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ORIGINAL COPY**

TENDER SPECIFICATION

TENDER NO. BHEL:NR(SCT):HARDUAGANJ-8&9: CIVIL MAIN:444

FOR

“Main Civil & architecture works in main plant area related to piling, foundations and buildings including supply of all materials except those proposed to be supplied by BHEL for 2 x 250 MW units 8 & 9) at Harduaganj Thermal Power Station (HTPS) of UPRVUNL at Harduaganj, UP”

PART I – TECHNICAL BID



**Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA**



ISO 9001-2000, ISO 14001
and OHSAS 18001 certified
company
SubContract and Purchase
Deptt.

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA
Phone: 0091-0120-2515476 / 2515464 / 2515479
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BHEL:NR(SCT):HARDUAGANJ-8&9: CIVIL MAIN:444

IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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TENDER NOTICE

Sealed tenders are invited from the contractors fulfilling qualifying requirements for the “Main Civil & architecture works in main plant area related to piling, foundations and buildings including supply of all materials except those proposed to be supplied by BHEL for 2 x 250 MW units 8 & 9) at Harduaganj Thermal Power Station (HTPS) of UPRVUNL at Harduaganj, UP”.

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QUALIFYING REQUIREMENTS:

1.0	Bidder should have executed Civil work in the construction of Power / Industrial / Infra structural projects during last SEVEN YEARS, ending on 31.07.2007, value of which shall be either of following.
1.1	One single work of value around Rs.56 Crores (Rupees fifty six Crores only), excluding cost of cement, reinforcement steel & structural steel ‘OR’ of value of around Rs. 68 Crores (Rupees SIXTY EIGHT Crores only), inclusive of cost of cement, reinforcement steel & structural steel
1.2	Two works of value of each work around Rs. 35 crores (Rupees THIRTY FIVE Crores only) and above, excluding cost of cement, reinforcement steel & structural steel ‘OR’ value of each around Rs 43 Crores (Rupees FORTY THREE Crores only), inclusive of cost of cement, reinforcement steel & structural steel
1.3	Three works of value of each work around Rs. 28 crores (Rupees TWENTY EIGHT Crores only) and above, excluding cost of cement, reinforcement steel & structural steel ‘OR’ value of each around Rs 34 Crores (Rupees THIRTY FOUR Crores only), inclusive of cost of cement, reinforcement steel & structural steel
2.0	Bidder should have executed
2.1	Civil work for main station building including foundation works for Turbo Generator for at least one unit of size 60 MW or above in Thermal power station during last SEVEN YEARS, ending on 31.07.2007.
3.0	Bidder should also have an average annual turnover of minimum of Rupees 21 Crores (Rupees Twenty one Crores only) during preceding three years (03-04, 04-05 and 05-06) or (2004-05, 2005-06 & 2006-07).

NOTES:

- (i) The Tender Documents comprise of following;
 - (a) General Conditions of Contract (separate file)
 - (b) Special Conditions of Contract, Tender Notice, Project Synopsis etc.
 - (c) Rate Schedule
 - (d) Specifications (separate file)
- (ii) Tender Documents with complete details are hosted in this web page. Bidder(s) intending to participate may download the tender document from the web site. Bidder(s) downloading the tender documents from the web site, shall remit Rs.1000/- (Rupees One thousand only) in the form of crossed demand draft (non-refundable), in favour of BHEL, NOIDA along with their offer
- (iii) Bidder(s) can also purchase hard copy of tender documents from this office. Tender documents (non transferable) will be issued on all working days between 09.30 Hrs. to 12.30 Hrs within the sale period i.e **upto 06.09.2007** on payment of Rs.1,000/- (non-refundable) either in cash or by crossed demand draft in favour of BHEL, NOIDA. Request for issue of tender document should clearly indicate Tender No. and work.
- (iv) Tenders must be submitted to the undersigned **latest by 06.09.2007** before opening of technical bids commences. Technical bids shall **be opened at 15.30 Hrs. on 06.09.2007.**
- (v) Earnest Money Deposit (EMD) : Refundable, Non-interest bearing **EMD of Rs 2,00,000/-** shall be deposited by Account Payee Pay Order 'OR' Demand Draft in favour of " Bharat Heavy Electricals Limited" payable at Delhi/NOIDA . Those bidders who have already deposited ' One Time 'EMD' of Rs. 2,00,000/- with BHEL, PSNR, NOIDA need not submit EMD with the present tender.
- (vi) Tenders not accompanied with Full Earnest Money Deposit, as indicated above, will not be considered.
- (vii) All corrigenda, addenda, amendments and clarifications to this Tender will be hosted in this web page and not in the newspaper. Bidders shall keep themselves updated with all such amendments.
- (viii) BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
- (ix) BHEL takes no responsibility for any delay/loss of documents or correspondences sent by courier/post.
- (x) Purchase Preference will be given to CPSUs as per Govt. Guidelines.

- (xi) Tender shall be processed through Reverse Auction mode with the bidders whose Techno- Commercial offers are acceptable.
- (xii) Unsolicited rebate / discount shall not be accepted after bid opening.

GM / SCP & SAS



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DOMESTIC NOTICE INVITING TENDER

LAST DATE OF SALE : 06.09.2007
DATE OF OPENING : 06.09.2007

NIT NO. / NAME OF WORK

TENDER NO. BHEL: NR(SCT):HARDUAGANJ-8&9: CIVIL MAIN:444

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NOTES

1. Purchase Preference will be given to CPSU as per Govt. Guidelines.
2. Please visit our website at www.bhel.com for details of NIT including Qualifying Requirements.

GM/SCP & SAS

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PROCEDURE FOR SUBMISSION OF SEALED TENDERS:

The tenderers 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** also indicating on each of the cover tender specification no., date and time as mentioned in tender notice.

TECHNICAL BID (COVER-I)

Except **Price bid Part-II**, complete set of tender document consisting of General conditions of Contract, “Technical specification & Special terms and condition” (Part-I) issued by BHEL shall be enclosed in **Part I Technical Bid only**. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be **submitted in duplicate**.

PRICE BID (COVER-II)

Tenderers may please note that price bid is **to be submitted only in original copy** of Tender i.e. Price bid (Part-II) issued by BHEL and no duplicate copy of same is required.

These Two separate covers i.e. cover I & II shall together be enclosed in a **third envelope (Cover-III)** and this sealed cover shall be superscribed with tender specification No., due date, time and submitted to officer inviting tender as indicated in tender notice on or before due date as indicated.

PROJECT SYNOPSIS

1. Name of the Owner: Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd
2. Installed capacity: 7 units of 50,60 &110 MW
3. Proposed Extention : 2 x 250 MW
4. Nearest Railway station : ALIGARH -- 15 km
5. Nearest City : ALIGARH 15 km by road
6. Nearest Airport : DELHI - 200 km

7. Maximum Tempreture : 48 Deg C
8. Minimum tempreture : Appx. 2 Deg C

SECTION - III

SPECIAL CONDITION OF CONTRACT

Clause No.	Title
34.0	General Scope of Work
35.0	Instruction to Tenderer
36.0	Contractor's Supervision
37.0	Supervisory Staff & workmen
38.0	Tools & Plants / IMTEs
39.0	Material
40.0	Issue and accounting of structural Steel & cement
41.0	Scrap & Serviceable materials
42.0	Execution of the work
43.0	Methods of measurement
44.0	Deviation
45.0	Valuation of deviation
46.0	Compliance to regulation & bylaws
47.0	Facilities to be provided by BHEL/ Contractor
48.0	Progress reporting
49.0	Drawing & documents
50.0	Delay & Extension of Time
51.0	Price Variation
52.0	Income tax & Sales Tax
53.0	Time Schedule
54.0	Terms of payment
55.0	Insurance
56.0	Rate schedule cum BOQ & Variation
57.0	Final bill
58.0	Liquidated Damage
59.0	Security deposit
60.0	Others

SECTION-III

SPECIAL CONDITIONS of CONTRACTS

34.0 GENERAL SCOPE OF WORK

34.1 This tender specification construction of all the civil & architecture works related to buildings & foundations which includes earth work, fabrication & erection of structural steel, plain & reinforced cement concrete, reinforcement, scaffolding, formwork, masonry work, floor finishes including dado & skirting, plastering, painting, roof finishes, doors / windows / ventilators / rolling shutters, internal & external plumbing, water supply, water proofing, drainage & sewerage, metal cladding, fencing, roads, M. S embedment etc. as well as including supply of all materials except those proposed to be supplied by BHEL, consumables, labour, Tools and plants, transportation and storage, sample testing etc. all complete as per BOQ, specifications and drawings for proper and successful execution of the job for 2 x 250 MW units 8 & 9 at Harduaganj Thermal Power Station (HTPS) of UPRUVNL at Harduaganj, UP.

