site safety coordination responsibilities shall be assumed by any one of the contractor's other supervisory staff; however in both the cases, the contractor must specify in writing the name of such persons to the BHEL Engineer in Charge.

9.3.2

Contractor's safety coordinator or his supervisor responsible for safety as the case may be shall conduct at his work site, and document formal safety inspection and audits at least once in a week. Such documents are to be submitted to BHEL Engineer in Charge for his review and record.

Contractor, supervisor must attend all schedule safety meetings as would be intimated to him by the BHEL Engineer in Charge.

9.3.3

Before starting work under any contract, the contractor must ensure that a job specific safety procedures/field practices as required over and above the safety permit conditions are prepared and followed. He should also ensure that all supervisors and workers involved understand and follow this procedures /field practices.

9.3.4

Contractor must ensure that in his work site appropriate display boards are put displaying signs for site safety, potential hazards and precautions required.

9.4.0 TRAINING & AWARENESS

9.4.1

Contractor shall deploy experienced supervisors and other manpower who are well conversant with the safety and environment regulations of the Project. The electricians to be deployed on the job should have wireman license.

9.4.2

All Supervisors & Workmen of the Contractor shall undergo Fire safety training/ demonstration whenever arranged by BHEL with the help of either Customer's Fire and Safety department or outside faculty so as to acquire knowledge of fire prevention and also to be able to make use of appropriate fire extinguishers.

9.4.3

Contractor must familiarize himself from BHEL Engineer in Charge about all known potential fire, explosion or toxic release hazards related to the contract. He in turn will ensure that same information has been passed to the supervisors and workmen

9.4.4

Contractor must ensure that all his supervisors are properly trained and each employee has received and understood from his supervisor necessary training and briefing about the safety requirement. Necessary document as a means to verify that employees have understood the training is to be maintained.

9.4.5

The contractor supervisors shall also give a small safety briefing to all the workmen under his charge before undertaking any new work and specially understand the safety requirements that are mandatory

9.5.0 **REPORTING**

9.5.1

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence but in any case not later than twelve hours of the occurrence. Such report shall be furnished in the manner prescribed by BHEL and also to meet statutory requirement.

9.5.2

Any injury sustained by any of the contractor's employees within the Project premises must be reported to BHEL supervisor and FIRST AID should be immediately administered. The Contractor shall be responsible for keeping and maintaining proper records of Accidents to his personnel.

9.5.3

Contractor must arrange to immediately investigate, properly document and report any injury, accident or near miss involving any of his employees and take appropriate follow up action. He must furnish within 12 hours of the incident a written report to BHEL Engineer in charge and the Safety Section.

9.5.4

According to the Factory Act and the Employees state Insurance Act & regulation, any person sustaining any injury within the project premises and absenting himself from work for more than 46 hours, his accident report has to be sent to the respective Government Authorities. Therefore contractor shall inform the owner's representative such matter immediately for their needful action.

9.5.5

In addition, contractor shall submit periodic reports on safety to the authorised BHEL official from time to time as prescribed.

9.5.6

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

9.6 **AUDIT REVIEW AND INSPECTION**

9.6.1

BHEL shall conduct audit on the contractor performance and compliance with the project specific requirements of the Environment and Occupational Health & Safety Management systems. The programme of audit shall cover all activities under the contract but will focus particularly on high-risk activities. The Construction Manager shall decide the schedule of audit. The audit findings shall be communicated to the contractors and necessary remedial action as advised by BHEL Engineers shall be under taken within the stipulated time.

9.6.2

Inspections shall be carried out regularly by the contractors and by BHEL Engineers on activities, facilities, equipment, documentation, to cover the following aspects.

- Compliance with procedures and systems
- Availability, condition and use of PPE
- Condition of maintenance tools, equipments, facilities
- Availability of fire fighting equipments and its condition
- Use of fire fighting equipments and first aid kit
- Awareness of occupational health hazard
- Awareness of safe working practices
- Presence of quality supervision
- Housekeeping

The Safety coordinator shall visit and inspect work sites daily. All unsafe acts, unsafe conditions that have imminent potential for causing harm/injury/damage will be immediately corrected. He shall maintain a daily logbook giving details of unsafe acts or conditions observed and the corrective action taken and recommendations for preventing recurrence. Adequacy of corrective actions will be verified

The contractor shall take remedial measures as per the findings of each inspection
Besides the above, the contractor shall be required to carry out the following inspections

| Sl no | Equipment | Scope of inspection | Inspection by | Schedule |
|-------|---------------------------|---|---------------------------|----------------------|
| 1 | Hand tools | To identify unsafe/defective tool | User | Daily |
| 2 | Power tools | To identify unsafe/defective tool | User | Daily |
| 3 | Fire Extinguishers | To check pressure and any defect | User / Safety Coordinator | Daily Every month |
| 4 | Lifting equipment/tackles | To check for defects and efficacy of brakes | User Third party | Daily Every Year |
| 5 | PPE | To check for defects | User | Daily |

9.7 **NON COMPLIANCE:-**

9.7.1

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND THE BHEL HAS RIGHT TO IMPOSE FINES ON THE CONTRACTOR AS UNDER **for every instance of violation noticed:**

| Sl. No | Instance of Violation | Fine (in Rs) |
|--------|--|--------------|
| 01. | Not Wearing Safety Helmet | 50/- |
| 02. | Not wearing Safety Belt | 100/- |
| 03. | Grinding Without Goggles | 50/- |
| 04. | Not using 24 V Supply For Internal Work | 500/- |
| 05. | Electrical Plugs Not used for hand Machine | 100/- |
| 06. | Not Slings property | 200/- |
| 07. | Using Damaged Sling | 200/- |

| Sl. No | Instance of Violation | Fine (in Rs) |
|--------|---|-----------------------|
| 08. | Lifting Cylinders Without Cage | 500/- |
| 09. | Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property. | 200/- |
| 10. | Not Removing Small Scrap From Platforms | 200/- |
| 11. | Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting | 200/- |
| 12. | Not Maintaining Electric Winches Which are Operated Dangerously | 500/- |
| 13. | Improper Earthing Of Electrical T&P | 500/- |
| | Major Accident or Accidents causing partial loss of earning to the victim | 50,000/- per victim |
| 14 | Fatal Accident or Accidents causing permanent loss of earning to the victim | 1,00,000/- per victim |

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the contractor. The amount collected above will be utilised for giving award to the employees who could avoid accident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

9.8

CITATION:- If safety record of the contractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job

9.9 Memorandum of Understanding

After Award Of Work, Contractors Are Required To Enter Into A Memorandum Of Understanding As Given Below:

Memorandum of Understanding

It is committed to Health, Safety and Environment Policy (EHS Policy) as given in the booklet titled “Safe Working Practices” issued to all contractors.

