

BHARAT HEAVY ELECTRICALS LIMITED,
(A Government of India Enterprises)
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NOTICE INVITING TENDER(NIT)

**Category of Tender: TWO BID
(PRICED + UN - PRICED)**

SUB: SHELL SHOT BLASTING STATION

Our Ref: **MM/2/10/3827/CAP/W-016/5016**

DATE: 10.04.2015

Sealed quotations in duplicate are invited from suppliers on **or before 09.05.2015** **SUPERSCRIBING OUR REFERENCE AND CATEGORY OF TENDER** on the cover, for supply of the under mentioned stores within the above due date, otherwise send **REGRET LETTER**, strictly subject to the Terms & Conditions attached herewith.

LATE TENDERS ARE NOT ACCEPTABLE.

ITEM No.	DESCRIPTION / SPECN. / SIZE	QTY
1.	SHELL SHOT BLASTING STATION	1 Nos.
	Encl: 1. Qualifying Criteria PART A 4 Pages 2. Technical Specifications PART B 16 Pages 3. Annexure -1 1 Page 4. General Terms/ commercial terms and conditions 9 Pages (INCLUDING CHECK LIST)	

For BHARAT HEAVY ELECTRICALS LIMITED,

MANAGER (MP-Misc. & CPS)

QUALIFYING CRITERIA FOR THE SUPPLY OF
SHELL SHOT BLASTING STATION

SECTION – I

The BIDDER is expected to give complete details against each clause in the table given below, with additional sheets those may be attached (giving clear reference number) to furnish and cover the requisite details / documents.

S. No.	PARTICULARS	VENDOR's RESPONSE
1	VENDOR to provide the Profile of their Company	
2	List of customers to whom shell shot blasting stations were supplied, installed and commissioned till date, highlighting the customers who are in the field of Industrial Boilers manufacturing (of High Pressure Ratings). The sizes of machines supplied may be furnished.	
3	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in South India. [Details on the number of trained personnel with field of experience to handle the service needs of BHEL - HPVP in time]	
4	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

QUALIFYING CRITERIA FOR SHELL SHOT BLASTING STATION (PART A)

SECTION – II

The BIDDER / VENDOR has to compulsorily meet the following requirements to get qualified for submitting an offer for the Shell Shot Blasting Station.

S. No.	REQUIREMENTS	VENDOR'S RESPONSE
5.0	The BIDDER / VENDOR shall have a minimum of TEN Years of Continuous Experience in the Design, Manufacture & Supply of Shell Shot Blasting Station.	
6.0	Only those vendors (OEMs), who have supplied and commissioned at least THREE Shell Shot Blasting Station in the past ten years (from the date of opening of Tender) and such equipment is presently working satisfactorily for more than one year after commissioning (from the date of opening of Tender) should quote.	
	The vendor should submit following information where similar machine has been supplied:	
6.1	Name and postal address of the customer or company where similar equipment is installed.	
6.2	Name and designation of the contact person of the customer.	
6.3	Phone, FAX no and email address of the contact person of the customer.	
6.4	Month and Year of commissioning of the equipment.	
6.5	Application for which the equipment is supplied	
6.6	Along with the Technical offer, the Vendor should submit the <u>Performance certificate from the customer for the satisfactory performance of the equipment supplied as per clause 6.0 above.</u> (For obtaining the Performance certificate, a suggestive format is provided in SECTION – IV)	
6.7	Offers of only those vendors who meet the above Qualifying Criteria will be considered for further evaluation.	
6.8	BHEL - HPVP reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	
7.0	DELIVERY - The bidder shall quote the best possible delivery. However the delivery shall not exceed 5 months with an additional grace period of 2 months, however additional grace period will have a loading for arriving at the PRICE COMPETITIVENESS of the Commercial Offer (if the offer is technically acceptable on all accounts). Details are given in the Commercial Terms of this Tender. Bidder to specify the time required for E&C. BHEL - HPVP reserves the right to fix E&C period during Finalization of offer in consultation with the bidder	

SECTION – III

The BIDDER / VENDOR has to comply with the following, for accepting the Technical Offer for scrutiny by the Purchaser:

S. No.	REQUIREMENTS	VENDOR'S COMPLIANCE
8	The BIDDER / VENDOR shall submit the offer in TWO PARTS- Technical [with PART A & PART B] & Commercial and Price Bid.	
9	The offer shall contain a comparative statement of Technical Specifications given by BHEL - HPVP and the offered details submitted by the Bidder, against each clause. Merely stating 'YES' or 'NO' or similar words wherever 'Vendor to Specify' details in the 'Vendor's compliance statement may lead to disqualification.	
10	The Technical Offer shall be supported by product Catalogues & Data Sheets and also technical details of Bought-Out-Items with copies of Product Catalogue to the extent possible.	
11	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation of the inclusion of all the accessories, tooling's, attachments, auxiliary parts, spares, consumables, etc. with the main and basic equipment, to meet the technical specification requirements.	
12	BIDDER has to indicate the Country of Origin for the supply of equipment.	

SECTION – IV
PERFORMANCE CERTIFICATE
(On Customer's Letter Head)

1. Supplier of the machine :
2. Make & Model of the Equipment :
3. Month & Year of Commissioning :
4. Application for which machine is used :
5. Type of Dust Collection System :
6. Blasting Type : Automatic / Manual
7. Sizes of Jobs Performed in the machine
 - a. Shell diameter(Maximum) :
 - b. Shell Length (Maximum) :
8. Performance of the Machine : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
9. After Sales Service : Satisfactory / Not Satisfactory
(Strike off whichever is not applicable)
10. Any other remarks :
11. Contact Details
 - Name of the Contact Person :
 - Phone No. :
 - Fax No. :
 - E-mail ID :

Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
AA	<p>APPLICATION: This equipment is used for shot blasting various equipments/components manufactured in BHEL. Some of the equipments which are manufactured by BHEL include "Circular shells, semi circular shells, dished ends, tanks, and structural components". The shot blasting station is intended for removing scales, mill scales and removal of rust from the surfaces of these components. Presently, there is an existing shot blasting station, which is in non working condition.-There exists an underground pit for accommodating some of the components of "existing shot blasting station". The layout of existing shot blasting station is enclosed in sketch No:-BHEL - HPVP-MOD-007-A-001 Rev-0. There is an existing underground concrete pit for accommodating the conveyors and cross conveyors, the dimensions of which were given in sketch. It is to be further noted that there are existing rail system for trolley movement. The trolley is used to carry the job into / out from the blasting chamber. Bidder has to supply a new shot blasting station, bidder shall visit BHEL and study the available shot blasting station, rail and pit system, before submitting their offer.</p>		
BB	<p>SHOT BLASTING STATION CONFIGURATION: The proposed shot blasting station shall mainly comprise Blasting chamber room enclosure with two portable shot blasting machines and the blasting operation shall be carried out by operators manually. Blasting shall be carried out by two operators working together from different positions. The job is to be placed over trolleys (existing / BHEL supply) which moves on rails (existing) embedded in floor. The job is moved inside the blast room by moving the trolleys with the help of the winches (existing) on either side of the Blast room. Used abrasive and heavy dust created during blasting falls into the hoppers from where it is to be conveyed by longitudinal screw conveyors and brought to a cross screw conveyor at the end of the blast room which delivers the abrasive media into the boot of bucket elevator. The bucket elevator shall lift the media and pours into media separator from where the reusable abrasive goes into the portable abrasive blaster and abrasive is recycled through blast nozzle. The unusable abrasive from media separator unit is to be collected in a bin. The dust and fines from room to be sucked and shall be carried into the fabric bag dust collector and clean air is to be discharged into atmosphere, keeping the environment clean. The supplied system shall be configured in such a way that it should fit the blasting chamber, utilizing the pit, longitudinal hoppers. The blasting station shall have the following three distinct components.</p>		