34.2 **The scope of work covers the civil and architectural works in main plant area, from Main Power House building consisting of turbine bay & electrical / control room bay to complete Boiler and Pipe rack works, Piling and Foundation works in main plant area (A-B-C Row) , Bunker Bay (C-D Row) , Boiler area & works to be carried out as per Rate Schedule Cum Bill Of Quantities.** Work under this package is generally related to the following area but not limited to building, structures, foundations mentioned below.

- a) Steam Turbine Building including foundations of TG Deck, BFP & CEP etc.
- b) Pipe and Deaerator Bay.
- e) Control Bay.
- d) Rail Track (TG hall)
- e) Condensate Transfer Pump House, Booster Pump House and Condensate Storage Tank Fdns.
- f) Bunkers and Mill Bay including Mill Fdns and Adjacent Conveyer Gallery and Transfer Tower.
- g) Foundations for Boiler, ESP
- h) Foundations for ID Fan, FD Fan & PA Fan.
- i) ESP Control Room.
- j) Foundations for Duct supports and Misc. Equipment Foundations in Boiler Area viz. IBD Tank Foundations.
- k) Misc. Outdoor Equipment foundations, Trenches and Pits, RCC Paving.
- l) RCC Paving in Boiler Area including Plinth Protection around Buildings in scope.
- m) Site grading and levelling (For areas under scope of work.)
- n) Any building / Structure required from system point of view but not included above
- o) Main plant area (A-B-C row), Bunker bay (C-D row), Boiler area

34.3 **The detailed scope of work & the technical requirements for work to be executed under this specification shall be as per Specifications NO.Section C & PE-TS-999-600-C011 (Section D, Sub-Section D1 to D22), enclosed with this tender document (Separate file).**

- 34.4 **The scope of work will also include providing 'Qualified Supervisors' for direct supervision of various works other than the scope covered under this tender. These Qualified Supervisors shall be provided for 150 man-months as per site conditions. The supervisors shall possess a minimum qualification of a civil engineering diploma. They shall be deployed in all area covered under various specifications as well as other related areas as may be deemed essential based upon work requirements, though not specified. They shall be guided by BHEL Engineers to ensure smooth work progress as and when /where required /deployed.**

In case contractor fails to provide above-mentioned manpower as desired by BHEL, the latter shall have the right to hire such services from other agencies at the risk and cost of the contractor. However, if BHEL does not utilize the manmonths as per above provision, fully or partly, recovery at the rate Rs.10,000/- (rupees ten thousand only) plus 10% against each Supervisor's man-months will be made from the final bill of the contractor.

- 34.5 **The work will involve Installation & Testing of 600 / 450 mm dia 18m long, 120 / 70 MT capacity, bored cast-in-situ reinforced concrete piles.** The scope will cover all works connected with installations and Testing of bored Cast-in-situ piles including mobilizations of rigs and other equipments their erection/dismantling/transportation/assembling and erecting from one area to another, preparation of firm ground as required for supporting the pile rigs, supply of materials, sampling and testing of materials consumables, labour, transportation etc. all complete as required for the proper and satisfactory completion of the job. **Contractor has to mobilize / maintain adequate numbers of piling rigs so as to achieve an average target of 15 piles per day & around 400 piles per month.**

- 34.6 The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably implied and necessary for completion of the job as a whole all as desired and as directed by the engineer.
The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.

34.7 **ALSO INCLUDED IN THE SCOPE**

Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the "Bill of Quantities" shall include but not be limited to the following.

- a) Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the

- contract documents and additional stipulations as may be provide by the engineer during the course of works.
- b) Furnishing samples of all materials required by the engineers for testing / inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
 - c) Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
 - d) Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that are required for all works including temporary works.
 - e) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
 - f) Carrying out topographic survey of the entire and establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
 - g) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.

34.8 The contractor shall comply with following towards Social Accountability;

- (a) The contractor shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged , the Contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
- (b) The contractor shall not engage Forced/Bonded Labour and shall abide by abolition of Bonded Labour System(Abolition) Act, 1976.
- (c) The contractor shall maintain Health & safety requirement as stipulated in the Contract and Contract Labour(Regulation & Abolition) Act,1970.
- (d) The Contractor shall abide by UN convention w.r.t Human Rights and shall be liable for Discrimination/Corporal punishment for failure in meeting with relevant requirements.
- (e) The Contractor shall abide the requirement of Contract Labour(Regulation & Abolition) Act,1970 for working hours.
- (f) The Contractor shall abide by the Statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.
- (g) The Contractor shall arrange potable drinking water to its employees & workers.

34.9 The customer UPRVNL and / or their Consultant may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at

no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor in the same way as if pointed out by the BHEL Engineer, without any cost implication to BHEL.

- 34.10 The Contractor is required to cut / relocate some of the existing plants / trees and to implant and maintain at least **200 new plants / trees** at BHEL office or around within first month of the contract and maintain it till the tenure of the contract. No separate payment will be made for this work.

35.0 INSTRUCTIONS TO TENDERERS

- 35.1 The Tenderer are advised to physically visit the site and fully acquaint themselves with site conditions, transportation routes, various distances and the fact that other contractors would be working in this area their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors. **Necessary precaution and arrangements including sprinkling of water during work as acceptable to BHEL for safety & security for the above have to be made by the contractor. No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.**
- 35.2 The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorised, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the 'Engineer' or his duly authorised representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.

36.0 CONTRACTOR'S SUPERVISION

- 36.1 The Contractor shall either himself supervise the execution of the Contract or shall appoint a competent Engineer / agent approved by the Engineer to act in his stead.
- 36.2 The Contractor shall employ an Engineer/ Agent having atleast a 'Degree of Bachelor in Civil Engineering' from a recognised university (for any work with a contract value exceeding Rupees Twenty Lacs) or having atleast a 'Diploma in Civil Engineering' from a recognised college (for work with a contract value exceeding Rs.Two lacs but not exceeding Rupees 20 Lacs).
- 36.3 The employment of an Engineer / Agent as aforesaid shall not be necessary if the Contractor himself is in possession of a recognised technical qualification and is in the opinion of the Engineer capable of receiving instructions of the Engineer and of executing the work to the satisfaction of the Engineer .
- 36.4 If the Contractor fails to appoint a suitable Engineer /Agent as aforesaid, the Engineer shall have full powers to suspend the execution of work and stop payment of any money that may have become due until such date as a suitable Engineer / Agent is appointed and the Contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him.

- 36.5 Orders given to the Contractor's Engineer / Agent shall be considered to have the same force as if they had been given to the Contractor himself.
- 36.6 The Contractor or his Agent shall be in attendance at the site during all working hours and shall superintend the execution of work with such additional assistance in each grade as the Engineer may consider necessary.
- 36.7 The Contractor or his accredited Agent shall attend, when required and without making any claim for doing so, either the office of the Engineer or the work site to receive instructions.
- 36.8 The BHEL Engineer shall have full powers to instruct the Contractor to arrange for immediate termination of services, in connection with this contract, of any Agent, servant or employee whose continued employment is, in his opinion, undesirable, without assigning any reason.

37.0 SUPERVISORY STAFF AND WORKMEN

- 37.1 The contractor shall deploy all the experienced skilled, semiskilled and unskilled workmen required for all the works under these specification. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if they find him unsuitable and the contractor shall forth with remove him.
- 37.2 The supervisory staff including qualified Engineers deployed by the contractor shall ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor and in general see that the works are carried out in a safe and proper manner and in coordination with other labour and staff deployed directly by BHEL or other contractors of BHEL / BHEL's Client / other agency.
- 37.3 The work shall be executed under the usual conditions like rain, insufficient space, improper approach roads etc., effecting major construction work and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with other personnel / contractor, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 37.4 The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conform to the dimensions and tolerances given in the drawings /documents / instructions given by BHEL Engineer from time to time.
- 37.5 It is the responsibility of the contractor to engage his workmen in shifts or on overtime basis for achieving the targets set by BHEL. The contractor's finally accepted rates shall include all these contingencies.
- 37.6 During the course of construction, if the progress is found unsatisfactory, or in the opinion of BHEL, if it is found that the skilled workmen like welder, fitters, technicians etc. deployed are not sufficient, BHEL after giving reasonable opportunity to the

contractor, will induct on the work the required workmen in addition to contractor's workmen to improve the progress and recover from the contractor's bills

- 37.7 If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road, kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wire, trees or any other property or to any part of erected components etc., the contractor shall make the same good at his own expense or in default, BHEL may cause the same to be made good by other workmen or by other means and deduct the expenses (of which BHEL's decision will be final) from any money due to the contractor.
- 37.8 The monthwise manpower deployment plan to be submitted as per format (at Annexure-C to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required manpower, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.