M/s _____ do hereby also commit to the same EHS Policy while executing the Contract Number _____

M/s _____ shall ensure that safe work practices not limited to the above booklet are followed by all construction workers and supervisors. Spirit and content therein shall be reached to all workers and supervisors for compliance.

BHEL will be carrying out EHS audits twice a year and M/s _____ shall ensure to close any non-conformity observed/reported within fifteen days.

Signed by authorized representative of M/s-----

Name :

Place & Date:

9.10

Comprehensive list of National Standards for reference and use wherever applicable in the execution of Civil, Erection and Commissioning Contracts.

| IS No | YEAR | Amd upto | DESCRIPTION |
|----------|------|----------|--|
| IS 10204 | 1982 | | PORTABLE FIRE EXTINGUISHERS MECHANICAL FOAM TYPE |
| IS 10245 | 1994 | | SPECIFICATION FOR BREATHING APPARATUS |
| IS 10291 | 1982 | | SAFETY CODE FOR DRESS DRIVERS IN CIVIL ENGINEERING WORKS |
| IS 10658 | 1983 | | HIGHER CAPACITY DRY POWDER FIRE EXTINGUISHERS (TROLLEY MOUNTED) |
| IS 10662 | 1992 | | COLOUR TELEVISION |
| IS 10667 | 1983 | | GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF FOOT AND LEG |
| IS 11037 | 1984 | | ELECTRONIC FAN REGULATORS |
| IS 11057 | 1984 | | INDUSTRIAL SAFETY NETS |
| IS 11451 | 1998 | | RECOMMENDATION FOR SAFETY AND HEALTH REQUIREMENT RELATING TO OCCUPATION EXPOSURE TO ASBESTOS |
| IS 1169 | 1967 | | PEDESTAL FANS |
| IS 1179 | 1967 | | SPECIFICATION FOR EQUIPMENT FOR EYE AND FACE PROTECTION DURING WELDING |
| IS 11833 | 1986 | | DRY POWDER FIRE EXTINGUISHERS FOR METAL FIRES |
| IS 11972 | 1987 | | CODE OF PRACTICE FOR SAFETY PRECAUTION TO BE TAKEN WHEN ENTERING A SEWAGE SYSTEM |
| IS 1287 | 1986 | | ELECTRIC TOASTER |
| IS 13063 | 1991 | | STRUCTURAL SAFETY OF BUILDINGS ON SHALLOW FOUNDATIONS ON ROCKS |
| IS 13385 | 1992 | | SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE WHEEL MOUNTED WATER TYPE (GAS CARTRIDGES) |
| IS 13386 | 1992 | | SPECIFICATIONS FOR FIRE EXTINGUISHERS 50 LITRE MECHANICAL FOAM TYPE |
| IS 13415 | 1992 | | CODE OF SAFETY FOR PROTECTIVE BARRIERS IN AND AROUND BUILDINGS |
| IS 13416 | 1992 | | RECOMMENDATIONS FOR PREVENTIVE MEASURES AGAINST HAZARDS AT WORKING PLACE PART 1 TO PART 5 |
| IS 13430 | 1992 | | CODE OF PRACTICE FOR SAFETY DURING ADDITIONAL CONSTRUCTION AND ALTERATION TO EXISTING BUILDINGS |
| IS 13849 | 1993 | | PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CONSTANT PRESSURE) |
| IS 1446 | 1985 | | CLASSIFICATION OF DANGEROUS GOODS (FIRST REVISION) |
| IS 1476 | 1979 | | REFRIGERATORS |
| IS 1641 | 1988 | | CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): GENERAL PRINCIPLES OF FIRE GRADING AND CLASSIFICATION |
| IS 1642 | 1989 | | CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS- DETAILS OF CONSTRUCTION |
| IS 1643 | 1988 | | CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): EXPOSURE HAZARD |
| IS 1646 | 1997 | | CODE OF PRACTICE FOR FIRE SAFETY OF BUILDINGS (GENERAL): ELECTRICAL INSTALLATIONS |
| IS 1904 | 1986 | | CODE OF PRACTICE FOR DESIGN AND CONSTRUCTION OF FOUNDATIONS IN SOIL |
| IS 1905 | 1987 | | STRUCTURAL SAFETY OF BUILDINGS MASONARY WALLS |
| IS 2082 | 1985 | | ELECTRICAL GEYSERS |