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
Contd.	<p>a. Blasting Chamber/Equipment: Blasting chamber with manual shot blasting equipment run on shop supplied compressed air (<i>suitable capacity air drier to be supplied by bidder as the compressed air is not moisture free</i>), connected to the main dust extraction facility and the shot recycling unit for blasting the components. The blasting equipment shall be complete with all accessories and attachments. The design and construction shall be suitable to the jobs described in clause AA. It shall meet all statutory requirements. Blasting chamber is of size 13.0 m (L) x 6.0 m (W) x 6.0 m (H). The blast chamber should be perfectly sealed to prevent the escape of dust during blasting operation. The chamber is provided with MS Grated floor and hoppers for collection of used abrasive. While using the blasting chamber, Main Doors with frame shall be provided in 4 leaves on both sides of the Blast Chamber up to the full height. Each leaf of the door should have minimum with 3 hinges. The door should be provided with Castor Wheels & View Glasses having Wire Mesh protection. 2 Nos Man Doors of size 1.0 m (W) x 2.0 (H) m, one for primary entrance and secondary entrance are to be provided. Air louvers shall be provided in side walls to get adequate air- intake.</p> <p>b. Shots Recycling Unit: The proposed system has to be self reliant to the needs of the blasting process and carry the fresh shots, keep the shots in the dried - cleaned up & de-dusted state using in-built filters, and supply the shots for blasting and finally recycle the shots, so that wastage of shots is avoided. The consumption of shots has to be made up by addition of fresh shots in suitable quantities.</p> <p>c. Dust Extraction Unit: The blasting chamber shall have an associated dust extraction & disposal system, including chimney and other in-built safety features, so that the total installation meets the regulations of EMS and OSHAS as per ISO 14001 and ISO 18001 Standards.</p>		
1.0	JOB / WORK PIECE DETAILS		
1.0.1	Material	Carbon Steel , Low Carbon Steel and Low Alloy Steel	Bidder to note
1.0.2	Geometrical Configuration	Circular shells, semi circular shells, dished ends, tanks, equipments and other structural components.	Bidder to note

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
1.1	Dimensional Details		
1.1.1	Shell Length	Maximum:15000 mm	Bidder to note
1.1.2	Diameter of Vessel	Maximum: 4000 mm	Bidder to note
1.1.3	Job Condition	Surface condition is that of normalized & tempered / post weld heat treated work piece with thick scales of metal oxide, sticking to the surface (both inner and outer surfaces) or cold fabricated tanks, vessels and structural steel as mentioned in clause AA.	Bidder to note
2.0	STATION CONFIGURATION		
2.0.1	Features	A full-fledged station to meet the process requirements and having the various constituent elements as described in the Clause No. BB.	Bidder to Confirm
3.0	OUTPUT / PRODUCTIVITY		
3.0.1	Work Centre Capability	The shot blasting facility shall be capable of achieving SA 2.5 Swedish standard / DIN Standard.	Bidder to Confirm
4.0	BLAST ROOM ENCLOSURE		
4.0.1	Chamber Wall	Blast room walls / roof / surfaces are to be cleaned & suitably rubber lined for blasting room inside & outer surface to be painted.	Bidder to Confirm
4.0.2	Main Doors	Main doors in 4 leaves should be provided on both sides of the Blast Chamber up to the full height. Each leaf of the door should have minimum with 3 hinges The door should be provided with Castor Wheels & View Glasses having Wire Mesh protection. Note: The main doors on both sides shall have opening to accommodate the projection of the job, in case the total job is not accommodated within the chamber. These openings shall be covered with a separate door incase the job is totally inside the chamber.	Bidder to Confirm

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION		BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
4.0.3	Man Doors / Service Doors	<p>2 Nos Man Doors of size 1.0 m (W) x 2.0 (H) m, one for primary entrance and second for secondary entrance are to be provided.</p> <p>Special Note 1 : Existing Blasting chamber including man doors, Longitudinal Hoppers & the pit below chamber may be used. In case, the vendor feels that these can fit into their design, while supplying the total shot blasting station.</p> <p>Special Note 2 : Wherever the existing Blast station parts are used in the New shot blasting station, the same are to be emery cleaned, primer & final painting is to be done.</p>	Bidder to Confirm	
4.0.4	Rubber lining	3mm thk. Rubber sheets shall be pasted on inside walls and on ceiling for protection against abrasion.	Bidder to Confirm	
4.0.5	Rubber Strips at Entry & exit of Blast room.	3mm thick rubber Strips in 2 sets are to be provided on inlet and exit side of Blast Room Enclosure to prevent leakage of rebounding abrasives to the outside. Bidder should specify the Strips dimensions.	Bidder to Confirm	
4.0.6	Floor Design	The chamber floor is to be provided with MS Grated floor with hoppers for collection of used abrasive and to protect screw conveyor. (Refer Special Note 1 at Clause No. 4.0.3).	Bidder to Confirm	
4.0.7	Illumination	Suitable illumination lamps fitted with fixtures are to be provided at suitable locations for illumination of blast room. Lighting illumination shall not be less than 600 lux for the entire system. The light fittings shall be protected with suitable wire mesh.	Bidder to Confirm	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS	
5.0	Blasting Equipment			
5.0.1	Portable Blasting Equipment:	The portable blasting Equipment is of compressed air type. 02 No. Pressure Blasting Equipments are to be provided. Each pressure Blasting Equipment with all accessories shall be provided and shot velocity from each blast nozzle shall not be less than 80 m/sec, with 60 minutes of continuous operation. The equipment shall be designed for suitable abrasive capacity for 60 minutes of continuous operation. The pressure pots should be made of suitable thick boiler quality steel plate as per IS – 2825 and hydraulically tested. (The pressure pot should have mushroom valve, exhaust valve, outlet with Pinch Valve, Mixing Tube Assembly, NRV, air filter and moisture separator etc.	Bidder to confirm	
5.0.2	Blast Hose	Each Blast Hose length should not be less than 20 m length and 32 mm ID.	Bidder to Confirm	
5.0.3	Blast Nozzle	Tungsten Carbide Blast Nozzles of 10 mm orifice, long series design.	Bidder to Confirm	
5.0.4	Remote Control	Remote Control System through Deadman-Handle and automatic Exhaust Valve to be provided. Blasters should be mounted on wheels for easy mobility.	Bidder to Confirm	
5.0.5	Operator Safety Wear	4 sets should be supplied. (List of Operator Safety Wear to be furnished by the vendor)	Bidder to Confirm	
5.1	GRIT SPECIFICATION			
5.1.1	Type of Grit	Heat treated Steel Shots confirming to SAE standards in an abrasive mix of sizes S-550, S-460 and S-390 in equal proportions.	Bidder to Confirm	
6.0	INLET & OUTLET VESTIBULES			
6.0.1	Material	Mild Steel with suitable reinforcement	Bidder to Confirm	
6.0.2	Vestibule Wall Thickness	3 mm (minimum)	Bidder to Confirm	