38.0 TOOLS AND PLANTS / IMTEs

- 38.1 T&Ps being provided by BHEL, if any, to sub-contractor free of hire charges shall be shared by other sub contractors working for BHEL at site and the allotment done by BHEL Engineer shall be final and binding.
- 38.2 Besides the T&Ps being made available to contractor free of hire charges, if any, by BHEL, all other T&Ps and IMTEs which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition. Indicative lists of T & P and IMTEs to be arranged by the contractor are given **as per Annexure-I & and Annexure-II.** In the event of the failure of contractor to bring necessary and sufficient T&Ps/ and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of contractor including transportation cost of same from any of BHEL site/place and hire charges as applicable shall be deducted from contractor's bill. Decision of BHEL in this regard shall be final and binding on contractor.
- 38.3 All distribution boards, connecting cables / welding cables, wire ropes, hoses etc. including temporary air/water / electrical connections etc. shall have to be arranged by the contractor at his own cost.
- 38.4 In case of non-availability of the T&Ps to be provided by BHEL due to breakdown, major overhauls, distribution pattern or any other reason, the contractor shall plan/amend / alter his activities to meet erection / commissioning targets in consultation with BHEL.
- 38.5 The operation of all BHEL's T&Ps being provided free of hire charges shall be in the scope of the contractor. The contractor shall arrange at his own cost operators, fuel, and other consumables etc. for the operation. All lubricants for BHEL cranes, such as mobile oil, gear oil, break oil, hydraulic oil, torque converter oil & grease shall be provided by BHEL free of cost. The contractor will give the requirements well in advance.

- 38.6 The contractor shall engage trained and experienced operators for the operation of BHEL's T&Ps. BHEL Engineer will check their skill and performance before they are allowed to operate the same. However checking of skills by BHEL does not absolve the contractor of his responsibilities for proper & safe handling of equipment, consistent good performance of operators & regular performance evaluation of operators.
- 38.7 The day to day and routine maintenance of BHEL's T&Ps should be carried out by contractor as per manufacturer's / BHEL's maintenance schedule at his cost. These shall be maintained in good working condition during the entire period of use. T&Ps in defective / damaged condition shall be rectified promptly to the full satisfaction of BHEL engineer. Contractor shall maintain records for maintenance of major T&Ps which shall be made available for Inspection whenever required. In case of any lapses on the part of the contractor BHEL at its own discretion get the servicing / repair of equipment done at the risk and cost of the contractor with BHEL overheads.
- 38.8 The contractor shall arrange at his cost all spares needed for upkeep of all T&Ps other than cranes and Hydraulic Test pumps supplied by BHEL. For cranes, repair / replacement of filter, batteries, self, dynamo, gaskets, hoses, oil seals and rubber parts shall be the responsibility of the contractor. However, the charges of the replacement of the other damaged /worn out parts of BHEL cranes will be borne by BHEL provided the damage is not due to the negligence of the contractor. However, if there are breakdowns / damages due to negligence of the contractor, the complete service / repair charges and cost of all the spares damaged with BHEL overheads shall be to the account of contractor and shall be recovered from his RA bills.
- 38.9 All supervision and labour required for maintenance and attending breakdowns shall be arranged by the contractor at his own cost. Minimum one mechanic and two helpers shall be exclusive marked for the above work.
- 38.10 Increasing / shortening of the crane boom to suit work requirements shall have to be arranged by the indenting contractor at his cost. All necessary manpower, tools, support, consumables, illumination etc. will have to be arranged by contractor at his cost.
- 38.11 Consolidation of ground and arrangement of sleepers / sand bag filling etc. for safe operation / movement of equipment including cranes / trailers etc. shall be the responsibility of the contractor at his cost.
- 38.12 In the event of contractor not using and maintaining BHEL T&Ps according to BHEL's instructions, BHEL will have the right to withdraw such item without any notice and no claim in this regard shall be entertained and contractor shall be responsible for delay in execution on this account. Regular utilisation report of the BHEL equipment as per requirement shall be furnished by the contractor.
- 38.13 Any loss / damage to any part of BHEL T&Ps shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss.
- 38.14 It shall be responsibility of the contractor to take delivery of T&Ps from stores or place of use by other contractor at project site, transport the same to site and return the

- same to BHEL store/ place as intimated by BHEL Engineer in project site in good working conditions after use.
- 38.15 The contractor shall return BHEL T&Ps issued to him in good working condition as and when desired by BHEL (on completion or reduction of work load). If return of T&P and IMTE is delayed by contractor, hire charges as applicable shall be levied by BHEL from time, it was requisitioned till the time of actual return. Hire charges shall also be charged on the T&Ps returned in damaged / unserviced condition to BHEL till its satisfactory repair. T&Ps returned in damaged / unserviced condition shall be got repaired by BHEL at its own discretion and entire cost of repair with BHEL overheads shall be recovered from the contractor.
- 38.16 Replacement cost including BHEL overheads in respect of irreparable / completely damaged / non return of T&Ps shall be recovered from the contractor's running bills.
- 38.17 Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, Manila ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required . Identification for such T&Ps will be done as per BHEL Engineer's advice.
- 38.18 Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection measuring and Test equipment). The IMTEs shall have test/ calibration certificates from authorised / Govt. approved / accredited agencies traceable to National / International standards. Each IMTE shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
- 38.19 Retesting / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer with in the contract price. The contractor will also have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs 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 i.e. repeat the readings taken by that instrument, failing which BHEL may deploy IMTEs and retake the readings at contractor's cost.
- 38.20 BHEL shall have lien on all T&P, IMTEs & other equipment of the Contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-contractors without the prior written approval of the Engineer.
- 38.21 The monthwise T&P deployment plan to be submitted as per format (at Annexure-D to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required T&Ps, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.

39.0 MATERIALS

- 39.1 The contractor shall at his own expenses provide all materials including paints, welding electrodes etc. required for the work. However **for permanent works cement, reinforcement steel & structural steel will be issued free of cost** as per terms & conditions specified in clause No. 40 from BHEL / Customer stores or at a point instructed by BHEL.
- 39.2 All materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the Engineer, furnish proof to the satisfaction of Engineer that the materials so comply.
- 39.3 The Contractor shall, at his own expense and without delay, supply to the Engineer samples of materials proposed to be used in the works. The Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
- 39.4 The BHEL Engineer shall have full powers for removal of any or all of the materials brought to site by the Contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the Engineer shall be at liberty to have them removed by other means. The BHEL Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply, he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution shall be borne by the Contractor.
- 39.5 The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings and / or specifications issued after submission of the tender.
- 39.6 The Engineer shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by the Engineer, the Contractor shall provide all facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials

- consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
- 39.7 In addition the Contractor shall perform / submit at his own cost such tests / samples as may be required by the Engineer out of the materials used by the company except for the costs of materials used in such tests / samples.
- 39.8 After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the Engineer along with prevailing departmental charges (current rate of 30%). BHEL reserve the right not to issue any material. The non issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
- 39.9 Material required for the works, whether brought by the Contractor or supplied by BHEL, shall be stored by the Contractor only at places approved by the Engineer. Storage and safe custody of material shall be the responsibility of the contractor.
- 39.10 BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured or at any place (s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.
- 39.11 All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the Engineer. But whenever the Works are finally completed and advance, if any, in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.
- 39.12 It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc. before procurement of welding electrodes / TIG wires. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch No. date of expiry etc. and produce test certificate for each lot / batch with correlation of batch / lot no. with respective test certificate. No electrode will be allowed to be used without valid test certificate.
- 39.13 All charges on account of Octroi, terminal or sales tax and other duties on material obtained for the works from any source shall be borne by the contractor.
- 40.0 **ISSUE AND ACCOUNTING OF CEMENT, REINFORCEMENT and STRUCTURAL STEEL**
- 40.1 Cement, reinforcing steel, structural steel (like plates, chequered plates, beams, channels, joist, angles, flats, tees, rolled sections , MS rounds, pipes and tubes) for structural steel work items only (except for items where supply by contractor is envisaged like anchor bolts, doors, floor grating, MS grating covers etc.) will be issued by as a free issue materials from BHEL / UPRVNL site stores or other issue points as specified by the Engineer. Such issues would be only for permanent works. Necessary indents shall be

