



ANNEXURE – A to OPEN TENDER

Open tender (Rate contract) for Procurement of **“Panel Type Hopper Heater”**

NOTICE INVITING TENDER:

e- tenders are invited for the supply of “Panel Type Hopper Heater” as per the Specification, standards and Quantities as listed below.

Sl No	Description	Technical Specification	Quality Plan Requirement	Present requirement		Tentative Delivery Schedule
				Unit	Qty	
01	Panel Type Hopper Heater and its accessories	TECI:NTPC:PHE:STD:REV:03 & DRG 2-00-114-30210	To be submitted for customer approval	SET	288	96- SETS 10 WEEKS FROM THE DATE OF DRG APPL/ MANUFACTURING CLEARANCE 192- SETS 14 WEEKS FROM THE DATE OF DRG APPL/ MANUFACTURING CLEARANCE

Table -A

Destination -BHEL RANIPET, District: VELLORE, TAMILNADU - 632 406

This Rate contract tender – price bid will be opened thro’ conventional e-mode /Reverse Auction opening method only

New supplier/vendor shall submit SRF trough online as per following procedure

Online SRF Submission Procedure

We are pleased to inform you to register your firm thro' the following link.

Following are the formalities to be completed by your company for registration purpose.

Recently, we have switched over to online Supplier Registration Form as per our corporate guidelines. Supplier Registration Form is to be fed in our BHEL website portal and download the Supplier Registration Form from online portal and the same is to be sent to us for processing your registration activity.

We request to visit our Web Site : www.bhel.com and click under heading "Supplier Registration" and fill up the **"Supplier Registration Form"** which is available in the Online Supplier Registration Portal.



Or else, copy the following URL Link and paste in the web link address: [http:// www.bhel.com/vender_registration/vender.php](http://www.bhel.com/vender_registration/vender.php) and proceed with.

Or else, type directly as <http://203.129.195.108> and then before proceeding for user id & password - please search thoroughly your required material / product under the "search material" - click it and go for BHEL Plant name ie., BAP Ranipet in this case and then type under description any four letters or so for which *product / item* you are looking for and note down the *corresponding product code number suitably*.

*After completing the material search thoroughly then proceed for User Id & Password for filling up the details of registration requirements. Note: If you are an already registered supplier with any of our BHEL Unit - pls select "**existing permanent supplier**" or else select "**New Registration**" and then proceed accordingly.*

Please note that for foreign suppliers there is a separate format to be filled in, which may be taken care suitably.

After successful submission (uploading) of all the relevant documents thro' online portal, a hard copy of the same with all the annexures (as called for) may please be taken a print out and make a document folder and send the same to undersigned after affixing authorized signature with company seal in all pages.

Looking for a long successful & sustaining business association with BHEL.

BHEL's Commercial terms & conditions and annexures can be downloaded from BHEL website www.bhel.com or [www.rate contract tenders.gov.in](http://www.rate_contract_tenders.gov.in) or <http://eprocure.gov.in/cppp/>, <https://bheleps.buyjunction.in>, of M/s mJunction Services Limited who are our solution provider.

- 1) All corrigenda or any addendum to this enquiry shall be published in www.bhel.com and <https://bheleps.buyjunction.in>, of M/s mJunction Services Limited who are our solution provider only.
- 2) Vendor shall submit identical design type test report with validity of five year from the date of enquiry. The type test should have been conducted at reputed Govt laboratory. In case identical design type test report is not available, vendor to conduct all the type-test as per IS 2026 with witness of BHEL/Customer at their own cost.

Qualifying criteria for the new vendors -Pre-qualification creteria

- (1) The supply shall be as per our Technical Specn: TECI:NTPC:PHE:STD:REV:03 & DRG 2-00-114-30210, drawing and quality requirement as per Table-A deviation if any, the "deviation summary" shall be submitted for our technical evaluation.
- (2) BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false / incorrect, the offer shall be rejected.
- (3) The supplier shall fill all the details as called in the Supplier's Registration Form through online as stated above.

ANNEXURE –B
GENERAL TERMS & CONDITIONS
(FOR GUIDANCE TO THE SUPPLIERS)

A] Submission of Offer

a) Invitation for bid

Tenders are invited through electronic mode from eligible suppliers in case of open tenders and from suppliers to whom the enquiry is addressed in case of Limited / Single Tender.

The offers shall be posted into the system before the date and time specified in the tender.

The offer shall be sent on single part / two part / three part basis as specified in the main tender document.

Bids shall be submitted through e-Procurement portal, <https://bheleps.buyjunction.in>, of M/s mJunction Services Limited who are our solution provider.

b) Hardware and Software requirements for participating in e-tender

Requirement for participating in e-Procurement is as under:

- i) A Computer with internet connectivity (Internet Explorer Version 9 and above).
- ii) Digital Signature Certificate (Class 3- SHA2-2048 BIT- with both Signing and Encryption component separately).
- iii) JAVA (Version 1.8 Update 45).

c) Instructions for Registered Suppliers

For all types of tenders (Single / Limited / Open) an automated email alert regarding issue of the Tender will be sent by the e-procurement portal to all Suppliers registered with BHEL, Ranipet for the item/s for which the tender is issued.

In case of open tenders, Registered suppliers with registered DSC will have to login with their user id/password & DSC and search for the Open Tender. On clicking the “Interest” button, they will get attached to that particular Open Tender.

Registered suppliers without DSC will have to first register themselves in <https://bheleps.buyjunction.in> as new supplier by clicking the “New Supplier” button.

To know the procedure for obtaining Digital Signature Certificate (DSC), suppliers who are not having the DSC are advised to visit our website www.bhel.com → Tender Notifications → Sample Checklist.

d) Instructions for new suppliers wishing to bid against open tenders

New, unregistered suppliers wanting to bid against open tender/s will have to first register themselves in <https://bheleps.buyjunction.in> as new supplier by clicking the “New Supplier” button.

After entering the Income Tax Permanent Account Number (PAN) details and pressing “Enter”, they have to click the “Interested” button against the respective BHEL Unit for which they want to participate in the Open Tender and also fill up other relevant Company information as a one-time activity.

Then, a box for filling in a “preferred login id” will appear at the top of the page. After giving the “preferred login id” and then clicking the “Next” button, Supplier would have to map their DSC (which will be activated by M/s mJunction Services Limited), if available. Or else, by pressing “skip” button and selecting relevant procurement category from the list available in the next page and “agreeing” to the BHEL’s terms & conditions, user id and password will be generated/activated once in 2 hours and mailed to their registered

email id. Using this user id and password, Supplier has to login and map the Digital Signature Certificate they have purchased to their code. The DSC will then be activated by M/s mJunction Services Limited.

As required by the tender, the necessary documents have to be filled-in online, in the provided template. Additional documents required are to be scanned and uploaded as .pdf file. Suppliers are advised to take note that the maximum space that is provided for uploading the documents that are to be attached is 300 MB. However the size of an individual document cannot exceed 10 MB. For any clarification on submission of offer on line, attention of the Supplier/s is invited to our document “Supplier Manual” hosted in the home-page of the e-procurement portal. During normal business hours, helpline maintained by the service provider mJunction is available for clarifying any doubts of supplier/s. The helpline numbers are 09840704941 or 09500199108.

Typical documents that would be required as part of tender submission would be

- a) **Complete technical Offer** with details, catalogues, as applicable.
- b) **Un-priced bid** (i.e. Bid without the Price) as per given format, if any.
- c) **Filled-in BHEL’s Standard Terms & Conditions** as per Annexure enclosed with the Tender Document,
- d) **Deviation summary** submitted in two parts – giving the summary of technical deviations separately and the commercial deviations separately, if any and
- f) **Supporting documents** to substantiate equivalent material specifications / sections, where quoted for.
- g) Where asked for, **Client list** with their full address including detail of contact person with phone no., fax no. & e-mail ID (if any) to whom the same / similar items are supplied in the past two years. The date of supply may also be indicated, against each client.
- h) **Bidders who are not already registered with BHEL Ranipet** are requested to submit the Supplier Registration Form (SRF) online (<http://supplier.bhel.in/>) for evaluating and registering as an approved vendor. The Supplier Development Cell (SDC) of BHEL, Ranipet would process the SRF for evaluation / registering the Supplier.

Suppliers can also upload their credentials by way of submission of Performance certificate/s issued by their customer/s detailing the quantity supplied and specification along with the un-priced PO copies and proof of supply along with the offer.

Technical acceptance of offer by BHEL shall be based on the evaluation of offer and the submitted documents.

Note

- (i) The materials offered, shall conform to the specification and scope attached in the tender.
- (ii) In case the offered materials are not conforming to the Enquiry material Specification, such offers would not be considered for evaluation and would be rejected.

Where equivalent specifications are offered, considering such offers will be at the sole discretion of BHEL. Wherever alternative standards / specifications are offered by Bidder, the Bidder shall provide sufficient documentary evidence to ensure equivalence to the designated standards / specifications, failing which the offer would be considered as not technically acceptable and hence shall stand rejected.

- (iii) All taxes and duties payable as extra to the quoted price should be specifically stated in offers (as appearing in the online template).

Offer/s from within India shall be submitted along with CST & TIN No. / Tariff No. etc, failing which the purchaser will not be liable for payment of such taxes and duties. Our TIN No. 33024364741, CST No. 1141686/01.07.2014, BHEL ECC No. AAACB4146PXM008.

(iv) The un-priced bid shall be used to indicate relevant commercial terms such as scope of freight and insurance, applicability of duties and taxes etc. All Commercial terms are to be indicated clearly in the offer.

(vi) No changes shall be entertained once the bid is opened unless otherwise specifically agreed to in writing by BHEL.

(vii) Money values other than for those items appearing in the un-priced bid template shall not be indicated anywhere in the un-priced bid.

(viii) Time required for inspection (at Supplier's works), should be clearly given in terms of numbers of working days.

(x) **Offers sent by FAX / E-mail:** would not be entertained.

Price Bid in conformance with the specification and terms as given in the Un-Priced bid document.

Caution:

The suppliers are severely cautioned to note that the price bid document accepts the price in figures only. It does not allow the supplier to write the value by words. Therefore all care shall be exercised by the supplier while filling in the figures. Once the price bid is opened no option is available for the supplier to retract the offer under any grounds. If a supplier, for any reason whatsoever approaches BHEL with a request for change in the price, it would be treated as going back on the offer submitted. In such cases, action would be initiated by BHEL for suspending further business dealings with such suppliers as per policy of BHEL which prevails at that point of time.

Foreign / Overseas suppliers are hereby informed that offers with differential currencies are not permitted for a given tender document.

Note

(i) The price break-up should be in line with technical specification / scope of the tender. (Cost of material, packing charges, forwarding charges, freight and insurance charges shall be shown appropriately, as applicable).

(ii) Unless otherwise specified as a part of the tender condition, No Price Variation Clause will be entertained and No advance payment will be made by BHEL.

(iii) In case, there is a discrepancy in the term quoted in techno-commercial bid and price bid, the term as per the techno-commercial bid (Part I) shall hold good and the commercial term quoted in the Price Bid (Part II) shall not be considered.

(iv) In their own interest, all Tenderers are advised to double check their prices, applicable duties and taxes.

(v) The quotation should be valid at least for a period of 90 days from the tender opening date.

(vi) Indian bidders should submit the prices in Indian Rupees only.

(vii) Foreign bidders may submit their bid in foreign currency. The currency for quoting shall be selected from the drop-down menu provided.

(x) Indian Suppliers shall quote on FOR Destination basis only. Destination is BHEL, Ranipet Stores or BHEL Project Site as specified in the tender requirement. Foreign Suppliers shall quote on CFR Chennai Seaport Delivery and Insurance will be in BHEL's scope. No other delivery terms shall be acceptable. Shipment shall be arranged by the Seller on *Liner in / Liner out basis*. As per Government of India guidelines, BHEL Ranipet being a Government of India Undertaking the Bill of Lading shall be made with the Shipper as "Government of India". This shall be specifically confirmed by the Bidder.

(xi) Where the cargo is containerized, Container washing charges, stuffing charges and / or any other such charges would be to the account of the supplier, where the containers are to be stuffed at the works of the supplier.

B] Opening of Offers

a) **Tenders can be submitted up to 1400 Hours on tender opening due date. Part I will be opened on the same day at 1430 Hours. Results of the tender opening will be available for viewing for upto 7 days from the date of opening.**

b) Requests by Bidders for extension of due date will not be entertained by BHEL.

c) Price Bid opening will be done through e-mode / Reverse Auction method (English method) **which will be decided after techno-commercial bid evaluation is completed.** All tenderers would have to specifically give their acceptance for this in their bid/s.

Note

(i) Bids including all enclosures and supporting documents like catalogues, pamphlets, etc., shall be provided in ENGLISH language only.

(ii) In exceptional circumstances, at its option, BHEL may consider extending the due date/s for the tender openings for reasons such as (but not limited to) paucity of offers etc. However, sufficient notice would be given by BHEL for such extension.

(iii) Deviations shall be summarized and provided in a "Deviation Statement", listing the points and the deviation against each point.

(iv) BHEL reserves the right to increase or decrease the tendered quantity and to order on more than one vendor at the lowest acceptable price to BHEL. In ordering on more than one source, the ratio of quantity split will be as specified in the tender terms.

If not explicitly specified, BHEL reserves the right to split the quantity of the enquiry as follows: 70% quantity being ordered on the original lowest bidder (L1) and balance 30% on the next higher bidder/s excluding H1, who accepts the L1 price. However, the final decision to split the order rests with BHEL only.

In the event that the other than L1 suppliers do not accept the L1 price, then the balance will be reverted to the original L1 and the original L1 shall be bound to accept the balance of the enquiry quantity kept reserved for order splitting. This decision would be given by BHEL within 60 days of the price bid opening.

Notwithstanding the quantum of split that may be indicated in the main body of the enquiry, bidders are advised to note that the splitting of the orders will be decided by BHEL after the evaluation of the techno-commercial and price bids.

(v) Offers for part quantities on item level basis are not acceptable to BHEL. While tenderers can quote for some or all the tendered items, no supplier shall quote for partial quantity of any given enquiry item. Such

partial offer would not be considered in the enquiry for that item. Suppliers are to note that the evaluation unless otherwise specified will be on item level and not for the tendered items as a whole.

