



Bid Number: GEM/2022/B/2091886

Dated: 06-04-2022

Bid Document

Bid Details	
Bid End Date/Time	16-04-2022 15:00:00
Bid Opening Date/Time	16-04-2022 15:30:00
Bid Life Cycle (From Publish Date)	90 (Days)
Bid Offer Validity (From End Date)	80 (Days)
Ministry/State Name	Ministry Of Heavy Industries And Public Enterprises
Department Name	Department Of Heavy Industry
Organisation Name	Bharat Heavy Electricals Limited (bhel)
Office Name	10250020-pem, Noida
Total Quantity	1
Item Category	620-01000-A
BOQ Title	WIND TUNNEL TEST FOR CHIMNEY
MSE Exemption for Years of Experience and Turnover	No
Startup Exemption for Years of Experience and Turnover	No
Document required from seller	Experience Criteria,Certificate (Requested in ATC),Additional Doc 1 (Requested in ATC),Additional Doc 2 (Requested in ATC),Additional Doc 3 (Requested in ATC),Additional Doc 4 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Bid to RA enabled	No
Time allowed for Technical Clarifications during technical evaluation	7 Days
Payment Timelines	Payments shall be made to the Seller within 90 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC)
Evaluation Method	Total value wise evaluation

EMD Detail

Required	No
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ePBG Detail

Required	No
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Splitting

Bid splitting not applied.

MII Purchase Preference

MII Purchase Preference	Yes
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MSE Purchase Preference

MSE Purchase Preference	Yes
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1. Preference to Make In India products (For bids < 200 Crore):Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises will be allowed to participate .In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

2. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% (Selected by Buyer)of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 100%(selected by Buyer) percentage of total QUANTITY.

3. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

620-01000-A (1 pieces)

(Minimum 50% Local content required for qualifying as Class 1 Local Supplier)

Brand Type	Unbranded
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Technical Specifications

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer and Quantity

S.No.	Consignee/Reporting Officer	Address	Quantity	Delivery Days
1	Manish Kumar Sinha	201301,BHEL-PEM, PLOT NO-25, SECTOR-16A, NOIDA	1	84

Buyer Added Bid Specific Terms and Conditions

1. Buyer Added Bid Specific ATC

Buyer uploaded ATC document [Click here to view the file.](#)

2. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

3. Purchase Preference (Centre)

Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for percentage of 100% of total value.

4. Generic

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization. Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specification and / or terms and conditions governing the bid. Any clause incorporated by the Buyer such as demanding Tender Sample, incorporating any clause against the MSME policy and Preference to make in India Policy, mandating any Brand names or Foreign Certification, changing the default time period for Acceptance of material or payment timeline governed by OM of Department of Expenditure shall be null and void and would not be considered part of bid. Further any reference of conditions published on any external site or reference to external documents / clauses shall also be null and void. If any seller has any objection / grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

[This Bid is also governed by the General Terms and Conditions](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

---Thank You---

Item Number	Item Title	Item Description	Item Quantity	Unit of Measure	Consignee ID	Delivery Period (In number of days)
1	620-01000-A	Wind Tunnel Test for Chimney	1	EACH	MANISHKUMARSINHA	84

BUYER SPECIFIC ATC

GeM BID NUMBER: GEM/2022/B/2091886, Dated 06.04.2022

PACKAGE: WIND TUNNEL TEST for CHIMNEY

PROJECT: 2x500 MW NTPC SIPAT TPS, STAGE II - FGD

Additional Terms and Conditions for Subject Tender Enquiry to be Complied by Bidders for Consideration in This Tender:

- 1) Payment Terms: 100% Payments shall be made to the Seller within 90 days (45 days for seller qualified and registered as Micro or small as per MSMED Act., 60 days for Medium Enterprises) of acceptance of Final detailed study report by BHEL-PEM (submitted in 3 hard copies and 1 soft copy after incorporation of BHEL/Customer observations) and submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC). Supplier has to provide Original Tax invoice for payment. Provision of offline payment in GeM shall be utilized.
- 2) Terms of Delivery: Not Applicable
- 3) Delivery Period: To fulfil Gem portal requirement - Delivery period shall be 84 days from the date of PO.

