BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI-620 014
PRODUCT ENGG / FB

Title Sheet
Ash expelling / deporting system for Boiler applications

SPECIFICATION NUMBER: PP: ASH-01 REV No:01

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00	Initial release	08- Feb-2019
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Rev No	Prepared by	Checked by	Approved By
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1. Intent

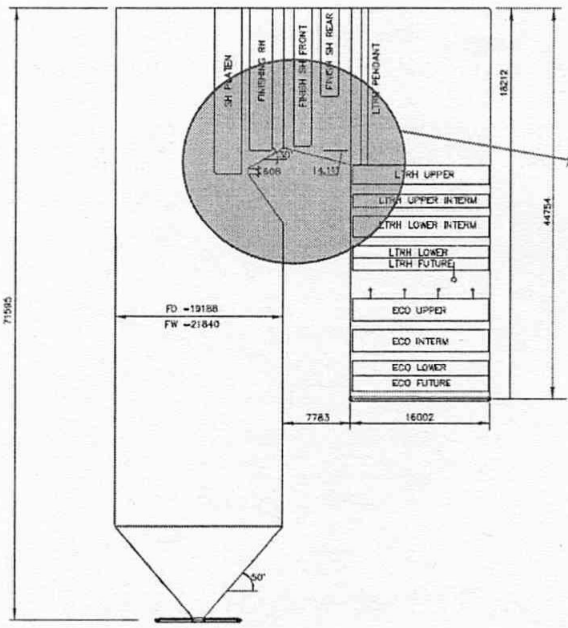
The ash expelling / deporting system is intended to clean the accumulation of ash over Boiler pressure parts enclosure along the flue gas path by pushing or sweeping it to the zones where the ash can be removed while the boiler is under operation / shutdown. The system shall be capable of expelling ash deposition on flat and sloped surfaces by means of acoustic horns and ash sweepers.

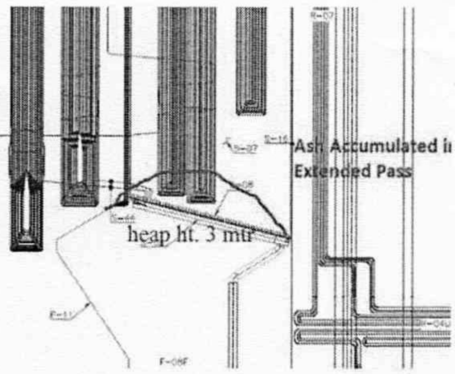
2. Scope

The specification covers the design, manufacture, inspection, supply and supervision of erection requirements of ash expelling / deporting system to evacuate the ash which accumulates over Boiler pressure parts (extended back pass) on flat and inclined surfaces.

3. Requirements of the system

i. Area of application





SKETCH-02

SKETCH-01

The system has to be installed on boiler pressure parts enclosure (formed by welding tubes and flats together) which are either vertical / horizontal / sloped walls. The temperature of space where ash accumulates is estimated to be around 900 Deg C. The floor space of ash deposition is estimated to be around 9 Meters x 20 Meters. For the schematic arrangement of boiler pressure parts enclosure refer sketch- 01. Project specific details will be furnished after placement of order to arrive at required details / erection plan specific to the arrangement of pneumatic piping and panels.

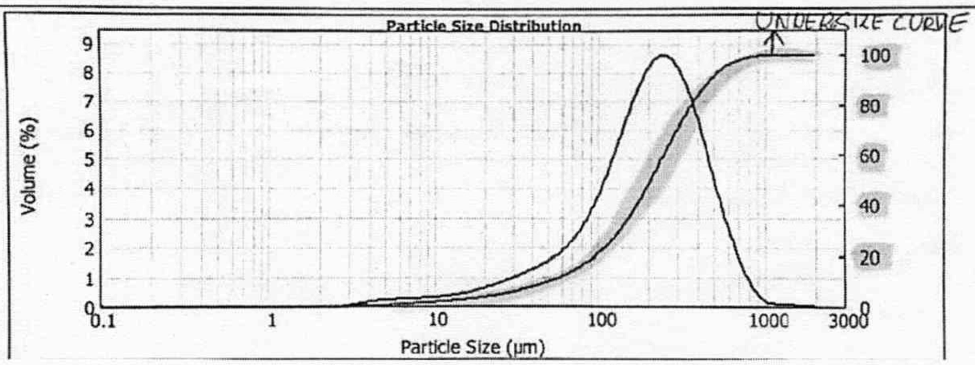
The floor / surface on which ash accumulates are air tight and do not have any perforations to enable falling of ash. The enclosure on which the equipment has to be mounted will undergo thermal expansion downward during the operation of the plant.

Coils (tube assemblies) are hanging inside occupying the enclosure space as indicated in Sketch-02. The tube assemblies usually have clearance of 450 mm between the floor where ash accumulation happens. The air blasters shall blow the air along the sloped floor to flow down along with flue gas stream.

The system should not necessitate any shut down requirements of the power plant where it is being installed for its own requirements of inspection and maintenance. The supplier shall ensure at least ONE YEAR of trouble free operation of the system without any maintenance requirements.

ii. Type of Ash and Volume to be handled

a. Bulk density -0.75 gm/cc
b. True density – 2.192 gm/cc
c. As per Geldart particle type classification, the ash will fall under Group B – Sandlike
d. Typical ash collection rate is estimated to be 15 Tonnes /Hour which accumulates over entire floor.