C] Evaluation of Offers

- a) The price bids including the impact price (if any) of the technically acceptable offers alone shall be opened.
- b) Offers with pre-conditions (like conditional discounts) for price are liable to be not considered / rejected. For evaluation such conditions would be removed and only the base offer would be considered for evaluation and comparison.
- d) In the event of any change in scope / quantity arising out of the discussions, offerers would be given a chance to submit their revised offer / Impact bids. The option for the revised offer / impact offer will be triggered by BHEL. The Supplier then will have the facility to feed-in the revised price / impact price as per the provision given by BHEL. The impact price can be positive or negative (or nil). The impact price option shall contain only the price addition / deletion for such change in the scope / quantities, over and above the original scope and price quoted. The original price quoted would remain unchanged. The total price would then be computed by the arithmetic addition of the original price and the impact price. Where BHEL gives the option of submitting the revised offer, the impact would be computed as the arithmetic difference of the revised price and the original price.
- e) For evaluating the overseas offers, CFR Chennai Sea Port price quoted will be taken into account. The cost to BHEL will be arrived at by loading the applicable customs duty project wise, insurance charges, inland transportation charges to BHEL stores and LC charges etc.,
- f) For suppliers within Tamil Nadu state, as per prevailing VAT Act, VAT input credit is currently 5%.
- g) BHEL reserves the right to reject without assigning any reasons / load any offer with factors other than already specified for such offers having deviations to BHEL Specifications, Standard Terms & Conditions at its discretion. The decision of BHEL in this regard shall be final.
- h) BHEL reserves the right to reject an offer due to unsatisfactory past performance during tender finalisation / execution of a contract at any of BHEL projects / units or if unsatisfactory performance report is received from the party/s referenced by the supplier at any time during tender finalisation.
- i) BHEL reserves the right to operate Purchase / Price preference to Government of India Undertakings, which shall be given as per the guidelines of Government of India given from time to time and / or relax the Terms and Conditions of the tender.
- j) For the purpose of comparing prices, tender prices shall be converted to Indian rupees and the conversion shall be made by using the TT Selling rate of State Bank of India (SBI) prevailing on the date of opening of Techno-Commercial / Unpriced bids. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken. This exchange rate will be followed till placement of order. Tenderers may please note that even if an impact price is taken as in (d) for purpose of price evaluation and arriving at the rank; the exchange rate will be taken as explained above.
- k) Unless otherwise specified, evaluation will be on individual line item basis only and ordering will be on respective L1 vendors.

l) BHEL reserves the right to conduct negotiations on the “Price” and “Other Commercial Terms and Conditions” with the lowest ranked offerer at any time after the bid opening but before the release of the Purchase Order and If so required by BHEL, Supplier may have to share their costing sheet with BHEL.

m) Bidders are required to confirm in writing in their techno-commercial document that other than themselves (the bidder) none of its group companies, concerns or affiliates etc., are participating in the tender either directly or indirectly or through any other agency under the same proprietor / common partner(s)/ common Directors. If during the evaluation of the bids it is found that the bidder has submitted the offer in violation of this condition then all the offers received from the group companies would stand rejected. If such relationship is found at a later date where the Purchase Order has been issued, then BHEL would cancel the Purchase Order and initiate suitable action/s under the contract/s including but not limited to invoking the Risk Purchase clause of the order and other applicable legal provisions / guidelines of BHEL including guidelines on suspension of business dealings. (Please see clause L sub-clause c).

D] Execution of the Order

a) BHEL will have the option to pre-inspect the materials at Supplier's works by BHEL's own inspector or by third party agency appointed by BHEL or BHEL's end customer/s. The mere act of the pre-dispatch inspection (PDI) does not absolve the Supplier from giving the specifications as agreed upon in the Purchase Order. In the case of inspection being carried out by a third party inspector (TPI) as per the extant practice, the TPI would forward the Inspection Report (IR) along with Test Certificates and other related documents to the Quality Assurance (QA) Department of BHEL. The QA department after scrutinising the report/s submitted by the TPI would issue the Material Dispatch Clearance Certificate (MDCC). Suppliers are hereby informed that materials should be dispatched only after getting the MDCC, failing which the materials may be rejected on receipt at BHEL Stores.

b) In the case of overseas suppliers Inspection call for carrying out the inspection shall be given 30 days before the scheduled contract delivery date. The Inspection date/s given by the Supplier shall be on firm basis. For local Suppliers the Notice period of Inspection shall be 10 working days.

c) Deviations, if any pointed out by the visiting Inspection team of BHEL shall be corrected and the items as per specification shall be dispatched on or before the contract delivery date after getting the MDCC.

d) The final inspection for acceptance will, however be carried out at BHEL's works at Ranipet.

e) The contract delivery date is the date of receipt at BHEL Stores for suppliers in India, applicable in the case of FOR Destination Contracts.

For ex-works contracts or FOR dispatching station indigenous contracts, the date of the Lorry way bill issued by the authorised transport carriers of BHEL / Railway Receipt / Courier Way bill / Airway bill or any such dispatch documents of carriage approved by BHEL would be considered as the Contract Delivery Date. In the case of CFR contracts with overseas suppliers, the B/L date shall be taken as the Contract Delivery Date

f) Travel & other local stay cost for the Inspectors sent by BHEL will be to BHEL account, but other Inspection Charges, if any shall be to the account of the Seller only.

g) The supplier shall arrange for packing suitably in all respects for normal transport by sea / rail / road and Materials shall be suitably protected against effect of tropical salt laden atmosphere in the event of shipment being delayed at ports / store yards and as per BHEL TDC.

h) Foreign suppliers shall dispatch on CFR agreed Sea-Port basis, according to the contract conditions. Indian suppliers shall dispatch on free delivery (door-delivery) at BHEL stores basis only. Unloading the materials at BHEL Stores would be to the account of BHEL only.

i) In the event of any short supply, it shall be the responsibility of the supplier to deliver such short supplied/ missing items on Free-of-Cost basis at BHEL stores, including customs clearances at Indian Ports in the case of foreign suppliers.

k) Terms of payment:

k.1) For Indigenous Suppliers: Unless otherwise agreed to by BHEL, the standard payment terms of BHEL shall be: For non-MSE suppliers 100% payment made directly through EFT within 90 days from the date of receipt and acceptance of materials at BHEL Stores, Ranipet or 90 days from the date of acknowledgement of receipt of materials at destination specified. If any supplier asks for payment terms other than the above specified, then suitable loading on cost will be considered. **Loading of any deviation in the payment terms w.r.t tender terms will be “Base rate of State Bank of India (SBI) (as applicable on the date of bid opening: Techno-commercial bid opening in case of two part bids) + 6%, will be considered for loading for the periods of relaxation sought by bidders.**

k.2) For MSE vendors (under Micro & Small category alone) 100% payment will be made within 45 days from the date of receipt and acceptance of materials at BHEL Stores, Ranipet or 45 days from the date of acknowledgement of receipt of materials at destination specified.

l) NOTE:

Where the destination specified is other than BHEL Stores Ranipet, for claiming payment, Supplier has to submit proof of receipt of the materials at the destination by furnishing a copy of the acknowledged despatch document (LR/RR/Courier receipt etc.) .

If the Bidder is bidding for the first time and wants to be considered as an MSE then, the Bidder shall submit document evidencing that they are an MSE along with a certificate from a Chartered Accountant certifying the status of their Unit / Works clearly specifying the address of the works which is to be considered as MSE and send the same to BHEL, Ranipet either before the tender opening date or upload it as a part of the tender document in the e-procurement portal. Where the document is submitted electronically a hard copy shall invariably be sent within a reasonable period (not exceeding 30 days) from the bid opening date for the purpose of BHEL's records. If the hard copy is not received within this specified time, then the supplier would be treated as a non-MSE. BHEL will not be responsible for any postal / courier / delivery delays.

For approved vendors the status as on the date of the bid opening as available with BHEL Ranipet's records shall be used for reckoning the status of the Bidder as an MSE or otherwise.

Offer/s received without these documents will be treated as non-MSE and order finalization will be done based on this premise. Documents submitted after Bid-opening will not be considered in this tender. This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.

For approved suppliers, in case of any change in the MSE status, it shall be the responsibility of the Bidder to notify the change as a part of the Bid document. If at a later date it comes to the knowledge of BHEL, Ranipet that the change in the status has not been intimated by the Bidder and the order is obtained under the premise of an MSE then BHEL would cancel the pending order against this tender and take necessary steps

for suspension of the business dealing with the Bidder as per the procurement policy of BHEL. Similarly if a supplier claims MSE status after the Part I bid opening, then the same would not be considered in the tender.

In case after the bid opening it is seen that no MSE has become L1, then depending on the nature of the item, if it is not possible to split the tendered items / quantities on account of reasons like customer contract requirements of supplying one make for a given project or technical reasons like the tendered item being a system etc. then BHEL would not counter offer the L1 prices even though there may be MSE bidders within the +15% band of L1.

Other concessions for MSEs / Reserved sectors

In addition to the concessions specified above, MSE suppliers will be eligible for such other concessions as per the MSME Act 2006 and any other benefits / concessions that may be announced by the Government of India from time to time.. However, such concessions as applicable at the time of tender opening alone will be applicable. Any concessions advised after tender opening will not be considered for the current tender.

Items that are reserved for MSE and for any other items for which reservations for Indian manufacturers are notified by the Govt. Of India, such concessions as prevailing on the date of tender opening shall apply as a part of this tender conditions.

ii) Foreign Suppliers “100% thru’ irrevocable & unconfirmed LC at sight within 3 weeks from the PO date through any one of our Bankers listed elsewhere in the tender conditions for 100% value (less Agency Commission, if any) valid up to the PO delivery period and 15 days thereafter for negotiation. All bank charges in India to BHEL's account and all other charges outside India to Supplier's account. **BHEL would load the price of foreign suppliers in order to bring them on common platform as per Indigenous Suppliers on the account of differential payment terms to Indigenous Suppliers. Loading of payment terms will be “Base rate of State Bank of India (SBI) (as applicable on the date of bid opening: Techno-commercial bid opening in case of two part bids) + 6%, will be considered for loading for the periods of relaxation compared to indigenous suppliers i.e. 90 days.**

m) Any incidence of tax like Income tax, Service Tax and Withholding any other similar tax / duties /levies imposed by the Government of India, or the State Government, where the BHEL Unit is located, deductible at Source, during the tenure of the Order shall be deducted by BHEL and necessary certification of the deduction (Tax deduction at Source) would be given. This is subject to the supplier fulfilling the necessary documentation as specified by the Government of India. (e.g. Tax Residency Certificate, PAN Number etc.)

n) The Guarantee period shall start from the “Date of receipt and acceptance of the materials at BHEL Stores.”

o) Where any bidder gives extended credit period over and above that offered by BHEL, then all other Non-MSE bidders and foreign bidders would have to match the extended period of payment terms. This information would be given to such bidders after opening of the techno-commercial bids; but before opening the price bids. However bidders would not be allowed to change their price bid for purpose of confirming the extended credit period. In the event such bidder/s do not accept the extended credit period for payment, then their offer would be loaded to the extent of the differential between their offered payment terms and the revised payment terms offered by BHEL as explained above.

E] Liquidated Damages Clause:

BHEL will levy penalty as Liquidated Damages (LD), for delay in delivery. The damages shall be at the rate of ½% per week or part thereof subject to a maximum of 10%. The contract delivery date for purpose of L.D

is the date of receipt at BHEL Stores for suppliers in India for F.O.R. Destination Contract and the date of dispatch clearance given by BHEL for overseas suppliers. For ex-works or F.O.R dispatching station contracts, the date of the dispatch document will be reckoned as the date of delivery for computing the LD. Supplier shall deduct the applicable LD from the first payment when raising the claim for the same. The applicable LD if any would be communicated by BHEL along with the dispatch clearance. It is taken by BHEL that Foreign Suppliers have confirmed their acceptance to BHEL for opening the LC for value which is the value of the order reduced by the applicable LD. The LD would apply on the undelivered portion only. In case of reasons attributable to BHEL for the delay in delivery (for e.g. delay in arranging the pre-inspection) then the delivery time would be reset to the extent of the time delay attributable to BHEL, with waiver of the LD. Delivery being the essence of BHEL's contract requirements, Unless otherwise specified the LD would apply on the undelivered portion of the contracted items. **In the event that a Supplier does not accept the LD condition above, the offer would be loaded to the extent of the shortfall with respect to upper limit specified above.**

F) Miscellaneous

i) Role of Principals and Agents:

BHEL will deal directly with indigenous manufacturers only.

BHEL strongly discourages the engagement of Agents in India by foreign principals, to deal with BHEL, in BHEL's tenders.

BHEL will not enter into any correspondence with an Indian Agent.

The Indian Agent will not be extended the privilege given to the principals, such as that of attending the tender openings, attending technical discussions, commercial discussions or price negotiations and such like.

In case, in spite of the above, a foreign principal insists on engaging an Indian Agent, It is made clear by BHEL that:

It is the sole responsibility of the foreign principal to ensure the Agent does not represent any other foreign principal in a given tender.

An undertaking to this effect shall be given by the foreign principal that his / her Agent does not represent any other foreign principal in the tender. This document shall form a part of the techno-commercial offer.

A Principal shall authorise only one Agent to quote against each BHEL's tender. In the event a Principal authorises more than one agent to quote against a BHEL's tender, then all such offers will be rejected by BHEL in that tender. Principals are also advised to include BHEL's tender Number / Reference in their authorisation issued to the Agent.

If at any stage of the tender, BHEL finds that an Indian Agent has represented more than one foreign principal, all such offers of and all the foreign principals would be disqualified summarily in the tender inquiry.

BHEL will only give an intimation of notice of the disqualification. No correspondence would be entertained by BHEL, on their decision. Such decision of BHEL shall be irrevocable, firm and final and shall be binding on the tenderer.

BHEL, due to business reasons would ban, would have banned Indian agents from dealing with BHEL.

Any foreign principal who engages such a banned agent, or an employee of the banned agency, or any other person connected with the banned agency, at any time during the tender proceedings, would be disqualified from the tender proceedings. The decision of BHEL in this regard shall be final and be binding on the OEM.