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION		BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
6.0.3	Vestibule Dimensions	Vestibule Dimensions and the size of Openings	Bidder to Specify	
6.0.4	Rubber Curtains	Multiple wear resistant vulcanized rubber curtains with spring steel reinforcements are to be provided, to prevent leakage of rebounding shots to the outside while permitting easy passage of work piece.	Bidder to Confirm	
6.0.5	Thickness of Curtains	3 mm (Min)	Bidder to Confirm	
6.0.6	Mounting Arrangements of Rubber curtains	The fixing arrangements of Rubber Curtains shall be specified.	Bidder to Specify	
7.0	SHOT RECOVERY & RECYCLING SYSTEM			
7.0.1	Purpose	Bidder to specify the arrangements so that the offered system works in conjunction with the Blast Chamber Operations. The system should mainly consists of a. Screw conveyor hoppers b. Longitudinal & Cross screw conveyors c. Bucket Elevator with Zero speed Sensors d. Rotary Screen Media Separation unit		
7.1	Hopper & Screw Conveyors			
7.1.1	Design Features	Bidder shall confirm the following a. Mild steel gravity fed hopper beneath the blast chamber b. Chutes below the inlet & outlet vestibules to collect spent & brushed-off shots & dust c. Screw conveyors to convey steel shots to the elevator boot section d. The MS hopper in the Blast chamber. e. MS hopper in the inlet / outlet vestibules shall be lined with wear resistant rubber liners. f. Longitudinal MS hopper shall be made good / modified to suit the longitudinal conveyor and may have to be used. (Refer Special Note 2 at Clause No. 4.0.3).		

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
7.1.2	Design Parameters [shall be of reputed make & standard sizes]	The full length of Longitudinal screw conveyors and 1 no. of cross screw conveyor shall be provided. The screw conveyors shall be hardened bearings shall be protected from abrasive media. Bidder to specify the following : a. Arrangement of Screw Conveyors with size b. Screw Conveyor Motor Ratings c. Make & Size of Screw Conveyor Gear Boxes d. Thickness of Screw Conveyor hopper, Turf Hopper e. Make of Screw Conveyor hopper, Turf Hopper	
7.2	Belt Type Bucket Elevator with Zero speed sensors		
7.2.1	Design Features	The abrasive conveyed by the cross screw conveyor is elevated by the bucket elevator and it enters the media separation unit. The usable abrasive shall be fed to the portable abrasive blaster and fine/ unusable particles are to be collected in a separate bin. Bucket elevator should have bottom and top pulleys with continuous motion, buckets mounted on it. Bucket Elevator should be fabricated from MS sheet. Bidder shall confirm following a. Easily adjustable provision to compensate for belt slackness. b. Back-stop arrangement to prevent the belt from slipping down during sudden stoppage. c. Bucket elevator to be housed in a ventilated dust- tight fabricated steel casing provided with inspection and maintenance doors. d. Bearing area to be protected against abrasion. e. Proper approach and platform for maintenance. f. Zero speed sensors.	
7.2.2	Design Parameters	Bidder to specify the following : (shall be of reputed make & standard sizes) a. Belt Material, Thickness and make b. Bucket Material & Thickness c. Elevator Motor Rating and make d. Make & Size of Bucket Elevator Gear Boxes e. Number of buckets and its make	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
7.3	Abrasive (Shot) Separator (Rotary screen Media Separation Unit)		
7.3.1	Design Features	Bidder to confirm the following : a. Abrasive should be discharged inside the screen. b. Unusable should be discharged through chute. c. Unusable abrasives shall fall through perforations of rotary screen. d. Drive of rotary screen is from reduction gear box and motor.	
7.3.2	Design Parameters	Bidder to specify the following : a. Overall Arrangement Details b. Capacity c. Motor rating and make d. Gear box make	
8.0	DUST EXTRACTION / COLLECTOR UNIT		
8.0.1	Type	Pulse jet Fabric Bag Dust Collector	Bidder to Confirm
8.0.2	Filter Media	Polyester Fabric Bag	Bidder to Confirm
8.0.3	Cleaning of Bags	By motorized shaker assembly	Bidder to Confirm
8.0.4	Cleaning Cycles	Timer controlled	Bidder to Confirm
8.0.5	Clog indication	Differential pressure gauge with alarm indication and manometer to be provided	Bidder to Confirm
8.0.6	Cleaning Cycle - Sensing	Sensing to initiate cleaning cycle by Differential pressure	Bidder to Confirm
8.0.7	Particulate Emission at Chimney Outlet	Not more than 90 mg / Nm ³ for particle size greater than or equal to 10 micron	Bidder to Confirm
8.1	Polyester Bag dust collector		
8.1.1	Blower fan Capacity		Bidder to Specify
8.1.2	Blower Motor Capacity.		Bidder to Specify
8.1.3	RPM of the Motor.		Bidder to Specify
8.1.4	No. of polyester Bags & surface Area.		Bidder to Specify
8.1.5	The Dust Collector should be fabricated form MS sheet panels with structural reinforcement in-between. It should be mounted on anti-vibrating pads. Please specify the thickness of MS sheet panels.		Bidder to Specify

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION		BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
8.1.6		The Dust collector should have Dust Hoppers with dust collecting Cam locking Bins.	Bidder to Confirm	
8.1.7		The dust collector should have access door for maintenance purpose along with maintenance platform and ladder.	Bidder to Confirm	
8.1.8		The noise level of the exhaust fan should not be more than 85 db (A) when measured at a distance of 1 m.	Bidder to Confirm	
8.1.9		A monometer should be provided to read the pressure drop.	Bidder to Confirm	
8.2.0	Ducting			
8.2.1		Inter connecting ducting between Blast Room Dust Collector and Dust Collector Exhaust Fan of suitable size and length should be provided.	Bidder to Confirm	
8.2.2		Length of ducting between Blast Room Dust Collector and Dust Collector exhaust fan	Bidder to Specify	
8.2.3		Size of Duct	Bidder to Specify	
8.2.4		The ducting should have manual Damper Valve to control the suction.	Bidder to Confirm	
8.2.5	Exhaust Fan	Shall be of capacity suitable to purge the entire system To include the following:	Bidder to Confirm	
8.2.6	Scope of Supply	Bidder shall confirm the following a. Dust hopper with arrangement for dust removal b. Supporting structures for floor mounting c. Suction ductwork from shot blasting chamber to dust collector. d. Ducting from dust collector to exhaust fan e. Suitable bellows to be provided to prevent vibration f. Chimney with Supporting Structures. g. Roof for protection of dust collector and fan		
8.2.7	Design Parameters.	Bidder to specify the following : a. Overall Arrangement Details b. Dust Collector Model & Make c. Capacity & Filter Area d. Number of Filter bags e. Capacity, Motor Rating & Speed of Exhaust Fan f. Height & other technical details of the Chimney		