For contractual purpose - Delivery shall be 84 days from the date of furnishing of all inputs by BHEL and submission of final report (in hard copy) acceptable to BHEL shall be considered as the delivery date. Any delay in submission of final report beyond stipulated time of 84 days shall be considered for LD calculation
- 4) Performance Bank Guarantee: Not Applicable
- 5) Liquidated Damage: Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent and applicable GST thereon, of the total contract price excluding GST per week or part thereof, subject to a maximum of ten (10) percent of the total contract price excluding GST, if the Seller/ Contractor fails to deliver any part of the ordered services/goods/stores within the period stipulated in the Order/ Contract.
- 6) Guarantee Terms: Not Applicable
- 7) Quantity Variation: NIL
- 8) This is a conditional tender enquiry. Financial Bid (Part-II) opening of a bidder shall be subject to followings:
 - i) Techno-Commercial evaluation by BHEL.
 - ii) Qualification of Technical PQR.
 - iii) Offered item should mandatorily conform to PP-MII order provisions.
- 9) This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipment's etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start up /MSME.
- 10) For this procurement, the local content to categorize a supplier as a Class I Local Supplier / Class II Local Supplier and Purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), (PPP-MII) Order 2017 dt. 16/09/2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.
- 11) Regarding verification of local content, the local supplier at the time of tender, bidding or solicitation shall be required to provide certification as per para 9 of PP-MII order revision dated 16.09.2020 (format enclosed with tender specification documents).
- 12) Bidders to ensure that Third party / customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document / certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and e-mail Id etc. In case the same found not available, Purchaser has right to reject such document from evaluation.

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13) Bidders to,

- ensure compliance to Ministry of Power (MoP) Order No. 25-11/6/2018-PG dt. 02/07/2020 & Order No. 11/05/2018-Coord. dt. 23/07/2020, if applicable.
- ensure compliance of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020.
- to submit "Model Certificate for Tenders" as per Annexure-III of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020.

Note: Subsequent orders/circulars to be checked and to be complied.

- 14) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guideline.
- 15) Evaluation shall be on the basis of total all-inclusive prices (Refer cl. no. 6 of GTC on GEM).
- 16) PQR criteria is uploaded with specification and shall prevail over any parameter mentioned in GeM bid.
- 17) Risk & Cost: Details as per 'Annexure for Risk & Cost' enclosed with this ATC.
- 18) Taxes & Duties shall be as per clause no. 8 of GeM GTC.
- 19) Bidders to provide detailed break-up of quoted price in Ex-works & Tax components.
- 20) Bidders to submit applicable GST % included in their prices during tender clarification stage.
- 21) All other terms & conditions shall be as per GeM bid, selected Additional Terms & Conditions from GeM library and GTC on GeM version available on GeM Portal as on enquiry floating date.

Note: Technical Specification and BOQ are uploaded against the above GeM Bid Number. Bidders are requested to visit GeM portal for this tender enquiry and go through the tender documents to submit their offer.

BUYER SPECIFIC ATC

GeM BID NUMBER: GEM/2022/B/2091886, Dated 06.04.2022

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ANNEXURE FOR RISK & COST

1. In case of delays (beyond the maximum late delivery period as per LD clause) in supplies, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Seller/Contractor's default or breach of Order/Contract or to suspend business dealings with the Seller/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Seller. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Seller.