Hence in their own interests, prospective tenderers may check with BHEL, the status of their proposed agent vis-à-vis BHEL.

In view of the requirement of BHEL, it is strongly suggested that in their own interest, foreign principals may desist from engaging any Indian agent and deal with BHEL directly and it is stressed that any Main producer proposing to deal with BHEL by engaging and through an Indian Agent does so at their own risk.

BHEL shall in no way be responsible for any consequences that may arise to the foreign principal on account of the antecedents / actions of their Indian Agent.

In the event of the foreign principal engaging an Indian Agent:

a) The Supplier shall furnish an authenticated copy of the Agency Agreement with his agent detailing the precise relationship between them and their mutual interest in the business along with techno-commercial bid.

b) The Supplier shall furnish original authorization letter for the Indian Agent. The letter shall contain name, contact person, complete postal address including phone, fax and e-mail ID. It shall also spell out the type of services to be rendered by Indian Agent.

c) Indian Agent & Agency commission: An Indian Agent can represent only one Foreign Manufacturer against a particular Tender. The CFR price quoted by the foreign bidder shall include the agency commission. However, the agency commission component payable to their Indian Agents shall be shown separately in the Offer, either as a lump-sum or as a percentage of the quoted price. This will be paid by BHEL in Indian Rupees, on satisfactory receipt & acceptance of the materials. For calculation of Rupee equivalent of Agency Commission, exchange rate as prevailing on the date of Purchase Order will be taken and

d) For all discussions, technical clarification and negotiations etc. only the principal would be authorized for interaction with BHEL. The Agent shall not be a party to the discussions / negotiations and would not be normally allowed to participate.

ii) Terms & Conditions of Letter of Credit (L/C) for overseas suppliers (indicated for acceptance).

a) Unconfirmed irrevocable Letter of Credit at Sight only will be opened by BHEL. Confirmation of L/C is not preferred by BHEL. Also L.C will be opened in Lots in line with the staggered delivery.

b) All Bank charges out side India are to the Supplier's account and within India to BHEL's account.

c) In case of L/C extension caused by delays attributable to the Supplier, the L/C extension / commitment charges are to be borne by the Supplier.

iii) Other terms & conditions for letter of credit: - Documents for negotiation

a) Signed Commercial invoice in quadruplicate, for a value not exceeding the draft amount, quoting the import Licence No and certifying goods evidencing shipment of the merchandise are as per Applicant's Purchase Order. The amount of invoice after deducting Indian Agent's commission, if any, should not exceed the Credit amount. (The Indian agent's commission, if any, is payable in India in Indian rupees only.)

- b) Certificate of Country of Origin, from the country of manufacture, issued by the Chamber of Commerce.
- c) One set of Original and two sets of Non-negotiable copies of 'signed', 'unmarked', 'clean on board' Ocean Bill of Lading, showing Shipper as "Government of India" Account M/s. Bharat Heavy Electrical Ltd, Unit: BHEL, Ranipet as consignee (The opening bank should not be notified as consignee), marked freight payable / prepaid at destination.
- d) Packing list in 4 copies in English, indicating Size wise Number of bundles / pieces shipped and weight.
- e) Certified copy of the fax / e-mail sent by the beneficiary to the applicant giving the following particulars of shipment, as the insurance is to be arranged by the Applicant in India: (a) Purchase Order Number & date; (b) Bill of Lading Number & date (c) Name of vessel; (d) Port of Loading; (e) Number of bundles / pieces and weight; (f) Invoice Number, date and value (g) Purchase Order item number's despatched. The cable / fax is to be sent within 2 working days of shipment.
- f) Beneficiary's certificate showing the relevant airmail / courier reference no. and date that the following clauses have been complied with:
 - 1] Beneficiary to forward by Registered Airmail / Courier one complete set of original documents and one set of non-negotiable documents within 3 working days of obtaining shipping documents to Regional Manager (ROD), Bharat Heavy Electricals Ltd, 6th Floor, EVR Periyar Bldg. No 690 (Old 474), Anna Salai, Nandanam, Chennai-600035. India. (Phone: +91-24330931, 24330253; e-mail: pbpwar@bhel.in)
 - 2] Beneficiary to courier at his cost 3 copies of complete set of non-negotiable documents to the Officer who released the Purchase Order.
 - 3] Declaration by the Supplier certifying that the contents in each case are not less than those entered in the invoices / packing list and that the invoicing for the supplies effected is strictly in accordance with agreed rates as stipulated in the Purchase Order.
 - 4] Declaration to the effect that all other documents as per purchase order has been couriered to the Purchase order releasing authority
 - 5) The carrying steamer should be seaworthy, less than 25 years of age and approved by Lloyds / Classification Societies / General Insurance Corporation of India from time to time and
 - 6) Copy of Dispatch Clearance / Instruction issued by BHEL.

iv) Documents to be sent directly to the Purchaser prior to shipment

- a) Manufacturer's Original Internal Inspection / Test certificate in triplicate.
- b) Manufacturer's Original Guarantee certificate as per Purchase Order. The material shall be guaranteed for a period of 12 months from the date of acceptance of the materials at BHEL stores or 18 months from the date of dispatch whichever is earlier. The acceptance would be evidenced by the Stores Receipt Voucher (SRV) which will be raised by BHEL.
- c) Inspection / Test Certificate issued by BHEL / Inspection agency specified in the Purchase Order. In the event that Inspection prior to dispatch is not carried out by the Engineers of BHEL, the Inspection certificate of the third party so authorized by BHEL and
- d) Any other documentation as specified in the Purchase Order.

v) Conditions for transportation:

- a) All shipping documents shall show the Purchase Order Number & Date, Import Licence Number & Date, and Letter of Credit Number & Date.
- b) Transshipment is to be avoided.
- c) Loading on deck is not permitted. The transport document must not contain a provision that goods may be carried on deck.
- d) A transport document which is produced or appearing to have been produced by reprographic, automated or computerized systems or as carbon copy will be accepted as an original document provided that it is marked as original and is ink-signed.
- e) The transport document must contain all the conditions of carriage on the original document.
- f) The transport document must not indicate the place of destination as being different from the port of discharge.
- g) The transport document must not contain the indication 'intended' or similar qualification in relation to the vessel or other means of transport or port of loading or port of discharge.
- h) The transport document must be issued by the carrier or his agent and not by any freight forwarder.
- i) Transport documents bearing reference by stamp or otherwise, to costs additional to the freight charges are not acceptable.
- j) The Bills of Exchange must be dated and presentation of documents for negotiation must not be later than 15 days after the date of shipment and in any case not later than the expiry date of the Credit.
- l) Indian suppliers shall dispatch the materials on freight prepaid and on door-delivery basis (FOR Destination – Destination: BHEL Stores) and
- m) In the event there is a delay by the Supplier in negotiating / submitting the document, any demurrage / wharfage arising out of the same shall be to the account of the Supplier and shall be deducted from the final payment. Also, in such cases, the Supplier shall authorize the Steamer / Shipping agent / transporter to freely release the consignment to BHEL by providing a “Surrender Bill of Lading”. Over-seas Suppliers have to give a No-Objection Certificate to BHEL, authorizing BHEL to get the Delivery Order from the Steamer Agent without producing the Original Bill of Lading. This is required to ensure avoidance of incidence of demurrage at Chennai Sea-port that may arise in case of delayed presentation of documents by the Seller.

G) Reverse auction (RA) / on-line bidding on internet:

1. “BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders shall give their acceptance with their offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of the bids, in case BHEL decides to go for RA.”

2. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit ‘Process compliance form’ (to the designated service provider) as well as ‘Online sealed bid’ in the Reverse Auction. Non-submission of ‘Process compliance form’ or ‘Online sealed bid’ by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for “Suspension of Business Dealings with Suppliers/ Contractors (as available on www.bhel.com).”

3. The philosophy followed for reverse auction shall be English Reverse (No ties).
4. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
5. 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.
6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
9. Reverse auction will be conducted on scheduled date & time.

Note: Decision to go for RA or not will be on case to case basis.

10. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
11. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, to the Service provider within two working days of Auction without fail.
12. Bidders are 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. The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with their offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, would also be opened after the RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. It is considered that the bidder having submitted their offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rate/s.
16. If it is found that L1 bidder has quoted higher in the online sealed bid in comparison to the envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).”
17. The calculation sheet e.g. excel sheet (which will help to arrive at ‘Total Cost to BHEL’) will be communicated to respective bidders of RA by BHEL. 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.]

18. This calculation sheet will be finalized based on the evaluation criteria specified in the NIT.

19. Suppliers are required to submit their best price bid in a separate sealed cover along with techno-commercial bid. After evaluation of Techno-Commercial Bids:

a) In case BHEL decides not to conduct RA, the envelope sealed price bids of all techno-commercially qualified bidders, along with price impact, if any, would be opened and processed as per extant the internal Purchase/ Works Policy as applicable to BHEL.

b) In case BHEL decides to conduct RA, business rules of RA will be sent to service provider.(See Annexure for Model General Business Rules of RA.)

20. Generally the start price for the RA would be the lowest of

a) Lowest online sealed bid and

b) Internal Estimate of BHEL

Note: Wherever more than one lowest online sealed bids are identical and lower than the estimate, the start price, would be that price arrived by reducing the lowest online sealed bid by maximum of one decrement.

21. Reverse auction process would deemed to have started upon receipt of 'Online Sealed Bids' from the bidders within the prescribed time frame as per Business Rules.

22. After receipt of 'online sealed bids', the start price & bid decrement will be decided by BHEL and the same would be communicated to the service provider, to start the bidding process.

23. Only those bidders who have submitted the 'online sealed bid' within the scheduled time would be eligible to participate further in RA process. However, the H1 bidder (whose quote is highest in online sealed bid) will not be allowed to participate in further RA process provided minimum three bidders are left after removal of H1 bidder. In case of tie for H1 bid (identical online sealed bids), 15 minutes additional time would be provided and all the participating bidders would be informed by mail/ message on bidding screen to enable bidders submit revised online sealed bids so as to break the tie.

24. If the lowest online sealed bid is the starting price, then the lowest bidder in online sealed bid shall be shown as current L1 automatically by the system. System would have the provision to indicate this bid as current L1 for further bidding.

25. If the start price is lower than the lowest online sealed bid, on acceptance of such start price by any bidder, this bid would be indicated as current L1 for further bidding.

26. In case of no further bidding, RA will be deemed to have been successful with current L1 bidder.

27. All bidders who had given online sealed bid would be able to see their rank and L1 price and their ranking L1, L2 etc. would be based on their last quoted price irrespective of quote received in RA or online sealed bid.

28. RA shall be treated as failed in the following scenarios:

a) In cases where the start price is (a) estimate or (b) one decrement (maximum) lower than the lowest of the online sealed bids and no bidder accepts the start price.

- b) In cases where the number of online sealed bids are less than four before removal of highest bidder.
- c) In cases of tie among H1 bidders, even after extension of submission of online sealed bids once by 15 minutes.
- d) Wherever, the evaluation is done for individual line items, RA shall be treated as failed only for those line item(s) for which any of the above a), b) or c) satisfies.
29. In cases of failure of RA, sealed envelope price bids (of item(s) for which RA has failed) of all the techno-commercially qualified bidders would be opened and the tender would be processed accordingly. However, the envelope sealed bid(s) of techno-commercially acceptable bidder(s) who had agreed to participate in the RA and had failed to submit the online sealed bid would not be opened.
30. After declaring L1 upon completion of RA, the envelope sealed price bid of L1 bidder would also be opened for placement of order on lower of the two bids (RA closing price & envelope sealed price) and the offers would be processed as per extant their internal Purchase/ Works policy provisions of BHEL. Action as per NIT terms would be taken if online sealed bid is higher than the envelope sealed bid.
31. Relative position of bidders (for usage in cases of predefined splitting the quantities) would also include bidders who have given 'online sealed bids' but have not given further bids in auction. In case of splitting requirement, H1 bidder may be considered for counter offer if the pre-stated (NIT) numbers of suppliers do not accept the counter offer. However, principle of splitting to N-1 bidder would be maintained.
32. In case H1 bidder happen to be MSE and was removed from further bidding but is within L1 + 15% band, then this bid would be considered and to be processed in line with 'Public Procurement Policy for Micro & Small Enterprises (MSEs) order, 2012'.
33. For providing preference to domestically manufactured Electronic Products, in accordance with Department of Electronics and Information Technology (DeitY) Gazette Notification No. 33(3)/2013-IPHW dated 23.12.2013 and its related notifications issued from time to time, H1 bidder removed from further bidding would be considered for counter-offer to meet domestic bidder requirement for the item(s) under procurement.
34. In case BHEL decides not to go for Reverse Auction for the tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL would be opened as per BHEL's standard practice.
35. In case of enquiry through e-Procurement, the sealed electronic price bid (e-bid) would be treated as sealed envelope price bid.

Note: In order to bring more transparency and to address any queries of Bidders on Reverse Auction, an abridged version of BHEL's "Common Guidelines for conducting Reverse Auction (RA)" has been hosted in BHEL's web site www.bhel.com under the links "Supplier Registration Page" and "Tender Notification". All Bidders are requested to visit the link and familiarize themselves with BHEL's RA procedures and guidelines before submission of their bid/s. Submission of Bid shall mean that the Bidder has read and understood BHEL's RA procedures and the bid is in agreement with the same.

H] Force Majeure

If at any time during the currency of this contract, the performance in whole or in part, by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events), then provided notice of happening of any such events is given by either party to other within ten days from the date of occurrence thereof, neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist. If the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

I] Cancellation of Order:

In the event of non-performance of the contract by the Supplier, BHEL reserves the right to cancel the order with issue of a written notice. BHEL would provide a curing period of 30 days, for the Supplier to rectify the situation. If the Supplier fails to rectify the reason/s that led to the issue of cancellation notice by BHEL, then the cancellation order would be issued automatically by BHEL, without further recourse to the Seller. BHEL will not pay any cancellation charges or any other charges / damages to the Supplier, arising out such cancellation. In the event of the non-performance of the supply contract, by the Supplier, the rights of BHEL include, in addition to cancelling the order, to take alternate purchase action at the cost and risk of the supplier. The additional expenditure to be incurred by BHEL in such alternate purchase would be to the account of the supplier. (Risk Purchase). This remedy would be in addition to the invoking of the CEBG on grounds of failure of the Supplier in executing the Contract and any other legal remedies." BHEL reserves the right to initiate the alternate purchase action at the cost and risk of the erring supplier by issue of a simple notice of intention for the alternate purchase action duly sent by any electronic means and / or by a letter. The cancellation of the order would not be a pre-condition for initiation of the alternate purchase action.