| IS No | YEAR | Amd upto | DESCRIPTION |
|---------|------|----------|---|
| IS 2171 | 1985 | | PORTABLE FIRE EXTINGUISHERS DRY POWDER TYPE (CARTRIDGE) |
| IS 2309 | 1989 | | PRACTICE FOR THE PROTECTION OF BUILDINGS AND ALLIED BUILDINGS AGAINST LIGHTENING |
| IS 2312 | 1967 | | EXHAUST FANS |
| IS 2361 | 1994 | | SPECIFICATION FOR BUILDING GRIPS - FIRST REVISION |
| IS 2418 | 1977 | | TUBULAR FLUORSCENT LAMPS IS 2418 (FT-1) |
| IS 2750 | 1964 | | STEEL SCAFFOLDINGS |
| IS 2762 | 1964 | | SAFE WORKING LOADS IN KGS FOR WIRE ROPE SLINGS |
| IS 2878 | 1986 | | FIRE EXTINGUISHERS CARBON DIOXIDE TYPE (PORTABLE AND TROLLEY MOUNTED) |
| IS 2925 | 1984 | | SPECIFICATION FOR INDUSTRIAL SAFETY HELMETS |
| IS 3016 | 1982 | | CODE OF PRACTICE FOR FIRE PRECAUTIONS IN WELDING AND CUTTING OPERATIONS- FIRST REVISION |
| IS 3315 | 1974 | | DESERT COOLERS |
| IS 3521 | 1989 | | INDUSTRIAL SAFETY BELTS AND HARNESS |
| IS 368 | 1983 | | IMMERSION WATER HEATERS |
| IS 3696 | 1991 | | SAFETY CODE OF SCAFFOLDS AND LADDERS PART 1 TO 2 |
| IS 3737 | 1996 | | LEATHER SAFETY BOOTS FOR WORKERS IN HEAVY METAL INDUSTRIES |
| IS 374 | 1979 | | CEILING FANS INCLUDING REGULATORS |
| IS 3764 | 1992 | | EXCAVATION WORK - CODE OF SAFETY |
| IS 3786 | 1983 | | METHOD FOR COMPUTATION OF FREQUENCY AND SEVERITY RATES FOR INDUSTRIAL INJURIES AND CLASSIFICATION OF INDUSTRIAL ACCIDENTS |
| IS 3935 | 1966 | | CODE OF PRACTICE FOR COMPOSITE CONSTRUCTION |
| IS 4014 | 1967 | | CODE OF PRACTICE FOR STEEL TUBULAR SCAFFOLDING |
| IS 4081 | 1986 | | SAFETY CODE FOR BLASTING AND RELATED DRILLING OPERATIONS |
| IS 4082 | 1977 | 1996 | STACKING AND STORAGE OF CONSTRUCTION MATERIALS AND COMPONENTS AT SITE |
| IS 4130 | 1991 | | DEMOLITION OF BUILDINGS - CODE OF SAFETY PART 1 TO 2 |
| IS 4138 | 1977 | | SAFETY CODE FOR WORKING IN COMPRESSED AIR (FIRST REVISION) |
| IS 4155 | 1966 | | GLOSSARY OF TERMS RELATING TO CHEMICAL AND RADIATION HAZARDS AND HAZARDOUS CHEMICALS |
| IS 4209 | 1967 | | CODE OF SAFETY FOR CHEMICAL LABORATORY |
| IS 4250 | 1980 | | FOOD MIXERS |
| IS 4262 | 1967 | | CODE OF SAFETY FOR SULFURIC ACID |
| IS 4756 | 1978 | | SAFETY CODE FOR TUNNELING WORK |
| IS 4912 | 1978 | | SAFETY REQUIREMENTS FOR FLOOR AND WALL OPENINGS, RAILINGS AND TOE BOARDS |
| IS 5121 | 1969 | | SAFETY CODE FOR PILING AND OTHER DEEP FOUNDATIONS |
| IS 5182 | 1969 | 1982 | METHODS FOR MEASUREMENT OF AIR POLLUTION |
| IS 5184 | 1969 | | CODE OF SAFETY FOR HYDROFLUORIC ACID |
| IS 5216 | 1982 | 2000 | RECOMMENDATIONS ON SAFETY PROCEDURES AND PRACTICE IN ELECTRICAL WORK PART I AND II |
| IS 555 | 1979 | | TABLE FANS |

| IS No | YEAR | Amd upto | DESCRIPTION |
|----------|------|----------|---|
| IS 5557 | 1995 | | INDUSTRIAL AND SAFETY LINED RUBBER BOOTS (SECOND REVISION) |
| IS 5916 | 1970 | | SAFETY CODE FOR CONSTRUCTION INVOLVING USE OF HOR BITUMINOUS MATERIALS |
| IS 5983 | 1980 | | SPECIFICATION FOR EYE PROTECTORS - FIRST REVISION |
| IS 6234 | 1986 | | PORTABLE FIRE EXTINGUISHERS WATER TYPE (STORED PRESSURE) |
| IS 692 | 1994 | | CRITERIA FOR SAFETY AND DESIGN OF STRUCTURES SUBJECTED TO UNDERGROUND BLASTS |
| IS 6994 | 1973 | | SPECIFICATION FOR SAFETY GLOVES |
| IS 7155 | 1986 | | CODE OF RECOMMENDED PRACTICE FOR CONVEYOR SAFETY (PART 1 TO 8) |
| IS 7205 | 1974 | | SAFETY CODE FOR ERECTION OF STRUCTURAL STEEL WORK |
| IS 7293 | 1974 | | SAFETY CODE FOR WORKING WITH CONSTRUCTION MACHINERY |
| IS 7323 | 1994 | | GUIDELINES FOR OPERATIONS OF RESERVOIRS |
| IS 7812 | 1975 | | CODE OF SAFETY FOR MERCURY |
| IS 7969 | 1975 | | SAFETY CODE FOR HANDLING AND STORAGE OF BUILDING MATERIALS |
| IS 8089 | 1976 | | CODE OF SAFE PRACTICE FOR LAYOUT OF OUTSIDE FACILITIES IN AN INDUSTRIAL PLANT |
| IS 8091 | 1976 | | CODE OF PRACTICE FOR INDUSTRIAL PLANT LAYOUT |
| IS 8095 | 1976 | | ACCIDENTS PREVENTION TAGS |
| IS 818 | 1968 | 1997 | CODE OF PRACTICE FOR SAFETY AND HEALTH REQUIREMENTS IN ELECTRIC AND GAS WELDING, AND CUTTING OPERATIONS |
| IS 8448 | 1989 | | AUTOMATIC LINE VOLTAGE CORRECTOR (STABILISER) |
| IS 8519 | 1977 | | GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR BODY PROTECTION |
| IS 8520 | 1977 | | GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR EYE, FACE AND EAR PROTECTION |
| IS 875 | 1987 | | STRUCTURAL SAFETY OF BUILDING: LOADING STANDARD PART 1 TO 5 |
| IS 8807 | 1978 | | GUIDE FOR SELECTION OF INDUSTRIAL SAFETY EQUIPMENT FOR PROTECTION OF ARMS AND HANDS |
| IS 8978 | 1985 | | INSTANTANEOUS WATER HEATERS |
| IS 8989 | 1978 | | SAFETY CODE FOR ERECTION OF CONCRETE FRAMED STRUCTURES |
| IS 940 | 1989 | | PORTABLE FIRE EXTINGUISHERS WATER TYPE (GAS CARTRIDGE) |
| IS 9457 | 1980 | | SAFETY COLOURS AND SIGNS |
| IS 9679 | 1980 | | CODE OF SAFETY FOR WORK ENVIRONMENTAL MONITORING |
| IS 9706 | 1997 | | CODE OF PRACTICE FOR THE CONSTRUCTION OF AERIAL RPEWAYS FOR THE TRANSPORTATION OF MATERIAL |
| IS 9759 | 1981 | | GUIDELINES FOR DEWATERING DURING CONSTRUCTION |
| IS 9815 | 1989 | | SERVO MOTOR OPERATED LINE VOLTAGE CORRECTOR (SERVO STABILISER) |
| IS 9944 | 1992 | | RECOMMENDATIONS ON SAFE WORKING LOAD FOR NATURAL AND MAN-MADE FIBRE ROPE SLINGS |
| IS 996 | 1979 | | SINGLE PHASE ELECTRIC MOTORS |
| ISO 3873 | 1977 | | SAFETY HELMET |

SECTION-10

SPECIAL CONDITIONS OF CONTRACT

10.0 DRAWINGS AND DOCUMENTS

10.1

The detailed drawings, specifications available with BHEL engineers will also form part of this tender specification. Revision of drawings/documents may take place due to various considerations as is normal in such large project. Work will have to be carried out as per revised drawings/ documents. These documents will be made available to the contractor during execution of work at site.