- raised by the contractor as per procedure laid down by the Engineer-in-Charge about 7 days in advance of the actual requirement for incorporation in the works.
- 40.2 Materials will be issued only for permanent works and not for making templates, other temporary works, enabling works etc. and the same shall not be taken into account for purpose of material reconciliation.
 - 40.3 The contractor shall bear all other costs including the lifting, carting from issue points to works site/contractor's stores, custody and handling etc. and return of surplus/serviceable materials to Owner's stores to be designated by the Engineer-in-charge and all expenditure will be made by the contractor.
 - 40.4 All steel shall be issued in available lengths / shapes and no claims for extra payment on account of issue of non-standard lengths/shapes will be entertained. For the purpose of billing and accounting only linear measurement will be taken and weight will be calculated as per the IS Co-efficient. The different in unit weight as per IS and actual as issued, if any shall be to the contractor's account and contractor shall quote the rates for corresponding item to take care of such difference.
 - 40.5 Cement, as received from the Manufacturer/ Stockiest will be issued to the contractor. The theoretical weight of each bag of cement for issue purpose will be considered as 50Kgs. Per Bag. Any type of cement and in any container as received from Manufacturer / Stockiest shall be issued to the contractor No claim whatsoever shall be entertained on this. Cement bags weighing upto 4% less will be accepted by the contractor and accounted for as 50Kg per bag.
 - 40.6 The Contractor shall maintain good stores for storing the cement issued to him. The flooring of the storage house, the clearance of cement bags from the side walls. Etc., shall be as per the instructions of the Engineer-in-charge.
 - 40.7 The cement stores shall be open for supervision and verification by the Engineer-in-charge or his authorised representative by any time when the Engineer-in-charge feels the need to do so
 - 40.8 In the case of steel materials, the same shall be issued generally on the basis of linear measurement and the corresponding weight will be calculated as per Indian Standard. For the purpose of billing & accounting, only linear measurement will be taken and any difference in weight based on linear measurement & actual weight shall be to contractor's account. Quoted price shall be deemed to include the above & the permissible wastage mentioned. No claim whatsoever shall be entertained on account of wastage & difference in weight as referred to above.
 - 40.9 Issue of stores material is subject to availability and the contractor shall not be entitled to any claim or compensation for non-supply or delay in the supply under any circumstances. The material will be issued generally during the working hours.
 - 40.10 The Contractor shall bear all incidental costs including site lifting, carting from issue points to site / contractor's store, custody and handling etc., and return of surplus / serviceable / scrap materials to Owner's Storage points designated by the Owner etc. and no separate payment for such expenditure shall be made.

- 40.11 The Contractor will have to submit their design mix for different grades of Concrete keeping in view the requirements stipulated in IS:456, specifically regarding slump and Water Cement ratio and Specific Gravity of Materials brought to site as analysed in the laboratories. The design shall be used upon absolute volume method and theoretical consumption of Cement shall be worked out on this basis. For other than above designated mix Concrete items, the coefficients for consumption of cement shall be adopted as per CPWD practice. The theoretical consumption of cement thus worked out shall be binding upon the Contractor for reconciliation of Cement issued by the Owner. For any excess /under consumption based on these coefficients, the Contractor shall be penalised as per contract provisions. Though, permissible wastage specified shall be considered, while effecting penal recovery, no other allowance whatsoever shall be taken for reconciliation purposes
- 40.12 The theoretical consumption of cement , reinforcement steel and structural steel required for the work will be calculated on the basis of approved drawings / joint measurements. In the case of Cement, the theoretical consumption shall be decided by the Engineer as mentioned above and his decision in this regard shall be final and binding on the Contractor. Reinforcement and structural steel shall be measured by weight in tones. The weight will be arrived at by multiplying the used length by the sectional weight. The sectional weight will be same as were applied at the time of issue. Standard hooks, cranks, bends and authorised laps, chairs, separator pieces etc. specified in drawing or instructed by engineer as required shall be measured and paid for. No payment shall be made for binding wires, spacer block etc. required for keeping the steel in position unless otherwise specified in the contract. No extra payment will be made for modification of already embedded reinforcement, if required due to faulty fabrication or placement.
- 40.13 The contractor shall submit proper account of material / material reconciliation statement for the material drawn by him from stores once in every three months. Failing compliance of this requirement further issue of steel to the contractor may be suspended and no claim of compensation for delay in execution on this account shall be entertained.
- 40.14 All the steel thus issued shall be properly accounted for as per the following permissible wastage over the theoretical quantity / consumption incorporated in the works.

<u>Item</u>	<u>Area</u>	<u>Permissible variation</u>
(a) Cement	For all works except piling	2 %
	For piling works	7 %
(b) Reinforcement bars	For all works except piling	3 %
	For piling works	5 %
(a) Structural steel	Accountable (visible)	4 %
	Un accountable (invisible)	1 %

- 40.15 Any unused / serviceable quantity of cement, reinforcement steel & structural steel not returned in good condition & wastages / loss / consumption beyond specified / agreed

limits shall be charged at penal rate of **Rs 7500 per MT for cement, Rs 45,000 per MT for reinforcement steel & Rs 57,000 per MT for structural steel respectively** at the time of preparing final bill, during closing of the contract. The decision of Engineer-in-charge with regard to applicability of penal rates shall be final & binding upon the contractor.

40.16 Since the steel is being issued free of cost, the scrap generated shall belong to BHEL.

41.1 SCRAP & SERVICEABLE MATERIALS

41.1 All structural steel of length above 2 M except M.S. Plates shall be considered as serviceable materials provided the materials is in good and acceptable condition. Structural steel in length less than 2 M shall be treated as scrap.

41.2 Plates having both sides greater than 1 Metre OR If any side is less than 1 M but greater than 0.5 M and the total area is equal or greater than 2 Sq. Metre shall be considered as serviceable.

41.3 All pipes measuring 2 M and above in length shall be treated as serviceable materials provided they are in good and acceptable condition. Pipe in less than 2 M length shall be treated as scrap.

42.0 EXECUTION OF WORK

42.1 The work shall be executed in a workman like manner and to the entire satisfaction of the Engineer and as per technical specification issued with tender, IS codes, CPWD specifications as applicable. In case of conflict, the decision of the Engineer shall be final & binding.

42.2 The Engineer will communicate or confirm his instructions to the Contractor in respect of the execution of the work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instructions by signing the relevant entries in this book. Such entries will rank as order or notices in writing within the intent and meaning of these conditions.

42.3 Only BHEL approved make of electrodes will be used. All electrodes shall be heated and dried in the electric electrode drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to site will have valid manufacturing test certificate. The test certificate will have co-relation with the lot no. / batch no. given on electrode packets. No electrodes will be allowed to be used in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved / accredited test house traceable to National / International standards) will be submitted to BHEL before putting the oven in use. Periodical calibration for the same shall also be arranged by the contractor within the finally accepted rates.

42.4 SETTING OUT

42.4.1 All the works shall be set out to the true lines, grades and elevation indicated on the drawing. The contractor shall be responsible to locate and set out the works. Only one grid reference line and bench mark shall be made available for setting out the works under the contract. This reference line shall be used as datum for the works under the contract and the contractor has to establish for his work area at available points horizontal and vertical control points. The contractor shall inform BHEL well in advance of the times & places at which he wishes to do work in the area allotted to him so that suitable datum points established by him are checked by BHEL / Customer to enable the contractor to proceed with the works. Any work done without being properly located may be removed and / or dismantled by BHEL / Customer at contractor's expense.

42.4.2 The contractor shall at his own expense take all proper and responsible precautions to preserve and maintain these datum marks to its true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may be deemed necessary placed by BHEL / Customer at contractor's expenses.

42.5 SITE DRAINAGE

42.5.1 All water including sub-soil water which may accumulate on the Site during the progress of the works or in trenches and excavations, including monsoon period shall be removed by the contractor from the Site to the satisfaction of the Engineer. It will also be responsibility of the contractor to de-water all the foundation pits, trenches with suitable de-watering methods like, pumping out, well point system etc. considering the depth of water table at plant site. All such expenditure on de-watering shall be deemed to be included in quoted rates.

42.6 INSPECTION AND STAGE APPROVAL OF THE WORK

42.6.1 The owner or his duly authorised representative shall have at all reasonable times access to the contractor's premises or works and shall have the power to inspect drawings or any portion of the work, examine the materials and workmanship and shall have the authority to reject any work. This would be implemented through joint inspection by the representative of the owner and BHEL and in the form of joint protocols without any extra claims and loss of time and amount.

42.6.2 All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer when each stage is ready. In default of such notice being received, the Engineer shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Engineer thereon shall be final and conclusive.

