



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

MATERIALS MANAGEMENT

TITLE Online Carbon in ash Analyser System	Phone: +91 431 257 7072 Fax : +91 431 252 0719 Email : sshrasool@bheltry.co.in
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	Reference Number: Enquiry 1701601954	Enquiry Date: 20.12.2016	Due date for submission of quotation: 03.02.2017
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You are requested to quote the Enquiry number date and due date in all your correspondences. This is only a request for quotation and not an order

BHEL/Trichy is looking for empanelment of new vendors for supply of" Online Carbon in Ash Analyser System"

BHEL commercial terms & conditions and all annexure can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units) Bharath Heavy Electricals Limited) under enquiry reference "XXXXXXXX "

Tenders should reach us before 14:00 hours on the due date
Technical bid will be opened at 14:30 hours on the due date
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.

Yours faithfully,
For Bharath Heavy Electricals Limited

P.L. Pramila
27/12/16
DGM / MM P.L. PRAMILA

Dy. General Manager
Materials Management / BOI
BHEL TRICHY - 620 014.

**General Note: BHARAT HEAVY ELECTRICALS LIMITED**

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(A Government of India Undertaking)

HIGH PRESSURE BOILER PLANT

PURCHASE DEPARTMENT - FOSSIL BOILERS

THIRUCHIRAPALLI - 620014

TAMILNADU (INDIA)

PHONE : 0431-2574111

GRAMS : BHARATELEC

FAX NO: 0431-2520719

E-mail :

Web :

429-002/A

OFFICE COPY**Collective No.**

1701601954

Enquiry Date

20.12.2016

**Due Date For
Quotation**

03.02.2017

Please quote Enquiry No, Date and due date in all correspondences.
This is only a request for quotation and not an order

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	A171119708401001 CARBON IN ASH ANALYSER SYSTEM CARBON IN ASH ANALYSER SYSTEM & ACCESSORIES AS PER TECHNICAL SPECIFICATION TDC:TCI:326 REV. 01	SET	2.000	2.00	10.04.17

General Note:

1. This requirement is for Mouda - 3, 4 660MW (1711,1712) projects requirement.

2. SUPPLY OF ONLINE CARBON IN ASH ANALYSER SYSTEM AS PER SPECIFICATION TDC:TCI:326/Rev01.

3. Instruction for Indigenous Vendors:

a). Offer must be on three part basis and needs to be submitted on FOR/Mouda - 3, 4 660MW projects Site basis inclusive of packing & forwarding, Separate charges for freight & insurance shall be indicated clearly.

b). Charges for freight & insurance should be indicated clearly and separately in the offer compulsorily without fail. Part 1 consists of PQR, Part 2 is technical Bid and Part 3 is Price Bid in separate sealed covers. All three sealed covers shall then be put in a fourth sealed cover. Our Enquiry No, Enquiry date, Enquiry due date must be written on all four covers. (Refer Annexure - C)

c). Indicate clearly all the taxes & duties applicable with exact Percentage.

d). Excise Duty exemption is applicable for this project.

4. Instruction for Foreign Vendors:

a). Offer must be on three part basis for FOB/nearest gateway airport basis inclusive of packing & forwarding.

b) Materials are to be despatched to Manager/Matl.services, ROD/BHEL,

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

SYED SHAFATHAMD HASOOL

MANAGER - PURCHASE
(FOSSIL BOILERS)



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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165, Thambu Chetty Street, Chennai-600001, Tamilnadu, India.

c). It is mandatory to indicate the import portion weight in Kgs for actual material weight and material weight along with packing in your offer. Part 1 consists of PQR, Part 2 is technical Bid and Part 3 is Price Bid in separate sealed covers. All three sealed covers shall then be put in a fourth sealed cover. Our Enquiry No, Enquiry date, Enquiry due date must be written on all four covers. (Refer Annexure - C)

d). Indicate clearly all the applicable extra Charges such as FOB, P & F, Inspection etc. with exact percentage.

5. Common points for all Vendors:

a). Quote should confirm our specifications, enclosed commercial terms & conditions along with MSE clause, Loading Criteria (Annexure-B). Point wise confirmation are to be submitted along with your quote duly signed, stamped to enable BHEL to ensure technical suitability. Any deviation should be specified without fail clearly in the no deviation format and the failure to comply with the same may make your quotation liable for rejection.

b). Vendor to submit their own quality plan for ONLINE CARBON IN ASH ANALYSER SYSTEM along with the offer for BHEL/End Customer's approval. VQP will be subject to BHEL approval after placement of order.

c). In addition prices for complete erection & Commissioning of Online Carbon in Ash Analyser system at site including necessary Manpower and Material at site shall be mentioned separately and clearly in the offer.

d). Suitable Erection support materials to be supplied by vendor.

e). The enquiry deviation form shall be submitted after filling up all the references and deviations if any duly signed and stamped.

f). The BHEL standard enquiry terms and conditions shall be duly signed & stamped and sent along with the offer.

g). Entire project requirement will be considered as a single package for evaluation purpose and L1 finalization. L1 finalization will be done based on total cost BHEL basis.

h). Inspection shall be carried out by respective BHEL approved third party inspection agency for indigenous vendors and the customer itself as per applicability. Foreign vendors need to submit all the necessary

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

SYED SHAFAT HANIF RASOOL
MANAGER - PURCHASE
Material (FOSSIL BOILERS)
BHEL
Yours faithfully,



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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test certificates to obtain BHEL clearance before dispatch.

i) Applicable Testing and Certification charges if any shall be indicated

clearly and separately in the quotation. Taxes/duties applicable on the Testing and certification charges should be clearly indicated in the quotation. If the same is found to be missing then it would be taken as inclusive in the quoted amount.

j). Two sets of O & M Manual consisting of approved drawings in PDF format (soft copy) in CDs are to be submitted to the buyer along with dispatch documents. No hard copy is warranted. Please note.

k). The delivery dates indicated above are tentative and the exact delivery date will be indicated in the purchase order.

l). We here by attaching the general terms, Commercial terms & Special Terms along with this enquiry (All Annexures). Please furnish your point wise confirmation to all annexures.

m). Supplier registration forms with all required credentials and confirmations/supporting documents for PQR shall be submitted along with the techno-commercial bid.

n). Offers not meeting PQR as well as BHEL specifications are liable for rejection.

o). In addition to technical and commercial conditions, vendors who are not registered vendor of BHEL Trichy, have to submit the filled in "supplier registration Forms" along with the technical bid. The new vendors need to download vendor registration forms from BHEL web site in www.bhel.com and submit all relevant data for formal registration. (Refer Annexure - C)

The vendors not registered with BHEL must ensure that they become permanent PMD vendors of BHEL after completing all supplier registration formalities before price bid opening, otherwise their offer will not be considered further for price bid opening and will be rejected.

Also, the vendors must note that the end customer i.e. NTPC needs to approve the vendors. The offer of only those vendors will be considered for price bid opening & further evaluation who will get approved by NTPC before the price bid opening. The offers of those vendors who do not get approved by NTPC will not be considered further.

p). Important note for MSE clause:

All vendors are requested to note the Annexure X -Special clauses for Micro and Small Enterprises (MSE) suppliers.

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

SYED SHAHID HAMEED RASOOL
MANAGER / PURCHASE
(FOSSIL BOILERS)
THIRUCHIRAPALLI
Yours faithfully,



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1 + 15% and if they are agreeing purchase order will be awarded for full/complete supply of total tendered value to MSE. If more than one MSE vendors are available in the L1 + 15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on. Finally if any of the MSE vendor in the price band is not accepting it will be ordered on L1 non MSE vendor. MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of documents as mentioned in the Annexure X. Since the complete enquiry requirement is being considered as a single package for tender evaluation purpose, therefore, MSE clause will not be applicable to those indigenous vendors who are quoting only for a part of the enquiry in partnership with a foreign vendor. MSE clause can be used only by an indigenous vendor who is quoting for the full enquiry requirement on its own. All the MSE related current and valid documents must be provided along with the offer without fail.

q). This tender has been published on BHEL & NIC website http://www.bhel.com/tender/tender_home.php & <http://tenders.gov.in> and also in leading national dailies (Indian Express, New Indian Express and Financial Express) and in addition in Indian Trade Journal (ITJ) with ref no NIT_XXXXX. All corrigendum will be published on BHEL & NIC websites only, vendors are requested to visit these websites regularly.

r). No representative is allowed to attend tender opening without authorisation letter from competent authority of the firm.

s). VENDOR SHALL SUBMIT UNPRICED BID FORMAT (ANNEXURE - D) ALONG WITH TECHNO-COMMERCIAL OFFER with duly signed, stamped. IF NOT, THEIR OFFER IS LIABLE FOR REJECTION. Also the filled Annexure - D shall be attached with PRICE BID with duly signed and stamped.

t). If there is any clarifications, you are requested to contact: Sri SYED SHAFAT HAMD RASOOL, Engineer/MM/BOI, BHEL, Trichy-620014. Ph.: +91 431 2577072; e-mail: sshrasool@bheltry.co.in

Enclosures:

1) SPECIFICATION: TDC:TCI:326/Rev01.