(Typical ash particle size distribution)

iii. Material of Construction

a. The pressure parts enclosures where equipment to be mounted, are typically made of alloy steel grade tubes and flat strips welded between the tubes as membrane. Any welding to these tubes and fins to mount the equipment shall ensure compatible material for weldability and strength.
b. The nozzle of the sweepers and horn facing the flue gas stream will expose to temperature in the order of 900 Deg C. The material selected shall be suitable for such high temperature environment. Supplier shall ensure proveness of selected material for similar severity conditions and furnish documents in proof of the same.
c. Usage of asbestos materials in any form is prohibited.
d. The piping and other equipment exposed to atmosphere should last long for the intended period of service under the ambient conditions of the site where the system is installed.
e. Moving components if any shall not have rubber items which would result in poor life due to wear & tear and service conditions.
f. Material shall be new and undamaged. The materials of construction shall be suitable for the operating temperature and operating environment. All the materials exposed to the gas stream shall be compatible to prevent any possible corrosion or other thermal or mechanical deterioration. Proper mounting materials shall be selected to prevent any galvanic corrosion due to use of dissimilar metals.

iv. Compressed Air Requirement:

a) The plant service air of pressure 4-5 bar will be made available at terminal points of air piping. Supplier to confirm and ensure effective cleaning using this pressure. The proposed terminal point of air supply is at approximately 2 Meters away from the floor (area of ash accumulation).

b) Supplier to specify the blowing cycle and duration for the acoustic horn and sweepers which shall be reviewed by the purchaser and mutually agreed upon between supplier and purchaser. The system shall be capable of operating at different air pressure ranges on need basis (1 to 5 bar).

c) Supplier shall specify compressed air volume and pressure requirements for the continuous operation of the cleaning system

The supplier shall provide an air preparation system that includes, but not be limited to a stainless steel flexible hose, solenoid valve, locking ball valve, air filter & regulator, and piping from the existing air system. Supplier shall also be responsible for sizing and supplying the air receiver. Supplier shall ensure no leakage of compressed air through piping or accessories.

v. Electrical Power requirement:

One (1) no. of 240 V AC Normal power supply feeder & One (1) no. of 240 V AC UPS Power supply feeder will be made available to interface point. Further generation of the required voltage level and the distribution of the same from the common point to the Acoustic Horns and Air blasters shall be in the scope of the supplier. Also, supplier to furnish expected power consumption and details.

vi. **Acoustic Horn & Ash Sweeper Control System:**

The supplier shall furnish all control and electrical devices including true positive indicators and alarms required for proper control and safe operation of the system. The blowing pressure of the sweepers shall also be adjustable and controllable. The frequency of operation shall be adjustable by the operator through local controls also. The control system shall be self-contained, and once activated, capable of operating the cleaning system without any operator interaction. The control system shall be capable of being hooked up to DCS of the plant.

4. Equipment to be supplied:

The purchaser would provide Air and Power at the interface location as mentioned above. Beyond the interface location all the necessary components and equipment shall be supplied by the supplier to make the system completely functional. The sonic horn and air blasters system shall be supplied together only from same source as a package. The list of equipment shall include but not limited to the following.

i. **Acoustic Cleaning system:**

The system shall include, but is not limited to the following:

a. Compressed air-driven acoustic cleaners.
b. Air receiver(s) located near the boiler (sizing and supply).
c. Required gaskets, fasteners, support steel, and hangers.

d. Solenoid valves, locking ball valves, regulators and instruments.
e. Acoustic cleaning system controls shall be self-contained in NEMA-4 or equivalent enclosure, and once activated, capable of operating horns without any operator interaction. Controls shall be capable to be connected to the DCS (by others.) The frequency of operation shall be adjustable by the operator through local controls also.
f. Provide services of competent start-up personnel for testing of the system as well as operator training (quote per man-days basis.)
g. One (1) lot lubricants for initial operating of all equipment supplied
h. One (1) lot of commissioning spares per Seller's specific recommendation
i. One (1) lot spare parts for one (1) years of continuous operation per Seller's specific recommendation

The sound generator shall consist of typical component necessary for acoustic horn operation. The sound generator components shall include, but not limited to, a bell flange, bell gasket, air inlet, generator body, pedestal, diaphragm, cover plate gasket, and cover plate. The diaphragm shall be made of titanium to withstand severe working conditions.

ii. Ash sweeping system:

The system shall include, but is not limited to the following:

a. Air reservoirs with piston valve assembly, safety valve and exhaust valve and its connecting flanges and support
b. Solenoid valve and quick exhaust valves
c. Pipe mounting / hoses and jet blowing nozzles
d. One (1) lot lubricants for initial operating of all equipment supplied
e. One (1) lot of commissioning spares per Seller's specific recommendation
f. One (1) lot spare parts for one (1) years of continuous operation per Seller's specific recommendation

iii. Other equipment:

a. One (1) complete piping system including an extra 15% on pipe lengths of each size, and an extra 10% on fittings of each size. And associated connectors /nozzles / flanges fasteners and supports with filters and dryers.
b. Pneumatic panel and Timer control panel with logic incorporated and capable of being operated through local signals or signals from main plant DCS. All the items between these control panel to each equipment / instrument to ensure the operation of the system shall be supplied and installed by the supplier.
   Supplier to provide any material / instrument required during installation of the equipment. The material requirement beyond interface point shall be completely addressed by the supplier.

5. Safety requirements

The system shall ensure a safe operating environment for the personnel accessing the system. It shall also ensure no unsafe operating sequence happens which would hinder the operation of the main plant. Maximum free field noise level for any equipment at any operating loads is 85 dBA sound pressure measured 3 feet (1 meter) horizontally from the base of the equipment.

Any additional force / vibration generated by the equipment to the existing enclosure / structure of boiler shall be clearly indicated in the offer.

The methods for measuring, calculating, and reporting procedures for noise generated by a sound source shall be in accordance with ANSI S1.2, "American National Standard Method for the Physical Measurement of Sound." The plant owner will do noise level testing of equipment, per ANSI/ASME PTC-36, to ensure that the above limits haven't been exceeded. The supplier shall provide silencers or acoustic insulations as required to meet these requirements.