The Seller shall be liable to the Buyer for any excess costs incurred thereof and the Seller shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Seller shall on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder. The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/services vis-à-vis delivery/execution timeline as stipulated in the contract, backlog attributable to the Seller including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;
- iii. withdrawal from or repudiation/abandonment of the supply/services by the Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the order/Contract either in whole or in part or otherwise fails to perform the Order/Contract.
- iv. Non supply by the Seller within scheduled completion/delivery period as per contract or as extended from time to time for reasons attributable to the Seller;
- v. Termination of Contract on account of any other reason(s) attributable to the Seller.
- vi. Assignment, transfer, sub-letting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. If the Seller be an individual or a Sole Proprietorship, in the event of death or insanity of the Seller.
- viii. If the Seller/Contractor being an individual or if a partnership firm thereof, shall at any time be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix. If the Seller/Contractor being a Company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager.
- x. Non- Compliance to any contractual condition or any other default attributable to the Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

2. BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount & LD, recovery options to BHEL are given as under: -

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2.1 BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor *after due notice of a period of 14 days' by BHEL* in any of the following cases:

- i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-a-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;
- ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;
- iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;
- iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;
- v) Termination of Contract on account of any other reason (s) attributable to Seller.
- vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;
- viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;
- x) Non-compliance to any contractual condition or any other default attributable to Seller.

2.1.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

2.1.2 Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

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Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

2.1.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line NIT terms & conditions, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of LD against delay in executed work in case of termination of contract" is given below:

- i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed work till the time of termination of contract = X
- iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
- iv. Delay in executed work attributable to contractor i.e. $T2 = [1-(X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

2.2 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor:

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk

& cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.
- b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

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Letter head of The Company

Ref.....

Date.....

MODEL CERTIFICATE

Reference: Tender Enquiry Ref- **GeM Bid no.**

Name of Package:

PROJECT:

This is with reference to Ministry of Finance circular dated 23.07.20 reg. restriction under rule 144 (xi) of GFR.

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s is not from such a country and is eligible to be considered against GeM enquiry no:, **Dtd.**”

Sign & Signature

Date:

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Letter head of Company

Ref.....

Date.....

Reference: Tender Enquiry Ref- **GeM Bid no.**

Name of Package:

PROJECT:

NO COMMERCIAL DEVIATION

Yours very truly

.....(authorized signatory of company)

.....(firm name)

Company's Seal/stamp

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Letter head of Company

Ref.....

Date.....

Reference: Tender Enquiry Ref- **GeM Bid no.**

Name of Package:

PROJECT:

NO TECHNICAL DEVIATION

Yours very truly

.....(authorized signatory of company)

.....(firm name)

Company's Seal/stamp



PROJECT: **2X500 MW NTPC SIPAT TPS ST-II FGD**

TECHNICAL SPECIFICATIONS FOR WIND TUNNEL TEST OF RCC CHIMNEY

SPECIFICATION NO. PE-TS-491-620-C001

SECTION C

REV.NO. 0

DATE: 23-03-2022

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TECHNICAL SPECIFICATIONS FOR WIND TUNNEL TEST OF RCC CHIMNEY

DOCUMENT NO. PE-TS-491-620-C001
(REVISION 00)



BHARAT HEAVY ELECTRICALS LIMITED
Project Engineering Management
Power Sector, Plot No. 25, Sector 16A, Noida (U.P.)-201301



PROJECT: 2X500 MW NTPC SIPAT TPS ST-II
FGD

TECHNICAL SPECIFICATIONS FOR WIND
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SECTION C

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SECTION 'C'

SPECIFIC TECHNICAL REQUIREMENTS

1. General Requirement

- 1.01. Bidder shall conduct wind tunnel study with a scaled down model of chimney in an established wind tunnel to study the along and across behaviour of the subject chimney under wind loading for the cases as mentioned in Table-1.

Table-1

<u>Sl.No</u>	<u>Cases</u>
1	STAND ALONE CHIMNEY, WITHOUT FLUE LINER
2	STAND ALONE CHIMNEY, WITH FLUE LINER
3	INTERFERENCE CASE WITH ADJACENT STRUCTURES, WITHOUT FLUE LINER
4	INTERFERENCE CASE WITH ADJACENT STRUCTURES, WITH FLUE LINER

2. Subject project consists of two identical RCC chimneys of 150m height. Judicious selection of one target chimney for wind tunnel study shall be decided by bidder as per plant layout and wind rose diagram.