2) Annexure - B for indigenous vendor (Commercial terms and conditions along with MSE clause & Loading Criteria) - 03 Pages.

The offers should reach us 30 minutes before the time of opening of tenders. The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening. Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

SYED SHAFAT HAMD RASOOL
MANAGER / PURCHASE
(FOSSIL BOILERS)
THIRUCHIRAPALLI - 620014
Yours faithfully,



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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3) Annexure - B for import vendor (Commercial terms and conditions along with MSE clause & Loading Criteria) - 03 Pages.

4) Annexure - X for MSE clause - 01 Page.

5) Annexure - C for Special Terms & Condition (Three part details & SRF formalities) - 03 Pages.

6) No deviation form (Enquiry deviation) - 01 Page.

7) Schedule F for details of Gateway Airport - 01 Page.

8) ANNEXURE - D, UNPRICED & PRICED BID FORMAT FOR INDIGENOUS AND IMPORT VENDORS -
01 Page.

"LD clause has to be confirmed without fail."

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.

PR Links

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
A171119708401001	115952346	00010	1.000	U6/1711-LU-618-1-97-084	U6/1711
A171119708401001	115952347	00010	1.000	U6/1712-LU-618-1-97-084	U6/1712

list of suppliers

RFQ-5900000086

Open Tender Dummy Code

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

SYED SHAHIDUL HASAN
MANAGER / PURCHASE
(FOSSIL BOILERS)
Material Purchase
Yours faithfully,
THIRUCHIRAPALLI - 620014



An ISO 9001

Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli-620 014, Tamil Nadu, India

Dept: MATERIALS MANAGEMENT/BOI

ANNEXURE-B (For Indigenous vendor)

ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS

Description of the Equipment:		Online Carbon In Ash Analyser System
BHEL Tender No. & Date		
Sl No.	Terms and conditions	Vendor's confirmation
1	Technical : Supply of Field mounted Online Carbon In Ash Analyser System as per specification: TDC:TCI:326/Rev01 Vendor shall submit their own Quality Plan for BHEL approval	
2	Firm Price: The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.	
3	FOR Basis: The quote shall be on Mouda 660MW – 3, 4 (1711, 1712) project basis as indicated in enquiry, inclusive of Packing and forwarding charges. Freight & Transit Insurance charges shall be vendor's scope and will be loaded as per clause 3 (a) & 3 (b). If vendor passing transit insurance under BHEL scope. Offer will be loaded 0.1064% of (basic material value + ED + forwarding & packing + freight charge).	
3 (a)	Freight charges: To be quoted as extra and not inclusive in the basic price (Mandatory to quote the same value in Annexure - D)	
3 (b)	Insurance charges: To be quoted as extra and not inclusive in the basic price (Mandatory to quote the same value in Annexure - D)	
4 (a)	<u>Payment terms:</u> The payment for items supplied for the first unit will be processed by BHEL only after proving the system at site and on acceptance of the system by M/s NTPC. In case of dissatisfaction, the bills for the system for the first unit will not be processed for payment. <u>General payment Term:</u> 15.1) 85% of the basic value (excluding E&C charges) will be direct payment after 45 days from the date of dispatch against site acknowledgement. 15.2) 15% of basic value (retention money), (excluding E&C charges) will be paid with 15 days credit from the date of completion of E&C along with E&C charges against supplementary invoice with proof of completion of E&C. Income Tax on E&C is to vendor's account. Hence, all the required documents will be furnished to BHEL by vendor. Income Tax on E&C will not be paid to vendor by BHEL. The quoted lump sum charges for E&C is inclusive of To & Fro Fare, Boarding, Lodging, Local Conveyance, etc.	
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4 (b)	1.Loading Criteria for Payment Terms: Any deviation in the above BHEL payment terms as indicated in 4(a) will attract loading as per below. "Base rate of SBI (As applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders". Payment through bank is not preferred. In this case, loading will be 3% on the offered value LC/advance payment will not be operated for Indigenous vendors. Offers with payment terms as LC from indigenous vendors will be rejected.	
5 (a)	Liquidated damages: Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional LD at the rate of ½% of the total order value per week or part thereof subject to maximum of 10% of the total order value. For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof, subject to a maximum of 10% of the total order value.	
5 (b)	Loading Criteria LD / Penalty: Any deviation of the above LD/Penalty clause, loading will be applied to the extent to which it is not agreed by the bidder(at offered value).	
6 (a)	Guarantee / Warranty Period Guarantee clause 18months from the date of supply or 12 months from the date of actual put in use, whichever is earlier.	
6 (b)	Loading Criteria Guarantee / Warranty Period: No Deviation is permitted. If still vendor offered any deviation on the Guarantee / warranty period it may leads to rejection of offer.	
7 (a)	Performance Bank guarantee: 10% of material value as PBG shall be offered.	
7 (b)	Loading Criteria Performance Bank guarantee: No Deviation is permitted and the deviated offers are liable for rejection.	
8	Taxes & Duties: All Taxes, Duties, Service Taxes etc. payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties.	
8 (a)	ED with cess Indicate the applicable %	
8 (b)	CST /VAT Indicate the applicable %	
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9	Risk purchase: If the supplier fails to deliver the goods within the delivery specified in the Purchase Order, BHEL 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 despatch within the delivery period mentioned in the Purchase Order.	
10	DELIVERY PERIOD: Our delivery term shall be 8 weeks from the date of data sheet approval.	
11	Validity: 120 days from Technical Bid opening. Non-compliance of the same will result in offer being liable for rejection	
12	GENERAL CONDITION: Kindly submit the 'no deviation format' with clear indication of data sheet no / specification ref, drawing, and quality plan.	
13	Reverse Auction: RA is not applicable for this tender.	
14	BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.	
15	DOCUMENT SUBMISSION In case of PO, documents (drawings, data sheets and quality plan in triplicate) shall be submitted within 15 days from the date of receipt of po and the revised documents shall be submitted within 1 week from the date of receipt of engineering / quality comments	
16	QUANTITY OF TENDERED QTY BHEL reserves the right to increase or decrease the tendered quantity	
17	PRE QUALIFICATION REQUIREMENT a).Vendor should confirm point 2.0 of spec. TDC:TCI:326/Rev01 b).Compliance to each clause of specification TDC:TCI:326/Rev01 shall be furnished with the offer along with documents as per clause 10 (a) through (t) Offers without above PRE QUALIFICATION REQUIREMENT & COMPLIANCE will be treated as incomplete and shall be liable for rejection	
18	MSE Clause: All vendors are requested to note the Annexure X –Special clauses for Micro and Small Enterprises (MSE) suppliers. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing purchase order will be awarded for full/complete supply of total tendered value to MSE. If more than one MSE vendors are available in the L1+15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on. Finally if any of the MSE vendor in the price band is not accepting it will be ordered on L1 non MSE vendor. MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of documents as mentioned in the Annexure X. Vendor to confirm. The MSE clause will only be applicable to the Indian vendors who are quoting for the complete NIT requirement on their own in INR. Quotations should not be in collaboration with any foreign vendor i.e. part quotation in INR and part quotation in foreign currency if the vendor want to avail MSE clause.	
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19	Erection and Commissioning support Charges: Lump sum charges of Erection and Commissioning support with exact Man days for the system with applicable extra Taxes (Service Tax) and Duties etc. in detail should be quoted separately. (Mandatory to quote the same value in Annexure - D) Non-compliance of the same will result in offer being liable for rejection.	
20	Service tax for Erection and Commissioning support Charges: Indicate the applicable service tax in percentage (If applicable) (Mandatory to quote the same value in Annexure - D)	
21	ANNEXURE – D Vendor shall submit unpriced bid in the Annexure - D along with techno-commercial offer, if not, their offer is liable for rejection. Also the filled Annexure - D shall be attached with PRICE BID duly signed and stamped.	
22	Mouda 660MW – 3, 4 (1711, 1712) Projects are coming under ED EXEMPTED project category, hence payment of excise duty is exempted for supplies made to this projects site i.e. direct to site. If supplies made to BHEL/Trichy stores ED is applicable.	
23	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.	
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An ISO 9001
Company