10.2

One set of necessary drawings/documents to carry out the erection work will be furnished to the contractor by BHEL on loan that shall be returned to BHEL after completion of the work. Contractor's personnel shall take care of these documents given to them.

10.3

The data furnished in various sections and appendices and the drawings enclosed with this tender specification describe the equipment to be installed, tested and commissioned under this specification, briefly. However, the changes in the design and in the quantity may be expected to occur as is usual in any such large scale of works.

10.4

If any error or ambiguity is discovered in the specification/information contained in the documents/drawings and tender, the contractor shall forthwith bring the same to the notice of BHEL before submission of offer.

10.5

In case an ambiguity is detected after award of work, the same must be brought to the notice of BHEL before commencement of the work/activity. BHEL's interpretation in such cases will be final and binding on the contractor.

10.6

In case of any conflict between general instructions to tenderness, general conditions of contract contained in sections 1 & 2 respectively and special conditions of contract contained in sections 4 to 15 and appendices, provisions contained in special conditions of contract in sections 4 to 15 and appendices shall prevail.

10.7

In case of discrepancy between quoted item rate and corresponding amount in the rate schedule, the **quoted item rates shall be reckoned as correct and amount recalculated.** Quoted item rates shall also prevail for arriving at the total price quoted for offer evaluation. Offers will be evaluated on the total amount for the entire Rate Schedule and the work will be awarded without splitting the scope.

10.8

Bank Guarantees to be furnished by the contractor towards Security Deposit and Performance Guarantee (last 5% payment against workmanship warranty/defect liability) shall have a claim period of six months over and above the validity period required for the respective cases. BG for advance payment shall be kept valid for a period of two more months beyond the recovery period of the advance with interest thereof.

SECTION-11

SPECIAL CONDITIONS OF CONTRACT

11.0 TIME SCHEDULE, MOBILIZATION, OVERRUN, QUANTITY VARIATION, PRICE VARIATION, PROGRESS MONITORING ETC.

11.1 TIME SCHEDULE (CONTRACT PERIOD) AND MOBILIZATION OF RESOURCES

11.1.1 INITIAL MOBILIZATION

Contractor shall reach site, make his site establishment and deploy necessary resources so as to be ready to commence the work within three weeks from the date of fax letter of intent; or later - if so directed by the construction manager of BHEL.

11.1.2 AUGMENTATION OF MOBILISATION

Contractor shall subsequently augment his resources in such a manner that the entire work is completed within the time schedule/contract period. Mobilization of contractor's resources shall be made and augmented from time to time in such a manner that the work in scope is carried out in an uninterrupted manner.

11.1.3 CONTRACT PERIOD / TIME SCHEDULE

Regular contract period shall be **44 (forty four) months**. The date of receipt/unloading the very first consignment or the date of commencement of Materials Management Services by the contractor as defined in scope of this contract– whichever is earlier, shall be reckoned as the start of the contract period.

11.1.4 GRACE PERIOD

A grace period of **8 months** will be granted after completion of regular contract period as stated above. During the entire period of contract and extension thereof, if any, contractor shall maintain proper progress, adequate manpower, requisite handling and transportation equipments, tools & plants and consumables etc to meet the scheduled programme as per the priority set by BHEL site engineer.

11.1.5 CONSEQUENCE OF DELAY

It may be noted that in the event of delay in completion is attributable to the contractor, BHEL will impose penalty on the contractor as per GCC.

11.2 PROGRESS MONITORING, CONTRACT EXTENSION AND OVERRUN

11.2.1 PROGRESS MONITORING

Progress will be reviewed periodically (daily/weekly/monthly) including month end review vis-a-vis the plans drawn as above. The contractor shall submit periodical progress reports and other reports/information including manpower, consumables etc as desired by BHEL.

11.2.2 ASCERTAINING AND ESTABLISHING THE REASONS FOR SHORTFALL

The onus probandi that the causes leading to extension of the contract period is not due to any reasons attributable to the contractor is on him (the contractor). Review of

the performance as stated vide cl. 11.2.1 above will be made considering the availability of components to be erected and other inputs / constraints over which the contractor has no control. The programme will be reviewed area-wise and the following facts will be recorded in case of shortfall at the end of every month:

- A) Output of work not achieved owing to non-availability of fronts.
- B) Output of work not achieved owing to non-availability of materials.
- C) Erection/commissioning programme not achieved owing to non-availability of tools and plants, manpower and consumables by the contractor or any other reason attributable to the contractor.
- D) Erection / commissioning programme not achieved due to any other reasons not attributable to the contractor.

11.2.3 CONTRACT PERIOD EXTENSION

If the completion of work as detailed in these specification gets delayed beyond the end of regular contract period and grace period then depending on the balance work left out, BHEL at its discretion may extend the contract on existing terms and conditions to be applicable after the end of regular contract period and grace period.

11.2.4

A joint programme shall be drawn for the work to be completed during the extended contract period. Review of the program and record of shortfall as describe vide clause no. 11.2.2 shall be done during the extended period.

11.3 OVERRUN COMPENSATION

If the contract period is extended beyond the regular contract period and grace period for any reasons other than those attributable to the contractor or force majeure conditions, the contractor will be compensated by payment of overrun charges at the rate of Rs.30,000/- (Rupees Thirty thousand only) per month. Overrun compensation will be paid for the extension attributable to BHEL only. **No overrun compensation shall be paid for the extension of contract period attributable to contractor and/or force majeure conditions.** Overrun compensation for eligible period shall be in proportion to the progress achieved against the plan for respective period.

11.4 VARIATION IN RATES/PRICE

Item rates as agreed between BHEL and the contractor shall remain firm throughout the contract period, grace period and extension period, if any. No price variation is provided for in this contract. Accordingly clause 2.16 of General Conditions of Contract is not applicable.

11.5 VARIATION IN QUANTITIES & MEASUREMENT OF WORK

11.5.1 VARIATION IN QUANTITIES

Quantities indicated in rate schedule are approximate and liable to vary/alter at the discretion of BHEL. The accepted unit rates shall remain firm for any variation in the indicated quantities.