- 2.01. For every case of wind tunnel study, following parameters shall be derived and furnished in a detailed report.

- I. Natural frequency
- II. Bending Moment (at minimum four elevations)
- III. Shear Force (at minimum four elevations)
- IV. Deflection (at peak)

- 2.02. Dimensional analysis of subject chimney vis a vis the model, shall be conducted to find the various dimensional parameters.

This dimensional analysis shall be furnished in the detailed study report.



PROJECT: **2X500 MW NTPC SIPAT TPS ST-II**
FGD

**TECHNICAL SPECIFICATIONS FOR WIND
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SECTION C

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3. Wind Loading:

Wind loading will be in accordance with Indian Standard Code IS: 875 (Part 3) for a basic wind speed of 45 m/sec (K1-1.07, Terrain Cat-2). Across-wind loads due to vortex shedding shall be considered in study as per velocity range defined in IS 4998-2015.

4. Material of construction


The bidder shall prepare an aero-elastic model of the chimney with fibre reinforced plastic or any other suitable material reflecting dynamic properties of subject chimney, whose properties may be dimensionally correlated with the grade of concrete of the subject chimney.

5. Bidder shall simulate the subject terrain in the wind tunnel, as per that given in IS 875 Part (III). Aero elastic model of chimney along with rigid model of all major structures (for interference case only) which are within the distance of "20 times the diameter of the chimney at the 2/3 height of the chimney" all around shall be considered in the study.

6. The bidder shall simulate inside the wind tunnel actual prototype flow conditions for the study. The scale of the model shall be such that the boundary conditions (side wall and roof) in the wind tunnel shall not alter the targeted flow conditions. However, the scale of the model shall not be less than 1:250

7. Report

After conducting the wind tunnel test, Bidder shall submit the detailed study report (in soft copy) for review of BHEL/Customer. Final detailed study report after incorporation of BHEL/Customer observations shall be submitted by the bidder (in soft copy and 3 hard copies).


	PROJECT: 2X500 MW NTPC SIPAT TPS ST-II FGD	DOCUMENT NO. PE-TS-491-600-C031
	TECHNICAL PREQUALIFYING REQUIREMENT FOR WIND TUNNEL STUDY OF CHIMNEY	REV.NO. 0
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**TECHNICAL PREQUALIFYING REQUIREMENT OF BIDDERS
FOR
WIND TUNNEL STUDY OF CHIMNEY**

DOCUMENT NO. PE-TS-491-600-C031




BHARAT HEAVY ELECTRICALS LIMITED
Project Engineering Management
PPEI BUILDING, HRD & ESI COMPLEX
Plot No. 25, Sector 16A
NOIDA, U.P. – 201301

	PROJECT: 2X500 MW NTPC SIPAT TPS ST-II FGD	DOCUMENT NO. PE-TS-491-600-C031
	TECHNICAL PREQUALIFYING REQUIREMENT FOR WIND TUNNEL STUDY OF CHIMNEY	REV.NO. 0
		DATE 23-03-2022
		Page 2 of 3

Project Title	: 2X500 MW NTPC SIPAT TPS ST-II FGD	
Job No.	: 491	
Document No.	: PE-TS-491-600-C031	
Building / System	: CHIMNEY	Sheet
Subject	: TECHNICAL PREQUALIFYING REQUIREMENT OF BIDDERS FOR WIND TUNNEL STUDY OF CHIMNEY	

Rev. No.	Particulars	Prepared By	Checked By	Approved By	Remarks
0	Name	MA	LP / SP	CPK	
	Sign				
	Date	23.03.2022	23.03.2022	23.03.2022	

	PROJECT: 2X500 MW NTPC SIPAT TPS ST-II FGD	DOCUMENT NO. PE-TS-491-600-C031
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		DATE 23-03-2022
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**TECHNICAL PREQUALIFYING REQUIREMENT FOR WIND
TUNNEL STUDY OF CHIMNEY**

1. Bidder should have successfully executed Wind Tunnel model and testing on aero-elastic model of a structure, of minimum height 100m, for any one of the following in the last seven years from the latest date of bid submission
 - a) One (1) work of value not less than 11,20,000 Rs (eleven lakh twenty thousand rupees) Ex-works price.