Bharat Heavy Electricals Limited
(High Pressure Boiler Plant)
Tiruchirappalli-620 014, Tamil Nadu, India
Dept: MATERIALS MANAGEMENT/BOI

ANNEXURE - B (For Foreign vendors)

ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS

Description of the Equipment:		Online Carbon in Ash Analyser System
BHEL Tender No. & Date		
SI No.	Terms and conditions	Vendor's confirmation
1	Technical : This requirement is for Mouda 660MW – 3, 4 (1711, 1712) project. Supply of Field mounted Online Carbon in Ash Analyser System as per specification: TDC:TCI:326/Rev 01 Vendor shall submit their own Quality Plan for BHEL approval	
2	Firm Price: The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.	
3	The quotes shall be on FOB/Nearest GATE WAY Airport basis. (Schedule – F attached) If vendor passing transit insurance under BHEL scope, Offer will be loaded 0.1064% of (Basic material value + ED + Forwarding & Packing + Freight charge).	
4 (a)	<u>Payment Terms:</u> The payment for items supplied for the first unit will be processed by BHEL only after proving the system at site and on acceptance of the system by M/s NTPC. In case of dissatisfaction, the bills for the system for the first unit will not be processed for payment. In case of failure of the system for the first unit, vendor will reimburse the customs duty (if applicable) paid by BHEL while importing the item. <u>General payment Term:</u> 15.1) 85% of the basic value (excluding E&C charges) will be paid on CAD Basis after 45 days from the date of receipt of complete set of documents, at BHEL Bank. 15.2) 15% of basic value (retention money), (excluding E&C charges) will be paid with 15 days credit from the date of completion of E&C along with E&C charges against supplementary invoice with proof of completion of E&C. All bank charges outside India to beneficiary's account. Income Tax on E&C is to vendor's account. Hence, all the required documents will be furnished to BHEL by vendor. Income Tax on E&C will not be paid to vendor by BHEL. The quoted lump sum charges for E&C is inclusive of To & Fro Fare, Boarding, Lodging, Local Conveyance, etc.	
		Page 01 of 04

4 (b)	1.Loading Criteria for Payment Terms: Any deviation in the above payment term will attract loading as mentioned below. "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.	
4 (c)	1. In the case of Usance LC the loading will be considered @ 1.5% on the offered Value. 2. For LC at sight the loading will be considered @ 3.5% on the offered Value. 3. Normally CAD at sight and Confirmed LCs are liable for rejection.	
5 (a)	Liquidated damages: Delivery of the goods specified in the purchase order should be made within the time prescribed. Failure to dispatch the materials in the time as per the delivery quoted in our Purchase Order would make the supplier liable to an un-conditional LD at the rate of ½% of the total order value per week or part thereof subject to maximum of 10% of the total order value. For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof, subject to a maximum of 10% of the total order value.	
5 (b)	Loading Criteria LD / Penalty: Any deviation of the above LD/Penalty clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).	
6 (a)	Guarantee / Warranty Period Guarantee clause 18months from the date of supply or 12 months from the date of actual put in use, whichever is earlier.	
6 (b)	Loading Criteria Guarantee / Warranty Period: No Deviation is permitted. If still vendor offered any deviation on the Guarantee / warranty period it may leads to rejection of offer.	
7(a)	Performance Bank guarantee: 10% of material value as PBG shall be offered.	
7(b)	Loading Criteria Performance Bank guarantee: No Deviation is permitted and the deviated offers are liable for rejection.	
8	Taxes & Duties: All Taxes, Duties, Service Taxes etc. if any applicable and payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties.	
9	Risk purchase: If the supplier fails to deliver the goods within the delivery specified in the Purchase Order, BHEL 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 despatch within the delivery period mentioned in the Purchase Order.	
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10	Delivery Period: Our delivery term shall be 8 weeks from the date of Data Sheet approval.	
11	Validity: 120 days from Technical Bid opening. Non-compliance of the same will result in offer being liable for rejection.	
12	General Condition: Kindly submit the 'No deviation format' with clear indication of Data Sheet No / Specification ref, Drawing, and Quality plan.	
13	Reverse Auction: Reverse Auction is not applicable for this tender.	
14	BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.	
15	DOCUMENT SUBMISSION In case of PO, documents (drawings, data sheets and quality plan in triplicate) shall be submitted within 15 days from the date of receipt of po and the revised documents shall be submitted within 1 week from the date of receipt of engineering / quality comments	
16	QUANTITY OF TENDERED QTY BHEL reserves the right to increase or decrease the tendered quantity	
17	PRE QUALIFICATION REQUIREMENT a).Vendor should confirm point 2.0 of spec. TDC:TCI:326/Rev01 b).Compliance to each clause of specification TDC:TCI:326/Rev01 shall be furnished with the offer along with documents as per clause 10 (a) through (t) Offers without above PRE QUALIFICATION REQUIREMENT & COMPLIANCE will be treated as incomplete and shall be liable for rejection.	
18	MSE Clause (applicable to Indian vendors) All vendors are requested to note the Annexure X –Special clauses for Micro and Small Enterprises (MSE) suppliers. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor. If a Non MSE vendor is coming as L1, then L1 prices will be counteroffered on MSE vendor who is quoting price within the price band L1+15% and if they are agreeing purchase order will be awarded for full/complete supply of total tendered value to MSE. If more than one MSE vendors are available in the L1+15% price band then lowest of the MSE vendor will be selected for counteroffering. If lowest MSE vendor is not accepting it will be counteroffered to the next MSE vendor in the price band and so on. Finally if any of the MSE vendor in the price band is not accepting it will be ordered on L1 non MSE vendor. MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of documents as mentioned in the Annexure X. Vendor to confirm. The MSE clause will only be applicable to the Indian vendors who are quoting for the complete NIT requirement on their own in INR. Quotations should not be in collaboration with any foreign vendor i.e. part quotation in INR and part quotation in foreign currency if the vendor want to avail MSE clause.	
		Page 03 of 04

19	Erection and Commissioning support Charges: Lump sum charges of Erection and Commissioning support to be quoted with exact Man days for the system (with applicable extra Taxes and Duties etc. if any in detail). To & Fro charges, Boarding and Lodging should be quoted separately in ANNEXURE – D Non-compliance of the same will result in offer being liable for rejection..							
20	Weight of the components: a) Component Net Weight b) Component weight with packing							
21	ANNEXURE – D Vendor shall submit unpriced bid in the Annexure - D along with techno-commercial offer. if not, their offer is liable for rejection. Also the filled Annexure - D shall be attached with PRICE BID with duly signed and stamped.							
22	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.							
23	COST EVALUATION Evaluation shall be on the basis of delivered cost (i.e. "total cost to BHEL"). For evaluation, the exchange rate (TT selling rate of SBI) shall be taken as under: <table><tr><td>Single part bids</td><td>Date of tender opening</td></tr><tr><td>Two/three part bids</td><td>Date of Part-I bid opening</td></tr><tr><td>Reverse Auction</td><td>Date of Part-I bid opening</td></tr></table> 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.	Single part bids	Date of tender opening	Two/three part bids	Date of Part-I bid opening	Reverse Auction	Date of Part-I bid opening	
Single part bids	Date of tender opening							
Two/three part bids	Date of Part-I bid opening							
Reverse Auction	Date of Part-I bid opening							
		Page 04 of 04						

Annexure – C

MM/BOI/BHEL TRICHY

SPECIAL TERMS AND CONDITIONS

1. This tender is for the supply of **Online Carbon in Ash Analyser System** as per specs, size and quantities mentioned in the attached enquiry.
2. The vendor shall have adequate experience in manufacturing and supply similar type of equipment.
3. The tender is in three parts as follows:

A) Part – I Pre-Qualification requirement:

- a. The offered type of equipment shall be in successful operation for a period of at least 1 year as on the date of techno-commercial bid opening in coal fired thermal power plant of similar unit rating.
- b. Performance feedback for successful operation from end user to be furnished.
- c. Commissioning and service support for the offered equipment shall be available in India.

