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2012

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref:

Date:

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NOTICE INVITING E-TENDER (NIT)

NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES

OR

PURCHASE TENDERS FROM THIS OFFICE ALSO

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To

Dear Sir/Madam

Sub : NOTICE INVITING E-TENDER

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHEL/NR/SCT/PARBATI-II/FIRE FIGHTING/1009
ii	Broad Scope of job	“ERECTION & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM PACKAGES INCLUDING RECEIPT & LOADING OF MATERIALS FROM BHEL STORES,LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE ,PERFORMANCE TESTING AT SITE,FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER AT 4X200 MW, PARBATI-II HEP SITE, DISTT. KULLU, HIMACHAL PRADESH.”
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> <i>Applicable</i>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> <i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> <i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i> <i>Applicable</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i> <i>Applicable</i>
iv	Issue of Tender Documents	1. <u>Sale from BHEL PS Regional office at :</u> Start : 16/10/15 , Time :0900HRS Closes: 07/11/15 , Time :1200 HRS 2. From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission <i>Applicable</i>
v	DUE DATE & TIME OF OFFER	Date : 07 /11/15 , Time : 1500 HRS Place : NOIDA <i>Applicable</i>

	SUBMISSION		
vi	OPENING OF TENDER	Date : 07/11/15 <i>(within 2 hours of the latest due date and time of offer submission).</i> Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender	<i>Applicable</i>
vii	EMD AMOUNT	Rs 1,50,000/-	<i>Applicable</i>
viii	COST OF TENDER	Rs 2000/-.	<i>Applicable</i>
ix	LAST DATE FOR SEEKING CLARIFICATION	Date:26/10/15 Along with soft version also, addressing to undersigned & to others as per contact address given below	<i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)		<i>Not applicable.</i>
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		<i>Not Applicable</i>
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) and not in the newspapers . Bidders to keep themselves updated with all such information	

2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**

3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Noida issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Noida, Sundays and second/ last Saturdays. As this tender is an E-Tender and no paper bids will be accepted therefore the scanned copy of the Demand Draft or the Cash Receipt issued by BHEL PSNR should be uploaded in the E procurement portal. Hard Copy of the demand draft should reach BHEL PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard.

4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida. As this tender is an E-Tender and no paper bids will be accepted therefore the scanned copy of the Demand Draft/Pay Order should be uploaded in the E procurement portal. Hard Copy of the Demand Draft/Pay Order should reach BHEL PSNR HQ Noida before the due date and time of bid submission. BHEL shall not be responsible for postal or any other delays in this regard. For other details and for 'One Time EMD' please refer General Conditions of Contract.

- 5.0 **Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement Site <https://bheleps.buyjunction.in>. The bidder should respond by submitting their offer online only in our e-Procurement platform at <https://bheleps.buyjunction.in>. Offers are invited in two-parts only.

Documents Comprising the e-Tender

The tender shall be submitted online ONLY EXCEPT TENDER FEE & EMD (in physical form) as mentioned below:

a. Technical Tender (UN priced Tender)

All Technical details(eg. Eligibility Criteria requested (as mentioned below)) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i. Tender Cost and Earnest money Deposit (EMD) furnished in accordance with NIT Clause 3.0 & 4.0. Alternatively, documentary evidence for claiming exemption as per clause 29 of NIT
- ii. Technical Bid (without indicating any prices).

b. Price Bid:

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The price should be quoted for the accounting unit indicated in the e-tender document.
- iii. Note: It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.
- iv. A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- v. A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.
- vi. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, same shall not be considered.

DO NOT'S

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, the same shall not be considered. **Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.**

Digital Signing of e-Tender

Tenders shall be uploaded with all relevant PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

The Requirement:

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**)

BHEL has finalized the e-procurement service Provider:-

M/s M Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP
Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

The contact details of the service provider are given below:

1. M/s MJUNCTION SERVICES LTD., Kolkata:
Mr. Vipin Singh (Mob: 9717149600), Mr. Ashish Bharadwaj (Mob: 97171 32381)
Mr. Samya Mukherjee (Mob: 91633 48220), Mr. Sumant Chowdhury (Mob: 91633 48104)
2. Customer care Help Desk of M/s MJUNCTION SERVICES LIMITED, Kolkata:
Tel ~ 033 - 66011717 (From 9.30 am to 5.30 pm),
Mob - 91633 48283 - 86/ 85840 08116 (From 5.30 pm to 8.30 pm)
HELPDESK email: eps.customer@mjunction.in,
The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate)(Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.
3. The contact details of the DSC Certifying Authority as given below

1	GNFC	www.ncodesolutions.com
2	e-Mudhra	http://www.e-Mudhra.com
3	Safescrypt	www.safescrypt.com

Vendors are also requested to go through seller manual available on www.bheleps.buyjunction.in

6.0 Not Used

7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

9.0 **Assessment of Capacity of Bidders:**

Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

i). **Total number of Packages**

Total number of Packages in hand = P

Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced, excepting packages which are on HOLD due to reasons not attributable to Bidder..

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

- i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':
 This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:
- a) $P_1, P_2, P_3, P_4, P_5, \dots P_N$ etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions = P_T (ie $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$)
 - b) Number of Months ' T_1 ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P_1 . Similarly T_2 for package P_2 , T_3 for package P_3 , etc for the tendered scope. Now calculate cumulative total months ' T_T ' for total similar Packages ' P_T ' for all Regions (i.e $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$)
 - c) Sum ' S_1 ' of 'Monthly Performance Evaluation' Scores ($S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots S_{1-N}$) for similar package P_1 , for the 'period of assessment' ' T_1 ' (i.e $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-N}$). Similarly S_2 for package P_2 for period T_2 , S_3 for package P_3 for period T_3 , etc for the tendered scope for all Regions. Now calculate cumulative sum ' S_T ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' P_T ' for all Regions (i.e ' S_T ' = $S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$.)
 - d) **Overall Performance Rating ' R_{BEHL} ' for the similar Package/Packages (under execution/** executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):

$$= \frac{\text{Aggregate of Performance scores for all similar packages in all the Regions}}{\text{Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions}}$$

$$= \frac{S_T}{T_T}$$

e) Bidders to note that the risk of non evaluation or non availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder

f) Table showing methodology for calculating 'a', 'b' and 'c' above

Sl no	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P_1	P_2	P_3	P_4	P_5	...	P_N	Total No of similar packages for all Regions = P_T ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment' for corresponding similar Package (as in row 1)	T_1	T_2	T_3	T_4	T_5	...	T_N	Sum (Σ) of columns (iii) to (ix) = T_T

3	Monthly performance scores for the corresponding period (as in Row 2)	S ₁₋₁ , S ₁₋₂ , S ₁₋₃ , S ₁₋₄ , ... S _{1-T1}	S ₂₋₁ , S ₂₋₂ , S ₂₋₃ , S ₂₋₄ , ... S _{2-T2}	S ₃₋₁ , S ₃₋₂ , S ₃₋₃ , S ₃₋₄ , ... S _{3-T3}	S ₄₋₁ , S ₄₋₂ , S ₄₋₃ , S ₄₋₄ , ... S _{4-T4}	S ₅₋₁ , S ₅₋₂ , S ₅₋₃ , S ₅₋₄ , ... S _{5-T5}	S _{N-1} , S _{N-2} , S _{N-3} , S _{N-4} , ... S _{N-TN}	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix) = S _T

ii) Calculation of Overall ‘Performance Rating’ (R_{BHEL}) in case ‘similar Package/Packages’ for the tendered scope ARE NOT AVAILABLE, during the ‘Period of Assessment’:

This shall be obtained by summing up the ‘Monthly Performance Evaluation’ scores obtained by the bidder in all Regions for ALL the packages, divided by the total number of Package months for which evaluation should have been done. ‘R_{BHEL}’ shall be calculated subject to availability of ‘performance scores’ for at least 6 ‘package months’ in the order of precedence below:

- a) ‘Period of Assessment.
- b) 12 months preceding the cut-off month
- c) 24 months preceding the cut-off month
- d) 36 months preceding the cut-off month

In case, R_{BHEL} cannot be calculated as above, then Bidder shall be treated as ‘NEW VENDOR’. Further eligibility and qualification of this bidder shall be as per definition of ‘NEW VENDOR’ described in ‘Explanatory Notes’

iii) Factor “L” assigned based on Overall Performance Rating (R_{BHEL}) at Power Sector Regions.:

Sl no	Overall Performance Rating (R _{BHEL})	Corresponding value of ‘L’
1	=60	NA
2	> 60 and ≤ 65	0.4
3	> 65 and ≤ 70	0.35
4	> 70 and ≤ 75	0.25
5	> 75 and < 80	0.2
6	≥ 80	NA

III. ‘Assessment of Capacity of Bidder’:

‘Assessment of Capacity of Bidder’ is based on the Maximum number of packages for which a vendor is eligible, considering the performance scores of similar packages, as below:

Max number of packages P_{Max} = (R_{BHEL} - 60) divided by corresponding value of ‘L’
i.e. (R_{BHEL} - 60)/L

Note:

- i. In case the value of P_{Max} results in a fraction, the value of P_{Max} is to be rounded off to next whole number
- ii. For R_{BHEL} = 60 , P_{Max} = ‘1’
- iii. For R_{BHEL} ≥ 80, there will be no upper limit on P_{Max}

The Bidder shall be considered ‘Qualified’ as per ‘Assessment of Capacity of Bidder’ for the subject Tender if P ≤ P_{Max}
(where P is calculated as per clause 9.1)

IV. Explanatory note:

- a) Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the 'identified packages as per Table-1 below), the 'PERFORMANCE' part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above
- b) Identified Packages (Unit wise)

Table-1

Civil	Electrical & CI	Mechanical
i). Enabling works	i). Electrical	i). Boiler & Aux (All types including CW Piping if applicable)
ii). Pile and Pile Caps	ii). CI	ii). Power Cycle Piping/Critical Piping
iii). Civil Works including foundations	iii). Others (Elec & CI)	iii). LP Piping
iv). Structural Steel Fabrication & Erection		iv). ESP
v). Chimney		v). Steam Turbine Generator set & Aux
vi). Cooling Tower		vi). Gas Turbine Generator set & Aux
vii). Others (Civil)		vii). Hydro Turbine Generator set & Aux
		viii). Turbo Blower (including Steam Turbine)
		ix). Material Handling
		x). Material Management
		xi). Material Handling & Material Management
		xii). Others (Mechanical)

- c) Bidders who have not been evaluated for at least six package months in the last 36 months in the online BHEL system for contractor performance evaluation in BHEL PS Regions, wef July'2010 shall be considered "NEW VENDOR".

A 'NEW VENDOR' shall be considered qualified subject to satisfying all other tender conditions

A 'NEW VENDOR' if awarded a job (of package/packages identified under this clause) shall be tagged as "FIRST TIMER" on the date of first LOI from BHEL.

The "FIRST TIMER" tag shall remain till execution of work for a period of not less than 09 months, from the commencement of work of first package

A Bidder shall not be eligible for the next job as long as the Bidder is tagged as "FIRST TIMER" excepting for the Tenders which have been opened on or before the date of the bidder being tagged as 'FIRST TIMER'.

After removal of 'FIRST TIMER' tag, the Bidder shall be considered 'QUALIFIED' for the future tenders subject to satisfying all other tender conditions including 'Capacity Evaluation of Bidders'.

- d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R_{BHEL}'** only, starting from the upper band.
- e) 'Under execution' shall mean works in progress as per the following:
- i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries

- ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
- iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.

Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.

- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work.

- 9.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 10.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 11.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 12.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 13.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 14.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 15.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 16.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 17.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.

18.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

19.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.

20.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.

21.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.

22.0 **Not Used**

23.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.

24.0 The bidder may have to produce original document for verification if so decided by BHEL.

25.0 The offers of the bidders who are on the banned/ hold list as also the offer of the bidders, who engage the services of the banned/ hold firms, shall be rejected. The list of **banned/ hold firms** is available on BHEL web site www.bhel.com.

27.0 BHEL reserves the right to go for **Reverse Auction (RA)** instead of opening the price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue."

Information and General Terms and Conditions governing RA shall form part of the RFQ/ Enquiry.

28.0 It may please be noted that **guidelines/rules** in respect of Suspension of Business dealings', 'Vendor evaluation format', 'Quality, Safety & HSE guidelines', etc may **undergo change** from time to time and the latest one shall be followed. The abridge version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on www.bhel.com on "**supplier registration page**".

29.0 **Micro and Small Enterprises (MSE)**

Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer

Type under MSE	SC/ST owned	Others
Micro		
Small		

Note: - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM-II certificate having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (format enclosed as Annexure – 4 where deemed validity of EM-II certificate of five years has expired) applicable for the relevant financial year (last audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

MSEs shall be exempted from payment of tender fee.

MSEs shall be exempted from payment of earnest money at the time of tender deposit. However, there is no exemption of security deposit submission.

30.0 The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

31.0 Order of Precedence

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD
(SCT)

Enclosure:-

- (i) Annexure-1: Pre Qualifying criteria.
- (ii) Annexure-2: Check List.
- (iii) Annexure-3: Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or Special Conditions of Contract (SCC)
- (iv) Annexure-4: Chartered Accountant certificate for MSMED
- (v) Annexure-5: General Terms and Conditions of Reverse Auction (RA)
- (vi) Annexure-6: Authorization of representative who will participate in the online Reverse Auction Process
- (vii) Annexure-7: Feedback form
- (viii) Other Tender documents as per this NIT.

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS**

JOB	ERECTION & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM PACKAGES INCLUDING RECEIPT & LOADING OF MATERIALS FROM BHEL STORES, LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE , PERFORMANCE TESTING AT SITE, FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER AT 4X200 MW, PARBATI-II HEP SITE, DISTT. KULLU, HIMACHAL PRADESH.
TENDER NO	BHEL/NR/SCT/PARBATI-II/FIRE FIGHTING/1009

SL NO.	Name and Description of qualifying criteria	Bidders claim in respect of fulfilling the PQR Criteria	
			Page no. of supporting document
A	Submission of Integrity Pact duly signed	Not Applicable	
B	Assessment of Capacity of Bidder to execute the work as per sl. no. 9 of NIT	Applicable	By BHEL
C C-1	<u>Technical</u> <u>Bidder who wish to participate should have:</u> Experience of having successfully 'Executed' Similar Works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:	Applicable	
C-1.1	Three (03) similar works each costing not less than the amount equal to Rs. 33.6 Lakhs. OR		
C-1.2	Two (02) similar works each costing not less than the amount equal to Rs. 42.0 Lakhs. OR One (01) similar work costing not less than amount equal to Rs. 67.2 Lakhs.		
D	<u>FINANCIAL</u>	Applicable	
D-1	<u>TURNOVER</u> Bidders must have achieved an average annual financial turnover (Audited) of Rs. 25.2 Lakhs or more over last three Financial Years (FY) i.e. (2012-2013, 2013-2014, 2014-2015). Bidder shall submit audited accounts (balance sheets and profit & loss account) in support of this. In case audited financial statements have not been submitted for all the three years as indicated above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e. total divided by three		

D-2	<u>NET WORTH</u> Net worth of the Bidder based on the latest Audited Accounts as furnished for 'D-1' above should be positive. Net Worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)		
D-3	<u>PROFIT</u> Bidder should have earned cash profit in any one of the three financial years as applicable in the last three financial years defined in 'D-1' above based on latest Audited accounts. Profit shall be NET profit (PAT + Non cash expenditure viz. depreciation) earned during any one of the three financial years as in 'D-1' above.		
E	Approval of Customer	Applicable	
F	Consortium Criteria	Not Applicable	
	<p><u>Explanatory Notes for QR 'C'</u></p> <ul style="list-style-type: none"> For QR 'C' above the word 'Executed' means the bidder should have achieved the Technical Criteria, specified in the QR (as in 'C' above), even if the total contract has not been completed or closed. (The Bidder shall submit the work completion certificate issued by Customer / Contractor.) For QR 'C' value of work is to be updated as per the PVC formula of GCC with Indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution and indexed up to two months prior to the bid opening month. This condition will be applicable only for the completed jobs and not for the jobs in progress as on date of technical bid opening. If the Qualifying work is executed in the last seven years period, as specified above, even if it has been started earlier, the same will also be considered meeting the qualifying requirements. The word 'Similar Works' means Erection & commissioning work of Fire Fighting (Fire protection / Detection) system in power plant/industry /switchyard/substation /Buildings (commercial/industrial). OR Erection & commissioning work of Electro Mechanical / Mechanical package in Power Plant /industry. OR Erection & commissioning of Piping work of any industrial system in Power Plant/industry. In case the proof of PO/WO certificate enclosed by bidders do not have separate break up of prices for the Erection & commissioning for firefighting package i.e the certificate enclosed are for composite order for supply and erection of firefighting and other works if any, then value of erection & commissioning for the Firefighting work system shall be considered as 15% of the price for supply and erection of Firefighting work. Relevant documents, meeting above requirements at C & D, shall be submitted by bidders. 		