OR

 - b) Two (2) works each of value not less than 7,00,000 Rs (seven lakh rupees) Ex-works price.

OR

 - c) Three (3) works each of value not less than 5,60,000 Rs (five lakh sixty thousand rupees) Ex-works price.

2. Bidder should have their own Wind tunnel testing facility which shall be suitable for testing on model having a scale not less than 1:250.

ON COMPANY LETTER HEAD

To,

M/s Bharat Heavy Electricals Ltd.,
Project Engineering Management,
Power Project Engineering Institute,
HRD & ESI Complex, Plot No 25, Sector-16 A,
Noida-201301

Kind Attn. Mr.

Dear Sir,

This has reference to:

1. Our offer for Wind Tunnel Test for Chimney for Tender Enquiry (2X500 MW SIPAT FGD).
GeM Tender No. dated
2. Order no. F. No. 6/18/2019-PPD dt. 23.07.2020 issued by Ministry of Finance, Department of Expenditure Public Procurement Division.

I have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India; I certify that M/s (Company Name _____) is not from such a country **or**, if from such a country, has been registered with the competent authority. **(Remove the non-applicable)**

I hereby certify that M/s (Company Name _____) fulfil all requirements in this regard and **is eligible to be considered.**

[where applicable, evidence of valid registration by the competent authority shall be attached]

Thanking You,
Yours faithfully,

Owner, partner, CMD, Director, Authorized Signatory with proof that he/she is authorized to sign on owner's behalf

M/s _____

Letter head of Company (<Rs. 10 Cr value)

Ref.....

Date.....

To,

Bharat Heavy Electricals Limited PEM,
PPEI Building, Plot No 25, Sector -16A,
Noida (U.P)-201301

Subject: -Certification regarding local content

Reference: Tender Enquiry No-.....

Name of Package:

Dear Sir,

We hereby certify that items offered by us of(package name).....for.....(Project Name/Rate contract)..... meets the requirement of minimum local content in line with Cl. No..... of NIT No..... dated..... and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018, 29.05.2019 , 04.06.2020 & 16.09.2020.

Local Content-%

We further confirms that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly

.....(authorized signatory of company)

.....(firm name)



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन
MAIN CONTRACTOR'S PROPOSAL CUM EVALUATION REPORT
मुख्य संविदाकार प्रस्ताव सह मुल्यांकन रिपोर्ट