6. General Requirements

a. All materials, components used in the design, construction and installation shall meet the requirements of its specified application in accordance with good engineering practice. All material shall be supplied as per Supplier's bill of quantity document and if any shortage of material found later or during installation of the system at site, Supplier is responsible for the same and shall agree to supply the additional material at free of cost.

b. The material of construction and its duty class shall be clearly spelt out in the offer and the same shall conform to specified National / International Standards. All materials used for the construction of the equipment shall be new and shall be in accordance with the requirements of this specification. Materials utilized for various components shall be those which have established themselves for use in such applications for at least a period in excess of 2 years.

c. All fasteners used, if applicable, shall be of Metric threads only. (No British / American threads in the inch system is permitted)

d. Supplier shall follow International colour Code wherever applicable for various components, assembly and sub-assembly for easy identification of components of the system.

e. All assemblies /sub-assemblies and individual components shall bear proper identification numbers. The methodology followed shall be clearly spelt out in the base offer.

f. Supervision & Training:

   The Supplier shall extend all possible assistance and co-operation to the purchaser regarding the development of expertise in the area of assembly, disassembly, identification, storage & retrieval and safety aspects of the system offered.

   Supplier shall also impart the necessary training - training at the job site for the required period by the Supplier's representative.

   The cost applicable for training mentioned above shall be indicated in Indian Rupees, separately in the offer as supervision and training charges. The above charges shall be paid only after site/ end-user certification on installation and training as described above.

g. Tools and tackles:

   The Supplier shall supply with the main equipment one complete set of special tools and tackles required for erection, assembly, dismantling and proper maintenance of the equipment and system. The list of such tools and tackles shall be submitted by the Supplier along with the offer.

   The price of each tool/tackle shall be deemed to have been included in the total bid price. These tools and tackles shall be packed and sent to purchaser works at Trichy. All the tools and tackles shall be of reputed make acceptable to the Purchaser.

Any other items though not specifically mentioned in this specification but needed to complete the equipment and system [unless specifically mentioned under exclusions shall form part of the offer].

h. Demonstration Test requirements at Purchaser works:

Purchaser will arrange for a demonstration test set up on pilot scale to examine the effectiveness / performance of the equipment at Trichy. At least 5 Ash Sweepers and One sonic horn along with required solenoid valves, nozzles and mountings will be used at Purchaser works for performing the Demonstration and testing by Purchaser.

The test and demonstration shall enable the purchaser to determine the location and orientation of the equipment at field. The demonstration will include but not limited to the following to exhibit the equipment capability to meet the intended requirement.

a. The effectiveness of Sonic horn in terms of distance covered and the maximum heap that could be flattened by the Sonic Horn. The effect of Sonic horn level from the floor shall also be analyzed.
b. The effectiveness of ash sweepers in terms of extent of cleaning distance/area. The effect of nozzle height from the floor and its orientation shall also be studied.
c. The effectiveness of ash sweepers at different air pressures shall also be demonstrated.
d. The effectiveness of Sonic Horn and Ash sweeper shall also be demonstrated for different slopes of the floor.

The testing will be performed at ambient conditions. The test set up used for testing will be closely simulating actual site conditions.

Based on the test and demonstration results, the Purchaser will finalize the location and orientation of the equipment for installation on the boiler. Any additional requirement arising from the demonstration results in terms of equipment, accessories and configuration, shall be met by the supplier at the field installation without any cost implications. The equipment used for the demonstration will be deployed at actual site. Supplier shall assist / supervise proper installation for testing at purchaser works, dismantling and reassembly of the used equipment for trouble free operation at site. Supplier to arrange for transport of all the items to purchaser works at Trichy. The demonstration at purchaser work as per the details specified above is mandatory and no deviation will be permitted against this requirement.

i. Erection and Commissioning requirements:

The supplier shall supervise installation of all the equipment / instrument of the system from the interface point. Purchaser will ensure Air and Power requirement being met at the interface point as per the parameters mentioned in this document. Supplier is responsible for commissioning of the system. Supplier shall indicate the estimated erection and commissioning durations. Any material requirement beyond the interface point for completion of erection and commissioning shall be provided by the supplier.

7. Quality Requirements

i.General

All materials used for equipment construction including plates, pipes, forgings, fittings etc., shall be of tested quality as per relevant codes/standards. All material shall be chosen from the fresh lots and shall be free from defects like scales, seam, lamination, pitting etc., Detail of results of the tests conducted to determine the mechanical properties, chemical analysis and the details of heat treatment procedure shall be recorded on certificates. Tests shall be carried out as per applicable material standards and or agreed details. All codes standards or specifications with latest editions shall be referred.

ii. Quality plan

Supplier shall submit along with the offer the quality plan for Purchaser's review / comments / approval to ensure that the equipment and services, under the scope of contract whether manufactured or performed, within the Supplier's works or at his sub-Supplier's premises or at the Purchaser's site or at any other place of work are in accordance with the specifications, the Supplier shall adopt suitable quality assurance programme to control such activities at all points, as necessary. Such programmes shall be outlined by the Supplier and shall be finally accepted by the Purchaser/authorized representative after discussions before the award of the contract. The offer which is not complying with this requirement will not be considered for evaluation.

All materials, components and equipment covered under this specification shall be procured, manufactured, erected, commissioned and tested at all the stages, as per a comprehensive Quality Assurance Programme which shall be submitted along with the offer. It is the Supplier's responsibility to draw up and implement such programme duly approved by the Purchaser. The detailed Quality Plans for manufacturing should be drawn up by the Supplier and will be submitted to Purchaser for approval. Schedule of finalization of such quality plans will be finalized before award of contract.