Vendor to submit supporting documents for the same. Offers qualifying on the above requirement will only be considered for further processing.

B) Part – II Techno-commercial bid:

Techno commercial bid will be consisting technical offer with complete set of supporting documents and commercial bid without indicating the price.

Offers found suitable on technical and commercial grounds only, will be considered for further processing.

C) Part - III – Price Bid:

It will be consisting of price details:

All three bids are to be submitted in separate sealed covers, duly indicating the type of bid and enquiry number. These three envelopes will be sent in single cover duly super scribing the Enquiry Number.

In addition to the above mentioned three parts bid, vendors who qualify on Pre-Qualification Requirement and Techno-commercially and are not registered vendor of BHEL-Trichy has to submit the filled in "Supplier Registration Forms" (available at www.bheltry.co.in - Online Supplier Registration – Material Management or <http://vis.bheltry.co.in/olsa/>) before Price –Bid opening. Price bid of such vendors will be opened only after the receipt of all documents and registration with BHEL-Trichy.

Part – I Pre-qualification bid will be opened on due date:

The techno-commercial bid of the qualified vendors will be opened on a suitable date with due intimation. Based on the acceptance of techno-commercial bid and vendor evaluation, the price bid of the qualified vendors will be opened on a suitable date with due intimation.

Annexure – C
MM/BOI/BHEL TRICHY
SPECIAL TERMS AND CONDITIONS

Following will be the criteria for vendors to qualify:

- a. Vendor should have been approved by BHEL Trichy for this items under Permanent category (OR)
- b. Vendor should submit the following documents for considering them as an approved vendor:
 - i. Duly filled-in Supplier Registration Forms.
 - ii. Availability of minimum manufacturing, handling, testing and measuring facilities as detailed in the Supplier Registration Form.
 - iii. BHEL will have the right for spot assessment of the facilities for assessment.
 - iv. Qualifying to our techno commercial requirements of the Enquiry.

Supplier Registration Form (SRF) has to be duly filled up online and send one copy with all the documents as mentioned in SRF & if vendors have already submitted SRF & hard copy is sent to BHEL, can mention SRF Number (Application Number).

URL for online Registration form is as below

<http://vis.bheltry.co.in/olsa/>

For any help regarding filling of SRF, you may contact following

Mrs. Nalini Subramanian (Purchase Officer- Supplier Development Cell)
Ph:0431/2577301
Email ID: nalini@bheltry.co.in

Mr. Ebinesan (Sr. Manager- Supplier Development Cell)
Ph:0431/2577448
Email ID: ebi@bheltry.co.in

Systems / BHEL /TRICHY
Ph:System SDC:0431/2577121,ljp@bheltry.co.in

Ph:System ERP:0431/2577522,erpsubcon@bheltry.co.in

For any queries regarding tender you may contact

1) Mr. Mr. SYED SHAFAT HAMD RASOOL,
Engineer/MM/BOI
BHEL Trichy
0431-2577072
sshrasool@bheltry.co.in

2) Mrs.P.L. Pramila
DGM/MM/BOI
BHEL Trichy
0431-2574737
pramila@bheltry.co.in

Annexure – C
MM/BOI/BHEL TRICHY
SPECIAL TERMS AND CONDITIONS

4. BHEL reserves the right to increase or decrease the tendered quantity and split the tendered quantity among more than one tenderer and place orders accordingly in any proportion based on commitment, requirement and supplier's capability in terms of delivery and quality as assessed by BHEL.
5. BHEL reserves the right to negotiate the L1 rate.
6. BHEL reserves the right to re-float the tender opened, if L1 price is not the lowest acceptable price to BHEL inter-alia other reasons.
7. BHEL reserves the right to order on more than one vendor at the lowest acceptable price to BHEL.
8. Vendors have to confirm to the Commercial Terms and Special Terms & Conditions attached.
9. BHEL standard LD condition is 0.50 % of the total ordered value per week to a maximum of 10 % for the total ordered value of Material.
10. PO will be released only after customer approval.
11. Please indicate the exact location of WORKS / FACTORY.
12. The vendor who are not registered in BHEL PMD as permanent vendors must ensure that they complete the supplier registration formalities and get registered with BHEL Trichy as permanent PMD vendors before the price bid opening is done. The offers of the vendors who fail to so will be liable for rejection.

ANNEXURE - D (FOR IMPORT VENDORS)									
PRICE BID FORMAT									
VENDOR SHALL SUBMIT UNPRICED BID IN THIS FORMAT ALONG WITH TECHNO-COMMERCIAL OFFER. ALSO THE FILLED ANNEXURE - D SHALL BE ATTACHED WITH PRICE BID PART WITH DULY SIGNED AND STAMPED. IF NOT, THEIR OFFER IS LIABLE FOR REJECTION									
ENQUIRY NO.: 1701601954			ENQUIRY DATE: 20.12.2016			PROJECT: Mouda 660MW - 3,4 (1711, 1712)			
ENQ. SL. NO.	MATERIAL CODE	MATERIAL DESCRIPTION	QTY	UNIT	BASIC UNIT PRICE INCLUSIVE OF PACKING & FORWARDING	TOTAL PRICE (UNIT PRICE x QTY.)	OTHER COST IF ANY IN %		
10	A171119708401001	Carbon in Ash Analyser System	2	Set					
OTHER CHARGES		DESCRIPTION	Lumpsum charges for Boiler - (1711)	Lumpsum charges for Boiler - 4 (1712)	Total charges for both boilers	Total Man Days required/Boiler	Other charges like Testing etc.		
Erection and Commissioning support Charges		Lump sum charges of Erection and Commissioning support with exact Man days for the system with applicable extra Taxes (Service Tax) and Duties etc. (Including To & Pro Air charges, Boarding & Loading)							
Weight of the components		Component Net Weight in Kgs.(Approx.)							
		Component weight with packing in Kgs. (Approx.)							
VENDOR NAME	VENDOR WORKS ADDRESS		GATE WAY AIRPORT NAME		SIGN AND SEAL OF AUTHORIZED PERSON				

ANNEXURE - D (FOR INDIGENOUS VENDORS)											
PRICE BID FORMAT											
VENDOR SHALL SUBMIT UNPRICED BID IN THIS FORMAT ALONG WITH TECHNO-COMMERCIAL OFFER. ALSO THE FILLED ANNEXURE - D SHALL BE ATTACHED WITH PRICE BID PART WITH DULY SIGNED AND STAMPED. IF NOT, THEIR OFFER IS LIABLE FOR REJECTION											
ENQUIRY NO.: 1701601954			ENQUIRY DATE: 20.12.2016			PROJECT: Mouda 660MW - 3/4 (1711, 1712)					
ENQ. SL. NO.	MATERIAL CODE	MATERIAL DESCRIPTION	QTY	UNIT	BASIC UNIT PRICE INCLUSIVE OF PACKING & FORWARDING	TOTAL PRICE (UNIT PRICE x QTY.)	EXCISE DUTY IN %	SALES TAX IN %			OTHER COST IF ANY IN %
								VAT %	CST WITH C FORM %	CST WITHOUT C FORM %	
10	A171119708401001	Carbon in Ash Analyser System	2	Set							
OTHER CHARGES		DESCRIPTION	Lumpsum charges for Boiler - (1711)		Lumpsum charges for Boiler - (1711)	Total charges for both boilers	Total Man Days required/Boiler	SERVICE TAX IN %			
Erection and Commissioning support Charges		Lump sum charges of Erection and Commissioning support with exact Man days for the system with applicable extra Taxes (Service Tax) and Duties etc.									
Freight charges in Rs. up to Mouda 660MW site		To be quoted as extra and not inclusive in the basic price									
Insurance charges in Rs. up to Mouda 660MW site		To be quoted as extra and not inclusive in the basic price									
VENDOR NAME:						VENDOR WORKS ADDRESS:			SIGN AND SEAL OF AUTHORIZED PERSON		

BHARAT HEAVY ELECTRICALS LIMITED, TIRUCHIRAPPALLI - 620 014
CONTROLS AND INSTRUMENTATION / FB



TECHNICAL SPECIFICATION FOR ONLINE CARBON IN ASH
ANALYSER SYSTEM

NATIONAL THERMAL POWER CORPORATION LTD.