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
8.2.8	Chimney	<p>Height of Chimney shall be 25 m.</p> <p>Transverse ports shall be provided at two elevations. One at 5 m. Elevation and the other at 2/3 rd the height of chimney, from floor level.</p> <p>Suitable cowl at the top to be provided.</p> <p>At each elevation there shall be four ports provided 90 degrees apart. Each port hole shall be dia. 100 mm. At each port hole a standard pipe, 100mm long shall be welded. The other end of the pipe shall be provided with a bolted dummy flange.</p> <p>Platform shall be provided around the chimney, 1 m below each transverse plane, with hand rails, toe guard and approach ladder.</p> <p>The chimney drawings indicating the transverse ports shall be furnished to BHEL upon receipt of purchase order</p>	
8.3	Trolley and winch arrangement (Existing)		
	Existing Trolley system with Winch will be used. The job is loaded on to the rail mounted trolley system and will be pulled in to the blast chamber by means of Winch arrangement. Based on the dimensions of the job number of trolleys will be used. The trolleys will move on existing 60 Lbs/ Yd. rails embedded on floor. Please refer to the sketch no. BHEL - HPVP-MOD-007-A-001 REV-0 for details. Vendor to note.		
9.0	SYSTEM INTER LOCKS		
9.0.1	Inter-Lock Provisions Basic Need / Features	<p>a. All necessary interlocks to ensure safety of equipment, & personnel operating the equipment.</p> <p>b. Bidder to specify/elaborate the list of other interlocks provided</p>	
10.0	OPERATION AND CONTROL SYSTEM - OPERATOR'S PANEL		
10.0.1	<p>a. One Main Panel on the total equipment / station controller side (having complete machine control system with required configuration)</p> <p>b. All switches shall be within reach of the Operator. All displays / indications shall also be conveniently located (Schematic Layout with details to be submitted with the offer)</p>		Vendor to give details.

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
11.0	FIRST FILL OF OIL & SHOTS		
11.0.1	First filling of all required Oils should be supplied by vendor. Indigenous (Indian) source or Indian equivalent and specifications of oils / greases are also to be provided by the vendor.	Vendor to confirm & Specify	
11.0.2	First fill of shots should be supplied by vendor	Vendor to confirm and specify the quantity.	
12.0	ELECTRICAL INSTALLATION		
12.0.1	415V + 10%, 50HZ +3 Hz, 3 Phase, 3 wire AC (no neutral) power supply will be provided by BHEL at a single point near the machine, as per layout recommended by Vendor.	Vendor to confirm	
12.0.2	Tropicalisation: All electrical/electronic equipment shall be tropicalised.	Vendor to confirm	
12.0.3	All electrical / electronic control cabinets & panels shall be dust & vermin proof and shall have IP 54 protection.	Vendor to confirm	
12.0.4	a. All electrical and electronic panels including operator's panel should be provided with fluorescent lamps for sufficient illumination and power receptacles of 220 Volts, 5/15 Amp. AC. b. All adapters /receptacles should have compatibility with Indian equivalents.	Vendor to confirm	
12.0.5	Control circuit voltage shall be 110 V AC	Vendor to confirm	
12.0.6	All motors shall be energy efficient and shall be any of the following makes: Siemens / Crompton Greaves / KEC / ABB or other makes conforming to IEC standards and acceptable to BHEL.	Vendor to confirm	
12.0.7	Complete specifications of the various drives and Gear motors shall be furnished.	Vendor to confirm	
12.0.8	Wiring: All electrical motors, limit switches etc, on the machine shall be wired using PVC sheathed cable running in conduits to common terminal block	Vendor to confirm	
12.0.9	Blower motor should be supplied with soft starter.	Vendor to confirm	
12.0.10	External wiring from / to control panel, control desk, exhaust fan etc shall be by means of armoured multi- core copper cables	Vendor to confirm	
12.0.11	Vendor shall ensure proper earthing for the machine and its peripherals.		

