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 LI + 15%, they will be allowed to supply the portion of the requirement subject to acceptance of LI 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.

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

STANDARD TECHNICAL SPECIFICATION FOR ONLINE CARBON IN ASH ANALYSER SYSTEM

SPECIFICATON NUMBER: TDC:TCI:334 / Rev 00

00	14-03-17	Initial Release	(SK)	(KV)	(VA)	(TK)
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				REVIEWED		

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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.

k. 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 without any cost implication to the purchaser.

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 5.0

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 in 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 2200mm (2315 mm-including base channel & anti-vibration pad) . 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 <u>Triplicate</u>:
(The documents shall be neat, legible and in English)

(a) Filled in datasheet.

(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 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 / IEEE C37.90.1 -2012. 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 / IEEE C37.90.1 -2012. 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 / IEEE C37.90.1 -2012 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 REPRESENTETIVE FIRM SEAL

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

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, Chetlam	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	Klm 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, Koln, Dusseldorf, Hannover, Hamburg, Stuttgart, Damstadt, Manihiem, Nurumberg	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 Zeland	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	El Al Israel	LY
D45	UAE	USD	Dubai	Air India	AI
D46	Oman	USD	Muscat	Air India	AI
D47	Egypt	USD	Cairo	Carrier Used	Carrier Used
D48	Taiwan	USD	Taipei	Carrier Used	Carrier Used
D49	Ukraine	USD	Kiev	Lufthansa	Carrier Used
D50	China	USD	Shanghai, Shenzhen	Carrier Used	Carrier Used
D51	Philipines	USD	Manila	Carrier Used	Carrier Used
D52	Malaysia	USD	Kualalumpur, Pe Nang	Malaysia Airlines	Carrier Used
D53	Cyprus	USD	Larnaca	Carrier Used	Carrier Used
D54	South Africa	USD	Johannesberg, Durban	Carrier Used	Carrier Used
D55	Slovakia	EURO	Bartislova	Lufthansa	LH
D56	Saudi Arabia	SAR	Riyadh	Saudi Arabia Airlines	SV
D57	Turkey	EURO	Istanbul	Turkish Airlines	TK
D58	Thailand	USD	Bangkok	Thai Airways	TG
D59	Brazil	USD	Sao Paulo, Rio De Janeiro	Emirates	EK

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 B SIGNED AND STAMPED. IF NOT, THEIR OFFER IS LIABLE FOR REJECTION

ENQUIRY NO.: 1701701662	**ENQUIRY DATE: 18/08/2017**	**PROJECT: North K to 3 (17**

ENQ. SL. NO.	MATERIAL CODE	MATERIAL DESCRIPTION	QTY	UNIT	BASIC UNIT PRICE INCLUSIVE OF PACKING & FORWARDING	TOTAL PRICE (UNIT PRICE x QTY.)
10	A172019708401001	Carbon in Ash Analyser System	3	Set		

OTHER CHARGES	DESCRIPTION	Lumpsum charges for Boiler - (1720)	Lumpsum charges for Boiler - (1721)	Lumpsum charges for Boiler - (1722)	Total charges for all 03 boilers	Total Man Days required/Boiler
Erection and Commissioning support Charges	Lump sum charges of Erection and Commissioning support with exact Man days for the system with applicable extra Taxes and Duties etc. **(Including To & Pro Air charges, Boarding & Loadging)**					

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 AUTHOR**

ID PART WITH DULY
Karanpura 660MW - 1 '20 to 1722)
OTHER COST IF ANY IN %
Other charges like Testing etc.

RIZED PERSON