Manufacturing Quality Plan will detail out for all the components and equipment, various tests/inspection, to be carried out as per the requirements of this specification and standards mentioned therein and quality practices and procedures followed by the Supplier, the relevant reference documents and standards, acceptance norms, inspection documents

iii.Inspection

a. The Supplier shall give the Purchaser / inspector fifteen (15) days written notice of any material being ready for testing. Such tests shall be to the Supplier's account except for the expenses of the inspectors. The Inspector, unless the witnessing of the tests is virtually waived, will attend such tests within fifteen (15) days of the date on which the equipment is noticed as being ready for test/inspection, failing which the Supplier may proceed with test which shall be deemed to have been made in the inspector's presence and he shall forthwith forward to the inspector duly certified test reports in two (2) copies.

b. The word "inspector" shall mean the Purchaser and / or his authorized representative and or an outside inspection agency acting on behalf of the Purchaser to inspect and examine the materials and workmanship of the works during its manufacture or erection.
c. The Purchaser or his duly authorized representative and / or an outside inspection agency acting on behalf of the Purchaser shall inspect the materials and workmanship of the works during its manufacture or erection and its part of the works, if any, being manufactured or assembled at other premises or works. In case of inspection at other premises/ works, Supplier shall obtain from the sub- Supplier permission to inspect as if the works were manufactured or assembled at the Supplier's own premises or works.
d. The certificates and documents generated during inspection as per the quality plan of the supplier shall also be furnished.
e. The Inspector shall within fifteen (15) days from the date of inspection as defined herein give notice in writing to the Supplier of any objection to any drawings and / or any equipment and workmanship which is in his opinion not in accordance with the contract. The Supplier shall give due consideration to such objections and shall either carry out the necessary modifications as called for by the Purchaser/Inspector or inform in writing to the Purchaser / inspector giving reasons therein that no modifications are necessary to comply with the contract.
f. The inspection by Inspector and issue of inspection certificate thereon shall in no way limit the liabilities and responsibilities of the Supplier in respect of the agreed quality assurance programme forming a part of the contract.
g. All inspection measuring and test equipment used by Supplier shall be calibrated periodically depending on its use and criticality of the test / measurement to be done. The supplier shall maintain all the relevant records of periodic calibration and instrument identification and shall produce the same for inspection by Purchaser. Wherever asked specifically the Supplier shall re-calibrate the measuring / test equipment in the presence of Purchaser/ Inspector.

iv.Protection, Preservation and Transportation requirements

a) Protection

All coated surfaces shall be protected against abrasion, impact, discoloration and any other damages. All exposed threaded portions shall be suitably protected with non-metallic protection device. The ends of all piping and conduit equipment connections shall be properly sealed with suitable devices to protect them from damage. The parts which are likely to get oxidized or corroded, due to exposure to weather, should also be properly treated and protected in a suitable manner. All primers/paints/coatings shall take into account the hot humid, corrosive & alkaline, over ground environment.

b) Preservation

All exposed metallic surfaces subject to corrosion shall be protected by shop application of suitable coatings. All surfaces shall be thoroughly cleaned of all mill scales, oxides and other coatings and prepared in the shop. The surfaces that are to be finishpainted after installation or require corrosion protection until installation, shall be shop painted with at least two coats of primer.

c) **Packaging and transportation**

All the equipment shall be suitably protected, coated, covered or boxed and crated to prevent damage or deterioration during transit, handling and storage at Site till the time of erection. All threaded connections shall be protected with standard pipe plugs or caps. The equipment shall be adequately prepared for shipment and outdoor storage for a period of one (1) year at the site. The Seller shall adequately crate, block and protect the equipment as required to prevent damage during shipment. The set of equipment and associated accessories for demonstration shall be packed separately for easy identification and usage. The Seller shall identify storage requirements for all equipment supplied. The freight charges shall be indicated separately in the offer. Packaging and transport shall include all the equipment and accessories to Purchaser work at Trichy, Tamil Nadu.

8. Guarantee / Warranty

The offered system shall be guaranteed for 12 months from the date on which the equipment / system is put into use (by the end user) or 18 months from the date of supply of last item whichever is earlier. The supplier shall also guarantee the following

a. operating life of 18 months for the Diaphragm in the acoustic horn
b. operating life of 18 months for the blowing nozzle which is inside high temperature
c. operating life of 1 lakh blowing cycles for the valve and piston assembly of the blower

9. Deviations

Deviations to specification, if any, shall be clearly spelt out in the offer stage itself. During contract/ inspection/ final erection stages, the Purchaser reserves the right to entertain or deny such deviation.

10. Exclusions

Any exclusion from scope of supply shall be clearly spelt out in the offer. Exclusion of major / critical items shall make the offer liable for rejection.

11. Intellectual property rights

Based on the demonstration test results at Purchaser works as specified in this document, purchaser will determine the final pattern and location of the equipment considering the functional requirement, interface and space availability in existing boiler design. Purchaser reserves the right for Intellectual Property of the methodology of arranging the combination of Sonic Horn and Ash sweepers, and arriving at the operating parameters and orientation to clean the ash which deposits over the boiler extended floor. Deviation against this clause will not be entertained.

12. Documents to be submitted by Supplier

All documents/text information shall be in MSWord 2000 or above version.

All drawings shall be made in AutoCAD- Release 2016 or above version.

All Supplier documents & BHEL filled in datasheets that form the part of offer shall be duly filled, signed with Supplier seal before submission. However, care should be taken to ensure legibility.

All drawings submitted by the Supplier including those submitted at the time of bid shall be in sufficient detail indicating the type, size, arrangement, weight of each component for packing and shipment, the external connection, fixing arrangement required, the dimensions required for installation and interconnections with other equipment and materials, clearance and spaces required between various portions of equipment and any other information specifically requested in the drawing schedules.

Each drawing submitted by the Supplier (including those of sub-Suppliers) shall bear a title block at the right hand bottom corner with clear mention of the name of the Purchaser, the system designation, the specifications title, the specification number, the name of the Project, drawing number and revisions. If standard catalogue pages are submitted the applicable items shall be indicated therein. All titles, notes, markings and writings on the drawing shall be in English. All the dimensions should be in metric units. If standard BHEL title block is furnished, the same shall be incorporated in Supplier's drawings.

The Supplier shall also furnish a "Master Drawing List" which shall be a comprehensive list of all drawings/documents/calculations envisaged to be furnished by him during the detailed engineering to the Purchaser. Such list should clearly indicate the purpose of submission of these drawings i.e., "FOR APPROVAL" or "FOR INFORMATION ONLY". Similarly, all the drawings/documents submitted by the Supplier during detailed engineering stage shall be stamped "FOR APPROVAL" or "FOR INFORMATION" prior to submission.