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

ANNEXURE - 2**CHECK LIST****NOTE:- Tenderers are required to fill in the following details and no column should be left blank**

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No: Date : Bank : Amount: Please tick (<input type="checkbox"/>) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Applicable/Not Applicable	
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	

18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED **ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

Annexure-3**Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or
Special Conditions of Contract (SCC)**

- I. Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable.
- II. Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) shall not be applicable.
- III. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.
- IV. Clause No. 2.14.1 of GCC modified as: The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 20% of awarded contract value.
- V. Clause No. 2.17 of GCC (PVC) modified as: Base date shall be calendar month of the schedule Completion date of the contract. Schedule completion date shall be the actual start date plus delivery period as defined in clause no-6.3 of TCC.
- VI. Clause No.2.17.9 Of GCC: modified as- PVC shall be applicable only for the extended period of contract if any after the schedule completion date. However the Total Quantum of Price Variation amount payable/recoverable shall be regulated as follows:
 - 1 For the portion of backlog attributable to the contractor no PVC shall be paid.
 2. For the period of Force Majeure, the PVC (if applicable) will be limited to the indices applicable at the beginning of the force majeure period.
 - 3.For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months
 4. The total amount of PVC shall not exceed 20% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works

ANNEXURE - 4**Certificate by Chartered Accountant on letter head**

This is to Certify that M/S ,
 (hereinafter referred to as 'company') having its registered office at
 is registered under MSMED Act 2006, (Entrepreneur
 Memorandum No (Part—II) dtd:..... ,
 Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per
 the latest audited financial year as per MSMED Act 2006 is as follows:

- 1. For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006:

Rs.....Lacs

- 2. For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the **MSMED** Act, 2006:

Rs.....Lacs

(Strike off which is not applicable)

The above investment of Rs.....Lacs is within permissible limit of
 Rs.....Lacs for Micro / Small **(Strike off which is not applicable)**

Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non submission of "online sealed bid" by the bidder for any of the eligible items for which techno commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. 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.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. 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.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the

„Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.

13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1(s) bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

ANNEXURE – 6**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

ANNEXURE – 7**Feedback Form: From where did you get information reg. this tender**

1	NEWSPAPER ADVERTISEMENT (NAME)	
2	BHEL WEBISTE (TENDER NOTIFICATION)	
3	CENTRAL PUBLIC PROCUREMENT PORTAL OF GOVERNMENT OF INDIA (CPP PORTAL)	
4	EMAIL COMMUNICATION FROM BHEL	
5	ANY OTHER SOURCE	

VOLUME- IA: TECHNICAL
CONDITIONS OF CONTRACT (TCC)

NAME OF WORK: ERECTION & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM PACKAGES OF 4X200MW PARBATI-II HEP INCLUDING RECEIPT & LOADING OF MATERIALS FROM BHEL STORES ,LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE ,PERFORMANCE TESTING AT SITE,FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER. AT BHEL 4X200 MW, PARBATI-II HEP SITE, DISTT. KULLU, HIMACHAL PRADESH.



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- I: Project Information

PROJECT SYNOPSIS:

Name of the Owner	:	NHPC LIMITED
Address	:	4X200 MW Parbati-II HEP, VPO-Sainj District- Kullu, Himachal Pradesh
Capacity	:	4X200 MW, Pelton Hydro-Turbine
Power-house Type	:	Surface Power house
Nearest Railway station	:	Kiratpur Sahib -- 190km Chandigarh -- 260 km
Nearest City	:	Mandi (H.P) – 60 km
Nearest Airport	:	Bhunter (Kullu) - 40 km
Maximum Temperature	:	40° C
Minimum temperature	:	Can drop below freezing point.

Note: - The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

2.0	GENERAL SCOPE OF WORK
2.1	Scope of these specifications cover complete work of Fire fighting system of 4X200 MW Parbati-II HEP: Receiving materials from BHEL stores, transportation to Power House/work site and erection, testing & commissioning of fire fighting system and handing over the system to customer.
2.2	The complete works shall be carried out as per BOQ cum Rate schedule . If any work covered in the scope of contract cannot be executed using devices/items mentioned in BOQ, the same shall be supplemented by other items shall be made and rates for such items shall be worked out as per GCC clause 2.15.7 . However, contractor shall be bound to execute all the works under the scope of the contract and decision whether an extra item is applicable or not, shall be taken by BHEL Engineer, which shall be binding on the contractor.
2.3	In case the description / specifications as per BOQ are found to be incomplete, Indian Standard Codes (IS Codes) specifications shall be followed. Quantities mentioned in the BOQ cum Rate Schedules, are tentative only and liable to change in detailed engineering/execution. The tenderers shall undertake to execute actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed 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 quantity.
2.4	Any activity which is necessarily required for satisfactory execution of any item of BOQ in line with technical specifications shall be deemed to be included in BOQ item even if it is not described in the item description and no extra payment shall be made against such activity.
2.5	The Scope of Work comprise but not limited to the following: <ul style="list-style-type: none">A. Receiving & loading of material/consignments of the fire fighting system package from BHEL stores and transportation to Power house /work site. (Distance b/w BHEL store to Power House -Approx. 5.0 KM)B. Erection, Testing & Commissioning work of Tank filling pumps (02 Nos), Bore well pumps (02 Nos) & Booster Pumps (02 Nos) including gate valves, non-return valves, relay based starter panels, cabling, instruments like-pressure switches, pressure gauges, level switches, level gauges, differential pressure switches etc. and other required instruments at Pump House.C. Laying, erection of pipes –ERW/GI /MS Pipes involving cutting, welding fittings with Elbows, reducers, TEEs, TEE Equals, Reducing couplings, flanges etc. as per drawing. Fixing & supporting of all pipelines as per drawings.D. Hydrant & Spray System -Laying, erection of MS pipes, erection of Gates valves, hydrant valves, Branch pipe with nozzle, hose pipe, bolts etc and testing of all erected items as per drawings.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

	<p>E. Fire Escape Hydrant System: - Laying, erection of pipelines including Gate valves erection of fire escape, hydrant valves, branch pipe with nozzle, and erection of hose pipe boxes and testing of all erected items as per drawings.</p> <p>F. High Velocity Water Spray System (HVWS) :- Laying and erection of MS /GI Pipes, erection of valves & Deluge Valves, pressure switches, solenoid valve, control valve for deluge valve, Butterfly valve, Y-type strainer, detector, spray nozzle etc. and testing as per drawing.</p> <p>G. Sprinklers System: - Laying and erection of MS pipes/GI Pipes involving erection of gate Valves, flow switches, alarm valve, sprinkler head etc. and testing as per drawing.</p> <p>H. Fire Detection and Alarm System: - Erection, testing & commissioning of system including electronic panels/modules, sensors & detectors, hooters, flasher, IO module, indicators etc. and other required instruments as per drawing.</p> <p>I. Fire Extinguishers:-Installation testing, commissioning of DCP, Co2 and Foam fire extinguishers and handing over.</p> <p>J. Hydro Test:- Hydro test pressure @ 18Kg/cm2 or as per drawing/standard of all erected Pipelines & valves shall be responsibility of contractor.</p> <p>K. Cables:- Laying, dressing, termination, testing etc. work of all power and control cables for fire fighting & fire alarm system shall be responsibility of contractor.</p> <p>L. NDT of site weld joints as per drawings / applicable standard shall be responsibility of contractor.</p> <p>M. Dry Film Thickness (DFT) test shall be done randomly on painting.</p> <p>N. Manpower assistance for commissioning and handing over of fire fighting system to customer.</p>
2.6	RESPONSIBILITY OF CONTRACTOR
2.6.1	Providing labour (skilled, unskilled etc.), supervision, transport from BHEL Stores to Power house /work site, fuel, electricity, compressed air, water and all other incidental consumables items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance and handing over the works, in accordance with the stipulations and specifications laid down in the contract documents and additional stipulations as may be provided by the BHEL Engineer during the course of works.
2.7	GENERAL
2.7.1	Contractor shall erect all items/materials of firefighting system & Fire alarm system for Powerhouse floors, pothead yard area, GIS area, cable spreading area ,Control room, Oil pressure unit of Governor & MIV, Step-up Transformers, Offices and misc. area in vicinity of power house as per sequence prescribed by BHEL . Depending upon the availability of work fronts & material BHEL engineer will decide the sequence of erection/commissioning. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of erection/ commissioning