MOUDA SUPER THERMAL POWER PROJECT
STAGE-II (2X660 MW)

CUSTOMER Nos. 1711 & 1712

SPECIFICATON NUMBER: TDC:TCI:326 / Rev 01

REVISION HISTORY:

Rev. No.	DATE	DESCRIPTION	PREPARED KV	REVIEWED ENGG. / QAC DS / RMV	APPROVED DMB
00	01/03/2016	ORIGINAL ISSUE	Sd/-	Sd/-	Sd/-
01	30/06/2016	Revised as per C&I mail to BOI dt. 30/06/16.	K. V. [Signature]	D. Prinsan [Signature] [Signature]	[Signature]

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1.0 GENERAL INSTRUCTIONS TO VENDORS:

- 1.1 Vendor to check receipt of complete documents referred to in the 'Contents'. In the event of order, the entire specification will form part of purchase order for compliance during execution.
- 1.2 Deviation if any shall be clearly brought out in the "Deviation format". In case of no deviation, 'NIL' statement shall be filled in, authenticated and furnished along with the offer.
- 1.3 Nothing in this specification shall be construed to relieve the vendor from his responsibility. The specification covers briefly the requirement of online carbon in ash analyser System. It is the responsibility of the vendor to take care of other basic and essential requirements for the offered system.

2.0 Pre-Qualification requirement

2.1 The offered system shall be of proven design and shall be in successful operation for a period of 1 year in utility boiler of similar rating and type of fuel.

2.2 Bidder to provide performance certificates / authentication letters in favour of OEM from each end user certifying the same. The manufacturer (OEM) shall be an approved vendor of NTPC Limited.

2.3 Commissioning and service support for the offered system shall be available in India.

The above pre-qualification requirement is mandatory for technical offer evaluation. Pre-Qualification requirement shall be furnished by the vendor during offer submission as per the format given in annexure I.

3.0 SCOPE

3.1 The scope of work includes design, engineering, manufacturing, fabrication, assembly, painting, inspection, Factory Acceptance Test, packing, supply, integrating the system at Project site (along with loose components / modules in case of loose supply of the same) with the supplied system peripherals, Erection, Commissioning (inclusive of Travel fares & accommodation of the engineers/ technicians), Calibration, carrying out Site Acceptance Test and proving the performance of the system. The system shall fully comply with this specification for meeting the entire functional and operational requirement.

3.2 The scope of supply of equipment includes, but not limited to the following:

- a. One no. Carbon in ash analyser system per Steam Generator, along with all accessories for on line continuous monitoring of unburnt carbon in ash based on proven technology shall be provided at Economiser / air heater hopper / ducts (The location shall be finalized during detailed engineering).
- b. Any modifications required for installing vendor's equipment in the existing ducts or hopper to be in vendor's scope.

- c. Provision for shifting the measurement location (e.g from one hopper to a nearby hopper) shall be feasible and involve only minimum modification.
 - d. Necessary measurement probes, control cabinet, isolation valves, solenoid valves, root valves, piping, Copper-tubing, air filter regulator, instruments, hoses etc. as required shall be provided by the bidder.
 - e. Bidder shall supply all the necessary hardware, cables and connector for the subject package & associated system in their scope. This includes supply of all power cables (for internal distribution), control cables/communication cables to complete the installation.
 - f. Required field and control cabinets.
 - g. All required interconnecting cables, including power cables, from sensor to field cabinet, field cabinet to control cabinet and control cabinet to DCS (4-20mA as well as RS 485). Cable specification as per Annexure-III.
 - h. HMI to provide the required user interface.
 - i. Commissioning Spares required for successful commissioning and handing over of the system shall be included in the offer.
 - j. All items, both hardware and software, as required to make the system complete shall be included.
 - i. It is to be specifically noted by the vendor that the responsibility of proving and fulfilling the functional requirements of the system solely rests with the vendor.
- 3.3 The Vendor shall provide all material, equipment and services so as to make a totally integrated System together with all accessories and associated equipment's ensuring operability, maintainability and reliability. This work shall be consistent with modern power plant practices and shall be in compliance with all applicable codes, standards, guides, statutory regulations and safety requirements in force.
- 3.4 Vendor shall also include in his proposal and shall furnish all equipment, devices and services which may not be specifically stated in the specification but are needed for completeness of the equipment/systems furnished by the Vendor and for meeting the intent and requirements of the specification.
- 3.5 The input power supply source of 230VAC, Single phase, 50 Hz at single point (control cabinet) will be provided. Further distribution of power is in the scope of vendor. The vendor shall indicate the power required in wattage for the system. Other utilities like instrument air, service air etc., if required, shall be provided by purchaser at a single location. Further distribution shall be in the scope of vendor.
- 3.6 Substitutions: Should, in the performance of the work, the Bidder finds it necessary or desirable to make a substitution for either material or function, he shall request permission to make the substitution in writing. No substitution shall be made without the written approval of purchaser (BHEL).

- 3.7 If any up-gradation of the offered system is envisaged before completion of the job to meet the specified requirements, the same shall be incorporated in the system, with the approval of the Purchaser (BHEL) without any additional cost.
- 3.8 **Manufacturing clearance:** Vendor shall supply items required as per specification and demonstrate the performance to the customer M/s NTPC. In case the vendor is not able to demonstrate the system performance to the satisfaction of customer, the same shall be taken back by vendor. All required procedures and formalities for taking back the equipment shall be the responsibility of vendor.

4.0 FUNCTIONAL REQUIREMENTS

4.1 Application

One number (01) (per Steam Generator) online carbon in fly ash analyser along with all required accessories for on line continuous monitoring of unburnt carbon in ash based on Proven technology shall be provided at a suitable location. The location shall be finalized during detailed engineering. Further, provision shall be kept for installation of sensor in other location also.

4.2 System requirements

- (a) The system shall utilize microwave technology or other proven technology for online continuous monitoring of the unburnt carbon in fly ash. The number of sensors shall be decided to have complete profile per location.
- (b) The system shall measure unburnt carbon in fly ash at a location where a representative sample can be obtained / measured such as Eco Outlet hoppers/ APH Hoppers/ Flue gas ducts, the location of which will be decided during detail engineering.
- (c) The error in measuring system shall not be more than 0.6% over 0-20% unburnt carbon in fly ash, which shall be demonstrated by comparisons with laboratory measurements.
- (d) The measurement shall be updated atleast once in 15 minutes.
- (e) In order to maximize the reliability the number of moving parts on the sensor shall be minimized.
- (f) The measurement probes shall be suitably designed to meet continuous duty requirements in hot (up to 400 deg. C depending on location) & ash-laden environment and shall be with abrasion resistant material.
- (g) The system shall provide 4 – 20 mA analog output, potential free relay contacts for alarms, faults, etc. and RS485 compatible Modbus/Ethernet serial communication protocol.

- (h) One feeder of 230 Volts +/- 10% at a single point (Vendor's control cabinet) shall be provided. Further distribution board and any other hardware shall be in bidder's scope.
- (i) The control cabinet shall be preferably mounted free standing in the CCR/CER which is 300m away. Necessary cooling arrangement shall be integral to the control cabinets located in field due to distance limitations.
- (j) System shall have provision to collect sample for laboratory analysis.
- (k) Electrical panel specifications refer section 6.0

5.0. CABINETS/ ENCLOSURES/ PANELS

All system modules, power supply components, other control devices (except field mounted sensors/transmitters) which are required for completeness of the system shall be housed in cabinets.