The furnishing of detailed engineering data and drawings by the Supplier shall be in accordance with the time schedule for the project. The review of these documents / data / drawings by the Purchaser will cover only general conformance of the data/drawings/documents to the specifications and contract, interfaces with the equipment provided by others. The review by the Purchaser should not be construed to be a thorough review of all dimensions, quantities and details of the equipment, materials, any devices or items indicated or the accuracy of the information submitted. The review and/or approval by the Purchaser shall not relieve the Supplier of any of his responsibilities and liabilities under this contract.

After the approval of the drawings, further work by the Supplier shall be in strict accordance with these approved drawings and no deviation shall be permitted without the written approval of the purchaser.

The Supplier shall submit adequate points of drawing/data/document for Purchaser's review and or approval. When changes are required, drawings shall be resubmitted promptly, with revisions clearly marked, for final review. Any delays arising out of the failure of the Supplier to submit/rectify and resubmit in time shall not be accepted as a reason for delay in the contract schedule. The list of documents to be submitted shall include but not limited to the following.

Submitted with Quotation

- Reference installations – customer certificates: List of references of installations of supplier's experience coal-fired installations. Supplier must have a proven record of success on similar installation conditions and arrangements.
- Point wise confirmation to this specification or "No Deviation" certificate
- Effectiveness of equipment (Sonic Horn and Ash sweeper) in terms of range of distance covered in all directions at an operating pressure of 4 bar at ambient conditions for the type of ash specified in this document. Any evidence or proof of effectiveness from the earlier installations or tests shall also be furnished.
- Quantity of the equipment and other accessories
- Dimensional outline drawings of the assembled units. The drawings shall show overall dimensions, mounting connections, variable location of auxiliary components, clearances required for proper installation and maintenance, and shall state the weights of all major components.
- Filled in Data Sheets
- Interface requirements
- Design calculation / selection criteria
- Schematic piping
- Static and dynamic loading requirements for support designs
- Testing and Demonstration requirements for each equipment
- Installation and Commissioning requirements
- List of commissioning spares
- List of recommended spare parts
- List of special tools and equipment as required for assembling, complete dismantling, and maintenance of all equipment supplied
- Consumables list, including compressed air and electricity, required by the equipment and controls, indicating frequency of usage: intermittent or continuous.
- Typical Operation and Maintenance manual

Submitted During Contract

The following documents shall be submitted by the supplier for **Approval** by the Purchaser. The supplier shall proceed with manufacturing only after obtaining approval from the Purchaser.

- Design calculation / selection criteria
- Detailed arrangement drawings of the assembled units including location, support details, mounting connections, etc. All materials are to be readily identifiable on Seller drawings.
- Schematic piping
- Physical piping drawings
- All equipment must be equipped with electrical ground connections. These connections shall be clearly identified on equipment drawings.
- Electrical wiring diagrams and connection details
- Instrument list
- Instrument data sheet(s) (ISA format or equal)
- Functional control diagrams, logic diagrams, and/or written descriptions of the Seller's intended method of safe and efficient operation.
- Logic Diagrams in SAMA format

- List of shop tests that will be conducted on the furnished equipment
- Quality plan
- Interface requirements
- Static and dynamic loading requirements for support designs
- Testing and Demonstration requirements of each equipment
- Installation and Commissioning requirements

The supplier shall also submit the following documents for **review** by the Purchaser.

- List of commissioning spares
- List of recommended spare parts
- List of special tools and equipment as required for assembling, complete dismantling, and maintenance of all equipment supplied
- Consumables list, including compressed air and electricity, required by the equipment and controls, indicating frequency of usage: intermittent or continuous.
- List of shop applied paints and protective finishes identifying compatible site applied coatings
- List of all lubricants required for the equipment operation identifying preferred Seller's and acceptable substitutes
- Insulation details if required
- Test reports
- Operation & Maintenance (O & M) Manual

Details of Operation and Maintenance manual:

Typical O&M manual for the type of system offered shall be submitted along with the offer. Manuals generally shall contain the following:

- Brief description
- Assembly drawings with part list, dimensional drawings and other applicable drawings.
- Manuals should pertain only to the type or model supplied for this contract.
- Drawing and catalogues.
- Sequence of erection and Erection instructions.
- Critical checks and permissible deviation/tolerances.
- List of tool, tackles.
- Bill of Materials.
- Procedure for erection and dismantling.
- Procedure/checklist for commissioning of the system.
- Procedure for initial checking after erection.

Annexure – A- Terms and Conditions

ACCEPTANCE OF TECHNO - COMMERCIAL TERMS AND CONDITIONS BY THE BIDDERS

Description of the Equipment:	**Ash Cleaning system for boiler application**
Projects	**--**
BHEL Tender No. & Date	**1801900335 dated 22.04.2019**
To be filled by bidder	
Name of the firm (Bidder)	**:**
Address	**:**
Contact details	**Contact person 1** **Name:** **Designation:** **Office Phone:** **Mobile:** **e-mail:** **Contact person 2** **Name:** **Designation:** **Office Phone:** **Mobile:** **e-mail:**

Sl. No.	Terms and conditions	Vendor's confirmation
1 (a)	**Technical:** Supply of Ash Cleaning system for boiler application shall be as per the Specification attached with the enquiry.	
1 (b)	Inspection by BHEL/ BHEL approved TPIA	
1 (c)	Confirmation & submission of all PQR documents as per annexure -B (Technical pre-qualification requirements)	
2 (a)	**Firm Price:** The quoted / finalised rates shall be Firm till execution of the supplies. Offer with PVC clause will not be considered.	
2 (b)	The tender will be operated in two part bid system. One-part consisting of Technical bid with Commercial terms & conditions and other part is Price Bid. Based on the above and other conditions, as well as technical capability, vendors will be short-listed. The Techno-commercial bid will be opened on the due date and based on the suitability of techno-commercial bid, the price Bid of the techno-commercial suitable qualified vendors will be considered and opened on a suitable date with due intimation to vendors.	
3 (a)	**Delivery term (Indigenous):**	