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

	adopted in erection/ commissioning of similar job or for any reasons whatsoever.
2.7.2	Site testing wherever required shall be carried out by the contractor to ensure proper installation and functioning of system in accordance with drawings, specifications and manufacturer's recommendations.
2.7.3	Pre-Commissioning & Commissioning of firefighting system being specialized job, the contractor shall have to provide experienced/ qualified man-power support to assist BHEL engineer for satisfactory testing and commissioning of system. They shall have to assist BHEL in locating any cause of malfunction and rectify the same for proper operation. Testing shall also include any additional tests, which the Engineer feels necessary because of site conditions and also to meet system specification.
2.7.4	During the course of erection, testing and commissioning of firefighting system work certain modification / re-work / rectification / repairs / fabrication etc. may be on account of design changes and manufacturing incompatibilities and site operation / maintenance requirements. Contractor shall carryout such modification / rectification / fabrication / repairs/ re-work/ etc. promptly and expeditiously and the claims if any, for such works from the contractor shall be governed by clauses covered elsewhere.
2.7.5	The contractor shall receive/ take delivery of the material of the firefighting system package from BHEL sub contractor / suppliers/ vendors at BHEL stores and transport from Store to Power house/work site. Proper storage of the material at power house/work site shall be in contractor scope.
2.7.6	Contractor shall also make arrangements for safe custody, watch & ward of equipment after it has been handed over to him till they are fully erected, tested and commissioned till the contract period.
2.7.7	After completing all the works, contractor shall hand-over all remaining extra materials with proper identification tags in packed condition to BHEL/ NHPC stores as per instruction of BHEL engineer. In case of any use over than actual design requirements, BHEL reserves the right to recover the cost of material used in excess or misused. Decision of BHEL engineer in this regard will be final and binding on the contractor.
2.7.8	Contractor shall retain all T&P/Testing instrument etc. at site as per advice of BHEL engineer and same can be taken out from site only after getting the clearances from engineer-in-charge.
2.7.9	Contractor shall remove all scrap materials periodically generated from his working area in and around power station and collect the same at one place earmarked for the same. Load of scraps is to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's risk and cost, if there is any failure on the part of contractor in this respect. All the package materials, including special transporting frames, etc. shall be returned to the BHEL stores / customer's stores by the contractor.
2.7.10	If any items or equipment not covered but requires to be erected/commissioned of firefighting system same shall be carried out by the contractor.
2.7.11	The contractor shall ensure that his premises are always kept clean and tidy to the

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

	extent possible. Any untidiness noted on the part of the contractor shall be brought to the attention of the contractor's site representative who shall take immediate action to clean the surroundings to the satisfaction of the Engineer-in-charge.
2.7.12	The Contractor may have to execute work in such a place and condition where other agencies also will be under such circumstances.
2.7.13	Scope of work covered under this specification requires quality workmanship, Engineering and construction management. The contractor shall ensure timely completion of work. The contractor shall have adequate tools, measuring instruments, calibrating equipment etc. in his possession. He shall also have adequate trained, qualified and experienced engineers, supervisory staff and skilled personnel. The manpower deployed by contractor shall match with above scope of works.
2.7.14	All the surplus, damaged, unused materials, package materials, containers, Special transporting drums /frames, etc. shall be returned to the BHEL stores / customer's stores by the contractor.
2.7.15	Any wrong erection shall be removed and re-erected promptly to comply with the satisfaction of BHEL engineer and no extra cost shall be payable to contractor
2.8	DRAWINGS
2.8.1	The drawings of fire protection and detection systems shall be provided to successfully bidder at site by BHEL BHEL reserves the right to modify/alter the drawings, if necessary during the actual execution at site. If any changes in the layout, plan, section, partition, etc. are felt necessary to suit the site / work requirement, the same shall be done by contractor as per revised drawings.
2.9	SPECIFICATION FOR FIRE FIGHTING WORK.
2.9.1	Standard specifications for various items of work for firefighting & equipment's as per the relevant IS-codes (latest edition) shall be applicable for this work. The work has to be executed as per standards, IS Codes specifications, drawings and as directed by BHEL Engineer to the satisfaction of BHEL.
2.9.2	WELDING, NON-DESTRUCTIVE TESTING ETC.
2.9.2.1	Installation of fire fighting package equipment's and systems involves good quality welding, NDT checks etc. as per drawings.
2.9.2.2	All the welders shall be tested and approved by BHEL engineer/ Customer's quality engineer before they are actually engaged on work. BHEL reserves the right to reject any welder without assigning any reason.
2.9.2.3	The welded surface shall be cleaned of slag and painted with primer paint to prevent corrosion. For this paint will be arranged by the contractor.
2.9.2.4	Welding electrodes have to be stored in enclosures having temperature and humidity control arrangement. This enclosure shall meet BHEL specifications.
2.9.3	MEASUREMENTS & WASTAGE & CUTTING ALLOWANCES
2.9.3.1	For all payment purposes, measurement shall be made on the basis of the actual execution of work in line with drawings/documents/site requirements. Physical measurements shall be made by the contractor in the presence of BHEL Engineer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

2.9.3.2	The measurement for GI /MS/ERW Pipelines etc., shall be made on the basis of length actually laid. Measurement will be based on terminal to terminal distance.
2.9.3.3	All the surplus, scrap and serviceable materials, out of the quantity issued to the contractor shall be returned to BHEL in good condition and as directed by the engineer.
2.9.3.4	While carrying out material reconciliation with contractor, all the above points will be taken into account. All serviceable material returned by the contractor shall be deducted from the quantities issued for the respective sizes and categories and the balance quantity will be taken as the net quantity issued to the contractor. Material reconciliation shall be done and allowable scrap quantity calculated as per wastage allowance percentage specified above. Any scrap/wastage generated by the contractor in excess of the allowable percentage shall be charged at the rates decided by the Engineer whose decision shall be final and binding on the contractor.
2.9.3.5	For all site-fabricated steel items such as supports, racks, frame, etc. physical measurement shall be made and then converted to tonnage and all scrap shall be returned to BHEL stores by the contractor, with due accounting of material.
2.9.3.6	Every month the contractor shall submit an account for all the materials issued to him by BHEL in the standard Performa prescribed for this purpose by the site in charge.
2.9.3.7	The erection contractor shall make every effort to minimize wastage during erection work. Cutting and wastage allowance shall be computed on length, weight of material actually used, measured and accepted and permissible maximum allowable wastage of 2% over the theoretical quantity / consumption incorporated in the works. In any case, the wastage shall not exceed the permissible limits.
2.9.3.8	If the actual wastage is more than the specified figure, then equivalent price of the excess portion will be deducted from the contractor's bill.
2.9.4	TESTING, PRE-COMMISSIONING, AND COMMISSIONING
2.9.4.1	Any rectification/modification/ re-work/ re-routing of piping work for fire fighting system are required to be done because of contractor's faulty erection, which is noticed during erection & commissioning at any stage, the same has to be rectified by the contractor at his cost.
2.9.4.2	T&P/ instruments required for Transportation of materials of fire fighting system from BHEL store to Power House /Work site are to be arranged by the Contractor.
2.9.4.3	All testing activities shall be carried out as per relevant standard, code of practice, manufacturer's instructions and BHEL norms. The contractor shall follow the checklist of BHEL prior to taking up testing & commissioning activities and the activities shall be carried out in accordance with the checklist. All the above shall be witnessed by BHEL engineer and the reports signed jointly.
2.9.4.5	The contractor shall have to provide supervisory staff during contract period for supervision and carry out the erection, testing & commissioning work of fire fighting package work at site. The minimum supervisory staff support required shall not be less than 12 Man Months. If the contractor fails to deploy the above Supervisory staff at appropriate time during