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
13.0	PNEUMATIC CIRCUITS		
13.0.1	Pneumatics on machine, dust collector etc shall be connected by nylon and / or steel tube to common point on machine. Fitted at the common point would be a lubricator, regulator, filter and hand wheel valve, <i>(suitable capacity air drier to be supplied by bidder as the compressed air is not moisture free)</i>	Vendor to confirm	
13.0.2	All pneumatic components including cylinders shall be of FESTO make.	Vendor to confirm	
13.0.3	The compressed air will be supplied at a pressure of 5 Kg/cm ² only. All pneumatic systems on the machine, dust collector etc shall be designed to operate efficiently at this air pressure. <i>(suitable capacity air drier to be supplied by bidder as the compressed air is not moisture free).</i>	Vendor to confirm	
14.0	SPARES AND CONSUMABLES		
14.0.1	Itemized break-up of mechanical, hydraulic, electrical & electronic spares used in the machine in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation on two shifts running basis should be offered.	Vendor to confirm & Specify	
14.0.2	The list to include following, in addition to other recommended spares: Electrical, Mechanical, Pneumatic & Hydraulic Spares: All types of Transducers, Flow Switches, Relays, Contactors, Proximity Switches, Push Buttons, Indicating Lamps, Semiconductor Fuses, Special Fuses, Circuit Breakers, Main Power Switch. Filters, Seals, 'O'-Rings, Liners, Impeller Blades (Unit Price for each item shall be offered)	Vendor to confirm & Specify	
14.0.3	All types of spares for total station and accessories should be available for at least ten years after supply of the equipment. If equipment / control is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required	Vendor to confirm	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
15.0	ENVIRONMENTAL PERFORMANCE		
15.0.1	The Blasting Station should confirm to following factors related to environment: a. Maximum noise level shall be 85 dB (A) at normal load condition, 1 meter away from the Equipment. Noise abatement chamber, if required, shall be provided. b. If any safety / environmental protection is required it should be built in the machine by the vendor, to meet ISO 14001 and ISO 18001 Standards. c. Paint applied on various elements/components of the station shall be anti-corrosive & weather resistant, shall not peel off and mix up with dust or fumes emitted. d. The machine shall be suitable for an ambient temperature of +45 ° C and relative humidity of 93 % respectively, but both do not occur simultaneously	Vendor to confirm	
16.0	TOOLS FOR OPERATION & MAINTENANCE		
16.0.1	Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. for operation and maintenance of the machine shall be supplied by the vendor. List of such tools shall be submitted with offer	Vendor to confirm & Specify	
17.0	DOCUMENTATION:		
17.0.1	Three sets of following documents (3 Hard copies,) in English Language should be supplied along with the machine.	Vendor to confirm	
17.0.2	Operating Manuals of Equipments forming part of the Blasting Station.	Vendor to confirm	
17.0.3	Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Hydraulic Circuit Diagrams [with BOM - Bill of Materials]. All Assembly/ Sub Assembly Drawings shall be supplied with the Part List also.	Vendor to confirm	
17.0.4	Maintenance, Interface & Commissioning Manuals for speed drives.	Vendor to confirm	
17.0.5	Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	Vendor to confirm	
17.0.6	Detailed specification of all rubber items and pneumatic / lube oil fittings.	Vendor to confirm	
17.0.7	Steel Shots - Quantity, Mix, selection & specification	Vendor to confirm	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
17.0.8	Operating Manuals, Maintenance Manuals & Catalogues for all supplied Accessories.	Vendor to confirm	
17.0.10	Vendor to confirm that complete list of spares for equipments and accessories, along with item part no / specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine.	Vendor to confirm	
17.0.11	Component drawings with material specification for all wearing components like bushes, liners, impeller blades, etc.	Vendor to confirm	
17.0.12	One additional set of all the above documentation in CD as SOFT COPY.	Vendor to confirm	
17.0.13	The supplier has to present one set of the [O & M] Manuals - DOCUMENTATION, at the time of inspection.	Vendor to confirm	
18.0	EQUIPMENT INSPECTION		
18.0.1	The supplier has to offer the complete quantum of materials, semi-finished / finished machine components, sub-assemblies, bought-out items, spares, consumables, etc. required to build the shot blasting station in total, along with one set of O&M documentation for inspection, at the supplier's works, by BHEL Engineers prior to dispatch from the supplier's works.	Vendor to confirm	
19.0	CIVIL WORKS - for Machine Foundations and Covered Roof		
19.0.1	a. Complete Civil Works coming in the Shot Blasting Station (including Chimney Foundation); in addition to the Covered Industrial Shed to house the Shot Blasting Station is under the Scope of BHEL. b. Civil Design for Chimney Foundation shall be in the Scope of BHEL. However, load data to be submitted by successful bidder, for the equipment which require foundations. c. The existing pit shall be used as part of new blasting station.	Vendor to confirm	
20.0	ERECTION & COMMISSIONING		
20.0.1	Tools, Tackles, instruments and other necessary equipments required to carry out all above activities should be brought by the Vendor.	Vendor to confirm	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
20.0.2	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the Vendor on returnable basis.	Vendor to confirm	
20.0.3	Schedule of Erection and Commissioning shall be submitted with the offer.	Vendor to confirm	
20.0.4	a. Vendor to take full responsibility for the erection & commissioning, testing of the machine. b. Service requirement like power, air & water shall be provided by BHEL - HPVP at only one point to be indicated by vendor in their foundation/ layout drawings. c. Crane shall be provided by bidder.	Vendor to confirm	
20.0.5	Portion, if any, of the equipment, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the Vendor should supply sufficient quantity of touch-up paint of various colors of paint used.	Vendor to confirm	
20.0.6	Charges, duration, terms & conditions for E&C should be furnished in detail separately by Vendor along with offer.	Vendor to confirm	
21.0	PERFORMANCE PROVE-OUT		
21.0.1	The trouble free operation of all the sub-systems forming part of the total blasting station, at the rated operating parameters, shall be demonstrated successfully after the commissioning activity.	Vendor to confirm	
21.0.2	The supplier should carry-out the performance prove- out to demonstrate the capability of system as mentioned in clause 3.0.1. Shot blasting of three shells, from amongst the range of job sizes indicated, has also to be demonstrated.	Vendor to confirm	
22.0	TRAINING		
22.0.1	The supplier has to impart comprehensive training to BHEL Staff - on the OPERATION, TROUBLE SHOOTING and MAINTENANCE of the Shot Blasting Station - for a minimum period of 7 Working Days after the successful completion of the commissioning and performance prove- out of the shot blasting station.	Vendor to confirm	

TECHNICAL SPECIFICATION FOR SHELL SHOT BLASTING STATION (PART B)

S. No	PARTICULARS	SPECIFICATION / DESCRIPTION	BIDDER'S OFFER WITH COMPLETE TECHNICAL DETAILS
23.0	PERFORMANCE GUARANTEE		
23.0.1	Performance Guarantee for a minimum period of 12 months (for the machine in total including sub-systems and bought-out items) from the date of acceptance of the machine.	Vendor to confirm	
24.0	GENERAL POINTS		
24.0.1	Total Connected Load (in kVA)	Vendor to specify	
24.0.2	All bearings to be suitably protected against dust ingress	Vendor to specify	
24.0.3	All Gear boxes should be of reputed and standard makes like Radicon / Elecon / Shanthi Gears or any reputed make acceptable to BHEL.	Vendor to specify	
24.0.6	Maintenance platform, wherever required, shall be provided along with handrails, access ladder, etc.	Vendor to specify	
24.0.7	Painting of Equipment / Electrical Panels using RAL 6011 Apple Green Color (Polyurethane Paint)	Vendor to specify	
24.0.8	Total weight of the individual systems of equipment	Vendor to specify	
24.0.9	Weight of heaviest part of machine	Vendor to specify	
24.0.10	Weight of the heaviest assembly / sub-assembly of the equipment	Vendor to specify	
24.0.11	Dimensions of largest part/ sub-assembly/ assembly of the Equipment	Vendor to specify	
24.0.12	Vendor to submit, along with offer, reference list of customers where similar equipments have been supplied mentioning broad specifications of the supplied equipment.	Vendor to confirm	
24.0.13	Detailed catalogues, sketch/ photographs of the equipment and accessories/ attachments should be submitted with the offer.	Vendor to confirm	

ENCLOSURES:

ANNEXURE -1: Layout of existing shot blasting station.

This drawing is the property of M/s.BHARAT HEAVY PLATE & VESSELS LTD. India, and is not to be traced or copied without permission.

FORM NO: 0421/0

8 REV/NO.

7 DRG-NO.

6

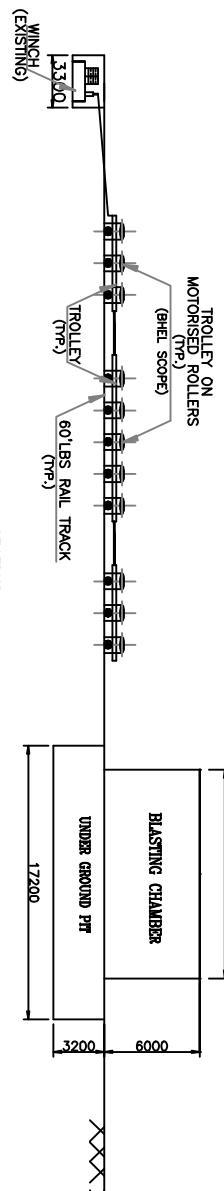
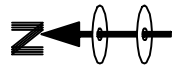
5 DRAWING NOT TO BE SCALED