42.7 UNCOVERING AND MAKING GOOD

42.7.1 The Contractor shall uncover any part of the Works and/or make openings in or through the same as the Engineer may from time to time direct for his verification and shall reinstate and make good such part to the satisfaction of the Engineer. If any such part has been covered up or put out of view after being approved by the Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and / or making opening in or through, reinstating and making

good the same shall be borne by BHEL. In any other case all such expenses shall be borne by the Contractor.

42.8 DISCREPANCIES AND ADJUSTMENT OF ERRORS

42.8.1 The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small-scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.

42.8.2 In case of discrepancies between schedules of quantities, the specification and / or the drawings, the following order of preference shall be observed.

(a) Description in schedule of quantities.

(b) Special conditions

(c) Drawings

(d) Technical Specifications

(e) General conditions of contract

If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer shall be the deciding authority with regard to the document.

42.8.3 Any error in description, quantity in schedule of quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract.

42.8.4 If on check there are found to be differences between the rates given by the contractor in words and figures or in the amount worked out by him in the schedule of quantities and general summary, the same shall be adjusted in accordance with the following rules:

(a) In the event of discrepancies between description in words and figures quoted by a tenderer, the lesser of the two will be treated as valid rate.

(b) In the event of an error occurring in the amount column of schedule of quantities as a result of wrong extension of the unit rate and quantity, the unit rate shall be regarded as firm and extension shall be amended on the basis of the rate.

(c) All errors in totaling in the amount column and in carrying forward totals shall be corrected.

(d) The totals of various sections of bill of quantities amended shall be carried over to the general summary and the tendered sum amended accordingly. The tendered sum so altered shall, for the purpose of tender, be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the tenderer. Any

rounding of quantities or in sections of bill of quantities or in general summary, by the tenderer, shall be ignored.

42.8.5 If neither drawing nor specification contain any mention of minor details of construction which in the opinion of the Engineer whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for satisfactory completion of work, such details shall be provided by the contractor without any extra cost, as if they were specially mentioned and shall be deemed to be included in the

42.9 SAFETY CODE

42.9.1 Besides provision with regard to SAFETY under Clause 27, Contractor shall note that Explosives shall not be used on the work by contractor except with permission in writing of the ENGINEER and in manner and to the extent to which he has prescribed. Where explosives are used, the same shall be stored in a special magazine to be provided by and at the cost of the contractor who shall be liable for all damages, losses and injury to any person or property and shall be responsible for complying with all statutory obligations in these respect.

42.9.2 The contractor will be responsible for Health, Safety & Environment management at site for the construction activities to be carried out by them in accordance with requirements given under section I (a) of this document

42.9.3 Contractor shall arrange for following provisions of HSE

1. Contractor has to maintain contact with local hospital having ambulance, scanning & other modern medical facilities required during emergency.
2. Contractor has to ensure pre employment medical check for all staff & workers.
3. Contractor has to ensure that adequate First Aid facilities with trained nurse & are available at work site for emergency purpose. This emergency set-up should include, but not limited to, following
 - Male nurse (in shifts)
 - Oxygen set up
 - Breathing apparatus
 - Eye wash facility
 - Stretcher
 - Trauma blanket
 - Medicines.

The ambulance is required to be arranged and maintained at site by the contractor for entire contract period for subject work. This emergency facility set up including ambulance, male nurse etc. will be shared by BHEL and its other contractors working at same project at no extra cost to BHEL and its sub-contractors.

42.10 NUISANCE

42.10.1 The Contractor shall not at any time do, cause or permit any NUISANCE on Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the public generally.

42.11 MATERIAL OBTAINED FROM EXCAVATION

42.11.1 Materials of any kind obtained from EXCAVATION on the Site shall remain the property of BHEL / its client and shall be disposed of as the Engineer may direct, at no extra cost.

42.12 TREASURE , TROVE , FOSSILS etc.

42.12.1 All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of BHEL / BHEL's client and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing, shall immediately upon discovery thereof and before removal acquaint the Engineer with such discovery and carryout the Engineer's directions as to the disposal of the same.

42.13 PROTECTION OF WORKS

42.13.1 Trees designated by the Engineer shall be protected from damage during the course of the Works and earth level within 1 meter of each such tree shall not be charged. Where necessary, such trees shall be protected by providing temporary fencing.

42.13.2 The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the Engineer for the protection of the Works or for the safety and convenience of those employed on the Works or the public.

42.13.3 The contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Engineer for any damage or loss to the contractor's works and the contractor shall be responsible for the complete restoration of the damaged works to its original condition to comply with the specifications and drawings. Should any such damage to the contractor's works occur because of other party not under his supervision or control, the contractor shall make his claim directly with the party concerned. The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such disputes. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.

42.14 RECORD FOR MATERIALS CONSUMED

42.14.1 The contractor shall maintain and furnish to the Engineer the RECORD OF MATERIALS consumed in the works for each activity. The statement showing the theoretical vis-à-vis actual consumption of specified materials, such as structural /reinforcement steel, cement, bitumen, lead, paint etc., shall be enclosed along with the running bills submitted by the contractor. Contractor has to also furnish the test results of the materials used in the work as per IS specifications.

42.15 PROTECTION OF EMBEDMENTS, BOLTS ETC.

42.15.1 The contractor shall ensure proper protection to the satisfaction of the Engineer, of all bolts, inserts, embedments etc. from weather etc/ by greasing, rapping them with gunny bags or canvas or by any other means as directed by Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.

42.16 CLEARANCE OF SITE AND REPAIRS.

42.16.1 Contractor has to clear the site / area where mechanical and electrical erection work is to be commenced / or in progress. The contractor shall remove construction materials and equipment lying in the vicinity and causing obstruction in the erection work within 24 hrs. notice. In case, he fails to clear the site, this will be done at his risk & cost by BHEL.

42.17 QUALITY ASSURANCE

42.17.1 The contractor has to establish / arrange at site the field testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality check list of BHEL/ its client. Contractor has to submit detailed report for testing of all material used etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.

42.18 COMPLETION OF WORK

42.18.1 The works shall be completed to the entire satisfaction of the Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.

42.18.2 BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the Engineer. Such work however shall not be treated as have been completed until the extra works are executed to the satisfaction of Engineer. The Guarantee period shall commence only after handing over of the entire works.

42.18.3 The Engineer shall certify to the contractor the date on which the work is completed and the date thereof.

42.19 RECORDS AND MEASUREMENTS

42.19.1 All items having a financial value shall be entered in BHEL measurement Book so that a complete record is obtained of all works performed under the Contract.

42.19.2 Lump sum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.

- 42.19.3 Work which fails to be measured in details shall be measured physically without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by any person duly authorised on the part of BHEL and by the Contractor.
- 42.19.4 The Engineer shall give reasonable notice in writing to the Contractor of appointment for measurement.
- 42.19.5 The Contractor shall, without extra charge, provide assistance with appliances and other things necessary for measurement and shall bear all the cost of measurement of his work.
- 42.19.6 Measurement shall be entered in BHEL Measurement Book and signed and dated by both parties each day at the site on completion of measurement. If the Contractor objects to any of the measurements recorded on the behalf of BHEL, a note to that effect will be made in BHEL Measurement Book or against the item or items objected to and such note shall be signed and dated by both the parties engaged in taking the measurement.
- 42.19.7 If, as a result of such objection, it becomes necessary to re-measure the work wholly or in part the expense of such re-measurement shall be borne by the contractor.
- 42.19.8 If the Contractor's representative fails to attend when required, the Engineer shall have power to proceed by himself to take measurements and in that case these measurements shall be accepted by the Contractor as final.
- 42.19.9 The Contractor shall, once in every month, submit to the Engineer details of his claims for the work done by him upto and including the previous month which are not covered by this Contract Agreement in any of the following respects:
- (a) Deviation from the items and Specifications provided in the Contract documents.
 - (b) Extra items/new items of work.
 - (c) Quantities in excess of those provided in the Contract Schedule.
 - (d) Items in respect of which rates have not been settled.

43.0 **METHOD OF MEASUREMENT**

- 43.1 Method of measurements shall be as per standard specifications included in the tender. For other items measurements shall be as per relevant IS Codes.

44.0 **DEVIATION**

- 44.1 The Contractor shall not make any alteration in, addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Engineer in writing and incorporated in the Contract.