11.5.2 MEASUREMENT OF WORK AND PAYMENT

Payment will be made for the work measured and accepted by BHEL as per the agreed item rates of the contract. For the purpose of payment, gross weight handled including weight of packing will be taken into account. Generally weight indicated in IR/RR/LWB will be taken for this purpose. In case weight indicated on LWB is 'FTL' or 'fixed', the weight shall be assessed by BHEL and paid accordingly which shall be final/binding on contractor.

11.5.2 INTEREST BEARING RECOVERABLE ADVANCE

Interest bearing (rate of interest shall be prime leading rate of SBI plus 2% per annum, on monthly reducing balance basis) recoverable advance limited to 5% of the contract value may be paid by BHEL at its discretion depending on the merit of the case against receipt & acceptance of bank guarantee from the contractor for the amount sought. This bank guarantee (BG) shall be valid at least for one year or the recovery duration. In case recovery of dues does not get completed within the aforesaid BG validity period, the contractor must renew the validity of BG or submit fresh BG for the outstanding amount and remaining recovery period. BHEL is entitled to make recovery of the entire outstanding amount in case the contractor fails to comply with the BG requirement as above.

Recovery of dues will be made minimum @ 10% of the admitted gross running bill amount from the first applicable running bill onwards till entire due (principal plus interest) is recovered. In the event sufficient time duration is not left for recovery @10%, the rate of recovery shall be suitably enhanced so that entire due is recovered by the time contractor reaches 90% billing of total value of work executed & within the contract period (including extensions granted or foreclosure if any).

11.6 DEFINITION OF WORK COMPLETION

The contractor's scope of work under these specifications will be deemed to have been completed in all respect, only when all the activities are completed satisfactorily and so certified by BHEL. The decision of BHEL in this regard shall be final and binding on the contractor.

SECTION-12

SPECIAL CONDITIONS OF CONTRACT

12.0 TERMS OF PAYMENT

12.0.1

The contractor shall submit his monthly RA account bills with all the details required by BHEL on specified date every month covering progress of work in all respects and areas for the previous calendar month. However, first RA Bill shall be released only after signing of Contract Agreement.

12.0.2

Clause 2.6 of general conditions of contract shall be referred to as regards mode of payment, and measurement of the work completed.

12.0.3

Release of payment in each running bill will be restricted to 95% of the value of work admitted, as per the percentage break-up for the stage of work completion stipulated vide clauses hereinafter.

The 5% thus remaining shall be on account of workmanship guarantee of work executed. The same will be released after completion of the guarantee period of **12 months** from the date of completion of entire work as certified by BHEL.

However, on specific request of vendor, this amount may be released on pro rata basis for the value of work executed and accepted by BHEL, along with any RA Bill and onwards, subject to receipt and acceptance of bank guarantee of 5% of contract value in BHEL's prescribed format. The BG shall be kept valid till completion of such guarantee period and an additional six months claim period. This is also subject to the condition that the contractor has started the work and also furnished/remitted the initial Security Deposit as per contract.

12.0.4

The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.

12.0.5

BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS. In order to implement this system, the following details are to be furnished by the Contractor pertaining to his Bank Accounts where proceeds will be transferred through BHEL's banker:

1. Name of the Company
2. Name of Bank
3. Name of Bank Branch
4. City/Place
5. Account Number
6. Account type
7. IFSC code of the Bank Branch
8. MICR Code of the Bank Branch

BHEL may also choose to release payment by other alternative modes as suitable.

12.1 STAGES OF PROGRESSIVE PRO-RATA PAYMENTS

12.1.1 The 5% of award value of rate schedule will be released on following events of contractor's T&P mobilization:

- (i) 1.0% of award value on deployment of 40 ton crane at site
- (ii) 0.75% of award value on deployment of 18 ton crane at site
- (iii) 0.50% of award value on deployment of first 8 ton Pick & Carry crane at site.
- (iv) 0.50% of award value on deployment of second 8 ton Pick & Carry crane at site.
- (v) 0.25% of award value on deployment of 2 Nos forklifts at site.
- (vi) 2.00% of award value on deployment of 10,000 wooden/concrete sleepers at site on pro rata basis @ 0.2% for every 1000 sleepers.

12.1.2 60% of the agreed item rates shall stand assigned for progressive pro-rata release towards material handling work of the rate schedule.

Payments in respect of material handling activities (listed in section-a of rate schedule) will be made for the actual quantities executed.

12.1.3 The remaining 35% of the agreed item rates shall be assigned for progressive pro-rata release towards various Material Management Services as described in detail in these specifications.

Payment towards MM services will be made after availing such services as per agreed plan. This is irrespective of any materials handled or not in that month.

Detailed break up for release on progressive pro-rata payment will be as following.

12.2 Break up of assigned % of rate towards material handling activities for progressive payment

12.2.1 INCOMING MATERIALS (item nos. A.1 of rate schedule)

12.2.1.1 Unloading & Preliminary Verification of Materials

30 % of agreed rates shall be paid after the materials are received and unloaded at project site and verified (verification of physical quantities and externally detectable damages) with reference to RR/LWB/PWB subject to furnishing following information and record along with the bill.

- (a) Shortage report/open delivery taken w.r.t. RR/LWB, if any and acceptance thereof by railway authorities/transporters.
- (b) Proof of the claim lodged with railways/transporters in respect of above shortage/open delivery.
- (c) Material management forms duly filled in by contractor and certified by BHEL engineer.

12.2.1.2 Detailed Verification & Stacking

30 % of the agreed rates shall be paid after the materials are duly stacked and verified as per packing slip/loading advice slip by repacking, stacking etc wherever necessary. Payment will be released on submission of information as per materials management forms by the contractor immediately after verification of materials and certified by BHEL engineers. Site engineer will provide the requisite proforma. Normally the verification of material shall be done within the time frame specified by BHEL.

12.2.2 Shifting/Re-Arranging/ Re-Stacking Of Materials (Item Sl. No. A.3 of Rate Schedule)

60% of the accepted item rate on pro-rata basis for respective work completed and corresponding records prepared in the month.

12.2.3 Outgoing Materials (Item No. A.2 of Rate Schedule)

60% of accepted rate will be paid after proper packing/bundling of materials as and where necessary, loading on the outgoing vehicle, preparation of packing list and material outgoing gate pass, getting the consignment inspected and endorsed by the security personnel of BHEL as well as that of customer, getting the out-going gate pass registered at the 'out gate' of the project.