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- II: Scope of Work

	contract period, then deduction shall be made from his bills at the rate of Rs. 20,000/- per man month.
2.9.5	ISSUE AND ACCOUNTING OF FIRE FIGHTING SUPPLIES (Issued as FOC item by BHEL)
2.9.5.1	Materials being provided by BHEL as Free of Cost (FOC) shall be properly accounted for, measured and recorded before issuing the same to the contractor. Contractor shall provide all such assistance, labour, supervisors, T&Ps, MMEs for Measurement, Transportation & Handling as required for issuing the Materials (FOC) and shall prepare joint records with BHEL before taking delivery of any material from BHEL Stores / any other place (within the project premises) as directed by BHEL Engineer.
2.9.5.2	Materials will be issued only for permanent works and not for making templates, other temporary works, contractor's own establishment etc. and the same shall not be taken into account for purpose of material reconciliation.
2.9.5.3	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 scrap /serviceable materials to BHEL's stores to be designated by the BHEL Engineer.
2.9.5.4	All steel /Pipes 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.
2.9.5.5	The contractor shall submit proper account of material / material reconciliation statement for the material drawn by him from BHEL stores with every Running Account (RA) Bill. Failing compliance of this requirement further issue of material to the contractor may be suspended and no claim of compensation for delay in execution on this account shall be entertained.
2.9.5.6	The Structural steel thus issued for Fabrication & Erection shall be properly accounted for as per the permissible maximum allowable wastage of 2% over the theoretical quantity / consumption incorporated in the works.
2.9.5.7	Any unused / serviceable quantity of Structural Steel not returned in good condition & wastages / loss / consumption beyond specified / agreed limit shall be charged at penal rate of Rs. 70,000 per MT for structural steel at the time of preparing final bill, during finalization of the contract. The decision of BHEL Engineer with regard to applicability of penal rates shall be final & binding upon the contractor.
2.9.5.8	For the material directly delivered in Power House and unloaded in Power house /work site from the Truck/trailer from manufacturing unit/ vendor/ supplier. 15% of unit rate shall not be payable to contractor for these items.
2.9.6	PAINTING
2.9.6.1	All the steel items such as Pipes, Supports etc. shall be painted with one coat of red oxide primer & two coats of synthetic enamel paint, colour . Paint shall be supplied by BHEL supplying units.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1.0	<u>ESTABLISHMENT</u>			
3.1.1	FOR CONSTRUCTION PURPOSE:			
A	OPEN SPACE FOR OFFICE	Yes		BHEL shall provide free of charge limited open space for contractor's office and store as and where made available by its Customer.
B	OPEN SPACE FOR STORAGE	Yes		
C	CONSTRUCTION OF BIDDER'S OFFICE, CANTEEN AND STORAGE BUILDING INCLUDING SUPPLY OF MATERIALS AND OTHER SERVICES		Yes	
D	BIDDER'S ALL OFFICE EQUIPMENT, OFFICE / STORE / CANTEEN CONSUMABLES		Yes	
E	CANTEEN FACILITIES FOR THE BIDDER'S STAFF, SUPERVISORS AND ENGINEERS ETC.		Yes	
F	FIRE FIGHTING EQUIPMENT LIKE BUCKETS, EXTINGUISHERS ETC.		Yes	
G	FENCING OF STORAGE AREA, OFFICE, CANTEEN ETC. OF THE BIDDER		Yes	
3.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	OPEN SPACE		Yes	
B	LIVING ACCOMMODATION		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.0	<u>ELECTRICITY</u>			
	<u>POWER FOR CONSTRUCTION PURPOSE (TO BE SPECIFIED WHETHER CHARGEABLE OR FREE</u>			Chargeable
	<u>RESPONSIBILITIES OF OBTAINING CONNECTION</u>	YES		Connection of approx. 250KW is arranged by BHEL.
3.2.1	<u>SINGLE POINT SOURCE</u>	Yes		Contractor will install a separate meter for consumption reading and actual monthly electricity bill shall be paid to BHEL/Other contractor of BHEL. Required cable/extension to the work-place shall be done the contractor at his own cost. Rates for per unit as fixed by BHEL/ other contractor of BHEL.
3.2.1.1	<u>PAYMENT OF ELECTRICITY CONSUMPTION</u>		Yes	
3.2.1.2	<u>FURTHER DISTRIBUTION FOR THE WORK TO BE DONE WHICH INCLUDE SUPPLY OF MATERIALS, ENERGY METER AND EXECUTION</u>		Yes	
3.2.2	<u>ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC. OF THE BIDDER WHICH INCLUDE:</u>		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.2.1	<i>DISTRIBUTION FROM SINGLE POINT INCLUDING SUPPLY OF MATERIALS AND SERVICE</i>		Yes	
3.2.2.2	<i>SUPPLY, INSTALLATION AND CONNECTION OF MATERIAL OF ENERGY METER INCLUDING OPERATION AND MAINTENANCE</i>		Yes	
3.2.2.3	<i>DUTIES AND DEPOSITS INCLUDING STATUTORY CLEARANCES FOR THE ABOVE</i>		Yes	
3.2.2.4	<i>LIVING FACILITIES FOR OFFICE USE INCLUDING CHARGES</i>		Yes	
3.2.2.5	<i>DEMOBILIZATION OF THE FACILITIES AFTER COMPLETION OF WORKS</i>		Yes	
3.2.3	<i><u>ELECTRICITY FOR LIVING ACCOMMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC ON THE ABOVE LINES.</u></i>		Yes	
3.3.0	<i><u>WATER SUPPLY</u></i>			
3.3.1	<i><u>FOR CONSTRUCTION PURPOSES:</u></i>			
3.3.1.1	<i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i>		Yes	Contractor has to arrange for construction water at his own cost by resorting to the methods like bore well, water tankers etc.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.3.1.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	
3.3.2	<u><i>WATER SUPPLY FOR BIDDER'S OFFICE, STORES, CANTEEN ETC.</i></u>		Yes	
3.3.2.1	<i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i>		Yes	Bidder shall arrange for safe drinking water for staff and labour at his own.
3.3.2.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	
3.4.0	<u><i>LIGHTING</i></u>			
3.4.1	<i>FOR CONSTRUCTION WORK (SUPPLY OF ALL THE NECESSARY MATERIALS)</i> 1. At office storage area 2. At the construction site /area		Yes	
3.4.2	<i>FOR CONSTRUCTION WORK (EXECUTION OF THE LIGHTING WORK/ ARRANGEMENTS)</i> 1. At office storage area 2. At the construction site /area		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.4.3	<i>PROVIDING THE NECESSARY CONSUMABLES LIKE BULBS, SWITCHES, ETC. DURING THE COURSE OF CONSTRUCTION</i>		Yes	
3.4.4	<i>LIGHTING FOR THE LIVING PURPOSES OF THE BIDDER AT THE COLONY / QUARTERS</i>		Yes	
3.5.0	<u>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</u>			
3.5.1	<i>TELEPHONE, FAX, INTERNET, INTRANET, E-MAIL ETC.</i>		Yes	
3.6	CONSTRUCTION FACILITIES			
3.6.1	ENGINEERING WORKS FOR CONSTRUCTION:			
3.6.1.1	<i>PROVIDING THE CONSTRUCTION DRAWINGS</i>	Yes		BHEL shall provide tentative drawings only for tendering purpose.
3.6.1.2	<i>DRAWINGS FOR CONSTRUCTION METHODS / DETAILED DRAWINGS AS PER SITE REQUIREMENT</i>		Yes	In consultation with BHEL.
3.6.1.3	<i>AS-BUILT DRAWINGS - WHERE EVER DEVIATIONS OBSERVED AND EXECUTED AND ALSO BASED ON THE DECISIONS TAKEN AT SITE</i>		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.6.1.4	<i>SHIPPING LISTS / PROCUREMENT PLAN ETC. FOR REFERENCE AND PLANNING THE ACTIVITIES</i>		Yes	
3.6.1.5	<i>PREPARATION OF SITE CONSTRUCTION SCHEDULES AND OTHER INPUT REQUIREMENTS</i>		Yes	
3.6.1.6	<i>REVIEW OF PERFORMANCE AND REVISION OF SITE CONSTRUCTION SCHEDULES IN ORDER TO ACHIEVE THE END DATES AND OTHER COMMITMENTS</i>	Yes	Yes	
3.6.1.7	<i>WEEKLY CONSTRUCTION SCHEDULES BASED ON SL. No 3.6.1.5</i>		Yes	
3.6.1.8	<i>DAILY CONSTRUCTION / WORK PLAN BASED ON SL. No 3.6.1.7</i>		Yes	
3.6.1.9	<i>PERIODIC VISIT OF THE SENIOR OFFICIAL OF THE BIDDER TO SITE, REVIEW THE PROGRESS SO THAT WORKS ARE COMPLETED AS PER SCHEDULE. IT IS SUGGESTED THIS REVIEW BY THE SENIOR OFFICIAL OF THE BIDDER SHOULD BE DONE ONCE IN EVERY TWO MONTHS.</i>		Yes	
3.7	<i>PREPARATION OF PREASSEMBLY BAY</i>		Yes	As per Work Requirement.