J] Contract Execution Bank Guarantee:

To demonstrate the fidelity of the successful bidder, in executing the Contract, on receipt of the Letter of Intent / Purchase Order, the Supplier shall arrange to provide a contract execution bank guarantee (CEBG). The format of the CEBG is a part of this enquiry. The format may be downloaded and necessary stamping may be obtained from the Banker towards submission of the CEBG. The indigenous suppliers have to provide the CEBG from any one of the Nationalized Banks, listed in the annexure to these terms. Overseas suppliers can submit the CEBG from any of the reputed International / National Bankers. However the CEBG is to be confirmed by any of the Bankers listed by us. In the event of failure by the Supplier to execute the contract either fully or partially, BHEL would encash the entire CEBG. The CEBG shall be valid for the period covering the agreed delivery date of the order with a further claim period of 3 months on the last specified delivery date. In the event of the failure of delivery BHEL would proceed with encashing the CEBG without reference to the Supplier. In the event of BHEL granting extension of the delivery dates, then the CEBG validity shall also be got extended by the Supplier to the extent of the extended delivery times together with the claim period as specified elsewhere. **The CEBG shall be for a value of 2% of the Purchase order.**

Suppliers who are all already registered with BHEL and having a vendor performance rating of A or A+ grade would be exempted from submission of CEBG.

Performance Bank Guarantee

Where ever so required, the Supplier shall arrange to provide a Performance bank guarantee (PBG). The indigenous suppliers have to provide the PBG from any one of the Nationalized Banks, listed in the tender terms. Overseas suppliers can submit the PBG from any of the reputed International / National Bankers. However the PBG shall be confirmed by any of the Bankers listed by us. The PBG shall guarantee the performance of the equipment / materials / items supplied and shall cover the guarantee period. The PBG shall have a claim period of 3 months in addition to the guarantee period. In the event of failure of the supplies made within the guarantee period, BHEL would encash the entire PBG. **The PBG shall be for a value of 10% of the Purchase order.**

The supplier/s have to get the PBG format (pre-printed) from BHEL and get the same stamped by the Banker. Change of PBG terms either by the supplier's Banker or by the supplier, after servicing of the order is not acceptable. Similarly PBG prepared by the supplier (typed by them) will also not be acceptable to BHEL. The pre-printed form issued by BHEL shall be used for making the PBG.

K] Post-order submission of documents for approval

In the event of the release of Letter of Intent (LoI) / Purchase order/s (PO) against this tender, Bidders have to submit the applicable documents as called for in the tender / LoI / PO/s, such as drawings, data sheets, design calculations etc. These documents for approval have to be submitted within the agreed timelines between BHEL and Bidder. Normally the time period for submission for approval is 15 days from the date of receipt of the LoI / PO by the supplier. The actual time period within which the documents have to be submitted for approval would be specified in the LoI / PO.

Such documents would be subjected to evaluation and approval by BHEL and / or by BHEL's customer / Consultant / Customer's Consultant. Bidders have to give their specific acceptance for this.

After approval of such documents and after getting clearance from BHEL, only the items ordered can be taken up for manufacture.

Any changes required by BHEL / Customer etc. in the documents submitted for approval shall be incorporated by the Bidder and no extra cost would be payable by BHEL for such changes.

In the event that the Bidder does not carry out the required corrections, then the LoI / PO would be liable for cancellation by BHEL and BHEL would resort to alternate purchase action at the risk and cost of the Bidder under the Risk Purchase Condition of the Purchase Order.

Note: After receiving the LoI / PO, supplier shall also forward the acknowledgement / acceptance of the LoI / PO by signing and returning the second copy of the LoI / PO as the token of acceptance.

L] Others

a) In case of any contradiction in the terms and conditions given here and elsewhere in the other documents of the tender, it shall be the responsibility of the tenderer to get it clarified from BHEL. The officer authorized to provide such clarifications is the tender issuing officer.

b) Alterations to the conditions of the Tender can be done only by the authorized officer, at any time before the date and time of tender opening and would be duly communicated through a corrigendum.

c) **Suspension of Business dealings with Suppliers:**



(i) Before submitting offer, prospective bidders are advised to visit our web-site www.bhel.com / supplier registration to familiarize themselves with BHEL's policy and procedures of Suspension of Business Dealings with Suppliers.

Submission of offer shall be deemed to be evidence of the Bidder to have read and understood the above said policy.

ii) Treatment of Banned / Under-performing Vendors:

Any supplier who has been put on "Hold" or "Banned" from having business dealings with BHEL, Ranipet or any other unit of BHEL shall not submit their offer against this tender. If any such offers are received they would be summarily rejected and sent back. During the processing of tender, if any unit of BHEL puts a supplier on "Ban" then further processing of the offer will not be taken up and in case an order is placed, BHEL, Ranipet may resort at their discretion to cancel the PO either fully or partially.

If any of the supplier who is supplying similar material to BHEL, Ranipet has a Vendor Performance Rating (VPR) score of 'C' or below, then offer given by such parties will not be considered for ordering in this tender.

Offers of such of those bidders against whom action for suspension of business dealings has been initiated by BHEL, Ranipet or any other Units/Division of BHEL will also not be considered in this tender.

d) Fraud Prevention Policy:

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.

e) Applicability of Integrity Pact:-

IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. A panel of Independent External Monitors (IEMs) have been appointed to oversee implementation of IP in BHEL.

The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory who signs in the offer) along with techno-commercial bid. Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

Details of IEM for this tender is furnished below:

Name _____
Address _____
Email _____

Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department



For all clarifications/ issues related to the tender, please contact:

Name: (1) (2)

Dep't:

Address:

.....

Phone:(Landline/Mobile) (1) (2)

Email:

Fax:

Integrity Pact are applicable for all the BHEL enquiries whose estimated value is equal to or more than Rupees 05 Crores.

Copy of Integrity Pact with applicable nominated IEM is attached along with the tender documents for ready reference of Suppliers.

f) If any Supplier attempts to bribe, or pay commission, gift or any advantage or bring in undue influence either by himself or on his behalf any one including a stranger to the tender, in addition to instituting legal proceedings as per the extant laws prevailing, will disqualify the supplier from this tender and all future tenders of BHEL. Decision of the Purchaser would be final in this matter.

g) The laws governing this transaction shall be the laws in India.

h) Wherever not specified, Inco terms 2010 shall be used to interpret the Commercial terms and conditions and

i) In the event of an order, Supplier shall agree to settlement of disputes or differences, if any, by way of arbitration, in accordance with the "Rule of Arbitration" of the Indian Council of Arbitration.

The language in the tender documents downloaded by the Bidders shall at no point of time be changed, altered or modified in any manner by the Tenderer. If such changes are made by any tenderer, it shall be considered as tampering with BHEL's terms and the offer shall be summarily rejected, whenever it is noticed by BHEL. Such Bidders would be disqualified from the Bidding Process and their offers would be forfeited / Bank Guarantees invoked. They would also not be allowed to participate in future tenders of BHEL.

M. Conditions for rejection of offers:

Following is the list of situations which would lead to rejection of offer/s.

This list is not exhaustive but only indicative.

BHEL reserve the right to reject one or all offers without assigning any reason. The decision of BHEL will be final in this regard.

1. *If the offer fails to meet the technical requirements/specifications of the tendered item/s.*
2. *If the offer does not meet the commercial terms & conditions, such as but not limited to delivery period specified in the tender, Delivery terms, payment terms, Liquidated damages, Risk Purchase, cancellation clause etc., including the load factors specified in the tender.*
3. *If the bidder fails to respond to clarification sought, within a reasonable period. In case of doubts / lack of clarity on the technical and commercial offer of the bidder, BHEL will seek clarifications. Bidders are required to respond completely to such BHEL's queries within 3 working days unless otherwise agreed to in writing by BHEL for period beyond 3 days. If supplier fails to respond within 3 working days or maximum 2 working days on a reminder thereon, the offer of such bidders will be automatically dis-qualified in the tender without further recourse to informing the bidder.*



N. Special Note:

BHEL is a Government of India Undertaking. Its procurement practices are governed by the (Internal) Purchase Policy issued by the management of the company and as per Annexure B applicable at the time of finalising the order against this tender.

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Record of Revisions:

Revision No.	Revision Date	Modification
01	17.08.2016	Payment terms for Foreign suppliers modified wrt loading- Clause k.ii
02	29.08.2016	Treatment of banned vendors – Para 3 added - Clause L.ii
03	14.09.2016	Opening of offers – clause B – sub clause ‘b’ included and existing clause ‘b’ renamed as ‘c’.
04	14.09.2016	Opening of offers – Note – sub clause (ii) modified
05	12.10.2016	Clause N. Special Note added
06	22.10.2016	Clause G Reverse Auction modified. Annexure on General Business Rules for Reverse Auction appended Role of Principals added under ‘Miscellaneous’
07	20.01.2017	Clause L(e) is modified. Clause L(f ,g ,h) renumbered.
08	24.02.2017	Clause F(c) modified.

ANNEXURE

Model General Business Rules for Reverse Auction

This has reference to tender no {tender number....date...}. BHEL shall finalise the Rates for the supply of {item name} through Reverse Auction mode. BHEL has made arrangement with M/s. {Service provider}, who shall be BHEL's authorized service provider for the same. Bidders should go through the instructions given below and submit acceptance of the same. The technical & commercial terms are as per (a) BHEL Tender Enq. No. {...} dated {...}, (b) Bidders' technical & commercial bid (in case of two part bid) and (c) subsequent correspondences between BHEL and the bidders, if any.

1. Procedure of Reverse Auctioning

- i. Online Sealed Bid: This duration of online sealed bid will be {...} minutes. All bidders to submit their online sealed bids during this period.
- ii. Online Reverse Auction: The 'opening price' i.e. start price for RA and 'bid decrement' will be decided by BHEL.
- iii. If BHEL decides the lowest online sealed bid as the starting price, then the lowest bidder in online sealed bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1.
- iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become "L1" and this continues as an iterative process.
- v. After the completion of the online reverse auction, the Closing Price (CP) shall be available for further processing.

2. Schedule for Reverse Auction: The Reverse Auction is tentatively scheduled on {date}: and the duration of online sealed bid will be {...} minutes. All bidders to submit their online sealed bids during this period.

- Online Sealed Bid:-

- {Start Time:
- Close Time: }

- Online Reverse Auction:-

- {Start Time:
- Close Time: }

3. Auction extension time:

If a bidder places a bid in the last {...} minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another {...} minutes, for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last {...} minutes and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto-extension will not take place even if that bid might have come in the last {...} minutes. In case, there is no bid in the last {...} minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last

minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to M/s. {Service provider} with a copy to BHEL within 15 minutes prior to initial closing time of Online Reverse Auction.

4. Bid price: The Bidder has to quote the {.....} Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, ED + cess, CST against C-form, Freight (bidder to provide original Freight paid receipt), insurance charges, etc. including loading (if indicated by BHEL due to deviations in technical/ commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of total cost to BHEL (To be specified by Unit as per NIT conditions).

5. Bidding currency and unit of measurement:

Bidding will be conducted in *Indian Rupees per Unit* of the material as per the specifications {...}

In case of foreign currency bids, exchange rate (TT selling rate of State Bank of India) as on scheduled date of tender opening (Part-I bid) shall be considered for conversion in Indian Rupees. If the relevant day happens to be a Bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken.

6. Validity of bids: Price shall be valid for {... days} from the date of reverse auction. These shall not be subjected to any change whatsoever.

7. Lowest bid of a bidder: In case the bidder submits more than one bid, the lowest bid at the end of Online Reverse Auction will be considered as the bidder's final offer to execute the work.

8. Bidders shall be assigned a **Unique User Name & Password** by M/s. {Service provider}. Bidders are advised to change the Password and edit the information in the Registration Page after the receipt of initial Password from M/s. {Service provider} to ensure confidentiality. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidders' company.

9. Post auction procedure: BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.

10. Any commercial/ technical loading shall be intimated to bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during online sealed bid & Online Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders. The responsibility for correctness of total cost to BHEL shall lie with the bidders.

11. Computerized reverse auction shall be conducted by BHEL (through M/s. {Service Provider}), on pre-specified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA process if a bidder is not able to bid and requests for extension of time by FAX/ email/ phone then time extension of additional 15 minutes will be given by the service provider provided such requests come before 5 minutes of auction closing time. However, only one such request per bidder can be entertained. Despite this extension if bidder fails to upload his prices due to extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the bidders' responsibility/ decision to send fax communication immediately to M/s. {Service provider}, furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price online so that the service provider will upload that price online on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable/ legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be uploaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time /reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not

participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. {Service provider} is responsible for such eventualities.

12. Proxy bids: Proxy bidding feature is a pro-bidder feature to safeguard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process.

The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid. Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant. In case of more than one proxy bid, the system shall bid till it crosses the threshold value of 'each lowest proxy bid' and thereafter allow the competition to decide the final L1 price. Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

13. Bidders are advised to get fully trained and clear all their doubts such as refreshing of screen, quantity being auctioned, tender value being auctioned etc. from M/s. {Service provider}.

14. M/s. {Service provider}, shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. M/s. {Service provider}, shall also explain the bidders, all the business rules related to the Reverse Auction. Bidders are required to submit their acceptance to the terms/ conditions/modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.

15. Successful bidder shall be required to submit the final prices (L1) in prescribed format (Annexure-VI) for price breakup including that of line items, if required, quoted during the Online Reverse Auction, duly signed and stamped as token of acceptance without any new condition (other than those already agreed to before start of auction), after the completion of auction to M/s. {Service provider} besides BHEL within two working days of Auction without fail.