	The quote shall be on FOR BHEL Trichy Stores destination basis inclusive of Packing, forwarding, Freight also to your account. a. Transit Insurance is under BHEL scope @0.13%.	
3(b)	**Delivery term (Import):** CFR Chennai port The quote shall be on CFR Chennai port basis with freight break up. Place of delivery – INTVT6 – CONCOR ICD Port of loading should be indicated without fail.	
4 (a)	**Payment terms (Indigenous):** BHEL Payment term is 100% direct EFT payment after 60 days from the date of receipt and acceptance of materials and against 10% PBG valid for the warranty period. **Payment terms (Imports):** BHEL Payment term is 100% payment on CAD basis after 60 days from the date of receipt of documents, specified in PO, at BHEL bank. Respective bank charges to respective account. **For New suppliers** For new suppliers not registered with BHEL, Trichy for the product, Payment shall be made 60 days after receipt and acceptance of materials & against 10% PBG valid for the Guarantee period. In case of foreign supplier, first lot of mutually agreed quantity shall be supplied with payment as CAD basis after 120 days from the date of receipt & acceptance of material & against 10% PBG valid for the Guarantee period. If insisted for LC, after acceptance of first lot, only LC with 60 days' credit will be opened one month prior to material readiness & against 10% PBG valid for the Guarantee period.	
4 (b)	**Loading Criteria (Indigenous)** **No deviation is permitted.**	
4(c)	**Loading Criteria (Imports):** In the case of LC payment, only usance LC with 60 days credit will be opened one month prior to material readiness, further loading will be considered @ 1.5% on the offered value. Hence supplier shall intimate the material readiness accordingly for opening LC. LC validity period will be 90 days and for any extension, applicable charges will be to supplier's account. Also, 10% PBG valid for the Guarantee period has to be submitted. **Any deviation in the above payment term, any other conditions in payment term or any other payment term will not be accepted and the offers of such vendors are liable for rejection.**	
4 (d)	**Performance Bank Guarantee:** BHEL require a performance Bank Guarantee to a value of 10% of	

	supply valve covering the guarantee period. The PBG shall be in BHEL format (Format attached) which is to be opened in any one of the first class India banks. All banks charges shall be to vendor account only. If still vendor offered any deviation on PBG leads to rejection of offer.	
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 0.5% of the undelivered order value 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 on BHEL LD / Penalty clause, loading (Basic material Value) will be applied to the extent to which it is not agreed by the bidder. If vendor agree for LD clause for Under delivered portion, then loading will be 10% on basis material cost.	
6 (a)	**Guarantee / Warranty Period:** Guarantee clause 24 months from the date of supply or 18 months from the date of actual put in use, whichever is earlier.	
6 (b)	**Repair & replacements:** Within the guarantee period vendor has to replace / rectify the defective/ damaged items on free of cost within a reasonable time of reporting from our end.	
6 (c)	**Loading Criteria:** **Guarantee / Warranty Period:** No Deviation is permitted. If still vendor offered any deviation on the Guarantee / warranty period, it may lead to rejection of offer.	
7 (a)	**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. Our TIN No. 33243560005, TNGST No. 3560005, CST. No. 239383 Dt. 11-06-1991 & BHEL ECC No. AAACB4146PXM012, Assessment circle Tiruverumbur. BHEL TRICHY Unit GST NO : 33AAACB4146P2ZL.	
7 (b)	**Kindly indicate the GST No of your Firm**	
7 (c)	**Kindly Indicate the HSN Code for all items**	
7 (d)	**Please indicate the applicable GST % (IGST)**	
8	**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.	
9	**Delivery Period:** 6 weeks from the Date of PO/Documents approval from BHEL.	
10	**(Indigenous Vendor) -**LR date will be considered for LD calculation. **(Import Vendor)-** Bill of lading date will be considered for LD Calculation	
11	Documents are to be submitted along with technical bid (Part-1) 01. Covering letter 02. Unpriced offer. 03. Filled technical specification 04. Filled BHEL Terms and condition sheet (Annexure-A) 05. Catalogue's 06. PQR (Special Conditions annexure -B) 07. Detailed BOQ of the package. 08. Third party non-disclosure agreement Documents are to be submitted along with Price bid (Part-2) 01. Priced offer **Note:** All the pages of documents are to be signed and stamped by authorized signatory of the company. Any query during enquiry stage shall be replied within three days failing which offer may be rejected as non-responsive	
12	**Evaluation method** Total requirement will be considered as a package for evaluation and ordering. Evaluation shall be on total cost to BHEL basis .	
13	Vendor shall quote as per attached price and Unpriced Schedule format only.	
14	**Vendor offers will consider for price bid opening subject to fulfilment of PQR requirement, techno commercial suitability and vendor approval.** **BHEL has the right to cancel the enquiry without assigning any reason.**	
15	**Validity:** 120 days minimum from techno commercial bid opening (Part-1)	
16	**O & M manuals:** BHEL require 1 sets of printed O & M manuals with 3 soft copies in CD-ROM at no cost to be sent to BHEL/ Trichy.	
17	**MSE VENDOR:** ***i. If L1 vendor is an MSE vendor entire project package will be ordered on L1 vendor.*** ***ii. 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. ***iii. 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.*** ***iv. Finally if none 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/notarized copies of either 1. EM II certificate having deemed validity (five 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. No benefit shall be applicable for this enquiry, in case of any deficiency in the above required documents or in case the documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal even if submitted earlier.** 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 stipendiary 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.***	
18	Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration number which should clearly have mentioned in the offer. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.	
19	Supplier shall mention their GSTN registration number in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.	
20	All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).	
21	A declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & all tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If not mentioned in the invoice, a separate declaration shall be submitted as per the requirement of BHEL	
22	All documents like Mill Test Certificate, LR copy, Guarantee/Warrantee certificate, work completion certificate, any other document mentioned in PO, shall be sent along with the vehicle/consignment. For all consignments received within the calendar month, input credit will be availed within that month in line with monthly returns filing cycle. In case of any discrepancy in the document or non-submission of documents mentioned in the PO, then BHEL will not be able to accept or account the material, in such case availing of tax credit will be deferred to next month or so	
23	In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of	