12.3 Break Up of Assigned % towards Materials Management Services for Pro-Rata Progressive Payment

The break up of **assigned 35% of award value** towards various MM services shall be as under:

| | |
|---------------------------------|-----|
| A. Supervision services: | 05% |
| B. Preservation services: | 03% |
| C. Record keeping services: | 15% |
| D. Secretarial & misc services. | 12% |

12.3.1 For the purpose of release of progressive payments, month-wise break up for each of the above services will be jointly worked out by BHEL and the contractor at site at the time of start of work. This will be dynamically and regularly reviewed every month or mutually agreed periodicity and shall be re-set based on expected requirement of various services keeping in view relevant aspects. On all the issues as above, BHEL engineer's decision shall be final & binding.

12.3.2 These services are to be rendered even during extended period (the contract extension may be due to any reason) without any additional payment/compensation. The periodical review of monthly billing/payment break up shall take this aspect in consideration. Progressive payment for each service of these will be made on certification of BHEL accordingly.

12.4

To start with contract value will be considered as the award value. Contract value will be periodically reviewed depending on the quantity of materials to be handled by the

contractor for completion of the contractual work in totality. Finally, the contract value shall be arrived at by multiplying the agreed item rates of the rate schedule applied on actually executed final quantity of all the material handling activities and the total payment towards break up envisaged in clause 12.1 herein above shall be adjusted accordingly.

12.5 Mode of Payment and Measurement of Work Completed

Clause 2.6 of the general conditions of contract and clause 11.5.2 shall be applicable.

SECTION-13

SPECIAL CONDITIONS OF CONTRACT

13.1 EXTRA CHARGES FOR RECTIFICATION AND MODIFICATION

NOT APPLICABLE

SECTION-14 (rev:01 dated 02/02/2009)

SPECIAL CONDITIONS OF CONTRACT

INSURANCE

14.1 Marine, Storage cum Erection (MCE) Insurance and Repairing Damages

BHEL/client has an MCE insurance cover, inter-alia, for all the permanent project equipments/components supplied by BHEL under scope of this work by way of a transit and storage cum erection policy covering liability against damages/ losses etc.

14.2

The contractor has to arrange on his own, insurance cover for all the T&P and other construction equipments deployed at site. Such assets are not covered in insurance policy taken by BHEL.

14.3

It shall also be the responsibility of the contractor to arrange for accident risk policy/workmen compensation policy for the staff and workmen.

14.4

The contractor has to provide assistance in lodging and realizing the insurance claims covered by the MCE insurance policy that is taken by BHEL. Scope shall include receipt inspection (shortage/damage/loss reporting) immediately on arrival of consignment, recording such damage/loss/shortage intimation on the LR/RR/LWB duly countersigned by the driver/transporter's representative while acknowledging receipt of consignment to the concerned transporter, intimating the loss/damage/shortage to BHEL, providing assistance for inspection of the reported consignment at the time of insurance survey, liaisoning with the transporter and insurance company etc.

14.5

In case of theft / damage / loss of materials due to **repeated/continued instances of negligence/failure** attributable to the contractor, the expenses incurred on account of repair/ replacement of such components including BHEL's overhead expenses as applicable (presently @ 30%) in excess of the amount realized from the underwriters, if any, shall be recovered from the contractor. Recovery will be limited to Normal Deductible Franchise (DF)/Excess for every incidence of loss/damage.

14.6

In case any insurance claim does not become tenable due to **willful** negligence/ damage/loss attributable to the contractor, the total cost of repair/replacement including BHEL overhead expenses shall be recovered from the contractor.

SECTION-15 (Rev dated 12/1/2009)
SPECIAL CONDITION OF CONTRACT

15.0 EARNEST MONEY DEPOSIT, SECURITY DEPOSIT & BANK GUARANTEE

15.1 Earnest Money Deposit:

- i) EMD for this tender is Rs. 2,00,000/- (Rupees Two lakhs only).
- ii) Bidders who have already deposited One Time EMD of Rs. 2.00 lakh are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' certificate issued by BHEL/PSWR, Nagpur shall be enclosed along with the Offer.
- iii) EMD is to be paid in cash (as permissible under Income Tax Act), Pay order or Demand Draft in favour of Bharat Heavy Electricals Limited and payable at Nagpur.
- iv) No other form of EMD remittance shall be acceptable to BHEL.

15.1.1 EMD by the bidder will be forfeited as per Tender Documents if

- i) After opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted rates.
- ii) The bidder does not commence the work within the period as per LOI/Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.

15.1.2 EMD shall not carry any interest.

15.1.3 In the case of unsuccessful bidders, the Earnest Money will be refunded to them after acceptance of tender by successful bidder

15.2 Security Deposit

15.2.1 Security Deposit shall be furnished by the successful bidder. The rate of Security Deposit will be as below:

| SN | Contract Value | Security Deposit Amount |
|----|-------------------------------------|---|
| 1 | Up to Rs. 10 lakhs | 10% of Contract Value |
| 2 | Above Rs. 10 lakhs upto Rs.50 lakhs | 1 lakh + 7.5% of the Contract Value exceeding Rs. 10 lakhs. |
| 3 | Above Rs. 50 lakhs | Rs 4 lakhs + 5% of the Contract Value exceeding Rs. 50 lakhs. |

The security Deposit should be furnished before start of the work by the contractor.

15.2.2 Security Deposit may be furnished in any one of the following forms

- i. Cash (as permissible under the Income Tax Act)
- ii. Pay Order, Demand Draft in favour of BHEL.
- iii. Local cheques of scheduled banks, subject to realization.
- iv. Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).

- v. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- vi. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vii. Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be remitted (either by cash/DD or **BG for maximum 50%** of total SD) before start of the work and the balance 50% may be recovered from the running bills.
- viii. EMD of the successful bidder shall be converted and adjusted against the cash Security Deposit excepting for such bidder who has remitted One Time EMD.
- ix. The Security Deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

15.2.3 SECURITY DEPOSIT SHALL NOT BE REFUNDED TO THE CONTRACTOR EXCEPT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT

15.3 BANK GUARANTEE

- i. It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period as per the advice of BHEL Site Engineer / Construction Manager. BHEL shall not be held liable for issue of any reminders regarding expiry of the Bank Guarantees.
- ii. In case extension/further extensions of any Bank Guarantees are not required, the bidders shall ensure that the same is explicitly conveyed through the Construction Manager to BHEL PSWR/HQ, Nagpur
- iii. In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.
- iv. **Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.**
- v. Bidders to ensure that the Bank Guarantees submitted are exactly as per format given in the Tender documents.
- vi. The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due). However, in exceptional cases, where guarantee is directly received by Vendor, the Vendor shall instruct the Bank to send an unstamped duplicate copy of the guarantee directly to BHEL under Registered Post (Acknowledgement Due).