Ref No: संदर्भ सं.:		Date: तिथि:		
i.	Main Contractor मुख्य संविदाकार			
ii.	Project परियोजना			
iii.	Package Name पैकेज का नाम	Package No पैकेज सं.		
iv.	Proposed Item/Scope of Sub-contracting उप-संविदा(अनुबंध) का प्रस्तावित मद/ दायरा			
v.	Item covered under निम्नलिखित के अंतर्गत शामिल मद	Schedule-1 /अनुसूची- 1	<input type="checkbox"/>	
		Schedule-2 अनुसूची- -2	<input type="checkbox"/>	
vi.	If item is Schedule-1 and proposed sub-vendor is indigenous, Main Contractor to explain how the contractual provisions will be fulfilled /यदि मद अनुसूची -1 है और प्रस्तावित उप-विक्रेता स्वदेशी है, तो मुख्य संविदाकार को स्पष्ट करना होगा कि संविदा/अनुबंध के प्रावधान कैसे पूरे किए जाएंगे			
vii.	Name and Address of the proposed Sub-vendor's works /प्रस्तावित सब-वेंडर का नाम तथा पता			
viii.	PO placement date/ Start of manufacturing (if self-manufactured) as per L2 network पीओ नियोजन की तिथि / एल- 2 नेटवर्क के अनुसार विनिर्माण (यदि स्व-निर्मित है) की शुरुआत			
ix.	Item Description (Type/Size/Rating/Scope of Sub-Contracting) मद का विवरण (प्रकार / आकार / रेटिंग / उप-अनुबंध का दायरा)	Total quantity of proposed item envisaged in this package (Nos/ Running Meters/ Kgs/ Tons etc) इस पैकेज में परिकल्पित प्रस्तावित मद की कुल मात्रा (संख्या / क्रियाशील मीटर / किलोग्राम / टन आदि)	Quantity proposed to be procured from proposed sub-vendor (Nos/ Running Meters /Kgs /Tons etc) प्रस्तावित उप-विक्रेता (संख्या / क्रियाशील मीटर / किलोग्राम / टन आदि) से खरीदी जाने वाली मात्रा	Timeline for quantity requirements as per project schedule & whether the proposed Sub-vendor equipped with adequate capacity to supply proposed order quantity in time / परियोजना समय सूची के अनुसार मात्रा आवश्यकताओं के लिए समय-सीमा और क्या प्रस्तावित उप-विक्रेता समय पर प्रस्तावित मांग की मात्रा की आपूर्ति करने में पूरी तरह से सक्षम है
x.	Supply experience of the proposed sub-vendor (including supplies to Main Contractor, if any) for similar item/scope of sub-contracting, for last 3 years (Note:- Only relevant experience details w.r.t. proposed item/scope of subcontracting to be brought out here) पिछले 3 वर्षों के लिए उप-अनुबंध के समान मद / दायरे के लिए प्रस्तावित सब-वेंडर (मुख्य संविदाकार हेतु आपूर्ति, यदि कोई हो, सहित) का आपूर्ति अनुभव (नोट: - उप-अनुबंध के प्रस्तावित मद / दायरे के संबंध में केवल प्रासंगिक अनुभव के विवरण का उल्लेख हो			



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन
MAIN CONTRACTOR'S PROPOSAL CUM EVALUATION REPORT
मुख्य संविदाकार प्रस्ताव सह मुल्यांकन रिपोर्ट

Project/Package परियोजना/पैकेज	Customer Name ग्राहक का नाम	Supplied Item (Type/Rating/Model /Capacity/Size etc) आपूर्ति मद् (प्रकार/रेटिंग /मॉडल /क्षमता/आकार आदि)	PO ref no/date पीओ संदर्भ सं./तिथि	Supplied Quantity आपूर्ति की मात्रा	Date of Supply आपूर्ति की तिथि
<i>We confirm that as per our assessment, the proposed sub-vendor has requisite capabilities & supply experience and is suitable for supplying the proposed item/scope of sub-contracting/हम अपने आकलन के अनुसार इस बात की पुष्टि करते हैं कि, प्रस्तावित उप-विक्रेता के पास अपेक्षित क्षमता और आपूर्ति करने का अनुभव है और उप-अनुबंध के दायरे /प्रस्तावित मद् की आपूर्ति के लिए उपयुक्त है।</i>					
Name: नाम:	Desig: पद:	Contact No: दूरभाष सं.:	Sign: हस्ताक्षर:	Date: तिथि:	