4 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

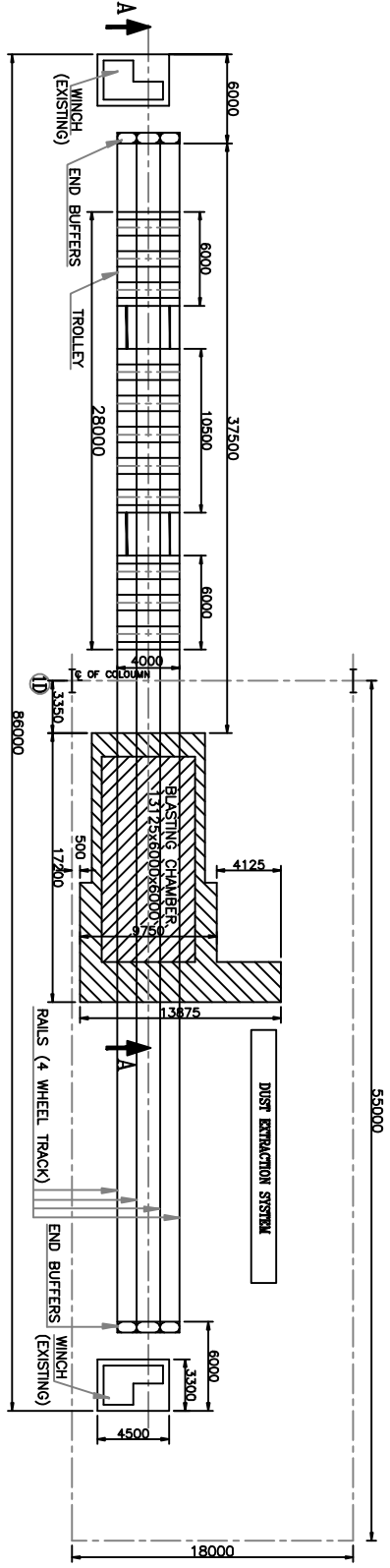
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1



SECTION - A A



PLAN SHOWING EXISTING SHOT BLASTING STATION

REF. DRG.NO:
COMP. FILE NAME : DAFFS

<p>GENERAL NOTES: 1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED. 2. DIMENSIONS TO S 91.3 TO S 91.3. 3. SURFACE FINISH SYMBOLS ARE TO S 307.2-1997. 4. DO NOT SCALE THE DRG.</p>		<p>APPROVED</p>		<p>SCALE 1:1</p>	
<p>DNL</p>	<p>DNL</p>	<p>DNL</p>	<p>DNL</p>	<p>DNL</p>	<p>DNL</p>
<p>VNRAD</p>	<p>VNRAD</p>	<p>VNRAD</p>	<p>VNRAD</p>	<p>VNRAD</p>	<p>VNRAD</p>
<p>CHD.</p>	<p>CHD.</p>	<p>CHD.</p>	<p>CHD.</p>	<p>CHD.</p>	<p>CHD.</p>
<p>WORK ORDER NO.</p>		<p>YEAR OF ORDER SIZE</p>		<p>2013</p>	
<p>DRAWING NO.</p>		<p>NO. OF</p>		<p>A3</p>	
<p>BHARAT HEAVY ELECTRICALS LTD. HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM-530 012 (A/P)</p>		<p>EXTENSION OF LMS LAYOUT OF EXISTING SHOT BLASTING STATION</p>		<p>DRAWING NO. MOD-007-A-001</p>	
<p>REV.</p>		<p>0</p>		<p>0</p>	

COMMERCIAL TERMS AND CONDITIONS FOR SUBMISSION OF OFFER**1.0 QUOTATIONS**

Bidders shall submit the offer in TWO INNER ENVELOPES as indicated below which shall be sealed in one outer envelope.

Envelope I: This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked “**Part I – Technical and Un-priced commercial bid**” Indicating Tender No., Due Date and Address & Reference of the Bidder.

Envelope II: This sealed envelope should contain price details this envelope should be clearly marked “**Part II - Price bid**” indicating Tender No., Due Date and Address & Reference of the Bidder.

Both the envelopes (Part I & II) shall be put in one cover, duly sealed, super scribing as Part I and Part II of Tender No., due date of opening and the address and reference of the Bidder

The above offer should reach this office on or before the due date by 14.00 Hrs (IST)
Tender should not be addressed to any Individuals name but only designation to

Sr. Manager (MM)
BHARAT HEAVY ELECTRICALS LIMITED
HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530 012 (A P), INDIA.

Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

Offers should be in ENGLISH and accompanied by technical literature catalogue and detailed dimensional drawings in ENGLISH or otherwise the offers will not be considered.

2.0 PART I (TECHNICAL & UN-PRICED COMMERCIAL BID)**2.1 Technical**

This part shall include / indicate the following:

- 2.1.1. Offer should contain complete scope of supply with all technical details, specifications, delivery and other commercial terms and conditions.
- 2.1.2. Point by point confirmation for the Technical Specification enclosed is to be provided. If there are any deviations the same should be clearly specified. Offers received without conformation to our specification will be rejected.
- 2.1.3. List of customers to whom same or similar equipment have been supplied along with performance certificates to be enclosed.
- 2.1.4. Relevant catalogue to be attached.
- 2.1.5. List of spares parts (with part numbers) for two years operation and maintenance should be attached.

2.1.6. Information on shipping weight and cubage (length, width & height) to be provided

2.1.7. In case of foreign bidder offer, the Principal's technical offer only should be enclosed.

2.2 Un-Priced Commercial

This part shall include / indicate the following

2.2.1. Port of shipment / Station of dispatch

2.2.2. Terms of payment

2.2.3. FOB/FCA price along with freight charges up to Chennai port (for foreign bidders) Ex-works/FOR Dispatch Station price along with freight charges up to BHEL Visakhapatnam (for Indian bidders)

2.2.4. Taxes, Service tax & duties including Cess applicable.

2.2.5 Delivery Schedule

2.2.6. Filled-in check list to be enclosed

2.2.7. Offer validity

2.2.8. Country of origin

2.2.9. Percentage of agency commission if any along with a copy of Agency agreement The FOB/FCA/CFR Prices quoted shall include the agency commission.

2.2.10. A copy of "Un-Priced Part II 'i.e., a copy of the Price Bid without the price details to be enclosed.

2.2.11 BHEL Visakhapatnam is eligible for availing CENVAT / VAT credit on both inputs and capital inputs. The suppliers invoice should separately indicate the amount of duty / taxes and should invariably mention the following details:

1. The Central excise registration number, range division and commission rate of the supplier's jurisdiction.
2. The rate of duty and 8 digit central excise tariff heading of the item supplied.
3. The TIN, VAT, CST registration number of the supplier.

The duplicate copy of the invoice is required for availing CENVAT credit and original copy for availing VAT credit, if purchased within the state.

In case of foreign bidders the duplicate copy of the electronic Bill of Entry along with TR6 challan should be made available for availing CENVAT credit on CVD, Cess (S) and SAD.

3.0 **PART II (PRICE – BID)**

This part should contain the schedule of price particulars and to be co-related to the technical details provided in Part-I

4.0 **OPENING OF TENDERS**

The Part I – Technical & un-priced commercial bid alone would be opened on the Tender opening date.

The Part II – Price bid of technically suitable Bidders alone would be opened. The Technically suitable Bidders would be informed about the Price Bid opening date. Clarifications if any required by BHEL Visakhapatnam FOR Technical evaluation / commercial evaluation would be sought from Bidders before opening of Part II – price bid.