16. Any variation between the final bid value and that in the confirmatory signed price breakup Document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com).

17. Bidders' bid will be taken as an offer to execute the work/ supplies of the item as per enquiry No. {...} dt. {...}. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines for suspension of business dealings (as available on www.bhel.com).

18. Bidders shall be able to view the following on their screen along with the necessary fields during Online Reverse Auction:

- a. Leading (Running Lowest) Bid in the Auction (only total price of package).
- b. Bid Placed by the bidder.
- c. Start Price.
- d. Decrement value.
- e. Rank of their own bid during bidding as well as at the close of auction

19. BHEL's decision on award of contract shall be final and binding on all the Bidders.



20. BHEL reserves the right to extend, reschedule or cancel the Reverse Auction process at any time, before ordering, without assigning any reason, with intimation to bidders.

21. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.

22. Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.

23. If there is any clash between this business document and the FAQ available, if any, in the website of M/s. {Service provider}, the terms & conditions given in this business document will supersede the information contained in the FAQs. Any changes made by BHEL/ service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time..

24. Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party. 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 for suspension of business dealings (as available on www.bhel.com), shall be initiated by BHEL.



RA price confirmation and breakup
(To be submitted by L1 bidder after completion of RA)

To
- M/s. Service provider
- Postal address

CC: M/s BHEL

BOILER AUXILIARIES PLANT
INDIRA GANDHI INDUSTRIAL COMPLEX
RANIPET – 632406
TAMILNADU
INDIA.

Sub: Final price quoted during Reverse Auction and price breakup

Dear Sir,

We confirm that we have quoted.

Rs.{ _____ in value & in words _____ } for item(s) covered under tender enquiry
No. {...} dt.{...}

Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, E.D. , C.S.T. , freight and insurance charges up to {.....}
District,{.....} State and Type Test Charges etc., (exclusive of service tax), other as per NIT}

as our final landed prices as quoted during the Reverse Auction conducted today {date} which will be valid for a period of { ____ in nos. & in words ____ } days.

The price break-up including that of line items is as given below.

Total	=====
	- Rs.in value & in words
	=====

Thanking you and looking forward to the valuable order from BHEL.

Yours sincerely,
For _____
Name:
Company:
Date:
Seal:

ANNEXURE – ‘C’ COMMERCIAL TERMS AND CONDITIONS

(To be filled in full and to be submitted along with offer)

Any deviation to the BHEL standard clauses, will be loaded with basic price

SL. NO.	DESCRIPTION	BHEL'S REQUIREMENT	SUPPLIER'S CONFIRMATIONS
01.	PRICE	Firm till completion of order.	
02.	DELIVERY TERMS	F.O.R. DESTINATION (Destination: BHEL Stores, Ranipet) i) Indigenous Supplies : FOR - Destination means FOR - BHEL Stores, Ranipet [Packing & Forwarding, Freight & Insurance are in Supplier's scope i.e. included in the quoted prices. Unloading at BHEL Stores would be to the Account of BHEL only. ii) Foreign Supplies : CFR Chennai Sea Port Basis only and Insurance in BHEL's scope	
03.	PACKING & FORWARDING	Included. (if extra indicate clearly in %)	
04.	FREIGHT & INSURANCE	Included. (if extra, pls. indicate freight & insurance charges separately in %)	
05.	EXCISE DUTY in %	To be indicated by supplier. (MODVAT copy to be provided along with supply)	
06.	SALES TAX in %	To be indicated by supplier. (Concessional form C / XVII will be given)	
07.	OCTROI	If any, to supplier's account only	
08.	PAYMENT (Indigenous)	1) 100% within 45 days after receipt & acceptance of materials at our end for MSME suppliers and 2) 100% within 90 days after receipt & acceptance of materials at our end for Non-MSME suppliers. [SPECIAL NOTE: ANY DEVIATION TO THIS CLAUSE SHALL BE LOADED WITH QUOTED BASIC WHILE EVALUATING THE OFFER].	Tick/Cross here for 1 ☐ Tick/Cross here for 2 ☐
09.	PAYMENT (Foreign)	Terms of Payment for Foreign Suppliers: “100% thru’ irrevocable & unconfirmed LC at sight through any one of our Bankers listed elsewhere in the tender conditions for 100% value (less Agency Commission, if any) valid upto the PO delivery period and 15 days thereafter for negotiation. All bank charges in India to BHEL's account and all other charges outside India to Supplier's account. BHEL reserves the right to load the price of foreign suppliers in order to bring them on common platform as per Indigenous Suppliers on the account of differential payment terms to Indigenous Suppliers. Loading of payment terms will be “Base rate of State Bank of India (SBI) (as applicable on the date of bid opening; Techno-commercial bid opening in case of two part bids) + 6%, will be considered for loading for the periods of relaxation compared to indigenous suppliers i.e. 90 days.	
10.	INDIAN AGENT	Terms of Payment for Indian Agents: Whenever there is an Indian Agent to represent a Supplier, it is mandatory to give the details of services to be rendered by Indian Agent and / or the details of agreement between Supplier and Agent. Supplier to indicate the Agency Commission payable. Indian Agency Commission will be paid only in Indian Rupees, calculated at the rate of exchange prevailing on the date of price bid opening. This is payable on satisfactory completion of the contract. Agency agreement copy shall be submitted along with Annexure-C without fail. Note: In order to maintain sanctity of the tender system, it is mandatory that one Agent cannot represent two Suppliers or quote on their behalf in a particular tender enquiry. If any Agent represents more than one Suppliers all such offers will be rejected.	
11.	DELIVERY PERIOD	To be mentioned clearly the exact delivery period as it attracts contractual penalty on delays. To be indicated in days/weeks/months from date of receipt of Purchase Order (P.O)/Manufacturing clearance.	

12	L.D. CLAUSE: As indicated in Enquiry (As per IMPORTANT NOTE) @ 0.5% per week, max of 10% for the delayed delivery. [SPECIAL NOTE: ANY DEVIATION TO THIS CLAUSE SHALL BE LOADED WITH QUOTED BASIC PRICE WHILE EVALUATING THE OFFER].		
13	OFFER VALIDITY	Minimum 90 days from the date of tender opening.	
14.	INSPECTION BEFORE DISPATCH	Will be done at supplier's works before dispatch by BHEL/BHEL Approved agency.	
15.	TEST CERTIFICATE	Required.	
16.	Risk Purchase clause : Your confirmation to our standard risk purchase clause that alternatively the Purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the purchaser may sustain by reason of such risk purchases in addition to penalty at the rate mentioned in clause 10 above.		
17.	BHEL Standard Guarantee Clause: Your confirmation to our standard Guarantee clause that the materials are to be guaranteed for satisfactory performance for a period of twelve months from the date of commissioning / putting into use (or) eighteen months from the dispatch which ever is earlier and if any defect is noticed during the above period, the same shall be rectified/replaced free of cost on Ranipet/ Destination basis within a reasonable time. To this effect a Guarantee certificate should be sent along with the dispatch documents in the event an order		
18	Contract Execution Bank Guarantee (CEBG): The Supplier shall submit a BG for 2% of the contract value valid for the agreed delivery period + 3 Months. Attached CEBG Format is to be signed and submitted along with Annexure-C as a token of acceptance. Please note no deviation is allowed.		
19	Reverse Auction (R/A) / Bidding through Internet: Supplier confirmation required.		
20.	MSME / Non MSME Status: Pls. mention whether your company falls under the category – MSME or non MSME. If MSME - Micro, small or medium enterprise, copy of certificate attested by certified chartered accountant shall be submitted along with the offer. [IMPORTANT NOTE: - MSE suppliers can avail 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 of EM II) or valid NSIC certificate or EM II certificate along with attested copy of a chartered accountant certificate (Format enclosed as Annexure-1 where deemed validity EM II certificate of five years has expired) applicable for the relavant financial year (latest audited). Date to be reckoned for determining the deemed documents will lead to consideration of their bid 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. Documents should be nottarised of attested by a gazetted officer.]		
21.	Place of Manufacturing: Pls. mention your complete address of the place of manufacturing.		
22	Clientele List: Supplier to submit detailed clientele list with their full address including detail of contact person with phone no., fax no. & e-mail ID as per clause (i) of Annexure - B (STANDARD TERMS & CONDITIONS).		
23.	Rate Contract to confirm as per Annexure-B		
24.	MSE /NON MSE STATUS WITH PROOF (To Attach)		
25.	For Foreign Offers:		
26(i)	Manufacturers' Name and address:		
26(ii)	Country of Origin:		
26(iii)	Mills Letter of Authority		
26(iv)	Agency Agreement		
26(v)	Approximate weight and cubage of the consignment.		

The above format shall be completely filled and deviation if any shall be clearly spelt out. The columns which are not applicable shall be mentioned as "Not Applicable". No column should be left without filled up and this may be liable for rejection of offer.

DATE:

SIGNATURE WITH SEAL

ANNEXURE – ‘C’
COMMERCIAL TERMS AND CONDITIONS
 (To be filled in full and to be submitted along with offer)
 Any deviation to the BHEL standard clauses, will be loaded with basic price

SL. NO.	DESCRIPTION	BHEL'S REQUIREMENT	SUPPLIER'S COMMENTS
01	TECHNICAL SPECIFICATION [AS PER THE ENQUIRY ITEMS]		
02	DATA SHEETS / BHEL DRAWINGS		
03	QUALITY PLAN [AS PER THE ENQUIRY ITEMS]		
04	SPECIFICATION DEVIATION DISPOSITION REPORT (SDDR)	Attached SDDR to be filled & submit along with offer. (Even NO deviation is taken, NIL report to be submitted).	

Date:

(To be submitted along with the offer)

SIGNATURE WITH SEAL

SPECIFICATION DEVIATION DISPOSITION REPORT (SDDR)				
Item				
Enq. No & Date				
Vendor Name				
SPECIFICATION				
Page	Clause	Details Of Deviation With Reason	Disposition By BHEL	
Signature Of Vendor			Reviewed By	
“AGREED DEVIATION” if any to be incorporated in the PO in the event of order.			APPROVED BY	

Date:

SIGNATURE WITH SEAL

ANNEXURE-D

Reverse auction (RA) / on-line bidding on internet:

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.a. BHEL reserves the right to go for Reverse Auction (RA) instead of opening Part I 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.
2. b. 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 (annexure IV) 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 noncompliance 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, (Annexure VII) 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 goes for reverse auction & depending on the number of bidders, the H1 bidders (whose quotes are highest in online sealed bid) may not be allowed to participate in further RA process. Further, in case of sufficient vendors, exclusion of H1 bidders may get extended up to 20%.

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT AND THE EXPIRY DATE OF BG MUST BE AFTER 3 MONTHS FROM THE DATE OF COMPLETION OF SUPPLIES)

CONTRACT EXECUTION BANK GUARANTEE

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at "BHEL House", SIRI Fort, New Delhi 110 049) through its Boiler Auxiliaries Plant located at Ranipet – 632 406, (hereinafter called 'the Company') having entered into a contract with M/s.....
..... hereinafter called 'the said contractor' which term includes 'suppliers' for the purpose of this Bond and under the terms and conditions of the Contract No.....Dt.....between BHEL, Ranipet and as per the Contract, the Contractor / Supplier is to furnish a Contract Execution Bank Guarantee for Rs.....in words.....
.....for the due performance of the contract and for the fulfillment of all the terms and conditions of the contract.

Sign and seal of issuing bank
Please affix Non Judicial Stamp
here, as per Stamp Act

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

1. We.....
.....
.....(Bank's name, Branch, Place – address to be mentioned [herein after referred to as the Bank) at the request of.....
.....(Contractor(s)] do hereby undertake to pay the company an amount not exceeding Rs.....in words
.....
.....
.....against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said Contractor(s) of any of the terms and conditions contained in the said agreement.

2. We.....
.....
.....(name of the bank with full address), do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor(s) of any of the terms and conditions contained in the said Agreement or by the reason of the Contractor(s) 'failure to perform' the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....in words.....
.....

Sign and seal of issuing bank

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

3. We undertake to pay conditionally to the Company any money so demanded notwithstanding any dispute(s) raised by the Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or before any other authority relating thereto our liability under this present being absolute and unequivocal. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the arbitration proceedings or by any other authority. The payment so made by us under this Bond shall be a valid discharge of liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We.....(name of Bank), further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Purchase Department of the Company certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. (i) Unless a demand or claim under this guarantee is made on us in writing on or before(date) (After 3 months from the date of completion of supplies) we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date. (ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL dispatched by Registered Post with Ack. Due or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank shall be deemed to be the claim / demand in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the Bank personally.

Sign and seal of issuing bank

Bank Guarantee No.....Date.....Banker Name.....
Bank Guarantee Value Rs.....

6. We.....(name of the Bank), further agree with the company that the Company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by any reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the company or any indulgence by the company to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating would, but for this provision, have effect of not so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

8. The guarantee herein contained shall not be determined or affected by the liquidation or winding up or insolvency of or change in the constitution of the Contractor, but shall in all respects and for all purpose be binding and operative until all payments of all moneys due or that may hereafter become due to the said company or settled irrespective of any liability or obligation of the Contractor under the said Contract.