- 44.2 The Engineer may deviate, either by way of addition or deduction, from the work so described, provided that the Contract sum be not thereby varied on the whole by more than the percentage set out in the tender documents. The value of all additions and deductions shall be added to or deducted from the Contract sum. (Whenever the Engineer intends to exercise such a right his intentions shall specify the deviations which are to be made, the lumpsum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract). Any objection by the contractor to any matter concerning the order shall be notified by him in writing to the Engineer within seven days from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer) owing to differences or controversy that may arise from such an objection. In the absence of such a notification of objection by the Contractor, he will be deemed to have accepted the order and the conditions stated therein.

45.0 VALUATION OF DEVIATIONS

Rates for deviated items or new items of work shall be as follows :

- 45.1 If the rates for the additional, altered or substituted work are specified in the Contract for the work, the Contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the Contract for the work.
- 45.2 If the rates for the additional, altered or substituted work are not specifically provided in the Contract for the work, the rates will be derived from the rates for a similar class of work as are specified in the Contract for the work.
- 45.3 If the rates for the altered, additional or substituted work cannot be determined in the manner specified in above clauses the rate for such part or parts will be determined by the Engineer on the basis of prevailing market rates when the work was done and the decision given in this behalf shall be final and binding on the Contractor. Rate analysis will be worked on CPWD manual of rate analysis as guidance.
- 45.4 If the rates for the altered, additional or substituted work cannot be determined in the manner specified in above clauses , then the contractor shall within 7 days of the date of receipt of order to carry out the work inform the Engineer of the rate at which it is his intention or charge for such class of work, supported by analysis of the rate or rates claimed, and the Engineer shall determine the rate or rates on the basis of prevailing market rates and pay the Contractor accordingly. However, the Engineer, by notice in writing, will be at liberty to cancel his order to carryout such class of work and arrange to carry it out in such manner as he may consider advisable. But under no circumstance the Contractor shall suspend the work on the plea of non-settlement of rates falling under the clause or claim any compensation on that account. Elements of profit, overheads, supervision and establishment charges will be taken as 15% over direct cost.

46.0 COMPLIANCE TO REGULATIONS AND BYELAWS

- 46.1 The Contractor shall conform to the provisions of any statute relating to the work and regulations and bylaws of any local authority and of any water and lighting Companies or Undertaking with whose system the work is proposed to be connected. He shall,

before making any variation from the drawings or the specifications that may be necessitated for such connections give the Engineer, notice specifying the variation proposed to be made and the reasons therefore and shall not carryout any such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute, regulations or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

47.0 FACILITIES TO BE PROVIDED BY BHEL / CONTRACTOR

- 47.1 BHEL shall provide free of charge limited open space, for office & storage shed, as and where made available by M/s UPRVNL. It is the responsibility of the contractor to construct sheds, provide all utilities and dismantle and clear the site after completion of work or as and when required , as a part of his scope of work.
- 47.2 Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport , electricity , water , medical facilities etc. as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.
- 47.3 **Construction power, for construction purposes will be provided free of cost** and at one point near erection site (at a distance upto 500 meters). Further distribution of power shall be done by contractor at his cost. All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply.
- 47.4 Provision of distribution lines of power from the central points to the required place with proper distribution boards observing the safety rules laid down by the authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS / Copper / Brass clamps, copper conductor, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shift / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 47.5 In case of power cuts / load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.
- 47.6 Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, contractor's material storage area etc. within finally accepted rates.
- 47.7 No claim for damages will be entertained by the Company on account of interruptions of water supply or limitation of quantity of water as aforesaid or on account of the water so taken being not fit for construction purposes or on any other account in connection with such water supply.
- 47.8 **CONTRACTOR HAS TO ARRANGE FOR CONSTRUCTION WATER BY PROVIDING SUITABLE BORE WELL WITHIN THE QUOTED RATES.** Contractor to satisfy himself that the water drawn by him is fit for construction / consumption and adequately treat such water at his cost when it is not found fit for the said purposes

- 47.9 The Contractor should make arrangements for storage of sufficient quantity of water required for work.
- 47.10 The Contractor shall during the progress of the work, provide, erect and maintain at his own expenses all necessary temporary workshops, stores, consumables, offices, etc. required for the proper and efficient execution of the work. The planning, setting and erection of these buildings shall have the approval of the Engineer and the Contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer.
- 47.11 On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, same will be got done by the Engineer and expenses incurred shall be recovered from the contractor along with prevailing overhead. The decision of BHEL Engineer in this regard shall be final.

48.0 PROGRESS REPORTING

- 48.1 Contractor is required to draw mutually agreed monthly programme in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed programme and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
- 48.2 Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for actions to be taken for achieving targets. The programme for subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update / revise his work programme to meet the overall requirement. All quality problems shall be discussed during above review meetings. Necessary preventive and corrective action, shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.
- 48.3 The contractor shall submit weekly and monthly progress reports, materials reports, consumables (gases / electrodes) report and other reports as per proforma considered necessary by the Engineer.
- 48.4 The progress report shall indicate the progress achieved against planned , with reasons indicating delays , if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time , so that further works again proceed as per the original programme and the slippages do not accumulate and effect the overall programme.
- 48.5 The daily manpower reports shall clearly indicate the manpower deployed, categorywise specifying also the activities in which they are engaged.

49.0 DRAWING AND DOCUMENTS

- 49.1 The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These documents will be made available to the contractor during

execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.

- 49.2 Necessary drawings / documents by BHEL to carry out the construction work will be furnished to the contractor by BHEL (except those proposed to be prepared by contractor, as mentioned in this contract) on loan which shall be returned to BHEL Engineer at site after completion of work . Contractor shall ensure safe storage and quick retrieval of these documents.
- 49.3 The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and return to BHEL.
- 49.4 The data furnished in various annexures enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.
- 49.5 Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.
- 49.6 Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.

50.0 DELAY AND EXTENSION OF TIME

- 50.1 If, in the opinion of the Engineer, the work is delayed
- (a) by reason of abnormally bad weather, OR
 - (b) by reason of serious loss or damage by fire, OR
 - (c) by reason of civil commotion, local combination of workmen, strike or lockout, affecting any of the trades employed on the work, OR
 - (d) by delay on the part of the agency or tradesmen engaged by the BHEL in executing work not forming part of the Contract, OR
 - (e) by reason of any other cause which in the absolute discretion of the Engineer is beyond the Contractor's control, then in any such case, the Engineer (or higher authority) may make fair and reasonable extension in the completion dates of the individual items of work or the Contract as a whole. Such extension which will be communicated to the Contractor by the Engineer in writing shall be final and binding on the Contractor. No other claim in this respect for compensation or otherwise howsoever is admissible. Upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer but shall nevertheless use constantly his best endeavor to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Engineer to proceed with the work.

51.0 PRICE VARIATION

51.1 The finally accepted rates for scope of work as defined in this tender are subject to price variation provisions as per following formula:

$$P1 = \frac{0.75 \times P0 (F1 - F0)}{F0}$$

P1=Increase/Decrease in billing amount (variation) for the particular month of billing.

P0 = Gross billed amount for the month as per contract provisions.

F1 = All India CPI published by Labour bureau, Simla, Govt. of India, for Industrial workers (Base 1982 =100) applicable for the month under consideration i.e. for which bill has been raised.

F0 = All India CPI published by Labour bureau, Simla, Govt. of India, for Industrial workers (Base 1982 =100) applicable for the month of opening of technical bid.

51.2 The contractor will be required to raise the bills for price variation payments on a monthly basis irrespective of the facts whether any increase or decrease in CPI. Price variation as per above formula will be calculated and paid/deducted on the total contract value (excluding payments towards extra works and over run, if any) on month-to-month basis from the date of award. BHEL however reserves the rights to freeze variation for that much of duration of delays, from time to time, which are entirely attributable to the contractor. **Average of applicable index of PVC paid shall be taken as index for PVC for final 5% amount.**

51.3 With the provision of price variation as above no claim / compensation on account of any increase whatsoever, (irrespective of whether variation are steep / unanticipated or not compensated by the above variation provisions in full towards minimum wages, consumables, electrodes, gases or any other item/ reason) will be payable during the entire period of execution including extended period, if any.

52.0 INCOME TAX, SERVICE TAX, VAT AND SALES TAX ETC.

52.1 **TDS under Income Tax, Sales Tax, VAT etc**, if any, shall be deducted at prevailing rates on gross invoice value from the running bills unless Exemption Certificate from appropriate Authority / Authorities is furnished.

52.2 **Price quoted shall be inclusive of all taxes except service tax.** The service tax, as legally leviable & payable by the contractor under the provisions of applicable law/act, shall be paid by BHEL as per contractor's bill. However, contractor shall have to submit proof of service tax deposited by them immediately after the deposit but not later than the next bill submitted after the due date of deposit. The contractor shall furnish proof of Service Tax registration with Central

Excise Division covering the services covered under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by contractor on BHEL for this project. The contractor shall obtain prior approval of BHEL before billing the service tax amount.