GENERAL

5.1 Incomplete offers will not be considered.

5.2 **Fixed priced:** Prices quoted by the bidder shall be fixed and not subject to any escalation whatsoever during the period of bid validity and execution of the Purchase Order A bid submitted with an adjustable price will be treated as non- responsive and rejected Prices shall be written in words and figures. In the event of difference, the price in words shall be valid and binding. Unit prices shall be considered correct in the event of any discrepancy with regards to total price.

5.3 **Bid currency:** Indian bidders should submit the prices only in Indian Rupees. Foreign bidders may submit their bid in their home currency, which should be clearly indicated in the un-priced commercial bid as well as in the price bid. Price bid opening date/ RA date will be considered as effective date for considering exchange rate to evaluate the offers.

- 5.4 **Terms of Delivery:** Bidders are required to quote their best delivery period. Foreign Bidders should submit their offer for net FOB/ FCA – Nearest Sea Port / Air Port as well as CFR / Chennai Seaport/ Airport. Freight charges up to Chennai port to be indicated separately. Indian Bidders should submit their offer for Dispatching station as well as FOR BHEL Visakhapatnam basis. Freight charges from works to BHEL Visakhapatnam to be indicated separately. Delivery from the date of Letter of Intent to be mentioned in the offer.
- 5.5 **Taxes and Duties:** All Taxes and Duties 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.28280189432, APGST No. VSP/04/1/1023 dated 24.08.1968. CST No.VSP/04/1/1012 dated 24.08.1968 & BHEL Visakhapatnam ECC No AAA CB 7076 N-XM001. Assessment circle Visakhapatnam.)
- 5.6 **Validity:** The offers for main equipment and spares shall be kept open for acceptance for a period of 120 days (one hundred and twenty days) from the dates of opening of the tender (part I)
- 5.7 **Terms of Payment:**
- 5.7.1 **Indian Bidders:**
80% payment (80% of basic price + 100% Taxes) will be made within 45 days of receipt of material and balance 20% will be made after acceptance of material/commissioning of the equipment at BHEL, Visakhapatnam and on submission of Performance Bank Guarantee for 10%.
- 5.7.2 **Foreign Bidders**
An Irrevocable letter of Credit shall be established for 80% of FOB/FCA/CFR/ (excluding Indian Agent's commission) 2 months prior to shipment and valid for 3 months for negotiation against shipment Letter of Credit shall be opened through a branch of State Bank of India in the country where order shall be placed. In case, in the country where order is placed, State Bank of India is not there, Letter of Credit will be confirmed by foreign banker. Balance 20% of FOB/FCA/CFR value shall be paid through sight draft on Commissioning & acceptance of the equipment at BHEL Visakhapatnam, against submission of 10% performance bank guarantee. All Bank charges outside India are to supplier's account. Lump sum erection and commissioning charges if any, shall be payable after satisfactory erection & commissioning of the equipment by sight draft against certificate issued by the competent authority.
- 5.7.3 **Common to both India & Foreign Bidders.**
Erection & Commissioning (E&C) charges will be released after deduction of Income Taxes as per the Govt. of India rules. The TDS certificate will be issued by BHEL. Applicable service tax on E&C charges will be payable extra. The liability of depositing the same to the Govt. will be of the supplier.
- 5.7.4 **Loading criteria common to both Indian and foreign bidders:** Vendor should accept the payment terms specified above. However for any deviation to the payment terms offered with reference to the above criterion will be loaded with prime lending rate of SBI prevailing on date of opening of price bid + 2%, which shall be computed for the differential period between BHEL Visakhapatnam terms of payment and the offered basic price.
- 5.8 DUNS number (allotted by M/s. DUN & Bradstreet) shall be mentioned in your offer.
- 5.9 **Guarantee:** The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier.
Offers from vendors not accepting to the requested guarantee period will be rejected.

- 5.10 **Contract Execution Bank Guarantee (CEBG):** The successful tenderer shall furnish a Bank Guarantee from any Nationalized Bank for 5% of Purchase Order value (FOR Dispatching station value – Excluding taxes, duties, freight & insurance – for Indian bidders) & (FOB/FCA value – excluding freight & insurance – for foreign bidders) confirming that the order will be executed as per the terms and conditions and this should be valid till final dispatch date (LR/GR/BL/AWB) with additional 2 months claim period. Letter of Credit will be processed only after receipt of CEBG. The CEBG is to be furnished within 3 weeks from the date of Purchase order.
Offers from vendors not accepting to submit CEBG will be rejected.
- 5.11 **Performance Bank Guarantee (PBG):** The supplier shall furnish a Bank guarantee from any Indian Nationalized Bank approved by BHEL Visakhapatnam in the format, given by BHEL Visakhapatnam along with purchase order for 10% of the Purchase Order value (FOR Dispatching station value – Excluding taxes, duties, freight & insurance – for Indian bidders) & (FOB/FCA value – excluding freight & insurance – for foreign bidders) valid for period of guarantee with additional claim period of 2 months.
Offers from vendors not accepting to submit PBG will be rejected.
- The CEBG & PBG shall be obtained from any Indian Nationalized Bank/ Scheduled Commercial Banks.
- 5.12 **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 penalty at the rate of ½% of the value of goods for each week of delay subject to a maximum of 10% of the Purchase Order value.
- 5.12.1 **Loading Criteria for Liquidated Damages:** Any deviation from above LD Clause to the extent for which LD is not agreed by the vendor i.e., differential % value will be loaded on basic price, e.g. If some vendor agrees for say maximum of 6% LD then his price will be loaded by 4% (10 – 6) of his quoted basic price.
- 5.13 **Risk purchase:** If the supplier fails to deliver the goods within the delivery specified in the Purchase Order, BHEL Visakhapatnam will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or dispatch within the delivery period mentioned in the Purchase Order.
Offers from vendors not accepting the above Risk Purchase terms will be rejected.
- 5.14 **Indian Agent & Agency commission:** An Indian Agent can represent only one Foreign Manufacturer against a particular Tender. The FOB/FCA/CFR price quoted by the Foreign bidder shall include the agency commission. However, the agency commission component payable to their Indian Agents shall be shown separately in the offer. This will be paid by BHEL Visakhapatnam in India Rupees, on satisfactory commissioning & acceptance of the equipment. Copies of current Agency Agreement / Authorization Letter in respect of Agency Commission shall be furnished along with offer. For calculation of Rupee equivalent of Agency Commission exchange rate as prevailing on the date of Purchase Order will be taken.
- 5.15 **Short shipment / Warranty replacement:** In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the supplier. Any warranty replacement during the warrantee period shall be on FOR, BHEL Visakhapatnam, basis.