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

3.9 The Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport, electricity, water, medical facilities etc. at his own cost as required

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.

3.10 Provision of distribution lines of both electrical power and water from the central points to the required place with proper distribution boards observing the safety rules laid down by the electrical 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 shifts / hours accordingly and deploy additional manpower if necessary so as to achieve the targets. The energy meter to be installed by the contractor & shall get tested and certified by State Electricity Board or any other approved agency at his cost.

3.11 The contractor while drawing construction power supply from Distribution Board should strictly adhere to following points.

a) All electrical installations should be as per Indian Electricity rules.

b) All distribution Boards installed by the contractor should be constructed with fireproof materials viz. Steel frames, Bakelite sheets etc.

c) Connection for single phase should be taken from phase and neutral. Nowhere the connection should be taken with earth as neutral.

d) All electrical connections should be made through connectors, nuts and bolts, switches, plug and sockets. Loose connections or hooking up of wires shall not be permitted.

e) Contractors have to make their own earthing arrangement for their equipment / DB earthing.

f) All electrical equipment / tools and plants should be properly earthed. DBs to be earthed diagonally opposite at two points.

g) Contractor should use "MCCB" and "ELCB" either on incoming or outgoing connections to the DBs.

h) Contractor should ensure that all the CBs / TPNs/ Fuses/ MCCB / ELCB cables etc. should be of adequate rating/ capacity.

i) For permission of supply connections contractor has to submit a test report of their installations with a single line diagram of connected/ proposed loads.

3.12 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

3.13 On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and levelled and debris shall be removed, as per instructions of BHEL, by the contractor at his cost. In the event of his failure to do so, the Engineer will get it done and expenses incurred shall be recovered from the contractor along with prevailing overheads. The decision of BHEL Engineer in this regard shall be final.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- IV: T&Ps and MMEs to be deployed by Contractor

A	<u>TOOL & PLANTS (T&Ps)</u>- INDICATIVE LIST OF T & Ps
Sl. No.	EQUIPMENT
1	General purpose Hand tools
2	Drilling Machines 1/4", 1/2", 3/4" & 1"
3	WELDING MACHINES
4	Gas cutting set
5	TRUCKS/LORRIES/TRACTORS- As per requirement.
NOTES:	<p>1 The above list is only indicative and these T&Ps may not be required for entire contract period but contractor will ensure that these T & Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience. Contractor has to mobilize / maintain adequate numbers of equipment for meeting the work schedule and intermediate milestones as notified by BHEL Engineer.</p> <p>2 Other terms and conditions regarding T&Ps / MMEs please also refer clause for T&Ps & MMEs in SCC.</p> <p>3 All the tools and plants required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional T&Ps required to be arranged by the contractor.</p> <p>4 If work gets delayed due to non-availability of T&Ps, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- IV: T&Ps and MMEs to be deployed by Contractor

B	<u>MONITORING AND MEASURING EQUIPMENTS (MMEs)</u>- INDICATIVE LIST OF MMEs
SL NO	EQUIPMENT
1	General purpose Hand tools
2	Drilling Machines 1/4", 1/2", 3/4" & 1"
3	Digital/Analog Multi-meter AC & DC
4	Megger 0-1000-2000-5000V
5	Tong Tester AC
6	Tong Testers DC 30/60/300 A
NOTES:	<ol style="list-style-type: none"> 1. The above list is only indicative and these MMEs may not be required for entire contract period but contractor will ensure that these T & Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience 2. Other terms and conditions regarding T&Ps / MMEs please also refer clause for T&P& MMEs in SCC. 3. All the MMEs required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional MMEs required to be arranged by the contractor. 4. If work gets delayed due to non-availability of MMEs, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- V: T&Ps and MMEs to be deployed by BHEL on sharing basis

5.0 T&Ps DEPLOYED BY BHEL ON SHARING BASIS

List of T&P being provided by BHEL for use of contractor free of hire charges on sharing basis.			
S.NO.	EQUIPMENT/ T&Ps	CAPACITY	QTY
1.	EOT Crane in power house	200T / 30T	02 No.
2.	HYDRA Crane	20 T/14 T	01 No.

NOTE:

1. E.O.T cranes for Loading/ unloading of material of this package at Power House and Hydra crane at BHEL stores shall be provided by BHEL on free of hire charges on sharing basis. However, fuel & operator shall have to be arranged by contractor at their own cost.
2. Other terms and conditions regarding above items shall be as per T&P clause in SCC

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VI: Time Schedule

TIME SCHEDULE					
6.0	MOBILIZATION, TIME SCHEDULE, CONTRACT PERIOD AND GRACE PERIOD				
6.1	INITIAL MOBILIZATION After receipt of fax LOA, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within 2 weeks of issue of fax letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones as directed by BHEL Engineer.				
6.2	START DATE / ZERO DATE The schedule date of start of work shall be the date after 2 weeks of issue of LOA; The Actual Date of Start of Contract Period (Zero Date) shall be date of handing over of site to contractor for work and shall be certified by the BHEL Engineer.				
6.3	COMPLETION PERIOD Entire work as detailed in tender specification shall be completed within 12 months from the actual date of start of contract period (Zero Date) . Contractor has to mobilize adequate resources to meet BHEL's commitments to their customer as indicated from time to time.				
6.4	Detailed Work completion Schedule will be submitted for approval by the successful bidder within 2 weeks of issue of LOA.				
6.5	In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be accordingly granted by BHEL.				
6.6	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.				
6.7	In order to meet above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.				
6.8	TENTATIVE MILESTONES FOR COMPLETION OF WORKS				
6.8.1	COMPLETE WORKS : Twelve (12) Months from Actual Date of Start of Contract Period (Zero Date) with tentative milestones as below:				
6.8.2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">A. Erection of Pump House equipment's & Piping work.</td> <td style="width: 50%;">Within 03 Months from Zero Date</td> </tr> <tr> <td>B. Erection of Hydrant System and Yard Piping For Hydrant & Spray System&</td> <td>Within 05Months from Zero Date</td> </tr> </table>	A. Erection of Pump House equipment's & Piping work.	Within 03 Months from Zero Date	B. Erection of Hydrant System and Yard Piping For Hydrant & Spray System&	Within 05Months from Zero Date
A. Erection of Pump House equipment's & Piping work.	Within 03 Months from Zero Date				
B. Erection of Hydrant System and Yard Piping For Hydrant & Spray System&	Within 05Months from Zero Date				

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VI: Time Schedule

	Fire Escape Hydrant System	
	C. Erection of High Velocity Water Spray System (HVWS)	Within 07Months from Zero Date
	D. Erection of Sprinkler System, Fire Detection & Alarm System, Fire Extinguishers	Within 08 Months from Zero Date
	E. Commissioning and completion all work related to fire fighting package and handing over to customer.	Within 12 Months from Zero Date.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VII: Terms of Payment

7.0	TERMS OF PAYMENT
7.1	The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
7.2	The Contractor shall be paid monthly running bill as per chapter – X of SCC and Clause Nos. 2.23 of GCC. The format for billing shall be approved by BHEL before raising invoices.
7.3	The contractor on certification of the BHEL Engineer at site is entitled for payments of his running bills which shall be subject to any deduction/retention specifically under clauses 2.22 of GCC .
7.4	PRICE.VARIATION COMPENSATION-In reference to clause no. 2.17.3 of GCC, Please note that component (K) for Mechanical Packages will be applicable for the scope of work covered under this tender.
7.5	<p>TERMS OF PAYMENT:- Payment for items covered in Rate schedule shall be done from Parbati-II HEP Site/PSNR (HQ) Noida and PROGRESSIVE PAYMENT SHALL BE RELEASED ON PRORATA BASIS:-</p> <ol style="list-style-type: none">1) 15% of unit rate shall be payable on completion of transportation work from BHEL stores to Power House /Work site.2) 70% of unit rate shall be payable on completion of laying, welding and hydro test of pipe lines /erection of equipment & misc items /laying of cabling work ,termination etc.3) 10% of unit rate shall be payable on completion of testing & commissioning for the package items/systems.4) 5% of unit rate shall be payable on completion of the activity of material reconciliation, handing over spare/ surplus and handing over of complete fire fighting system in full working conditions to customer . <p>NOTE:-Further percentage break-up of progressive payments referred above, if required depending upon the site conditions can be mutually discussed and finalized by construction Manager BHEL at site to enable pro-rata running payments.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