	the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the suppliers, within the calendar month notified by BHEL.	
24	For any such delay in availing of tax credit for reasons attributable to supplier (as mentioned above), interest (calculated @ SBI Base Rate + 6%) along with penalty if any will be deducted for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.	
25	Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contractors. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number	
26	**Important Information for Import Suppliers**: **FOR CFR INCO TERMS – CONTAINERIZED CARGO** • For CFR terms, moved through CONTAINERS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis including extra charges, if any, like Container Imbalance Charges, Trade Imbalance charges or any other charges payable to the Liner. No other charges other than the quoted Freight rate will be paid by BHEL excepting applicable Terminal Handling Charges, Container cleaning Charges, DO charges to Shipping Liner at Discharge Port. 14 FREE DAYS FOR Container detention shall be provided. If any deviation is taken by Tenderer, a loading of 22% on the freight rate per MT shall be considered by BHEL for arriving at the Total Landed Cost. • In case of shipment through Containers on CFR basis, the BL should bear the endorsement that “14 free days for Container Detention is applicable”. **BREAKBULK CARGO** • For CFR terms, moved through BREAK BULK BASIS (Suppliers should clearly specify this in their offer) it would be presumed by BHEL that the freight charges quoted is on LILO (LINER IN LINER OUT) basis. The materials will be Custom cleared from Port itself. • The Indian Customs imposed, a penalty on late filing of Bill of Entries (Air/Sea Shipments) by the importer. The maximum free time allowed is 24 hrs from the time of arrival of cargo at final port of discharge. Rs.5000/- per day (for Initial 03 days) & Rs.10000/- per day (thereafter) • The vendor should furnish the Non-Negotiable Documents (Air	

Way Bill/Bill of Lading, Commercial Invoice, Packing List, and Certificate of Origin) either by email or post/courier to BHEL well before the landing of cargo at final port of discharge.

- Vendor will be held responsible for the penalty arises against the late filing of Bill Of entry due to:
  - Non availability of Non-Negotiable Documents (NNDs) before the cargo arrival
  - Discrepancy in documents
  - Short landing of Consignments (For shipments on CFR/CPT/CIF/CIP – Chennai Port)
- All the shipments for the contracts (POs) finalized on CFR - Chennai Port basis

(i) Delivery Orders involving multiple agencies like liners/freight forwarders are not allowed. There must be a single agency office at the final discharge Port (Chennai) for issuing the Delivery Order to BHEL.

(ii) The detention/demurrage charges arise due to the delay in collection of Delivery Orders from multiple agencies of liner/freight forwarder also whose offices are not at available Chennai, the same amount will be deducted from Vendor's bills only.

(iii) Apart from the normal charges like Terminal Handling Charges, Container cleaning Charges, Delivery Order Charges at final port of discharge no other charges will be borne by BHEL.

(iv) The liner/freight forwarders should be properly communicated by the Vendor for not to claim such charges for issuing Delivery Order. If the liner/freight forwarder claims such charges in their invoices, the same amount will be deducted from the Vendor bills without any prior intimation in order to avoid the delay in Customs clearance. The likely additional/hidden costs or charges are:

a. CIC - Container Imbalance Charges/Surcharges
b. EIC - Equipment Imbalance Charge/Surcharges
c. CAF - Container/Currency Adjustment Factor
d. BAF - Bunker adjustment Factor
e. RDS - Rupee Depreciation Surcharge
f. CDS - Currency Depreciation Surcharge

<u>Transport Conditions for Import:</u>

The Original Documents (Bill of Lading, Invoice, Packing List, Certificate of Origin & Test Certificate) shall reach BHEL well in advance before the vessel arrival. The soft copies of the above shall be forwarded to BHEL immediately after shipment.

- In the event of delayed submission of documents by the supplier, an amount up to 5% of the invoice value will be retained towards demurrage & other charges and the

	difference if any between actual charges and recovery will be settled separately through supplementary invoice. • In such cases, the Supplier shall authorize the Steamer / Shipping agent / transporter to freely release the consignment to BHEL by providing a “Surrender Bill of Lading”. • Otherwise, No-objection Certificate shall be issued to the Liner, authorizing BHEL to get the Delivery Order without producing the Original Bill of Lading. • This is required to ensure avoidance of demurrage at Chennai Sea-port that may arise in case of delayed presentation of documents by the Seller. • **Following details to be endorsed in OBL** a. Import & Export Code (IEC) of importer : *0588138690* b. GST Identification No (GSTIN) of importer : *33AAACB4146P2ZL* c. Official email id of importer:*santoshj@bhel.in* ; *asvasalu@bhel.in*	

BHEL TRICHY
MM/BOI
ANNEXURE – B
Pre-Qualification requirements (PQR)

Sl.NO	Description	Vendor Confirmation
1	The respondent should have at least Ten (10) years of experience in designing, engineering, manufacturing, supply, erection, commissioning, performance testing, operation and maintenance of System consisting of Sonic Horn and Ash sweeper with associated controls in the boiler application or any other system of equivalent severity. (To be substantiated by supply reference or any other relevant documentary proof)	
2	The respondent should have at least one reference plant / installations having successful operation of more than 1 year. The respondent to furnish the supply reference list to substantiate.	

Offers are liable for rejection, if not satisfying above pre-qualifying criteria.

SUPPLY OF ASH CLEANING SYSTEM FOR BOILER APPLICATION' Price/Unprice Bid Format for Indigenous Suppliers							
Enquiry Sl. No	**Items Details**	Qty	Total Material Cost in Rs.	P&F Charges	Freight Charges	Total Value (FOR)	GST
			A	B	C	A+B+C	%
10	Ash cleaning system for boiler application.	1 NO					

Note :

1. P&F andFreight charges to be indicated only if it is not included in total material cost.

2. Vendor shall submit the set details clearly indicating the detailed BOQ of the complete package.

SUPPLY OF ASH CLEANING SYSTEM FOR BOILER APPLICATION' Price/Unprice Bid Format for Import Suppliers										
Enquiry Sl. No	**Items Details / Description**	Qty	Net Weight	Gross weight	size	Unit Rate	Total Material Cost	Sea Freight Charge	Total Value (CFR)
			Kgs	Kgs	L x B x H	Currency -Type	Currency -Type	Currency -Type	Currency -Type
10	Ash cleaning system for boiler application.	1 NO							

Note :
1. Vendor shall quote freight amount. Don't indicate freight & Insurance are inclusive/ Zero Value.
2. Vendor shall submit the set details clearly indicating the detailed BOQ of the complete package.