All equipment and dedicated cabinets required for termination and proper interface within the system and also with other systems shall also be provided by the vendor.

The cabinet mounted equipment shall be fully assembled, installed in mounting racks, wired and fully tested as per specification requirements. Vendor shall ensure that the cabinets are complete and ready for installation before dispatch from manufacturing works. The installation work at project site for these cabinets should only involve cable interconnections.

Vendor shall clearly identify in his offer, the Bill of Material, the quantity of all the cabinets along with dimensional details as included in his offer.

The Control system cabinets shall house all types of modules / hardware to achieve all functions of Control System including signal conditioning modules, controller modules, I/O modules, communication controller modules and all other requisite hardware for a complete system. All system cabinets shall be totally enclosed (with front and back doors and side panels as applicable).

All the incoming / outgoing signals shall be grouped as per their origin / destination.

The terminals used for terminating the spare cores/pairs of field cables shall not be employed for terminating the spare channels of I/O modules.

The design of all the cabinets and layout of all equipment, terminal blocks etc. shall be as per purchaser's (BHEL) approval fully keeping in view the convenience of operation and maintenance personnel and shall be subject to approval during detailed engineering.

Field termination cabinets, physically separate from system cabinets, shall be provided for termination of field signals and mounting of field termination

Vendor shall design the cabinet internal arrangement, floor cut-out and cable gland plate such that all the cables entering or leaving the cabinet can be properly glanded in the gland plate. In case, glanding is not possible vendor shall indicate in his proposal his suggested procedure for cable entry and securing the cable at place. If gland plate is not provided, then a suitable plate of 2mm size shall be provided to close bottom entry of panels with proper fixing through screw at number of points for giving rigid support.

Vendor shall furnish the number of cables that can be connected in each cabinet. Vendor shall also provide after the final installation of the cable, a suitable sealing material on the gland plates to ensure absolute sealing of the cabinet bottom, thereby ensuring that no dust ingress takes place from the cable entry zones.

Vendor shall furnish with the proposal detailed drawings giving required information to demonstrate to the BHEL, the internal layouts of cabinets offered, constructional features of cabinets, system of packaging of control modules in racks, wiring and cabling techniques, termination method for field cables, test facilities provided, etc.

The protection class of cabinets and environmental rating shall be IP 55 or better for outdoor location and IP 54 for indoor location. Cooling fan shall be provided as required by the equipment design and shall be sound proof to the maximum feasible extent. Suitable louvers with wire mesh shall be provided on the cabinet.

The cabinets shall be totally enclosed, free standing type and shall be constructed with minimum 2 mm thick steel plate frame and 1.6 mm thick CRCA steel sheet or as per supplier's standard practice for similar applications, height of the cabinet is 2200 (2315)mm. The cabinets shall be equipped with full height front and rear doors. Depth of the cabinet shall be 800mm. (Applicable for control panels to be located in CER).

The floor mounting arrangement for cabinets shall be furnished by the vendor during detailed engineering.

Cabinet doors shall be SS hinged. Hinges shall be of concealed type, Door latches shall be of three-point type to assure tight closing.

Lifting eye bolts of required size shall be provided at the top of each separately shipped section and all necessary provisions shall be made to facilitate handling without damage.

Doors shall be provided with locking arrangements. If width of a cabinet is 600 mm or above double doors shall be provided.

Two spray coats of inhibitive epoxy primer-surface shall be applied to all exterior and interior surfaces. A minimum of 2 spray coats of final finish color shall be applied to all surfaces. The final finished thickness of paint film on steel shall not be less than 65-75 micron for sheet thickness of 2 mm and 50 microns for sheet thickness of 1.6 mm. As an alternative, single coat of anodic dip coat primer along with single textured powder coating with epoxy polyester meeting the thickness requirement is also acceptable.

The vendor shall furnish sufficient touch-up paint for one complete finish coat on all exterior factory applied painted surface of each item of equipment. The touch up paint shall be of the same type and color as the factory applied paint and shall be carefully packed to avoid damage during shipment.

The finish colors for exterior and interior surfaces shall conform to following shades: Front & Rear-RAL 9002; End panel side- RAL 5012. Internal color shall be same as external colour.

Paint films which show sags, checks or other imperfections shall not be acceptable.

Cabinets shall be designed for a grounded installation on the building structure. Any isolation from the building ground which is required by equipment design shall be provided internal to the cabinet.

All alarm contacts located within cabinets as well as inputs/outputs from other related system shall be suitably terminated in the cabinets.

5.1. Name plates / labels:

Panels shall be provided with clear engraved identification name plate for all the front mounted components. Name plate shall be 3.0 mm thick Non-Hygroscopic material engraved with white lettering. The inscription letter size shall be 15mm for Main name plate (inscribed as "Online Carbon in Ash Analyser system") and 3-5 mm for others. The labels for the components coming inside the panel shall be mounted directly below and shall be designated as per the circuit. Danger labels/ name plates shall be provided wherever necessary. Name plates shall be fixed by means of pan head screws or self-adhesive film.

5.2. Loose supply items:

Foundation bolts, double compression type cable glands for cables, cable lugs shall be supplied along with panel as loose supply items. This shall be listed separately in the packing list.

6.0. Factory Acceptance Test:

Authorization-to-ship-test (ATST) or Factory Acceptance Test (FAT) to be carried out in vendor works shall include all required tests to fully demonstrate to BHEL's and/or owner (NTPC) satisfaction that each equipment/sub-system/system as well as software modules furnished as per this specification fully meets the functional requirements of this specification and NTPC approved drawings/documents/test procedures.

7.0. SPECIAL INSTRUCTIONS

- 7.1 Vendor shall make visits to BHEL / Trichy for detailed engineering/discussion regarding location & mounting of sensors.
- 7.2 Vendor shall attend warranty / defect calls within 48 hours.
- 7.3 Vendor to supply the O & M manual in 'CD-ROM'

8.0. TRAINING

Training on the entire Software and Hardware of the offered Online Carbon in Ash analyser system shall be provided for a period not less than 8 man-days. Vendor shall clearly indicate the Training Schedule and Course contents for the above duration indicated, covering all the special components of the System, Application Software, System Software, Programming, and special care to be taken care during Erection of the system.

9.0. COMMISSIONING

The Complete responsibility of commissioning of the system lies with the vendor. All the commissioning Spares required for successful commissioning is in vendor scope. Vendor shall provide all services related to commissioning of the system supplied. After Commissioning of the system, Vendor's Engineer shall get the Protocols signed by the Owner (NTPC) of the plant and BHEL's site Engineer. After successful completion of Commissioning of the System, Vendor's Engineer shall get the Final Acceptance Protocol format signed by NTPC and BHEL's site Engineer and furnish the signed copies to BHEL Tiruchi. Without this document, Vendor's responsibility for completion of the system and handing it over to Owner (NTPC) is not deemed to have been completed. Charges for vendor's visit to site towards commissioning and handing over of the system shall be included in the price. This shall be valid for the entire period of the contract.

Any spare parts / items required for the system during commissioning shall be provided by the vendor. Vendor's engineer shall bring adequate spares for commissioning of the system and non-availability of any item shall not hold up the progress of commissioning of the system in any way. Vendor shall also furnish list of spares required for successful commissioning of the system.

10.0. DOCUMENTATION

Following document shall be submitted along with the offer in Triplicate:
(The documents shall be neat, legible and in English)

- (a) Filled in datasheet in the enclosed format.
- (b) Detailed system description/configuration/arrangement drawing, operational write-up with working principles, bill of materials, drawings, datasheets, information, technical catalogues, test certificates, material

certificate, guarantee certificate, calibration certificate, characteristic curve (if applicable) and other detail as required to fully establish the capability and performance of the equipment and systems offered.