Company's Seal/Stamp:- कंपनी का मुहर:-



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन
SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली

i.	Item/Scope of Sub-contracting उप-संविदा(अनुबंध) का मद/ दायरा	
ii.	Address of the registered office पंजीकृत कार्यालय का पता	Details of Contact Person संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)
iii.	Name and Address of the proposed Sub-vendor's works where item is being manufactured प्रस्तावित उप-विक्रेता के कार्यों का नाम और पता, जहां मद का निर्माण किया जा रहा है	Details of Contact Person: संपर्क व्यक्ति का विवरण (Name, Designation, Mobile, Email) (नाम, पदनाम, मोबाइल, ईमेल)
iv.	Annual Production Capacity for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए वार्षिक उत्पादन क्षमता	
v.	Annual production for last 3 years for proposed item/scope of sub-contracting उप-संविदा(अनुबंध) के प्रस्तावित मद / दायरे के लिए पिछले 3 वर्षों का वार्षिक उत्पादन	
vi.	Details of proposed works प्रस्तावित कार्यों का विवरण	
1.	Year of establishment of present works वर्तमान फैक्टरी की स्थापना का वर्ष	
2.	Year of commencement of manufacturing at above works उपरोक्त फैक्टरी में निर्माण कार्य शुरू होने का वर्ष	
3.	Details of change in Works address in past (if any) पूर्व में फैक्टरी स्थल में परिवर्तन का विवरण (यदि कोई हो)	
4.	Total Area कुल क्षेत्र	
	Covered Area शामिल क्षेत्र	
5.	Factory Registration Certificate फैक्टरी पंजीकरण प्रमाण पत्र	Details attached at Annexure – F2.1 विवरण अनुलग्नक-एफ 2.1 पर संलग्न है
6.	Design/ Research & development set-up डिजाइन / अनुसंधान और विकास सेटअप (No. of manpower, their qualification, machines & tools employed etc.) (श्रमिकों की संख्या, उनकी योग्यता, मशीन और उपलब्ध उपकरण आदि)	Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design Details attached at Annexure – F2.2 (if applicable) लागू / लागू नहीं, अगर विनिर्माण मुख्य संविदाकार / खरीददार के डिजाइन के अनुसार है) विवरण अनुलग्नक-एफ 2.2 पर संलग्न है। (यदि लागू हो)
7.	Overall organization Chart with Manpower Details (Design/Manufacturing/Quality etc) मैनपावर विवरण के साथ समग्र संगठन का चार्ट(डिजाइन / विनिर्माण / गुणवत्ता आदि)	Details attached at Annexure – F2.3 विवरण अनुलग्नक – F2.3 में संलग्न है।



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन
SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली

8.	After sales service set up in India, in case of foreign sub-vendor(Location, Contact Person, Contact details etc.) भारत में विक्री सेवा की स्थापना के बाद, विदेशी उप-विक्रेता के मामले में(स्थल , संपर्क व्यक्ति, संपर्क विवरण आदि)	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.4 विवरण अनुलग्नक -2.4 पर संलग्न है।			
9.	Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any फ्लोचार्ट सहित विनिर्माण प्रक्रिया निष्पादन योजना , जिसमें आउटसोर्स प्रक्रिया, यदि कोई हो, सहित कच्चे माल से तैयार उत्पाद तक विनिर्माण के विभिन्न चरणों को दर्शाया गया हो,	Details attached at Annexure – F2.5 विवरण अनुलग्नक - F2.5में संलग्न है।			
10.	Sources of Raw Material/Major Bought Out Item कच्चे माल के स्रोत / खरीदे हुए मुख्य मद	Details attached at Annexure – F2.6 विवरण अनुलग्नक - F2.6में संलग्न है।			
11.	Quality Control exercised during receipt of raw material/BOI, in-process , Final Testing, packing कच्चे माल / खरीदे हुए मद, प्रक्रियाबद्ध, अंतिम परीक्षण, पैकिंग करते समय गुणवत्ता नियंत्रण	Details attached at Annexure – F2.7 विवरण अनुलग्नक - F2.7 पर संलग्न है			
12.	Manufacturing facilities (List of machines, special process facilities, material handling etc.) विनिर्माण सुविधा(मशीनों की सूची, विशेष प्रक्रिया सुविधाएं, सामग्री रख-रखाव आदि)	Details attached at Annexure – F2.8 विवरण अनुलग्नक - F2.8में संलग्न है।			
13.	Testing facilities (List of testing equipment) परीक्षण सुविधाएं(परीक्षण उपकरण की सूची)	Details attached at Annexure – F2.9 विवरण अनुलग्नक – F2. 9 में संलग्न है।			
14.	If manufacturing process involves fabrication then- यदि निर्माण प्रक्रिया में फेब्रिकेशन की गई है तो- List of qualified Welders पात्र वेल्डर की सूची List of qualified NDT personnel with area of specialization विशेषज्ञता के क्षेत्र सहित पात्र एनडीटी कार्मिकों की सूची	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.10 विवरण अनुलग्नक - F2.10में संलग्न है। (if applicable) लागू / लागू नहीं			
15.	List of out-sourced manufacturing processes with Sub-Vendors' names & addresses सब-वेंडर द्वारा बाह्य स्रोतों (उनके नाम और पते सहित)से करवाएं गए निर्माण प्रक्रियाओं की सूची	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure. –F2.11 विवरण अनुलग्नक - F2.10में संलग्न है। (if applicable) (यदि लागू हो)			
16.	Supply reference list including recent supplies नवीनतम आपूर्ति सहित आपूर्ति संदर्भ सूची	Details attached at Annexure – F2.12 विवरण अनुलग्नक - F2.12 में संलग्न है। (as per format given below) (नीचे दिए गए प्रारूप के अनुसार)			
Project/ package परियोजना /पैकेज	Customer Name ग्राहक का नाम	Supplied Item (Type/Rating/Model /Capacity/Size etc) आपूर्ति की गई वस्तु (प्रकार / रेटिंग / मॉडल / क्षमता / आकार आदि)	PO ref no/date पीओ संदर्भ सं. / तिथि	Supplied Quantity आपूर्ति की मात्रा	Date of Supply आपूर्ति की तारीख
17.	Product satisfactory performance feedback letter/certificates/End User Feedback उत्पाद के संतोषजनक प्रदर्शन संबंधी फीडबैक पत्र / प्रमाण पत्र / अंतिम उपयोगकर्ता फीडबैक			Attached at annexure - F2.13 अनुलग्नक F2. 3पर संलग्न है	



CORPORATE QUALITY ASSURANCE/ कॉरपोरेट गुणवत्ता आश्वासन
SUB-VENDOR QUESTIONNAIRE/ सब-वेंडर प्रश्नावली

18.	Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product (similar or higher rating) प्रस्तावित उत्पाद (एक समान या उच्च रेटिंग वाले) के लिए टाइप टेस्ट रिपोर्ट (टाइप टेस्ट विवरण, रिपोर्ट संख्या, एजेंसी, जांच की तारीख) का सारांश नोट: - रिपोर्ट प्रस्तुत करने की आवश्यकता नहीं है Note:- Reports need not to be submitted	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.14 विवरण अनुलग्नक - F2.1 4में संलग्न है (if applicable) (यदि लागू हो)
19.	Statutory / mandatory certification for the proposed product प्रस्तावित उत्पाद के लिए वैधानिक / अनिवार्य प्रमाणीकरण	Applicable / Not applicable लागू / लागू नहीं Details attached at Annexure – F2.15 (if applicable) (यदि लागू हो)
20.	Copy of ISO 9001 certificate आईएसओ 9001 प्रमाण पत्र की प्रति (if available) (यदि उपलब्ध हो)	Attached at Annexure – F2.16 अनुलग्नक में संलग्न - F2.1 6 है
21.	Product technical catalogues for proposed item (if available) प्रस्तावित मद के लिए उत्पाद तकनीकी कैटलॉग (यदि उपलब्ध हो)	Details attached at Annexure – F2.17 विवरण अनुलग्नक - F2.1 7 में संलग्न है
Name: Desig: Sign: Date: नाम: पद: हस्ता तिथि: क्षर:		

Company's Seal/Stamp:- कंपनी की मुहर / मोहर: -