8.0	TAXES & DUTIES <p>The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.</p> <p>However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.</p>
8.1	Service Tax & Cess on Service Tax <p>Service Tax and Cess on Service Tax as applicable on output Services are excluded from contractor's scope; therefore contractor's price/rates shall be Exclusive of Service Tax and Cess on Output Services.</p> <p>Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. The Service Tax Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract.</p> <p>For the purpose of claiming any Service Tax from BHEL, the following procedure shall be adopted:</p> <p>Contractor shall submit serially numbered Service Tax and Cess Invoices, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely:</p> <ul style="list-style-type: none">A. The name, address and registration number of the contractorB. The name and address of the party receiving taxable service (BHEL)C. Description, classification and value of taxable service provided andD. The Service Tax payable thereon. <p>All the four conditions shall be fulfilled in the invoice for payment of Service Tax by BHEL. Where more than one nature of Service under Service Tax Rules is involved, the invoice mentioned above shall contain the breakup of all values for each nature of Service.</p> <p>Name and address of the contractor should be same in the service tax invoice and monthly bill. Any change in the name and address in past should be supported by documentary evidence duly certified by the registering authority.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

	<p>Purpose of above requirements, inter-alia, is to enable availment of CENVAT credit by BHEL. As per recent amendments, Time restrictions for taking Cenvat credit is within twelve months from date of invoice.</p> <p>Wherever Cenvat credit could not be availed by BHEL within statutory time limit of 12 months due to delay in submission of invoices or for any other reasons attributable to contractors, Liability towards loss of such Cenvat credit shall be passed on to contractors.</p>
8.2	VAT (Sales Tax /WCT)
8.2.1	<p>The rates quoted by the Contractor shall be inclusive of VAT/Sales Tax and BHEL shall not reimburse any amount on this account due to any reason whatsoever.</p> <p>The Contractor shall register himself with the respective Sales Tax authorities if required of the state and submit proof of such registration to BHEL along with the first RA bill.</p> <p>Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to.</p> <p>Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing all their material, plant and equipment etc at site for the execution of the work, including arrangement of Road Permits if and as applicable under the relevant VAT Act.</p>
8.3	Modalities of Tax Incidence on BHEL <p>Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.</p>
8.4	New Taxes/Levies <p>In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- VIII: Taxes & Duties

	<p>No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.</p>
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TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter- IX: Materials and Other Requirements

9.0	MATERIALS
9.1	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 / specifications issued after submission of the tender.
9.2	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 BHEL 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

10.0	EXECUTION OF WORK
10.1	The work shall be executed in a workman like manner and to the entire satisfaction of the BHEL Engineer and as per technical specification issued with tender, IS codes, CPWD specifications as applicable. In case of conflict, the decision of the BHEL Engineer shall be final & binding.
10.2	SETTING OUT
10.2.1	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 lines 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 expenses.
10.2.2	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 necessarily placed by BHEL / Customer at contractor's expenses.
10.3	INSPECTION AND STAGE APPROVAL OF THE WORK
10.3.1	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 BHEL Engineer when each stage is ready. In default of such notice being received, the BHEL 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 BHEL Engineer thereon shall be final and conclusive.
10.4	NUISANCE
10.4.1	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.
10.5	PROTECTION OF WORKS
10.5.1	The contractor shall have total responsibility for protecting his works till it is finally taken over by the BHEL. No claim will be entertained by the BHEL 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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.
10.6	CLEARANCE OF SITE AND REPAIRS.
10.6.1	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.
10.7	QUALITY ASSURANCE
10.7.1	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 and the cost of the same shall be borne by the contractor.
10.8	COMPLETION OF WORK
10.8.1	The works shall be completed to the entire satisfaction of the BHEL 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 BHEL Engineer at the Contractor's expenses.
10.8.2	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 BHEL Engineer. Such work however shall not be treated as have been completed until the extra works are executed to the satisfaction of BHEL Engineer.
10.9	COMMENCEMENT OF GUARANTEE PERIOD
10.9.1	The Guarantee period shall commence only after completion & handing over of the entire works. The BHEL Engineer shall certify to the contractor the date on which the work is completed & handed over and the date thereof for commencement of Guarantee Period. The duration of Guarantee Period shall be as per GCC.
10.10	METHOD OF MEASUREMENT
10.10.1	Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes.
10.11	HSE & OHSAS:
10.11.1	The contractor shall comply with the requirements / stipulations of Chapter-IX of SCC towards Health, Safety and Environment.
10.12	DISCREPANCIES AND ADJUSTMENT OF ERRORS:
10.12.1	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.
10.12.2	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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- X: Other Important Conditions

	<ul style="list-style-type: none"> (b) Technical Conditions of Contract (c) Drawings (d) Technical Specifications / Standard Specifications (e) Special Conditions of Contract (f) General conditions of contract
10.12.3	If there are varying or conflicting provisions made in any one document forming part of the contract, the BHEL Engineer shall be the deciding authority with regard to the document.
10.12.4	Any error in description, quantity in schedule of quantities or any omission therefrom 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.
10.18	<p>MODIFICATION/ DELETION OF GCC & SCC CLAUSES:</p> <ul style="list-style-type: none"> I. Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable. II. Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) shall not be applicable. III. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable. IV. Clause No. 2.14.1 of GCC modified as: The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 20% of awarded contract value. V. Clause No. 2.17 of GCC (PVC) modified as: Base date shall be calendar month of the schedule Completion date of the contract. Schedule completion date shall be the actual start date plus delivery period as defined in clause no-6.3 of TCC. VI. Clause No.2.17.9 Of GCC: modified as- PVC shall be applicable only for the extended period of contract if any after the schedule completion date. However the Total Quantum of Price Variation amount payable/recoverable shall be regulated as follows: <ul style="list-style-type: none"> 1.For the portion of backlog attributable to the contractor no PVC shall be paid. 2. For the period of Force Majeure, the PVC (if applicable) will be limited to the indices applicable at the beginning of the force majeure period. 3. For the portion of backlog attributable to BHEL, the PVC will be as per the indices applicable for the respective months 4.The total amount of PVC shall not exceed 20% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- XI: Annexures

Annexure - A

UNPRICED RATE SCHEDULE

Scope of Work: -ERECTION & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM PACKAGES OF 4X200MW PARBATI-II HEP INCLUDING RECEIPT & LOADING OF MATERIALS FROM BHEL STORES, LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE, PERFORMANCE TESTING AT SITE, FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER. AT BHEL 4X200 MW, PARBATI-II HEP SITE, DISTT. KULLU. HIMACHAL PRADESH.

Sl.	Description of Works	Lump sum Price ("A") in Rupees (In Figures and word) are to be quoted.
1	Lumpsum price for the work of "ERECTION, TESTING & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM & FIRE ALARM SYSTEM PACKAGES OF 4X200MW PARBATI-II HEP INCLUDING RECEIPT & LOADING OF MATERIALS FROM BHEL STORES, LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE, PERFORMANCE TESTING AT SITE, FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER. Refer:-Chapter-II-(Scope of work)of this tender."	
Total Amount (in Rs.)		

NOTE:- The rates of different items for the entire scope shall be worked out & awarded as per Annexure 'B'.

BOQ CUM RATE SCHEDULE ITEMS

SCOPE OF WORK :- ERECTION ,TESTING & COMMISSIONING WORK OF FIRE FIGHTING SYSTEM PACKAGES OF 4X200MW PARBATHI-II HEP INCLUDING RECEIPT OF MATERIALS FROM BHEL STORES ,LOCAL TRANSPORTATION FROM BHEL STORES TO POWER HOUSE/WORK SITE ,PERFORMANCE TESTING AT SITE,FINAL PAINTING OF EQUIPMENTS AT SITE AND HANDING OVER OF FIRE FIGHTING SYSTEMS TO CUSTOMER.