- (c) Complete BOM for the offered system. The BOM submitted shall contain the make, model number, rating of the item. The import and indigenous content shall clearly brought out in the offer.
- (d) Any previous factory acceptance test reports for a similar application qualifying the accuracy of the system with respect to laboratory measurement.
- (e) Power requirements, Air requirements (in Nm³/hr), details of accessories etc. required to establish product quality and scope of supply.
- (f) Schematic wiring drawing, general arrangement & Internal General Arrangement drawing of control panels.
- (g) Bill of materials for special cable and cable accessories (if any).
- (h) Signal exchange scheme with SG-DDCMIS etc.
- (i) Filled in technical data sheets.
- (j) The break-up price for each component shall be furnished along with the offer, which shall be valid throughout contract period.
- (k) Filled in "Deviation format" with reason / justification for the deviations taken.
- (l) Separate offer for recommended spares for two years Operation and Maintenance which shall be valid throughout the contract period.
- (m) List of Commissioning Spares required for successful commissioning and handing over of the system to the owner (NTPC).
- (n) Requirement of electric power for utilities, service/ instrument air etc clearly defining continuous and intermittent requirement.
- (o) List of reference of similar system already in service.
- (p) All other documents not specifically mentioned here but required for completion of engineering work and proper coordination shall be unit wise.
- (q) Procedure for Factory acceptance test and Site acceptance test for purchaser's(BHEL) and owner's (NTPC) approval.
- (r) List and schedule of documents to be submitted by vendor for purchaser's (BHEL) and owner's (NTPC) approval / information after issue of Letter of intent(LOI).
- (s) Training schedule and course content.
- (t) List/description of various types of cable along with unit price.

Offer without the above documents will be considered as incomplete / non-responsive and liable for rejection.

Following documents shall be submitted after award of LOI

- 10.1. Vendor shall furnish a detailed list of documents along with the schedule for submission, after Letter of Intent (LOI) is awarded. This list shall be furnished along with the offer.
- 10.2. System OGA drawing, Bill of materials with make, model nos. and applicable literature/catalogues have to be furnished within 2 weeks from the date of LOI for Purchaser's (BHEL) Approval. All drawings for approval shall be submitted in 3 hard copies in addition to 3 CD ROMs.
- 10.3. All final documents like GA drawing, data sheets of all components, internal arrangement drawings etc., shall be submitted in 3 CD ROMS in addition to 2 sets of hard copies.
- 10.4. After commissioning, if submitted drawings undergo any change, the same shall be revised suitably. The revised drawings referred to as 'AS BUILT' drawings shall be submitted in 3 CD ROMS in addition to 2 sets of hard copies.
- 10.5. All documents including drawings shall be in standard A4 or A3 size only.
- 10.6. All documents shall be in English, legible and neatly printed or typed.
- 10.7. Test report/ Test certificates: Vendor to furnish in 3 Sets
- 10.8. **O&M Manuals:**
 - a. 2 sets of Operation & Maintenance manuals in hardcopy and softcopy (CD-ROM) for each category of equipment shall be submitted within one week from the date of inspection.
 - b. The O&M manuals shall be with sufficient detail to enable the user to maintain, dismantle, reassemble and adjust all parts of the equipment. Step by step procedure for all operations likely to be carried out during the life of the plane/ equipment including erection, testing, commissioning, operation, maintenance, dismantling and repair.
 - c. A collection of the manufacture's standard leaflets will not be acceptable. The O&M manual shall be specifically compiled for this project.
 - d. Each manual shall also include a complete set of approved drawings together with performance/ rating curves of the equipment and test certificates wherever applicable.
 - e. The O&M manual shall contain complete details about the system including the following :
 - (a) Applicable drawings

- (b) Full details and drawings of all equipment furnished the testing, operations and maintenance procedures etc. separately on each equipment.
- (c) Application software listing
- (d) Relevant catalogues of all the modules / components used in the system
- (e) Complete spare parts list, including ordering procedure and complete address(es) of spare part supplier(s)
- (f) Storage instruction of components.
- (g) Do's and Don'ts
- (h) Testing and troubleshooting instructions.
- (i) Programming manuals
- (j) Any other details felt necessary by the Purchaser (BHEL) / owner (NTPC).

11.0. SYSTEM DATA SHEETS

Vendor shall provide data sheets for the major components of the system offered. Vendor shall furnish full and complete technical particulars, specifications, catalogues, dimensional drawings for each component of the system offered for approval.

12.0. CARBON IN ASH ANALYSER SYSTEM SOFTWARE

Applicable Software shall be downloaded in the processors and in the programming / monitoring terminal. Such software shall also be supplied in "CD-ROM's" in triplicate.

13.0. HMI

The HMI shall consist of an Industrial grade PC (Latest Intel processor i7 or better), 19" Colour monitor, 500 GB hard disk, CD/DVD drive, I/O cards, key board, mouse and printer interfaces. The PC shall have effective protection from malware, virus, etc. by using state-of-art software. The Operating System, Application Software, Anti-virus software etc. shall have a full license and there shall be no recurring costs towards the software for upgrade or repair installations.

Detailed specification of the HMI system shall be furnished along with the offer.

14.0. QUALITY ASSURANCE PROGRAM, INSPECTION AND TESTING

14.1. Quality Plan:

- 14.1.1 The vendor shall submit the quality plan in NTPC's format which is enclosed. Quality plan shall cover all major items in the System. Vendor shall indicate all checks done right from the raw material stage through bought out item, in process assembly, testing and final inspection of these items. For each characteristic, vendor should indicate the appropriate reference documents like national standards, international standards, drawing, etc. and a copy of vendor quality plan shall be submitted along with the offer for review. The functional tests shall be described in detail as "Factory Acceptance Test procedure" and shall be indicated under reference documents.
- 14.1.2 Vendor shall submit the above QP for BHEL & NTPC's approval and the manufacture can start only after the QP is approved by BHEL & NTPC.
- 14.1.3 Where CHP (Customer Hold Point) is indicated in the approved QP, the vendor has to offer such item at that stage for inspection by BHEL & NTPC. The vendor can proceed further only when written clearance is obtained for that stage of CHP.

14.2. Type Test Requirements For Solid State Equipment

i) Surge Withstand Capability (SWC) for Solid State Equipments/ Systems. All solid state systems/ equipments shall be able to withstand the electrical noise and surges as encountered in actual service conditions and inherent in a power plant. All the solid state systems/ equipments shall be provided with all required protections that needs the surge withstand capability as defined in ANSI 37.90.1/ IEEE-472. Hence, all front end cards which receive external signals like Analog input & output modules, Binary input & output modules etc. including power supply, data highway, data links shall be provided with protections that meets the surge withstand capability as defined in ANSI 37.90.1/ IEEE-472. Complete details of the features incorporated in electronics systems to meet this requirement, the relevant tests carried out, the test certificates etc. shall be submitted along with the proposal. As an alternative to above, suitable class of EN 61000-4-12 which is equivalent to ANSI 37.90.1/ IEEE-472 may also be adopted for SWC test.

ii) Dry Heat test as per IEC-60068-2-2 or equivalent.

iii) Damp Heat test as per IEC-60068-2-30 or equivalent.

iv) Vibration test as per IEC-60068-2-6 or equivalent.

v) Electrostatic discharge tests as per EN 61000-4-2 or equivalent.

vi) Radio frequency immunity test as per EN 61000-4-6 or equivalent.

vii) Electromagnetic Field immunity as per EN 61000-4-3 or equivalent.

Type test certificates shall be submitted for BHEL & NTPC review & approval.

14.3 Inspection:

1. The complete system has to be offered for inspection by BHEL & NTPC (wherever applicable) and the vendor shall give 30 days advance notice for arranging the inspection after the system is fully tested and ready.
2. After Inspection, the equipment can be despatched only after obtaining the MDCC (Material Despatch Clearance Certificate) from NTPC. No material shall be despatched without MDCC.

15.0 PACKING:

The system should be packed with sea worthy packing.

Vendor shall be solely responsible for packing and marking of CARGO with respect to handling, transport, and storage at plant site. VENDOR shall be fully liable for proper, sufficient and adequate packing, completeness of contents, protection of contents for a storage time of minimum 2 years, and correct preparation of the packing list. All damage and costs whatsoever resulting from inadequate or insufficient packing shall be fully charged to vendor.

Packing and conservation of goods shall be sufficient to protect them from damage during transit from point of manufacturer and storage at job SITE under conditions which may involve multiple handling, extended storage, exposure to moisture and the possibility of pilferage.