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 used for providing the output service and service tax paid on input service can be taken credit of against the service tax payable on output service. **As such, while offering the rates, the contractors may take into account the benefit of above provisions as the cost of input to contractors will be the cost net of excise duty and service tax and adjust their offer price accordingly to make it more competitive.**

- 52.3 In VAT applicable States, "Tax Invoice" if required under the relevant State VAT law shall be submitted alongwith other compliances as per concerned VAT Act.
- 52.4 Contractor shall get his organization registered with concerned sales tax/VAT authorities within 15 days of award of this contract, if applicable. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax/VAT registration for this contractor shall be forwarded to BHEL within 30 days from the date of LOI. In case the contractor is already registered for sales tax/VAT with Govt. Authorities he must quote his registration no, while submitting their tender.
- 52.5 Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing their materials, plants, and equipment at site for the execution of the work under this contract.

53.0 TIME SCHEDULE

- 53.1 The contractor is required to commence the work within 15 days from the date of issue of letter of intent unless BHEL decides to fix any other later date.
- 53.2 Entire work as detailed in tender specification **shall be completed within 28 months from the scheduled date of start of work** as per the programs / milestones indicated by BHEL. Contractor has to mobilise adequate resources to meet BHEL's commitments to their customer as indicated from time to time. **In case due to reasons not attributable to the contractor, the work gets delayed and additional manpower / resources have to be mobilized so**

as to expedite the work to meet various milestones, same shall be done within the quoted rates as per Rate Schedule, at no extra cost to BHEL. In the event the contractor fails to respond to these requirements, BHEL shall take appropriate actions to meet customer's commitments in line with the provisions of General Conditions of Contract.

- 53.3 **The various mile stone dates for First unit of 2X250 MW Thermal Power project is to be achieved as per the current status of contract, are as below:**

Schedule for piling and foundation work in BTG area

MILE STONES	MONTHS
Start of work	Zero Date
Start of Piling	2 nd week
A-B-C Bay Column foundations completion	5 th Month
Casting of TG raft	3 rd Month
TG Columns completion (including Intermediate beams & floors if any)	6 th Month
TG Deck Casting	9 th Month
Boiler foundations completion	6 th Month
ESP foundations completion	9 th Month
Duct Foundation Completion	13 th Month
Fan Foundation Completion	11 th Month
Bunker Bay Column foundations Comp	7 th Month
One Mill Foundation completion	12 th Month
Balance Mill foundation completion	15 th Month

Schedule for civil and architectural work in main plant area

Boiler Erection release	7 th Month
Condenser Erection Release (Includes TG hall min. readiness to enable start of work)	10 th Month
Readiness of main control room	15 th Month
Release of Cable vaults	13 th - 15 th Month
Readiness of switchgear room	15 th Month
ESP CR Erection Release	12 th Month
ESP CR completion	14 th Month
Bunker Bay Floor Completion	11 th - 13 th Month
Completion of all works including finishing	25 th Month

Civil works for Second unit shall follow at interval of 3 months.

- 53.4 In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be granted by BHEL but in no case over run compensation will be payable

53.5 The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.

54.0 TERMS OF PAYMENT

54.1 Advance Payment

54.1.1 Interest bearing advance limited to a maximum of 5 (five) % of the contract price shall be payable at site in stages in the following manner. Rate of interest shall be two (2) % above the PLR of State Bank of India applicable at the time of drawing the.

54.1.2 Two and a half (2.5) % maximum to be released on submission of following.

- i. Unqualified acceptance to LOI.
- ii. Requisite security deposit as per tender document.
- iii. Bank guarantee (BG) equivalent to 1.2 times the advance amount valid for an initial period of one year.
- iv. Detailed bar chart and its approval by BHEL.
- v. Opening of site office & on certification of the same by BHEL site.

54.1.3 Two and a half (2.5) % maximum to be released on submission of following.

- i. Bank guarantee (BG) equivalent to 1.2 times the advance amount valid for an initial period of one year.
- ii. Deployment of tools & plants as agreed to be deployed.

54.1.4 Recovery of advance shall be made at the rate of 10 % from each bill starting from the 1st applicable RA bill (gross), till the entire amount is adjusted.

54.1.5 Each bank guarantee shall be kept valid till the entire advance amount paid against it is recovered.

54.1.6 Each BG against advance shall be returned after full adjustment of the entire advance paid against it.

54.2 Progressive Payment.

54.2.1 The Contractor shall be paid monthly running bill to a maximum of 95% of the value of the work actually executed on site provided the work has been executed to the satisfaction of the Engineer. **BHEL site in-charge, at his discretion can split this 95 % payment, to facilitate site operations.** The Engineer may after a measured bill allow & certify payment to the contractor on the basis of abstract measurement bill submitted by the contractor. Contractor will also submit the floppy / CD containing abstract & measurement sheets of the bill which will be returned to him after correction for further resubmission of bill. From this amount recovery such as advances, security deposit taxes etc. would be made. The certificate of the Engineer regarding such approval and passing of sums so payable shall be final and conclusive against the contractor.

54.2.2 The 2.5% Final contract value (worked out based on actual work carried out) shall be payable on completion of all pending work, rework wherever required, site clearing and reconciliation of materials.

NOTE: Above payment shall be released after working out the contract value based on actual work carried out.

54.2.3 The balance 2.5% of final contract value will be payable on submission and passing of Final bill. The certificate of Engineer regarding such approval and passing of sums shall be final and conclusive against the contractor.

54.2.4 Any certificate relating to the work done may be modified by any subsequent interim certificates or by the final certificates and no certificate of the Engineer supporting an advance payment shall of itself be conclusive evidence that any work or materials to which it relates are in accordance with the contract.

55.0 INSURANCE

Besides provisions under clause no. 29.0 of GCC regarding insurance, the following shall also be applicable. The contractor shall also take care of the same while submitting their offer.

55.1 BHEL / its customer shall arrange for insuring the materials of BHEL / its customer covering the risks during transit, storage, erection and commissioning.

55.2 If due to negligence/ carelessness on the part of the contractor, any material/ equipment gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserve the right to recover deductible franchise and also unsettled portion of insurance claim amount from the contractor.

55.3 If due to negligence/ carelessness on the part of the contractor, any surrounding properties also get damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and to unsettled portion of insurance claim amount from the contractor.

55.4 The contractor may note that BHEL T&Ps / IMTEs are not insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time ,BHEL will reserve the right to recover the loss from the contractor.

56.0 RATE SCHEDULE CUM BOQ/VARIATION

56.1 Contractor shall fully understand description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specification shall be covered within the quoted / finally accepted rates.

- 56.2 The Tenderer shall quote the prices/rates for entire scope of work as per the rate schedule only, in part II price bid (Original). Conditional price bids or price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.
- 56.4 Quantities mentioned in the rate schedules are approximate only and liable for variation. The tentative contract value (CV) for entire scope of work shall be calculated as per finally quoted / accepted item rates & the quantities indicated in Rate Schedule cum BOQ.
- 56.5 Contractor's total quoted price as per rate schedule will be taken as tentative only. The contractor undertakes to erect / commission actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually erected at site and payments will also be regulated for the same. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of Individual item quantity. **However, in case of overall reduction in contract value beyond 30%, the contractor will be eligible for compensation as per the following provision:**

"The actual executed value shall be raised by 10 % subject to the condition that the total value of work executed plus increase as above shall be limited to 70 % of the awarded contract value"

Contractors are requested to take above into account while quoting the unit rates quoted as per Rate Schedule so as to take care of such variation during execution stage.

56.6 Tender shall be processed through Reverse Auction mode with the bidders whose Techno- Commercial offers are acceptable.

Bidders are also required to furnish following details in their techno-commercial bid, for this purpose.

- (A) Authorization of representative who will participate in the on line Reverse Auction Process;
- a. Name and Designation of official
 - b. Postal Address (Complete)
 - c. Telephone Nos. (Land line & Mobile both)
 - d. FAX No.
 - e. E-mail address
 - f. Name of Place/State/Country, wherefrom he will participate in the RA.

(B) Bidders are required to submit their acceptance to the "General terms and conditions" governing RA, which are given as per Annexure-VI of SCC.

57.0 FINAL BILL

- 57.1 As soon as possible after the completion of the work to the satisfaction of the Engineer, the Contractor shall prepared a certified final accounts on BHEL forms, in duplicate. It shall

be accompanied by the all **abstracts**, vouchers, etc. in support thereof and shall be prepared in the manner prescribed by the Engineer.