15.3.1 Guidelines for acceptance of Bank Guarantees are as follows :

- Vendors are advised to obtain BG from any of the following BHEL consortium banks

| | |
|---------------------|--|
| State Bank of India | The Hongkong and Shanghai banking Corporation Ltd. |
| ICICI Bank Ltd | ABN Amro Bank N.V |
| Bank of Baroda | IDBI Ltd |
| Canara Bank | Punjab National Bank |
| Citi bank N.A | Standard Chartered Bank |
| Corporation Bank | State Bank of Travancore |
| Detshe Bank | State Bank of Hyderabad |
| HDFC Bank Ltd | Syndicate Bank |

- The Bank Guarantees of all Public sector banks shall be accepted (Other than consortium banks also).
- The Bank Guarantees of Co-operative banks shall not be accepted.
- Bank Guarantees of other banks (banks other than consortium bank, public sector bank, & Co-operative banks) can be accepted subject to an overall exposure limit (at BHEL, PSWR, Nagpur) of RS. 10 crores for banks with net worth of more than Rs. 500 crores as on last balance sheet date and Rs 5 crores for banks with net worth between Rs. 350 to Rs 500 crores (A certificate and copy of latest Balance Sheet to be given at the time of submission of bank guarantees .
- In case Bank Guarantees given by non consortium banks (Private sector or Public sector), the bank Guarantees shall be enforceable at Nagpur, Maharastra.

SECTION 16
SUSPENSION OF BUSINESS DEALING WITH CONTRACTORS
(w.e.f 18.05.09)

- 16.1 A bidder may be put on HOLD for a period of 6 months, for future tenders for specific works on the basis of one or more of the following reasons:
- I. Bidder does not honour his own offer or any of its conditions within the validity period.
 - II. Bidder fails to respond against three consecutive enquires of BHEL.
 - III. After placement of order, Bidder fails to execute a contract.
 - IV. Bidder fails to settle sundry debt account, for which he is legitimately liable, within one year of its occurrence.
 - V. Bidder's performance rating falls below 60% in specific category.
 - VI. Bidder works are under strike/ lockout for a long period.
- 16.2 A Bidder may be de-listed from the list of registered Bidders of the region for a period of 1 year on the basis of one or more of the following reasons:-
- I. Bidder tampers with tendering procedure affecting ordering process or commits any misconduct which is contrary to business ethics.
 - II. Bidder has substituted, damaged, failed to return, short returned or unauthorizedly disposed off materials/ documents/ drawings/ tools etc of BHEL.
 - III. Bidder no longer has the technical staff, equipment, financial resources etc. required to execute the orders/ contracts.
- 16.3 A Bidder can be banned from doing any business with all Units of BHEL for a period of 3 years on the basis of one or more of the following reasons:
- I. Bidder is found to be responsible for submitting fake/ false/ forged documents, certificates, or information prejudicial to BHEL's interest.
 - II. In spite of warnings, the Bidder persistently violates or circumvents the provisions of labour laws/ regulations/ rules and other statutory requirements.
 - III. Bidder is found to be involved in cartel formation.
 - IV. The Bidder has indulged in malpractices or misconduct such as bribery, corruption and fraud, pilferage etc which are contrary to business ethics.
 - V. The Bidder is found guilty by any court of law for criminal activity/ offences involving moral turpitude in relation to business dealings.
 - VI. The Bidder is declared bankrupt, insolvent, has wound up or been dissolved; i.e ceases to exist for all practical purposes.
 - VII. Bidder is found to have obtained Official Company information/ documentation by questionable means.
 - VIII. Communication is received from the administrative Ministry of BHEL to ban the Bidder from business dealings.

APPENDIX-I

LIST OF MAJOR T&P TO BE PROVIDED BY BHEL FREE OF CHARGES ON SHARING BASIS

1. BHEL will provide one 75 MT capacity crawler crane. For further details in this regard please refer Section-7 of SCC.

DATE:

SIGNATURE OF THE TENDERER

APPENDIX-II

LIST OF MAJOR T&P TO BE PROVIDED BY CONTRACTOR

| SN | DESCRIPTION & CAPACITY OF T&P | RANGE/ CAPACITY (MIN) | MINIMUM QUANTITY | TENTATIVE DEPLOYMENT SCHEDULE |
|----|---|--|------------------|---|
| 01 | CRAWLER/MOBILE CRANE | 40 Ton | 1 | To be available from start of work |
| 02 | PICK AND CARRY MOBILE CRANE | 18 Ton | 1 | One crane shall be deployed from the start of work. |
| 03 | PICK AND CARRY MOBILE CRANE | 8 Ton | 2 | One crane shall be deployed from the start of work. Second crane shall be deployed from second month onwards. |
| 04 | FORK LIFT | 2 Ton | 2 | One shall be deployed after 3 months from the start of work. Second shall be deployed after 6 months from start of work. |
| 05 | TRAILER WITH PRIME MOVER | ADEQUATE CAPACITY | AS REQUIRED | While furnishing the deployment plan the need for transport of material, recd on rails, from unloading bay to yard is to be kept in view. |
| 06 | WOODEN/CONCRETE SLEEPERS | ASSORTED CROSS SECTIONAL SIZES, 3ft / 6 FT. LENGTH | 10,000 Nos | Deployment schedule: 1 st 2000 nos – 1 st month, 2 nd 2000 nos – 3 rd month, Bal 6000 nos – progressively from 4 th month to 7 th month from start of work. Contractor shall take out all such sleepers at the end of contract and leave the project premises clean. |
| 07 | SLINGS, 'D'-SHACKLES, HYDRAULIC JACKS, ETC. | AS REQUIRED | AS REQUIRED | Deployment as per project requirement. |

The list and deployment schedule furnished above is tentative and only for general guidance to the bidders for the purpose of estimation. Successful bidder shall deploy all necessary T&P required to carry out the work in scope of this tender specification. Deployment schedule and augmentation of the tools & plants shall be strictly as per actual requirement of the work as decided by BHEL from time to time.