16.0. LIST OF ANNEXURES

- 16.1 Annexure I -Pre-Qualification requirement Format
- 16.2 Annexure II -Quality Plan Format
- 16.3 Annexure III - Power & Instrumentation Cable Specification.



429-024

PURCHASE / MM / FB
SUB DELIVERY - ENQUIRY - DEVIATION

Page

OF

SCHEDULE OF DEVIATION TO
SUB - DELIVERY ENQUIRY No.

DATE

DESCRIPTION

SPECIFICATION

DRG. No.

QUALITY PLAN

DOCUMENT REFERENCE

BHEL ENQ. CALLED FOR

FIRM'S ALTERNATE OFFER

CERTIFIED THAT OTHER THAN THE ABOVE DEVIATIONS, WE ARE ACCEPTING ALL THE OTHER
SPECIFICATIONS AND REQUIREMENTS IN FULL TO YOUR ENQUIRY

STATION :

DATE :

SIGNATURE OF FIRM'S REPRESENTATIVE

FIRM SEAL

NOTE: 1. Deviations should be taken only in the extreme case.
2. If necessary, use additional sheets with page control number.

ANNEXURE X
Micro Small and Medium Enterprises (MSE) – Clause for NIT

In line with Gazette notification issued by Ministry of Micro Small and medium enterprises on MSE suppliers, the following special provisions shall be applicable.

20% of the tendered quantity is earmarked for MSE suppliers in this tender.

Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC / ST entrepreneurs.

In case MSE vendor participating in the tender quotes within the price band of L1 + 15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately.

In case of tender items is not-splitable or non-dividable etc., MSE quoting price within the price band L1+15% may be awarded for full/complete supply of total tendered value to MSE

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either

1. EM II certificate having deemed validity (two years from the date of issue of acknowledgement in EM II) **or**
2. Valid NSIC certificate or EM II certificate along with CA certificate (Format enclosed) applicable for the year, certifying quantum of investment in plant and machinery within the permissible limits as per the act for relevant status (MICRO or SMALL) where the deemed validity of EM II is over.

Date to be reckoned for determining the deemed validity will be the last date of technical bid submission (Part 1 in case of two part bid).

Non submission of such documents will lead to consideration of their bid at par with other bidders and MSE status of such suppliers shall be shifted to NON MSE suppliers till the supplier submit this documents.

Documents should be notarized or attested by a Gazetted officer.

Definitions of MSEs owned by SC/ST is under:

- ***In case of proprietorship firm, proprietor must be SC/ST.***
- ***In case of partnership firm, the SC/ST partners must be holding at least 51% shares in the unit.***
- ***In case of private limited companies, at least 51% share must be held by SC/ST promoters.***

Authorised Offices to Issue SC/ST certificate.

The caste/Tribe/Community certificate issued by the following authorities in the prescribed form for SCs/STs can be considered.

- District Magistrate/Additional District Magistrate/Collector/Deputy commissioner/Additional Deputy commissioner/Deputy collector/1st class stipendary magistrate/Sub divisional Magistrate/Taulka Magistrate/Executive magistrate/Extra Assistant commissioner.
- Chief Presidency magistrate/Additional chief presidency magistrate/Presidency magistrate.
- Revenue Officer not below the rank of thasildar.
- Sub-Divisional officer of the area where the individual and / or his family normally resides.

To avail the benefits of MSE under SC/ST category, the related documents as stated above should be submitted along with tender documents.

Details of Gateway Airport with applicable Foreign Currency and Airlines for FSC payment **Schedule F**

Sch. No.	Country	CUR Code	Gateway Airport/s	Airlines with its Code For FSC Payment will be made	
D01	UK	GBP	London (Heathrow)	Air India	AI
D02	UK	GBP	New Castle	British Airways	BA
D03	UK	GBP	Oxford, Chetnam	British Airways	BA
D04	UK	GBP	Bristol, Wellingborough	British Airways	BA
D05	UK	GBP	Birmingham	British Airways	BA
D06	UK	GBP	East Midlands	British Airways	BA
D07	UK	GBP	Manchester	British Airways	BA
D08	UK	GBP	Leeds	British Airways	BA
D09	UK	GBP	Glasgow	British Airways	BA
D10	France	EURO	Paris (Roissy) & Lyon	Air India	AI
D11	Sweden	EURO	Stockholm	Emirates	EK
D12	Sweden	EURO	Gothenberg & Malmo	Emirates	EK
D13	Italy	EURO	Rome, Milan	Carrier Used	Carrier Used
D14	Italy	EURO	Turin, Bologna, Florence	Carrier Used	Carrier Used
D15	Netherlands	EURO	Amsterdam, Rotterdam	Kim Airlines	KLM
D16	Austria	EURO	Vienna, Linz, Graz	Lufthansa	LH
D17	Belgium	EURO	Antwerp, Brussels	Singapore Airlines	SQ
D18	Denmark	DKK	Copenhagen	Cathay Pacific	CX
D19	Japan	JPY	Tokyo, Osaka	Air India	AI
D20	Singapore	SGD	Singapore	Air India	AI
D21	Canada	CAD	Toronto	Carrier Used	Carrier Used
D22	Canada	CAD	Montreal	Carrier Used	Carrier Used
D23	USA	USD	New York, Boston	Air India	AI
D24	USA	USD	Chicago	Carrier Used	Carrier Used
D25	USA	USD	San Francisco, Los Angeles	Carrier Used	Carrier Used
D26	USA	USD	Atlanta, Houston	Carrier Used	Carrier Used
D27	Germany	EURO	Munich, Koin, Dusseldorf, Hannover, Hamburg, Stuttgart, Darmstadt, Manhiem, Nurnberg	Lufthansa	LH
D28	Germany	EURO	Frankfurt	Lufthansa	LH
D29	Germany	EURO	Berlin	Lufthansa	LH
D30	Switzerland	SFR	Basle, Zurich, Geneva	Swiss World Cargo	LX
D31	Spain	EURO	Barcelona	Emirates	EK
D32	Australia	AUD	Sydney	Qantas Airlines	QF
D33	Australia	AUD	Melbourne	Qantas Airlines	QF
D34	Australia	AUD	Perth	Qantas Airlines	QF
D35	Czech	EURO	Prague	Lufthansa	LH
D36	Hong Kong	HKD	Hong Kong	Air India	AI
D37	New Zealand	NZD	Auckland	Carrier Used	Carrier Used
D38	Russia	USD	Moscow	Carrier Used	Carrier Used
D39	South Korea	USD	Kimpo International, Incheon	Air India	AI
D40	Finland	EURO	Helsinki	Finnair Cargo	AY
D41	Romania	EURO	Bucharest	Carrier Used	Carrier Used
D42	Norway	EURO	Oslo	Carrier Used	Carrier Used
D43	Ireland	EURO	Dublin	Carrier Used	Carrier Used
D44	Israel	USD	Tel Aviv	Carrier Used	Carrier Used
D45	UAE	USD	Dubai	El Al Israel	LY
D46	Oman	USD	Muscat	Air India	AI
D47	Egypt	USD	Cairo	Air India	AI
D48	Taiwan	USD	Taipei	Carrier Used	Carrier Used
D49	Ukraine	USD	Kiev	Carrier Used	Carrier Used
D50	China	USD	Shanghai, Shenzhen	Lufthansa	Carrier Used
D51	Philippines	USD	Manila	Carrier Used	Carrier Used
D52	Malaysia	USD	Kuala Lumpur, Pe Nang	Carrier Used	Carrier Used
D53	Cyprus	USD	Lamaca	Malaysia Airlines	Carrier Used
D54	South Africa	USD	Johannesburg, Durban	Carrier Used	Carrier Used
D55	Slovakia	EURO	Bartolova	Carrier Used	Carrier Used
D56	Saudi Arabia	SAR	Riyadh	Lufthansa	LH
D57	Turkey	EURO	Istanbul	Saudi Arabia Airlines	SV
D58	Thailand	USD	Bangkok	Turkish Airlines	TK
D59	Brazil	USD	Sao Paulo, Rio De Janeiro	Thai Airways	TG
				Emirates	EK