9. It shall not be necessary for the company to proceed against the Contractor before proceeding against the guarantor-bank and the guarantee herein contained shall be enforceable against them notwithstanding any security, which the company may have obtained from the Contractor shall, at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

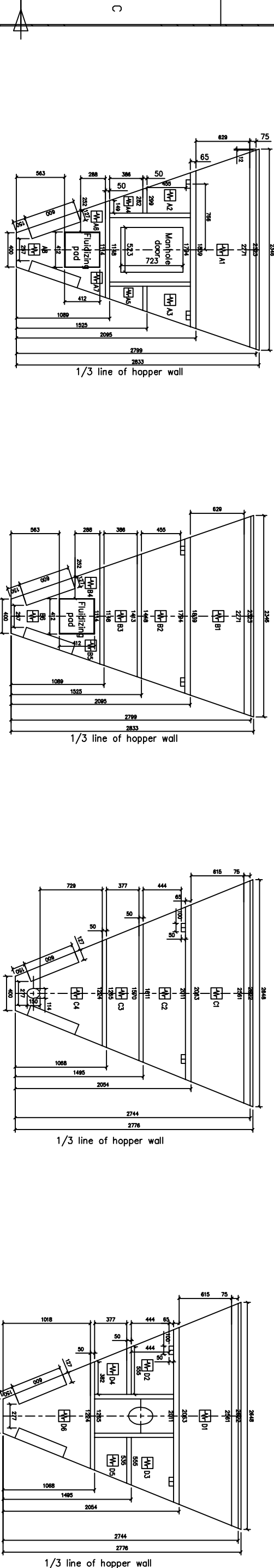
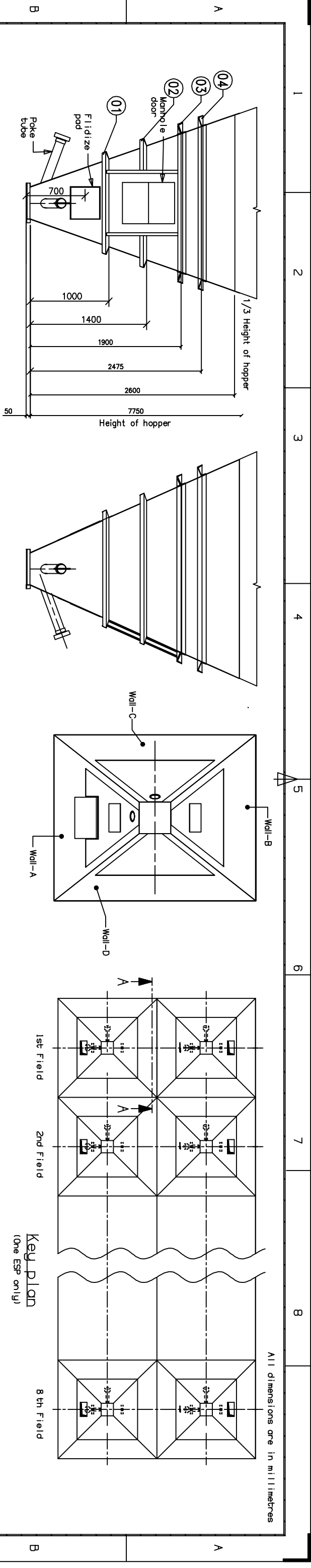
10. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Ranipet, Tamilnadu Jurisdiction.

11. The Bank declares that it has powers to issue this Guarantee under the Bank's Memorandum and Articles of Association and the undersigned has full powers to do so on its behalf under the power granted to him by the proper authorities of the Bank.

12. We(name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the company in writing.

In witness whereof we.....
(name of Bank) have hereunto setout Bank Seal the.....
day of.....month 20__.

Sign and seal of issuing bank.



TABLE

	Wall-A		Wall-B		Wall-C		Wall-D	
	A1	A2	A3	A4	A5	A6	A7	A8
WALL A	1839 X 629	299 X 455	299 X 455	149 X 386	149 X 386	252 X 288	252 X 288	257 X 563
	B1	B2	B3	B4	B5	B6		
WALL B	1839 X 629	1448 X 455	1148 X 386	252 X 288	252 X 288	257 X 563		
	C1	C2	C3	C4				
WALL C	2063 X 615	1611 X 444	1265 X 377	277 X 729				
	D1	D2	D3	D4	D5	D6		
WALL D	2063 X 615	555 X 444	555 X 444	382 X 377	382 X 377	277 X 1018		

NOTES

- FOR EACH HOPPER, MINIMUM 24 NUMBERS HEATING MODULES SHALL BE PROVIDED. IF ADDITIONAL HEATING MODULES ARE REQUIRED TO MEET THE BHEL'S TENDER REQUIREMENT AND TO MEET BIDDER'S DESIGN, THE SAME SHALL BE INCLUDED IN THE BIDDER'S BASIC SCOPE.
- THE HEATING MODULES SHALL BE LOCATED ON THE HOPPER WALL AT LOCATIONS MARKED AS **M1**.
- THERMOSTAT LOCATION SHALL BE INDICATED IN THE VENDOR DRAWING WITH DISTANCE CLEARLY MARKED FROM HEATER MODULE. THE THERMOSTAT SHALL BE PLACED WITHIN 450MM FROM THE HOPPER BOTTOM.
- THE TABLE SHOWS SPACE AVAILABLE FOR HEATER PLACEMENT. THE HEATERS SELECTED SHALL BE PLACED ON THE SPACE AVAILABLE AS SHOWN IN THE DRAWING SUCH THAT IT SHALL NOT FOUL WITH ANY ANGLES, STIFFENERS ETC DURING ERECTION.
- MINIMUM 10MM WELD GAP SHALL BE CONSIDERED FOR SIZING THE PANEL HEATERS.
- THE DETAILS SHOWN ARE FOR ONE HOPPER. THE SAME IS APPLICABLE FOR ALL OTHER HOPPERS ALSO.
- HALF HEATER CURTAIN FOR EACH HOPPER SHALL BE PROVIDED.
- WATT DENSITY IN THE LOWER HALF SHALL BE MORE THAN THAT IN THE UPPER HALF.
- THE 1/3RD LINES SHOWN IN THIS DRAWING ARE IMAGINARY LINES. FREE SPACE IS AVAILABLE ABOVE THIS IMAGINARY LINE. IN CASE THE HEATER SELECTION REQUIRES ADDITIONAL VERTICAL HEIGHT IN THE TOP MOST LAYER, THE FREE SPACE CAN BE MADE USE OF.

PROJECT DATA:

- PROJECT :: NORTH CHENNAI 1X800MW & UPPUR 2X800MW
- HEATER CAPACITY = 15 KW/ HOPPER
- TOTAL MINIMUM HEATER AREA :: 12,271 SQ.Mtr. (EXCLUDING NON HEATING AREA OF HEATERS)
- THICKNESS OF HOPPER INSULATION :: 75 MM
- ERECTION SUPERVISION BY VENDOR :: 16 HOPPERS
- COMMISSIONING OF HEATERS BY VENDOR :: 96 HOPPERS/ BOILER.
- NO. OF HOPPERS / ESP IS 16 AND 96/ BOILER FOR SIX ESPS.

TECHNICAL DATA

- HOPPER PLATE THICKNESS FOR THE FIRST TWO FIELDS IS 8MM FOR THE FIELDS FROM 3 TO 8 IS 6MM
- FULL HOPPER PLATE AREA/HOPPER FOR ALL FIELD IS 118,440 SQ M
- 1/3 HOPPER PLATE AREA/HOPPER FOR ALL FIELD IS 16,240 SQ M EXCLUDING MAN HOLE & POKE HOLE AREAS
- FLUIDISER PAD SIZE = 412X412
- POKE TUBE SIZE = 114X150 , MAN HOLE DOOR SIZE = 723X523 ,
- ESP SIZE - 6XFAA-8X45M-2X72150-2
- NO. OF HOPPERS PER ESP - 16, NO. OF ESPS PER BOILER - 6.

CAUTION: The information of this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.	
BHARAT HEAVY ELECTRICALS LTD., UNIT: BOILER AUXILIARIES PLANT, RAIPUR - 632 408.	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	
NORTH CHENNAI-1X800MW / UPPUR-2X800MW (R836) (R837 & R838)	
DEPT ECI GRADE OF UNITS DIM SCALE WEIGHT (KG) REF. TO ASSY/OLD DRG. ITEM NO. NO. OF	
9778	
HOPPER LOWER PART DETAILS FOR FIXING PANEL TYPE HEATERS	
DRAWING NO. 2-00-114-30210	
REV 00	

List of Consortium Banks * (wef 22.03.2016)			
Nationalised Banks		Nationalised Banks	
1	Allahabad bank ✓	19	Vijaya Bank ✓
2	Andhra bank ✓	Public Sector Banks	
3	Bank of Baroda ✓	20	IDBI ✓
4	Canara Bank ✓	Foreign banks	
5	Corporation bank ✓	21	CITI Bank N.A ✓
6	Central bank ✓	22	Deutsche Bank AG ✓
7	Indian Bank ✓	23	The Hongkong and Shanghai Banking Corporation Limited ✓
8	Indian Oversea Bank ✓	24	Standard Chartered Bank ✓
9	Oriental bank of Commerce ✓	25	J P Morgan
10	Punjab National Bank ✓		
11	Punjab & Sindh Bank ✓	Private banks	
12	State Bank of India ✓	26	Axis Bank ✓
13	State Bank of Hyderabad ✓	27	The Federal Bank Limited ✓
14	Syndicate Bank ✓	28	HDFC ✓
15	State Bank of Travancore ✓	29	Kotak Mahindra Bank ✓
16	UCO Bank ✓	30	ICICI ✓
17	Union Bank of India ✓	31	Indusind Bank ✓
18	United Bank of India ✓	32	Yes Bank

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited ¹ (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at _____ ² hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,, (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ----- (Rupees -----) without any demur, immediately on a demand from the Employer, .

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including.....⁶ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁷we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁸
- b) This Guarantee shall be valid up to⁹
- c) Unless the Bank is served a written claim or demand on or before¹⁰ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ PROJECT/SUPPLY DETAILS

⁵ BG AMOUNT IN FIGURES AND WORDS

⁶ VALIDITY DATE

⁷ DATE OF EXPIRY OF CLAIM PERIOD

⁸ BG AMOUNT IN FIGURES AND WORDS.

⁹ VALIDITY DATE

¹⁰ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 2/3 months after validity date.

2. In Case of Bank Guarantees submitted by Foreign Vendors-

a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)

b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.

b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.

b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

SCHEDULE 'A' (SCHEDULE OF TECHNICAL CONFIRMATIONS)		
OFFER FOR THE SUPPLY OF PANEL TYPE HOPPER HEATERS AND ITS ACCESSORIES		
BHEL ENQUIRY REFERENCE: PROJECT:		PAGE 01 OF 03
BHEL TECHNICAL SPECIFICATION REFERENCE: TECI: NTPC: PHE: STD: REV 03		
S. No.	DESCRIPTION	YES / NO
01	COMPLIANCE TO BHEL TECHNICAL SPECIFICATION	
02	MINIMUM NUMBER OF HEATERS PER HOPPER ENVISAGED	
03	TOTAL HEATING MODULE AREA (IN CONTACT WITH HOPPER) AS PER HOPPER :	
04	ANY ADDITIONAL HEATERS REQUIRED AS PER CLAUSE 5.3.0 OF BHEL TECHNICAL SPECIFICATION, ARE ENVISAGED IN THE BASIC SCOPE	
05	TOTAL HEATING CAPACITY PER HOPPER :	
06	THE HEATING MODULES ARE OF FMRC CERTIFIED DESIGN	
07	THE CONSTRUCTION OF HEATING MODULE WILL COMPLY WITH FMRC CERTIFICATE	
08	WATT DENSITY OF EACH HEATER : IS LESS THAN 3 WATTS PER INCH SQUARE	
09	THE HEATING MODULES ARE AS BEING MANUFACTURED BY BYLINE USA / COOPER HEAT UK	
10	EACH HEATING MODULE WILL HAVE MULTIPLE PARALLEL PATH (NOT LESS THAN SIX)	
11	HEATING ELEMENT WILL BE INCONEL OR NICHROME	

SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

SCHEDULE 'A' (SCHEDULE OF TECHNICAL CONFIRMATIONS)		
OFFER FOR THE SUPPLY OF PANEL TYPE HOPPER HEATERS AND ITS ACCESSORIES		
BHEL ENQUIRY REFERENCE:		PAGE 02 OF 03
PROJECT:		
BHEL TECHNICAL SPECIFICATION REFERENCE: TEP:NTPC:PHE:STD: REV 03		
S. No.	DESCRIPTION	YES / NO
12	EACH HEATING MODULE WILL BE PROVIDED WITH TWO NUMBERS EARTHING TERMINALS	
13	EACH HEATER WILL BE PROVIDED WITH ½ INCH NPT (M) FITTING TO ACCOMMODATE FLEXIBLE METALLIC CONDUIT.	
14	DESIGN LIFE OF THE HEATING MODULE SHALL BE MINIMUM 25 YEARS DURING OPERATION	
15	THE INSULATION RESISTANCE VALUE OF HEATING MODULE SHALL BE AS PER BHEL TECHNICAL SPECIFICATION	
16	LENGTH OF EACH LEAD WIRE SHALL BE AS PER BHEL TECHNICAL SPECIFICATION	
17	ANY OTHER INSULATION REQUIRED AS PER CLAUSE 8.3.0 OF OF BHEL TECHNICAL SPECIFICATION	
18	IN THE EVENT OF ORDER, AGREED TO SUBMIT ALL DOCUMENTS AS PER BHEL TECHNICAL SPECIFICATION	
19	ERECTION ASSISTANCE FOR HEATERS INCLUDED IN SCOPE	
20	COMMISSIONING OF ALL HEATING MODULES INCLUDED IN SCOPE	
21	15 COPIES OF O&M MANUAL WILL BE SUPPLIED AS PER BHEL TECHNICAL SPECIFICATION	

SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

SCHEDULE 'A' (SCHEDULE OF TECHNICAL CONFIRMATIONS)		
OFFER FOR THE SUPPLY OF PANEL TYPE HOPPER HEATERS AND ITS ACCESSORIES		
BHEL ENQUIRY REFERENCE PROJECT:		PAGE 03 OF 03
BHEL TECHNICAL SPECIFICATION REFERENCE: TEP:NTPC:PHE:STD: REV 03		
S. No.	DESCRIPTION	YES / NO
22	TWO SETS OF ERECTION & COMMISSIONING MANUAL WILL BE SUPPLIED AS PER BHEL TECHNICAL SPECIFICATION	
23	PACKING OF ALL ITEMS WILL BE AS PER BHEL TECHNICAL SPECIFICATION	
24	FOR WELDING THE STUDS ON THE HOPPER WALLS NO SPECIAL MACHINES LIKE STUD WELDING MACHINE IS REQUIRED AND ARC WELDING IS SUFFICIENT.	

SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

SCHEDULE 'B' (SCHEDULE OF TECHNICAL DEVIATIONS)		
OFFER FOR THE SUPPLY OF PANEL TYPE HOPPER HEATERS & ITS ACCESSORIES		
BHEL ENQUIRY REFERENCE:		PROJECT:
BHEL TECHNICAL SPECIFICATION REFERENCE: TECI: NTPC: PHE: STD: REV 03		
SPECIFICATION CLAUSE No.	SPECIFICATION REQUIREMENTS	BIDDER'S CLARIFICATION / DEVIATION

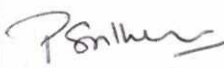
SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

SCHEDULE 'C' (SCHEDULE OF BILL OF MATERIALS)			
OFFER FOR THE SUPPLY OF PANEL TYPE HOPPER HEATERS & ITS ACCESSORIES			
BHEL ENQUIRY REFERENCE:		PROJECT:	
BHEL TECHNICAL SPECIFICATION REFERENCE: TECI: NTPC: PHE: STD:REV 03 (ONE SET MEANS THE QUANTITY REQUIRED FOR ONE HOPPER)			
S. No.	DESCRIPTION	QTY / SET	Total QTY

SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

SCHEDULE 'D' (SCHEDULE OF SCOPE OF WORK)		
OFFER FOR THE SUPPLY OF PANEL TYPE HEATERS & ITS ACCESSORIES		
BHEL ENQUIRY REFERENCE : PROJECT :		
BHEL TECHNICAL SPECIFICATION REFERENCE: TECI: NTPC: PHE: STD: REV 03		
S. No.	DESCRIPTION	YES / NO
01	SUPPLY OF ALL MAIN ITEMS AS PER ENQUIRY	
02	SUPPLY OF SPARE COMPONENTS AS PER ENQUIRY	
03	SUPPLY OF TEMPLATES AS PER ENQUIRY	
04	ERECTION ASSISTANCE FOR HEATERS INCLUDED IN SCOPE	
05	COMMISSIONING OF ALL ITEMS IN ALL HOPPERS INCLUDED IN SCOPE	
06	SUBMISSION OF ALL DETAILS AND ALL DOCUMENTS AS PER BHEL TECHNICAL SPECIFICATION	
07	SUPPLY OF O&M MANUAL IN HARD COPIES AS PER BHEL TECHNICAL SPECIFICATION	
08	SUPPLY OF O&M MANUAL IN SOFT MEDIA AS PER BHEL TECHNICAL SPECIFICATION	
09	SUPPLY OF ERECTION & COMMISSIONING MANUAL IN HARD COPIES AS PER BHEL TECHNICAL SPECIFICATION	
10	SUPPLY OF ERECTION & COMMISSIONING MANUAL IN SOFT MEDIA AS PER BHEL TECHNICALSPECIFICATION	

SIGNATURE and OFFICIAL SEAL
OF THE BIDDER

TITLE : TECHNICAL SPECIFICATION FOR BOUGHT OUT ITMES FOR ESP.				
ITEM : PANEL TYPE HOPPER HEATER.				
	NAME	DESIGNATION	SIGNATURE	DATE
PREPARED BY	SRITHARUN.P	AE		16.08.2016
CHECKED BY	M. JEYAMURUGANAND	SDGM		16.08.2016
APPROVED BY	K.P.MANIMALA	AGM		16.08.2016
ISSUED BY				
EDC - ECI				
REVISION NO: 03	(1) Clause 6.1.0, 6.17.0 revised & 6.21.0 added			16.08.2016
REVISION NO: 02	(1) Clause 1.14.0 added(Wrap wound heater) (2) Clause no 5.23.0 (Details of WWH) (3) Clause 6.1.0 & 6.2.0(FMRC/CSA certified design) (4) Clause 19.00 (Preferred make of components)			29.10.2015
REVISION NO: 01	(1) Clause no 8.4.0 revised to indicate thickness of insulation in Project Data sheet. (2) Clause 14.1.0 (v) added.			27.06.2008
REVISION NO: 00	INTIAL RELEASE			12.05.2008

1.0.0 SCOPE OF SUPPLY :

The scope of supply of PANEL TYPE HOPPER HEATER includes but not limited to the following.

- 1.1.0 Selection of various ratings of PANEL TYPE HOPPER HEATERS based on the input data given by BHEL, in this specification and based on the hopper drawing enclosed in the enquiry / Purchase order.
- 1.2.0 Manufacturing, testing and supply of PANEL TYPE HOPPER HEATERS.
- 1.3.0 Supply of heat resisting interconnecting lead wires between the HEATERS and the LOCAL JUNCTION BOX.
- 1.4.0 Supply of mounting accessories, supports etc for the HEATERS.
- 1.5.0 Furnishing technical specifications for all the components offered by the supplier including that of PANEL TYPE HOPPER HEATER, INTERCONNECTING CABLE BETWEEN the HEATERS etc. The details shall include material specification, constructional details, drawings etc.
- 1.6.0 Furnishing cable routing & inter connection drawing between HEATERS and LOCAL JUNCTION BOXES.
- 1.7.0 Furnishing locations, layout and mounting arrangement drawings of the HEATERS.
- 1.8.0 Furnishing the suggested layout of insulation materials.
- 1.9.0 Furnishing procedure for erection, pre commissioning & commissioning, replacement and maintenance of the HEATERS and the INTER CONNECTING CABLES.
- 1.10.0 Furnishing detailed BILL OF MATERIALS for the items offered.
- 1.11.0 Packing and dispatch of the items supplied.
- 1.12.0 Assisting BHEL SITE OFFICE in the erection of heaters in hoppers as per project data sheet.
- 1.13.0 Commissioning assistance of heaters in all hoppers.
- 1.14.0 Wrap Wound heaters shall be provided (If applicable in enquiry drawings)

2.0.0 **APPLICATION :**

- 2.1.0 The PANEL TYPE HOPPER HEATERS are fixed in the ELECTROSTATIC PRECIPITATOR HOPPERS, to keep the collected fly ash hot so as to avoid sticking of the fly ash on the hopper walls and also to keep the fly ash in fluid condition.
- 2.2.0 Non sticking of fly ash in the hopper wall enables free flow of ash so as to make the ASH REMOVAL process much efficient.

3.0.0 **TECHNICAL DATA :**

The PANEL TYPE HOPPER HEATERS shall be designed taking into account the following TECHNICAL DATA.

- 3.1.0 Ambient temperature ; 5.2°C to 50°C.
- 3.1.1 Relative humidity : 100%.
- 3.1.2 Location of heater : Out door between the hopper walls and the external Insulation.
- 3.1.3 Environment : Highly polluted with abrasive dust, climate is tropical
Conductive to fungus growth.
- 3.1.4 Flue gas temperature inside : 150 °C.
ELECTROSTATIC
PRECIPITATOR.

4.0.0 **POWER SUPPLY TO PANEL TYPE HOPPER HEATERS SYSTEM :**

- 4.1.0 Voltage : 415V, 3 Wire.
- 4.1.1 Frequency : 50 Hz.
- 4.1.2 Variations
- | | | |
|------------------------------|---|---------------------|
| Voltage | : | ± 10%. |
| Frequency | : | ± 5%. |
| Combined voltage & Frequency | : | 10% (Absolute sum). |
- 4.1.3 Earth fault level : 50 KA rms for 1 sec.

5.0.0 SYSTEM REQUIREMENTS OF PANEL TYPE HOPPER HEATING SYSTEM :

- 5.1.0 The PANEL TYPE HEATING MODULES shall be provided at all locations marked in the ENQUIRY / PURCHASE ORDER DRAWING.
- 5.1.0 The minimum number of Heaters to be provided per hopper shall be as per the enquiry drawing.
- 5.3.0 If additional heaters are required to meet other criteria of this specification and to meet bidder's / supplier's design, then the additional heaters shall also be provided without any additional price and delivery implications to BHEL.
- 5.4.0 Total heating module area (in contact with hopper) shall be as specified in the project data sheet.
- 5.5.0 The number of Heating Modules to be supplied during order execution shall be in line with the final offer of the bidder, which was accepted by BHEL.
- 5.6.0 The HEATER resistance value declared in the bidder's final offer, which was accepted by BHEL, shall be maintained during order execution.
- 5.7.0 The PANEL TYPE HOPPER HEATER (herein after referred as HEATERS) shall be capable of maintaining internal hopper temperature in excess of 140°C
- 5.8.0 The size and other details of 1/3 height of the HOPPER will be as per the drawing enclosed with the purchase enquiry / order. (The design, manufacture and supply of HOPPERS are in BHEL, RANIPET Scope).
- 5.9.0 The HOPPERS shall be electrically heated up to a minimum lower one third (1/3) of HOPPER height, but not less than 1.5 metre in height, by thermostatically controlled PANEL type HEATING ELEMENTS, to prevent ash bridge formation. The area to be heated shall be as per the drawing referred in the purchase enquiry / order. The THERMOSTATS (with setting range from, 90°C to 190°C) will be provided by BHEL.
- 5.10.0 The HEATERS shall be arranged in TWO groups, ie. For the lower and upper half of the heating capacity to be heated. The total heating capacity per HOPPER shall be as per project data sheet.
- 5.11.0 The minimum hopper heat input, in no case shall be less than 500 watts per square meter of hopper heated surface area (ie.1/3 height of total hopper).
- 5.12.0 The wattage rating shall be calculated based on 415V, 3-phase power supply to the heating system at the junction box.
- 5.13.0 The supplier shall also furnish the locations of the HEATERS and the HEATER mounting arrangements.
- 5.14.0 The HEATERS shall be suitable for the conditions specified in various clauses of this specification.
- 5.15.0 The heater shall be designed to provide uniform heat on all steel work within the external insulation.

- 5.16.0 The heater lead wire shall be connected and terminated to form DELTA connected load at the LOCAL JUNCTION BOX in such a way as to achieve uniform balanced distribution among the three phases.
- 5.17.0 The thermostat is not in heater supplier scope. However the location of thermostat shall be indicated by the heater supplier in their heater layout drawing. One thermostat per hopper is envisaged by BHEL. The heating system offered shall operate satisfactorily with one thermostat per hopper
- 5.18.0 The layout and dimension of heaters shall be such that the heaters do not hit the stiffener angles, channels, fluidizing pad, man hole door, poke hole tube, hopper anvil and any other object provided on the hopper wall.
- 5.19.0 The layout and rating of the heaters shall be such that uniform heating can be achieved as far as possible.
- 5.20.0 The layout, orientation of the heater and the routing of the lead wire shall be such that the distance between the heaters and the junction box shall be the minimum.
- 5.21.0 The arrangement of the heaters shall be such that, the heaters do not project outside the hopper walls.
- 5.22.0 The junction box (to be supplied by BHEL) will be designed by BHEL in such a way that it will have provision to switch OFF 50 % of heating capacity during running time for power saving purpose. For this, the panel type heater vendor shall group the total heaters into two groups so that the switching OFF of the 50 % heating capacity will not hamper the performance of heaters & ESP. The grouping shall be in such a way that each hopper face shall have heaters from both the groups so that switching off any of the 50 % heating capacity shall not completely 100% remove heating section of each face of hopper. Remaining 50 % of the heating capacity in service shall maintain uniform heating of all faces of hopper.

5.23.0 WRAP WOUND HEATERS

- 5.23.1 The heaters shall be identical to the heaters proposed for Hoppers and construction requirements given in cl.6.0.0, but with a difference that it should be flexible to be accommodated on the contour of the transition piece
- 5.23.2 The Wrap wound heater (WWH) shall be of 6 parallel paths (Heating elements to be in place between multiple layers of Fiber Glass Cloth).
- 5.23.3 WWH shall be provided with minimum 500 W suitable for 415V
- 5.23.4 WWH shall have eyelets and tying wire
- 5.23.5 WWH shall also have 5M length cold lead wire
- 5.23.6 If required, suitable step down transformer with GI Enclosure of IP 55 degree of protection for each hopper to be provided along with cable gland (to suit cable size of 3C-2.5 Sq.MM Copper Unarmored cable).
- 5.23.7 Fuse protection will be taken care by BHEL in their supply
- 5.23.8 Terminal Block shall be of screw type.
- 5.23.9 The specification of the transformer shall be confirming to Class B Insulation. Primary Voltage is 415V and Secondary Voltage to suit the design of the PTHE supplier. The

preferred make of the transformer shall be explicitly brought out in the supplier's offer and subject to BHEL's acceptance and approval.

6.0.0 CONSTRUCTION REQUIREMENTS OF PANEL TYPE HOPPER HEATERS:

- 6.1.0 The heating module shall be of FMRC/CSA certified design
- 6.2.0 The construction of heating module shall comply with FMRC/CSA certificate.
- 6.3.0 The heating module shall be of proven design for coal based thermal power plant ELECTROSTATIC PRECIPITATOR application.
- 6.4.0 The HEATERS shall be of low wattage density (less than 3 watts / square inch of heater area) PANEL TYPE to avoid hot spot and to have more uniform distribution of heat.
- 6.5.0 The HEATERS shall be of BHEL / NTPC approved.
- 6.6.0 These heaters shall have high reliability by connecting multiple parallel circuits (not less than six), thereby ensuring that burn out of one element does not affect the other heater element.
- 6.7.0 Heating element shall be INCONEL or NICHROME. Brass or Aluminum alloys shall be avoided.
- 6.8.0 These heaters shall be able to with stand the thermal cycling as well as dynamic forces such as hopper poking, vibration, sledge hammering to the hopper wall or hopper anvil.
- 6.9.0 The HEATERS shall be low wattage density heating panels to spread the available heat over the largest surface area, to operate at the lowest surface temperature of the heater module.
- 6.10.0 The HEATERS shall be modular and unitized in design to simplify installation.
- 6.11.0 The HEATERS shall be resistant to natural and induced vibration plus shock loading that will be encountered during the normal operation
- 6.12.0 The heaters resistance variation shall be as per the heater design.
- 6.13.0 Two numbers earthing terminals M6 stud with nut & washer shall be provided in each heater. In case, the vendors are not able to provide Two no's, minimum one no. earthing terminal shall be provided in each heaters. Additional one no. earthing provision in mounting channel shall be provided.
- 6.14.0 Each heater shall be provided with ½"NPT (M) fitting to accommodate flexible metallic conduit, for routing the lead wire.
- 6.15.0 The heating module components and lead wire shall not be damaged or deformed electrically and physically when the thermostat fails or when the preceding Air Pre heater (heat exchanger) fails (the air heater failure will results in flue gas temperature of 400°C at the hoppers). The heater mechanical design shall consider maximum flue gas temperature of 400°C when the air heater is out of service.
- 6.16.0 The heating modules, lead wire, jointing kit etc, should not be damaged (electrically & physically) when the preceding air heater fails.
- 6.17.0 The design life of the heater shall be minimum 25 years during operation. For this the type tests listed in point no.4 & 5 of Cl.6.21.0 shall be conducted on sample heater and certificated shall be produced for verification.