SL.No		DESCRIPTION OF WORK	UNIT	TOTAL QTY (Q)	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE *QUANTITY
I	SECTION-A	Pump House					
1	A1	Tank Filling Pumps (350m3 / 88 MWC)	Nos.	2	202.7079		
2	A2	Bore Well Pumps (350m3 / 88 MWC) (1 working + 1 spare)	Nos.	2	247.7541		
3	A3	Booster Pumps (280m3 / 35 MWC) - Motor Driven	Nos.	1	196.2012		
4	A4	Booster Pumps (280m3 / 35 MWC) - Diesel Engine Driven	Nos.	1	221.2269		
5	A5	Relay Based Panel	Nos.	2	144.8986		
6	A6	Pressure switch with Needle valve	Nos.	5	2.9211		
7	A7	Pressure Gauges with Needle valve	Nos.	5	2.9211		
8	A8	Level Switches for Fire Water Tank	Nos.	10	42.3935		
9	A9	Level Gauge Side mounted for Diesel Tank	Nos.	2	28.2039		
10	A10	Diff. Pressure Switch	Nos.	2	14.0818		
11	A11	C.I. Gate Valve					
12	A11.1	250 NB	Nos.	20	22.6034		
13	A11.2	200 NB	Nos.	20	18.0707		
14	A11.3	150 NB	Nos.	15	13.5580		
15	A11.4	100 NB	Nos.	50	9.0253		
16	A11.5	80 NB	Nos.	80	6.7689		
17	A11.6	50 NB	Nos.	10	4.5126		
18	A11.7	25 NB	Nos.	10	2.2563		
19	A12	C.I. Non-return Valve					
20	A12.1	250 NB	Nos.	5	22.6034		
21	A12.2	200 NB	Nos.	5	18.0707		
22	A12.3	80 NB	Nos.	5	6.7689		
23	A13	Simplex Basket type Strainer	Nos.	5	22.6034		
24	A14	M.S. T- Strainer -250 NB	Nos.	5	22.6034		
25	A15	Piping - ERW, MS Black as per IS:1239 Medium / IS:3589					
26	A15.1	250 NB	Mts.	300	15.9554		
27	A15.2	200 NB	Mts.	600	12.7522		
28	A15.3	150 NB	Mts.	1000	9.5692		
29	A15.4	100 NB	Mts.	240	6.3660		
30	A15.5	80 NB	Mts.	1500	4.7745		
31	A15.6	50 NB	Mts.	1000	3.1830		
32	A15.7	25 NB	Mts.	500	1.5915		
	TOTAL VALUE OF SECTION-A						
II	SECTION-B	Hydrant System and Yard Piping For Hydrant & Spray System					
33	B1	MS Pipe					
34	B2	250 NB	Mts.	100	15.9554		
35	B3	200 NB	Mts.	100	12.7522		
36	B4	150 NB	Mts.	300	9.5692		
37	B5	100 NB	Mts.	300	6.3660		
38	B6	Single Headed Hydrant Valve	Nos.	50	2.6592		
39	B7	Branch pipe with nozzle	Nos.	50	1.3296		
40	B8	Hose Pipe	Nos.	100	1.3296		
41	B9	Hose Box	Nos.	50	6.6481		
42	B10	C.I. Gate Valve					
43	B11	200 NB	Nos.	5	22.6034		
44	B12	150 NB	Nos.	5	18.0707		
	TOTAL VALUE OF SECTION-B						

III	SECTION-C	Fire Escape Hydrant System					
45	C1	MS Pipe					
46	C1.1	150 NB	Mts.	50	9.5692		
47	C1.2	100 NB	Mts.	50	6.3660		
48	C1.3	80 NB	Mts.	100	4.7745		
49	C2	Fire Escape Hydrant	Nos.	20	7.1824		
50	C3	Hose Box	Nos.	20	6.6481		
51	C4	Branch pipe with nozzle	Nos.	20	1.3296		
52	C5	Hose Pipe	Nos.	20	1.3296		
53	C6	Gun Metal Valve	Nos.	20	2.2563		
54	C7	Air release valve	Nos.	5	2.2563		
55	C8	Hose Reel	Nos.	20	6.6481		
	TOTAL VALUE OF SECTION-C						
IV	SECTION-D	High Velocity Water Spray System (HVWS)					
56	D1	GI Pipe					
57	D1.1	200 NB	Mts.	700	12.7522		
58	D1.2	150 NB	Mts.	350	9.5692		
59	D1.3	100 NB	Mts.	150	6.3660		
60	D1.4	50 NB	Mts.	600	3.9888		
61	D1.5	40 NB	Mts.	800	2.3772		
62	D1.6	25 NB	Mts.	2500	1.5915		
63	D2	MS Pipe					
64	D2.1	100 NB	Mts.	150	6.3660		
65	D2.2	50 NB	Mts.	100	3.1830		
66	D2.3	25 NB	Mts.	500	1.5915		
67	D3	Spray Nozzle - Stainless Steel	Nos.	800	0.6648		
68	D4	Deluge Valve					
69	D4.1	100 NB	Nos.	15	53.1846		
70	D4.2	80 NB	Nos.	10	39.8884		
71	D5	Q.B Detector - 79 °	Nos.	600	2.6592		
72	D6	Y- Type Strainer -100 NB	Nos.	20	9.0253		
74	D7	C.I. Gate Valve -100 NB	Nos.	50	9.0253		
76	D8	Pressure Switch	Nos.	40	2.9211		
77	D9	Solenoid Valve	Nos.	40	26.5923		
78	D10	Local Control panel for Deluge Valve	Nos.	35	13.2961		
79	D11	Butterfly Valve -100 NB	Nos.	40	9.0253		
	TOTAL VALUE OF SECTION-D						
V	SECTION-E	Sprinkler System					
81	E1	MS Pipe -150 NB	Mts.	200	9.5692		
82	E2	GI Pipe					
83	E2.1	150 NB	Mts.	200	9.5692		
84	E2.3	80 NB	Mts.	100	4.7745		
85	E2.4	50 NB	Mts.	100	3.1830		
86	E2.5	25 NB	Mts.	100	1.5915		
87	E3	Alarm Valve -80 NB	Nos.	10	39.8884		
88	E4	Sprinkler Head	Nos.	600	0.6648		
89	E5	C.I. Gate Valve -100 NB	Nos.	5	9.0253		
90	E6	Flow Switch	Nos.	5	30.1782		
	TOTAL VALUE OF SECTION-E						
VI	SECTION-F	Fire Detection & Alarm System					
91	F1	Addressable, Microprocessor based Panel	Nos.	2	132.9614		
92	F2	Repeater Panel	Nos.	1	132.9614		
93	F3	Graphic Software	Nos.	1	132.9614		
94	F4	Multisensor Detector with Base	Nos.	150	2.6592		
95	F5	Aspiration Type Detectors	Nos.	50	2.6592		
96	F6	Manual Call Point (MCP)					
97	F6.1	Indoor (IP 24)	Nos.	50	26.5923		
98	F6.2	Outdoor (IP 52)	Nos.	30	26.5923		
99	F7	Hooter	Nos.	50	2.6592		
100	F8	Flasher	Nos.	50	2.6592		
101	F9	IO Module	Nos.	100	2.6592		
102	F10	Response Indicator	Nos.	50	1.3296		
103	F11	Exit Sign	Nos.	50	2.6592		

104	F12	LHS Cable	Mts.	5000	0.5238		
105	F13	Control Cable -2C x 2.5 sqmm	Mts.	5000	0.3828		
106	F14	Power Cable -2C x 2.5 sqmm	Mts.	5000	0.3828		
107	F15	Computer and Printer	Nos.	1	13.2961		
108	F16	Siren	Nos.	1	26.5923		
TOTAL VALUE OF SECTION-F							
VII	SECTION-G	Fire Extinguishers					
109	G1	9 Kg capacity DCP type Fire Extinguisher	Nos.	54	4.1543		
110	G2	4.5 Kg capacity CO2 type Fire Extinguisher	Nos.	54	3.6788		
111	G3	9 Ltrs. capacity Portable type Foam Extinguisher	Nos.	10	4.4045		
TOTAL VALUE OF SECTION-G							
VIII	SECTION-H	SUPPORT ITEMS					
112	H1	STEEL ANGLES/CHANNELS ECT	MT	15	275.7829		
GRAND TOTAL (SECTION -A + SECTION-B + SECTION -C + SECTION-D+ SECTION -E+SECTION-F+ SECTION -G+ SECTION -H)							