(TO BE STAMPED IN ACCORDANCE WITH STAMP ACT AND THE EXPIRY DATE OF BG MUST BE AFTER 60 DAYS FROM THE DATE OF COMPLETION OF WARRANTY PERIOD)

PERFORMANCE BANK GUARANTEE

In accordance of M/s. Bharat Heavy Electricals Limited (A Government of India undertaking, a company incorporated under the Companies Act 1956 having its Registered Office at “BHEL House”, SIRI Fort, New Delhi 110 049) through its High Pressure Boiler Plant Division located at Tiruverumbur, Tiruchirapalli- 620 014 (hereinafter called ‘the Company’) having entered into a contract with ……………………………………………………….hereinafter called ‘ the said contractor ‘ which term includes ‘suppliers’ for the purpose of this Bond and under the terms and conditions of the contract No.……………………………. Dt …………………. Between BHEL, Trichy and as per the contract, the contractor / supplier is to furnish a performance Bank guarantee for Rs. ……………………. for the due performance of the equipment to be supplied under the above referred contract and for the fulfillment of all the terms and conditions of the contract, We ………………….(indicate the name of the bank) (herein after referred to as the bank) at the request of ………………….. (Contractor(s)) do here by undertake to pay the company an amount not exceeding Rs………………….against any loss or damage caused to or suffered or would be caused to or suffered by the company by reason of any breach by the said contractor (s) of any of the terms and conditions contained in the said agreement.

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

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

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

5. (I) Unless a demand or claim under this guarantee is made on us in writing on or before the ________________________we shall be discharged from all the liability under this guarantee thereafter. But where such claim or demand has been preferred by the Company with the Bank before the expiry of the said date, the claim shall be enforceable notwithstanding the fact that the said enforcement is effected after the said date.

(ii) For the purpose of this clause, any letter making demand on the Bank by M/s. BHEL dispatched by Registered Post with Ack.Due or by Telegram or by any Electronic media addressed to the above mentioned address of the Bank shall be deemed to be the claim / demand in writing referred to above irrespective of the fact as to whether and when the said letter reaches the Bank, as also any letter containing the said demand or claim is lodged with the bank personally.

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

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

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

9. Any claim or dispute arising under the terms of this document shall only be enforced or settled in the Courts at Tiruchirapalli.

10. The guarantor hereby declare that it has power to execute this guarantee and the executant has full powers to do so on its behalf under the proper authorities granted to him/them by the guarantor.

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

In witness whereof we……………….., (indicate the name of Bank) have hereunto setout Bank Seal the______________________day ________________________month 200
BANK E-MAIL ID:
BANK PHONE NO.
BANK FAX NO:

List of Consortium Bank			
	Nationalised Bank		**Nationalised Bank**
1	Allahabad bank	19	Vijaya Bank
2	Andhra bank		**Public Sector Banks**
3	Bank of Baroda	20	IDBI
4	Canara Bank		**Foreign bank**
5	Corporation bank	21	CITI Bank N.A
6	Central bank	22	Deutsche Bank AG
7	Indian Bank	23	The Hongkong and Shanghai Banking Corporation Limited
8	Indian Oversea Bank	24	Standard Chartered Bank
9	Oriental bank of Commerce	25	The Royal Bank of Scotland N.V.
10	Punjab National Bank	26	J P Morgan
11	Punjab & Sindh Bank		**Private bank**
12	State Bank of India	27	Axis Bank
13	State Bank of Hyderabad	28	The Federal Bank Limited
14	Syndicate Bank	29	HDFC
15	State Bank of Travancore	30	Kotak Mahindra Bank
16	UCO Bank	31	ICICI
17	Union Bank of India	32	Indusind Bank
18	United Bank of India	33	Yes Bank

SECTION – XIV

THIRD PARTY NON-DISCLOSURE AGREEMENT

I, ____________________, on behalf of the __________________ (Name of Company), acknowledge that the information received or generated, directly or indirectly, while working with BHEL, Trichy on contract is confidential and that the nature of the business of the BHEL, Trichy is such that the following conditions are reasonable, and therefore:

I warrant and agree as follows:

I, or any other personnel employed or engaged by our company, agree not to disclose, directly or indirectly, any information related to the BHEL, Trichy Without restricting the generality of the foregoing, it is agreed that we will not disclose such information consisting but not necessarily limited to:

- Technical information: Methods, drawings, processes, formulae, compositions, systems, techniques, inventions, computer programs/data/configuration and research projects.

- Business information: Customer lists, project schedules, pricing data, estimates, financial or marketing data,

On conclusion of contract, I, or any other personnel employed or engaged by our company shall return to BHEL, Trichy all documents and property of BHEL, Trichy, including: drawings, blueprints, reports, manuals, computer programs/data/configuration, and all other materials and all copies thereof relating in any way to BHEL, Trichy's business, or in any way obtained by me during the course of contract. I further agree that I, or any others employed or engaged by our company shall not retain copies, notes or abstracts of the foregoing.

This obligation of confidence shall continue after the conclusion of the contract also.

I acknowledge that the aforesaid restrictions are necessary and fundamental to the business of the BHEL, Trichy and are reasonable given the nature of the business carried on by the BHEL, Trichy I agree that this agreement shall be governed by and construed in accordance with the laws of country.

I enter into this agreement totally voluntarily, with full knowledge of its meaning, and without duress.

Place:-_____________________________ Date:-_____________________

Name

Company

Signature