- 6.18.0 The INSULATION RESISTANCE value of each heating module at a voltage of 500 volts DC applied between each live conductor and earth point of the heating module for a period of one minute shall be at least one Mega ohm. This is corresponding to a leakage current value of 500 micro amperes at 500 V dc.
- 6.19.0 Two sets of heaters pertaining to two hoppers, each having one thermostat will be paralleled. Hence the power to both hoppers will be cut off, only when the temperature of both hoppers, reaches 140°C. In view of this the heater of the hopper, whose temp has reached 140°C will also be heated continuously until the other hopper temperature reaches 140 °C. During this time there shall be no damage to the heaters, lead wires and accessories.
- 6.20.0 The heater design shall take care that there shall not be any moisture ingress during Storage/transportation.
- 6.21.0 **TYPE TESTS:**
1. Dielectric test as per IEEE 515-2011 / CSA 22.2 no 72-10/ CSA22.2 no 130-03
 2. Elevated temperature test at 537°C for two weeks /as per IEEE515-2011
 3. Impact test as per CSA 22.2-72-10 / IEEE 515-2011
 4. Thermal ageing test / Thermal endurance test/ Thermal performance benchmark test as per CSA 22.2 no72-10 / IEEE 515-2011 / CSA 22.2-130-03.
 5. Vibration Test : 2g/50Hz for 94 hours with energization at vertical position
 6. Vibration Test : 8g/50Hz: a.144 hours without energization at vertical position
b. 23 hours 30 minutes with energization at vertical position
c. 15 minutes with energization in other two axis.
- After vibration test and after cool down to room temperature the heater module shall pass the following tests:
1. Conductor Resistance (CR)
 2. Insulation Resistance (IR) before High Voltage (HV)test
 3. High voltage test at 2.2 KV for 1 min
 4. IR test after HV test

All the above test 1to 5 shall be conducted in FM lab/CSA lab/ Indian Government lab and certified by FM/CSA.

Test no 6 shall be conducted by Indian government lab and certificate to be produced or it not government lab the test shall be witnessed by BHEL/NTPC.

The validity of type test certificate shall be less than 20 years. In case of any change in design or material, type tests shall be conducted again

7.0.0 LEAD WIRES/ COLD LEADS:

- 7.1.0 The interconnecting cable (COLD LEADS or LEAD WIRES) between the HEATERS and the LOCAL JUNCTION BOX shall be supplied without any joints
- 7.2.0 The lead wires / cold leads shall be suitable for the temperature & vibration encountered during operation of the ELECTROSTATIC PRECIPITATOR.
- 7.3.0 The junction box (to be supplied by BHEL) will be located approximately 1.5 m above from the bottom of hopper, at the wall adjacent to the manhole door wall. Length of each lead wire from each heater shall be sufficient enough to terminate the same at the junction box, without any joint. However the length of each lead wire from each heater shall be minimum 5 meter.

- 7.4.0 The junction box will be kept 500 mm away from the hopper wall. The terminal block will be kept 200 mm away from the gland plate inside the junction box. Hence while calculating the length of each lead wires this additional requirement (700 mm) shall also be included.
- 7.5.0 The lead wire should not be damaged (electrically & physically) when the preceding air heater fails or when the thermostat fails.

8.0.0 HOPPER EXTERNAL INSULATION:

- 8.1.0 BHEL will provide the external insulation for the HOPPERS.
- 8.2.0 BHEL will provide insulation material as specified in this specification,. Supplier / bidder shall confirm that no other insulation is required for the system, to maintain the required temperature in the hopper.
- 8.3.0 If any other insulation materials are required the same shall be supplied as part of the basic scope by the vendor without any extra cost to BHEL.
- 8.4.0 The thickness of insulation will be as per project data sheet.
- 8.5.0 The insulation material will be LIGHTLY BONDED ROCK WOOL MATRESS. The K value of the insulation materials will be as follows. The bulk density will be 100Kg / cubic meter + / -10%.
- | Mean temp. In Deg. C | Thermal conductivity or 'K' value mW/cm. Deg. C. |
|----------------------|--|
| 50 | 0.43 |
| 100 | 0.52 |
| 150 | 0.62 |
| 200 | 0.73 |
| 250 | 0.84 |
| 300 | 0.95 |
- 8.6.0 The supplier shall furnish the recommended insulation fixing arrangement at various parts of HOPPER where the heaters are to be fixed, taking into consideration of replacement of heaters to enable BHEL to take care of the same during erection.

9.0.0 HEATER MOUNTING ACCESSORIES:

- 9.1.0 Suitable mounting channels, spacers, studs with washers and nuts shall be supplied for mounting the heater on the hopper wall.
- 9.2.0 The studs supplied for mounting the heaters shall be suitable for ARC WELDING on the hopper walls.
- 9.3.0 The mounting channel shall be of Aluminium.
- 9.4.0 The mounting channel shall have circular hole at one end and elliptical hole / 'U' slot at the other end for easy installation of the heaters along with stud nut and washers.

10.0.0 TEMPLATES:

- 10.1.0 Templates for easy erection of the heater shall be supplied at the rate of 6 Numbers in each variety.

10.2.0 Mounting channel for the heaters shall not be used as templates for locating studs.

10.3.0 The template shall be fabricated out of M.S. Sheet Steel (painted).

11.0.0 ADDITIONAL REQUIREMENTS:

11.1.0 The offer shall indicate detailed bill of materials as per the enquiry.

During delivery, the supply of the materials type, quantity, rating etc. shall be strictly in line with the bidder's final offer accepted by BHEL and shall be in line with the order.

11.2.0 The number of Heating Modules to be supplied during order execution shall be in line with the final offer of the bidder, which was accepted by BHEL. The number of heater indicated in the final offer should not be decreased during the heater delivery

11.3.0 The HEATER resistance value declared in the bidder's final offer, which was accepted by BHEL, shall be maintained during order execution.

12.0.0 RATING / NAME PLATE / IDENTIFICATION:

12.1.0 The rating plate shall be made of non – corrosive material and shall be suitable for the temperature encountered by the Heating Module during operation.

12.2.0 The rating plate shall have the following details.

- (i) Manufacturer's name.
- (ii) Equipment / Item name.
- (iii) Type number.
- (iv) Serial number.
- (v) Wattage Rating.
- (vi) Resistance value
- (vii) Service conditions (designed).
- (viii) Diagram plate.

12.3.0 Each mounting channel shall also be suitably identified for easy erection.

12.4.0 All the rating / name plate shall be in English.

13.0.0 EXCLUSIONS FROM THE SCOPE OF THE BIDDER / SUPPLIER:

13.1.0 The following items are excluded from the scope of the bidder / supplier and the same will be supplied by BHEL directly to the site.

- (i) The junction box for terminating the cold leads / lead wires.
- (ii) The flexible metallic conduits for routing the COLD LEADS / LEAD WIRES from the heaters to the junction box.

14.0.0 DOCUMENTATION:

14.1.0 The supplier shall furnish the following documents along with the offer.

- (i) Schedule A (Schedule of technical confirmations)
- (ii) Schedule B (Schedule of technical deviations)
- (iii) Schedule C (Schedule of BILL OF MATERIALS)
- (iv) Schedule D (Schedule of SCOPE OF WORK)

- (v) Schedule E (To be filled up in Excel format)
 - (vi) Heater layout drawing (prepared TO SCALE) indicating heater type, dimension, resistance, KW rating, location for both style 01 & 02.
 - (vii) Heaters Electrical interconnection diagram for two hoppers with STYLE-01 & STYLE-02 hoppers.
 - (viii) Electrical interconnection drg. Indicating two groups in each hopper, (with each group catering to 50 % of heating capacity. App.)
 - (ix) Lead wire routing diagram from heater to the junction box for both style 01 & 02.
- 14.2.0 The following documents / details shall be submitted to BHEL for approval within four weeks after placement of purchase order, but before starting manufacture.
- (i) Heater layout drawing for both style 01 & 02 (prepared TO SCALE) in AUTOCAD version indicating location of heaters, wattage rating, resistance, model no. of the heaters, location of thermostat, & junction box, dimensional details of various heaters and all stiffeners, inspection door, poke hole tube, fluidizing pad, Hopper anvil etc.
 - (x) Electrical interconnection drg. Indicating two groups in each hopper, (with each group catering to 50 % of heating capacity. App.)
 - (ii) Detailed bill of materials for various items, including various heater types, quantity of each type of heater, mounting channel varieties & quantity, templates varieties & quantity, details of other accessories and weight of all loose components.
 - (iii) Data sheet for panel type heaters.
 - (iv) Typical construction details of heaters showing, arrangement of various sub-components, earthing terminals, fitting to accommodate flexible metallic conduit.
 - (v) Lead wire routing diagram from heater to the junction box for both style 01 & 02 hoppers..
 - (vi) Insulation Resistance values of all heaters.
 - (vii) Recommended insulation fixing & layout arrangement drawing.
 - (viii) Overall diameter of COLD LEADS / LEAD WIRE, including outer jacket (if applicable).
 - (ix) Dimensional details of all types of heaters, including thickness, width, length of heating elements, enclosure etc, shall be furnished immediately after placement of order for information purpose.
 - (x) Erection drawing for heater mounting.
 - (xi) Other details as indicated in the scope of supply.
 - (xii) Lead wire conductor cross section and lead wire construction details.
 - (xiii) Mounting channel dimensioned drawing.
 - (xiv) Template dimension drawing.

(xv) The drawings shall be submitted in AUTOCAD version in soft media in addition to hard copies. Other data / details shall be furnished in MS office version in soft media as well as in hard copies.

(xvi) Manufacturing shall be taken up only after getting approval from BHEL / NTPC.

14.3.0 The following details shall be furnished in the heaters layout drawing for both style 01 & 02 (both during offer and on placement of order).

- (i) Heating module number as per drawing
- (ii) Heating module type number (if any)
- (iii) Heating module dimensions (horizontal & vertical) and effective heating area
- (iv) Heating module resistance
- (v) Heating module voltage as per circuit
- (vi) Heating module wattage as per circuit.
- (vii) Each heating module area.
- (viii) Watts / sq.inch details.

14.4.0 All items shall be identified in the drawings.

14.5.0 All dimensions shall be indicated drawing along with tolerances

15.0.0 O & M, ERECTION, COMMISSIONING MANUAL.

- (i) The erection & commissioning manual shall contain all the erection details, pre commissioning checks & commissioning procedures.
- (ii) The O & M manual shall describe the relevant operation & maintenance details.
- (iii) 30 copies of the O & M manuals shall be submitted in hard copies. The O & M manual shall also include the details as per 14.2.0, 14.3.0, 14.4.0 & 14.5.0 of this technical specification.
- (iv) In addition one set of O&M manuals shall be supplied in soft media.
- (v) Two sets of erection & commissioning manual shall be supplied in hard copies.
- (vi) In addition one set of erection & commissioning manual shall be supplied in soft media.

16.0.0 INSPECTION:

16.1.0 The inspection of the items offered shall be based on the following documents. The items will be inspected by BHEL / authorized inspection agency / NTPC.

16.2.0 BHEL Purchase order.

16.3.0 BHEL Technical specification.

16.3.1 BHEL approved suppliers drawing.

16.3.2 NTPC approved BHEL Quality checklist.

17.0.0 PACKING:

17.1.0 All the heaters shall be packed individually and then the heaters pertaining to one hopper shall be packed separately in a packing.

- 17.2.0 The Wrap wound heater shall be of flat packing only and the same shall be packed along with each set of Hopper Heaters
- 17.3.0 The heaters pertaining to another hopper shall not be mixed in the same packing.
- 17.4.0 Similarly the mounting channels pertaining to one hopper shall be packed separately in packing.
- 17.5.0 The mounting channels pertaining to another hopper shall not be mixed in the same packing.
- 17.6.0 Spare items if any shall be packed separately.
- 17.7.0 The packing shall be such that there should not be any damage to the heaters or lead wire during transport.
- 17.8.0 The packing shall be suitable for transport by Air and by ship. (Sea worthy packing)
- 17.9.0 Required Qty of silica gel shall be provided in packing to arrest moisture ingress.

18.0.0 GENERAL:

- 18.1.0 This specification meets NTPC contract specification. Hence no deviation shall be taken by the supplier.

19.0.0 PREFERRED MAKE OF MAJOR COMPONENTS OF PANEL TYPE HOPPER HEATER

SL.NO	DESCRIPTION OF MATERIAL	PREFERRED MAKES
01	Wire /Heating Strip	Cooper Heat/ HTD, New Jersey USA Ulbrich - USA, Bylin - USA/Thermon-USA Omega wires, UK
02	Cold Lead Wire	Radix Wire Co, USA South Wire Co, USA SPC Products -Ahmedabad, Sukrithi Udyog-Ghaziabad/Thermopad, Hyderabad
03	Siliconized Glass Cloth (fabric)	Alpha Associates ,USA Vinayaka Associates ,Hyderabad Hitex Insulation ,China
04	Fibre Glass Insulation Mattresses	Owens Corning, USA Twiga Glass Wool, India/Indus Insul Pvt. Ltd., Hyderabad
05	Fibre Glass Insulation Cloth (fabric)	BGF Industries, USA Electrolock Inc., USA Resiglass, Hyderabad
06	Glass Cloth Tape	3M USA Permacel, USA CG-PPI, Goa Fixon, India Snaham International, Belgaum
07	Enclosure (Aluminium / Aluminised Steel)	Hindalco, Balco, Nalco, Jindal POSCO Korea, Jindal Steel, JSW, Tata Steel
08	Crane Glass	Electrolock,Neenah-USA DuPont-USA