SIGNATURE OF THE TENDERER

DATE:

APPENDIX–III

DETAILS OF SIMILAR WORK DONE DURING THE LAST SEVEN YEARS

| SL. NO. | FULL POSTAL ADDRESS OF CLIENT & NAME OF OFFICER IN CHARGE | DESCRIPTION OF WORK | VALUE OF CONTRACT | DATE OF AWARD OF WORK | DATE OF COMMENCEMENT OF WORK | ACTUAL COMPLETION TIME (MONTHS) | DATE OF ACTUAL COMPLETION OF WORK | REMARKS |
|----------------|--|----------------------------|--------------------------|------------------------------|-------------------------------------|--|--|----------------|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |

BIDDERS SHALL ENCLOSE COPIES OF DETAILED WORK ORDER (GIVING BILL OF QUANTITIES AND SCOPE OF WORK) AND COMPLETION CERTIFICATE IN SUPPORT OF THIS STATEMENT.

DATE

SIGNATURE OF TENDERER WITH SEAL

BHARAT HEAVY ELECTRICALS LIMITED: PSWR: NAGPUR

Tender Spec No. BHE/PW/PUR/RIT-MMS/660

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APPENDIX –IV

CURRENT COMMITMENTS OF THE TENDERER

| SL.N O. | FULL POSTAL ADDRESS OF CLINT & NAME OF OFFICER IN CHARGE | DESCRIP- TION OF WORK | VALUE OF CONTRACT | DATE OF COMMENCE MENT OF WORK | SCHEDULE OF COMPLE- TION | % OF WORK COMPLETED AS ON DATE | EXPECTED DATE OF COMPLETION | REMARKS |
|------------|--|-----------------------------|----------------------|--|--------------------------------|--------------------------------------|--------------------------------|---------|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

DATE

SIGNATURE OF TENDERER WITH SEAL

BHARAT HEAVY ELECTRICALS LIMITED: PSWR: NAGPUR

Tender Spec No. BHE/PW/PUR/RIT-MMS/660

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APPENDIX-V
FORMAT FOR MONTH-WISE DEPLOYMENT PLAN FOR MATERIAL HANDLING MANPOWER
(CATEGORY-WISE NUMBERS TO BE INDICATED FOR EACH MONTH)
***USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

| SL. NO. | CATEGORY | MONTHS | | | | | | | | | | |
|---------|-------------------------|--------|---|---|---|---|---|---|---|---|----|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | SO ON* |
| 01 | RESIDENT MANAGER | | | | | | | | | | | |
| 02 | SUPERVISORS | | | | | | | | | | | |
| 03 | FOREMAN | | | | | | | | | | | |
| 04 | STOREKEEPER | | | | | | | | | | | |
| 05 | COMPUTER OPERATOR | | | | | | | | | | | |
| 06 | CRANE OPERATOR | | | | | | | | | | | |
| 07 | ELECTRICIAN | | | | | | | | | | | |
| 08 | TRUCK / TRAILER DRIVER | | | | | | | | | | | |
| 09 | SARANG | | | | | | | | | | | |
| 10 | RIGGER | | | | | | | | | | | |
| 11 | CARPENTER | | | | | | | | | | | |
| 12 | UNSKILLED WORKER | | | | | | | | | | | |
| 13 | OTHERS (PLEASE SPECIFY) | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| | MONTH WISE TOTAL | | | | | | | | | | | |

DATE

SIGNATURE & SEAL OF BIDDER

BHARAT HEAVY ELECTRICALS LIMITED: PSWR: NAGPUR
Tender Spec No. BHE/PW/PUR/RIT-MMS/660

APPENDIX-VI
FORMAT FOR MONTH-WISE DEPLOYMENT PLAN FOR MATERIALS MANAGEMENT SERVICES
 (CATEGORY-WISE NUMBERS PROPOSED TO BE DEPLOYED TO BE INDICATED FOR EACH MONTH)
***USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

| Sl. No. | Service Category | Months | | | | | | | | | | | | |
|---------|--------------------------------------|--------|---|---|---|---|---|---|---|---|----|----|----|--------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | SO ON* |
| 01 | Supervision | | | | | | | | | | | | | |
| 02 | Record Keeping | | | | | | | | | | | | | |
| 03 | Preservation | | | | | | | | | | | | | |
| 04 | Secretarial & Other Misc Services | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | Month Wise Total | | | | | | | | | | | | | |

DATE

SIGNATURE & SEAL OF BIDDER

APPENDIX–VII
FORMAT FOR DEPLOYMENT PLAN FOR MAJOR TOOLS AND PLANTS

*** USE ADDITIONAL SHEETS TO COVER THE TOTAL CONTRACT PERIOD**

| SN | DESCRIPTION AND CAPACITY OF T&P | | QUANTITY OF DEPLOYMENT IN THE MONTH | | | | | | | | | | |
|----|--|-------------------|-------------------------------------|---|---|---|---|---|---|---|---|----|---------|
| | AS PER TENDER SPECS | PLANNED BY BIDDER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | SO ON * |
| 01 | CRAWLER/MOBILE CRANE 40 MT | | | | | | | | | | | | |
| 02 | PICK AND CARRY MOBILE CRANE 18 MT | | | | | | | | | | | | |
| 03 | PICK AND CARRY MOBILE CRANE 8 MT | | | | | | | | | | | | |
| 04 | TRAILER WITH PRIME MOVER AS REQUIRED | | | | | | | | | | | | |
| 05 | FORK LIFT 2 MT | | | | | | | | | | | | |
| 06 | WOODEN/CONCRETE SLEEPERS OF ASSORTED CROSS SECTION,6 FT LENGTH, QTY- 10000 NOS | | | | | | | | | | | | |
| 07 | SLINGS, | | | | | | | | | | | | |
| 08 | 'D'-SHACKLES, | | | | | | | | | | | | |
| 09 | HYDRAULIC JACKS, | | | | | | | | | | | | |

DATE

SIGNATURE & SEAL OF BIDDER

BHARAT HEAVY ELECTRICALS LIMITED: PSWR: NAGPUR
Tender Spec No. BHE/PW/PUR/RIT-MMS/660

APPENDIX-VIII
ANALYSIS OF UNIT RATE QUOTED

| SN | DESCRIPTION | % OF QUOTED RATE | REMARKS |
|-------|--|------------------|---------|
| 01 | SITE FACILITIES VIZ., ELECTRICITY, WATER, AREA LIGHTING IN YARD, OTHER INFRASTRUCTURES | | |
| 02 | SALARY AND WAGES + RETRENCHMENT BENEFITS | | |
| 03 | CONSUMABLES | | |
| 04 | T&P DEPRECIATION & MAINTENANCE | | |
| 05 | ESTABLISHMENT & ADMINISTRATIVE EXPENSES | | |
| 06 | OVERHEADS | | |
| 07 | PROFIT | | |
| TOTAL | | 100 % | ----- |

DATE

SIGNATURE & SEAL OF BIDDER