58.0 LIQUIDATED DAMAGES(LD)

58.1 For delay in completion of work attributable to the contractor, the LD shall be applicable at the rate of ½% of the contract value per week of delay or part thereof limited to a ceiling of 10% of the contract value as mentioned under clause no.25.5 of the GCC of the tender.

59.0 SECURITY DEPOSIT

59.1 The contractor shall submit Security Deposit within 15 days from the date of issue of LOI as per clause no. 16.2 of the General Conditions of Contract (GCC). In case the contractor opts to furnish Bank Guarantee as a part of Security Deposit, the BG shall be issued as per the Performa enclosed as per Annexure-H of the GCC and also that the BG should be issued preferably through any of the Member Banks listed on Page No. 34(a) of the GCC;

For BG through any other Nationalized Bank (Not covered in the list of Member Banks of GCC), the discretion of its acceptance shall lie solely with BHEL.

60.0 OTHERS

60.1 In case of any contradiction between General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), the latter shall prevail.

60.2 The tenderer shall specifically confirm he has inspected the site of work and is fully conversant with the prevailing conditions under which work is to be executed and will not raise claim of any nature due to lack of knowledge of site condition. He will also confirm that local taxation laws at the site have been clearly understood by him.

60.3 The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of pre-qualification evaluation / Techno-commercial bids and acceptance of customer. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.

INDICATIVE LIST OF T & P TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST

SL NO	EQUIPMENT DESCRIPTION	QUANTITY
1	CONCRETE BATCHING PLANT MIN. CAPACITY 30 CUM PER HOUR WITH TRANSIT MIXTURES & CONCRETE PUMPS	1 NO
2	CONCRETE MIXTURE M/C	AS PER REQUIREMENT
3	CONCRETE VIBRATORS	AS PER REQUIREMENT
4	HYDRA CRANE 8 / 10 T	2 NO
5	15/20 MT TRAILORS WITH PULLING UNIT	1 NO
6	WATER TANKER	AS PER REQUIREMENT
7	DE WATERING PUMP	AS PER REQUIREMENT
8	POWER / HAND WINCHES	AS PER REQUIREMENT
9	WELDING MACHINES	AS PER REQUIREMENT
10	PORTABLE OVENS	AS PER REQUIREMENT
11	PILING RIGS	12 UNITS
12	EXCAVATORS AND LEVELING EQUIPT (LIKE JCBs)	2 NOs
13	EARTH COMPACTOR	AS PER REQUIREMENT

NOTES:

- 35 The above list specifies only major T&P (may not be complete to be deployed by the contractor). All additional / other tools and plants including trucks & devices, tackles, machines, measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price. **Contractor has to mobilize / maintain adequate numbers of piling rigs so as to achieve an average target of 15 piles per day & around 400 piles per month.**
- 36 Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

INDICATIVE LIST OF IMTEs TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST

SL NO	EQUIPMENT	QTY
1	THEODOLITE ONE SECOND ACCURACY	2 NO
2	DUMPY LEVEL UPTO 350 MM	2 NO
3	ELECTRICALLY OPERATED COMPRESSION TESTING M/C	1 NO
4	CONSTRUCTION MATERIAL TEST EQUIPMENT	AS PER REQUIREMENT
5	CONCRETE CUBE MOULD (150 X 150 X 150) mm	4 SET
6	CONCRETE slump cone	4 SET
7	COARSE AGGREGATE SIEVES & SAND SIEVER	1 SET
8	SIEVE SHAKER	1 NO
9	AGGREGATE IMPACT TEST MACHINE	AS PER REQUIREMENT
10	HEATING OVEN	2 NO
11	PHYSICAL BALANCE FOR LAB WORK	2 NO

NOTES:

1. The above list specifies only major IMTEs (may not be complete to be deployed by the contractor). Contractor has to set up the field laboratory with facilities required for material & concrete testing. All additional / other IMTEs / measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.
2. Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

LIST OF DRAWINGS & SPECIFICATIONS ENCLOSED.

S.NO	TITLE
1.	SPECIFICATION NO, Section C
2.	SPECIFICATION NO PE-TS-999-600-C011 , Section D, Sub-section D1 to D22 as follows:
D1	EARTHWORK IN EXCAVATION AND BACKFILLING
D2	CEMENT CONCRETE (PLAIN & REINFORCED)
D3	CARPENTRY AND JOINERY
D4	ROOF AND UNDERGROUND STRUCTURES WATER PROOFING, INSULATION AND ALLIED WORKS
D5	METAL DOORS, WINDOWS, VENTILATORS, LOUVERS ETC.
D6	GLASS AND GLAZING
D7	ROLLING STEEL SHUTTERS AND GRILLS
D8	MISCELLANEOUS METAL
D9	MASONRY AND ALLIED WORKS
D10	FINISH TO MASONRY AND CONCRETE
D11	PAINTING, WHITEWASHING, POLISHING
D12	FLOOR FINISH AND ALLIED WORKS
D13	SHEETING WORK IN ROOF AND SIDING
D14	SUSPENDED CEILING
D15	WATER SUPPLY, DRAINAGE AND SANITATION
D16	ROAD AND DRAINAGE
D17	FABRICATION OF STRUCTURAL STEEL WORK
D18	ERECTION OF STRUCTURAL STEELWORK
D19	ROOF DECKING
D20	FALSE FLOORING
D21	PILING
D22	SITE LEVELLING

CERTIFICATE OF DECLARATION FOR CONFIRMING THE KNOWLEDGE OF SITE CONDITIONS

We,.....
..... Hereby declare and confirm that we have visited the project site under the subject namely,and acquired full knowledge and information about the **site conditions, wage structure, Industrial climate and total work involved**. We further confirm that the above information is true and correct and we will not raise any claim of any nature due to lack of knowledge of site condition.

Tenderers Name and Address

Place: (Signature of the Tenderer with stamp)

Date:

**NON DISCLOSURE AGREEMENT
Memorandum of Understanding**

BHEL PSNR is committed to Information Security Management System as per Information Security Policy.

M/s....., providing.....service to BHEL PSNR, Noida hereby undertake to comply with the following in line with Information Security Policy of BHEL PSNR;

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.

- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL PSNR.

()
M/s. BHEL, PSNR

()
M/s.....

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this NIT for the subject work, **tender shall be processed through Reverse Auction mode i.e., ON LINE BIDDING ON INTERNET. The General Terms and Conditions of the RA shall be as follows;**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
3. BHEL will inform to the vendor in writing, in case of reverse auction along with the details of Service Provider to enable them to contact & get trained.
4. **'Business rules'** like event date, time, Start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to Participate in the event.
6. BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL".
7. Reverse auction will be conducted on scheduled date & time.
8. At the end of Reverse Auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
10. During Reverse Auction, if no bid is received within the specified time, BHEL at its discretion, may decide to revise opening price/scrap the reverse auction process/proceed with conventional mode of tendering.
11. **Sealed bid Reverse Auction:** The opening bid (In the initial auction) of the bidders shall be same as that quoted in their Final Sealed price submitted to BHEL. **The bidders shall confirm in writing to BHEL that their opening bid (In both cases) shall be same as that quoted in their final sealed price bids submitted to BHEL against this NIT along with Technical Bid (Part-I).**
12. BHEL reserves the right to cancel Reverse Auction (RA) without assigning any reasons and resort to considering the sealed bids submitted by vendor for processing and finalizing the tender.
13. Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
14. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
15. Bids-given by the bidders during the Reverse Auction process will be taken as an offer to execute the work. Bids once made by the bidder, can not be cancelled/withdrawn and bidders shall be bound to execute the work as mentioned above at the final bid price. Should be bidder (Lowest) back out and not execute the contract as per the rates quoted, BHEL shall take action as appropriate.

**FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)**

**Bharat Heavy Electricals Limited
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar,
NOIDA – 201 301.INDIA**

Sub.: No Deviation Certificate for the work of “Construction of all the “Civil and architectural works in main plant area and the Piling & Foundation works in BTG Area” including supply of all materials except those proposed to be supplied by BHEL for 2 x 250 MW units 8 & 9) at Harduaganj Thermal Power Station (HTPS) of UPRVUNL at Harduaganj, UP.”

TENDER NO. BHEL: NR(SCT):HARDUAGANJ-8&9: CIVIL MAIN:444

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed / modified the tender documents as appeared in the website and in case of observance at any stage, it shall be treated as null and void. We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT and confirm our acceptance to reverse auctioning process and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT. In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer strictly in accordance with tender instructions.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)