- 5.16 **Inspection & Testing:** All goods shall be subject to inspection by BHEL Visakhapatnam or its authorized representatives at supplier's works or at BHEL Visakhapatnam stores. The supplier will not charge for the facilities provided for inspection of goods. In case of machine tools the machine would be inspected and proved at supplier's works prior to dispatch however, final inspection and acceptance of the machine will be carried after installation of the machine at BHEL, Visakhapatnam.
- 5.17 **Operating and Maintenance manuals:** The Bidders shall clearly mention in their offer that Operating Maintenance Manuals as called for in the Technical Specification in the required number of copies will be provided.
- 5.18 **Cenvat & VAT credit. (for Indian Bidders only):** The quotation must indicate Tariff item number and rate of Excise Duty applicable. The original Excise Duty Gate Pass will be required to be furnished in case charges to us. If the bidder is availing Cenvat credit for his input materials, the effect of proforma credit should be passed on to the purchaser.
- 5.19 **Packing:** The Supplier shall arrange for packing suitably in all respects considering the peculiarity of the material involves for normal transport by sea / air / rail road and suitably protected against effect of tropical salt laden atmosphere in the event of shipment being delayed at ports.
- 5.20 **Salient Points of HSE** (Health, Safety & Environment) that are to be considered while submissions of offer are:
- 5.20.1 Consumption benchmarks related to output shall be provided wherever applicable for key input resources (energy/fuels/chemicals)
- 5.20.2 Competency requirements for operation, maintenance and calibration, if any, shall be communicated
- 5.20.3 If any Hazardous chemicals as per MSIHC (Manufacturing, Storage and import of Hazardous Chemicals) Rules 1989/94/2000 are used, the MSDS shall be provided, along with on site & OFF site emergency plan (as applicable).
- 5.20.4 The noise level at operator level shall be within 90 DbA
- 5.20.5 OH&S (Occupational Health and Safety) control measures for safe working of machine as applicable shall be specified
- 5.20.6 The machine/equipment shall be fitted with guard for rolling and moving parts and shall comply with applicable OH&S legislations and Factories Act 1948
- 5.20.7 The supplier shall submit the layout drawing of operating controls, displays etc and operating instructions to enable ergonomics evaluation and approval
- 5.20.8 The recommended PPE (Personal Protective Equipment) for the equipment shall be furnished
- 5.20.9 Alarm System (both visual and audible) and Automatic switch off of the equipment shall be provided for any intrusion, overloading, short circuiting or any malfunctioning of the equipment.
- 5.20.10 Details of all hazardous / harmful substances discharges as by-products / wastes during operations of the machine / equipment, such as fumes, gases, dust particles, aerosols UV./IR (Ultra violet / Infra red) radiations, etc shall be furnished, along with their concentrations and their TLV, (Threshold Limit Value)

- 5.20.11 Appropriate pollution control measures shall be proposed to keep the emissions from the machinery / processes within the prescribed limit as stated in Environment Protection Rules 1986.
- 5.20.12 All furnaces, process units, DG sets, paint booths, shot blasting chambers, etc shall be provided with stack(s) of sufficient height as per guidelines laid down in the Environment Protection Rules 1986.
- 5.20.13 wherever industry specific standards are not available for control of pollutants, general emission standards shall be used
- 5.20.14 Chemicals banned due to their negative impact on the environment shall not be used on the process
- 5.20.15 Fuels with sulphur content less than 0.05% shall be proposed.
- 5.20.16 Details regarding nature of waste generated and appropriate disposal practices available shall be provided, along with the operation procedure of the plant / process.
- 5.20.17 Hazardous chemicals and flammable substances shall be transported only through authorized transporters and all safety practices as laid down in applicable legislative requirements such as Central Motor Vehicle Rules, Manufacture, Storage and Import of Hazardous Chemical 1989, etc. shall be followed.
- 5.20.18 Primary materials used in the equipment shall be specified and they shall be eco - friendly.
- 5.21 Evaluation of offers shall be on the basis of delivered cost (Net cash outflow to BHEL Visakhapatnam).
- 5.22 BHEL Visakhapatnam also reserves its right to allow to the Public Sector Enterprises ordering and price preference facilities as admissible under the existing policy.
- 5.23 BHEL Visakhapatnam reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at another project / unit.
- 5.24 BHEL Visakhapatnam shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL Visakhapatnam.
- 5.25 BHEL Visakhapatnam reserves the right to go for a Reverse Auction (RA) instead of opening the submitted sealed bid, which will be decided after technical evaluation. Information and general terms and conditions governing RA are given below.

GENERAL TERMS AND CONDITIONS OF RA (REVERSE AUCTION)

Against this enquiry for the subject item/system with detailed scope of supply as per enquiry specifications. BHEL Visakhapatnam may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING ON INTERNET.

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL Visakhapatnam will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
3. BHEL Visakhapatnam will inform the vendor in writing in case of reverse auction, the details of service provider to enable them to contact & get trained.

4. Business rules like event date, time, start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
 5. Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
 6. BHEL Visakhapatnam will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL Visakhapatnam like Packing & Forwarding charges, taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL Visakhapatnam standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
 7. Reverse auction will be conducted on scheduled date & time.
 8. At the end of Reverse Auction event, the lowest bidder value will be known on the network.
 9. The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL Visakhapatnam through Service provider within 24 hours of Auction without fail.
 10. Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL Visakhapatnam as per prevailing procedure.
 11. In case BHEL Visakhapatnam decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL Visakhapatnam shall be opened as per BHEL Visakhapatnam's standard practice.
- 5.26 **Force Majeure clause:** If at the time during the continuance of this contract the performance in whole or in part by either party of any obligations under this contract shall be prevented or delayed by reason, of any war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, explosions epidemics, quarantine, restrictions or acts of GOD (hereinafter referred to as events) then provided notice of happening of any such events is given by either party to other within twenty one days from the date of occurrence thereof neither party shall reason of such events be entitled to terminate this contract nor shall either party have any such non performance and delay is resumed as soon as practicable after such events has come to an end or ceased to exist, if the performance in whole or part of any obligation under this contract is prevented or delayed by reason or any such event claims for extension of time shall be granted for period considered reasonable by the purchaser subject to prompt notification by the seller to the purchaser of the particulars of the events and supply to the purchaser if required of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed to be a waiver of time in respect of remaining deliveries.

CHECK LIST

Bidder's acceptance to BHEL Visakhapatnam's Standard Commercial Terms & Conditions.

Applicable for Indian bidders

(To be submitted along with the offer – please do not change the format)

BHEL Visakhapatnam Tender No: & Date:	Bidders Confirmation / response
Prices have been quoted on "FIRM PRICE" basis only (Yes / No)	
Prices have been quoted on "F.O.R BHEL Visakhapatnam" basis only (Yes / No)	
P & F (Please confirm whether included or not)	
Freight (Please confirm whether included or not)	
Insurance (Please confirm whether included or not)	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – please Specify)	
Sales Tax (please Specify)	
Excise Duty (please Specify)	
Delivery period from the date of Purchase Order (please Specify). A loading @ ½ % of the Purchase Order value per week will be done for the grace period requested. For evaluation 4 weeks will be considered as one month. Vendors quoting a delivery period beyond the 'the requested delivery plus the allowed grace period' is liable for rejection.	
Liquidated damages as per clause 5.12 (we require acceptance to @ ½% per week subject to a maximum of 10%) (Yes / No)	
Risk Purchase as per clause 5.13 (Yes / No) (Offers from vendors not accepting the Risk Purchase terms will be rejected)	
Payment terms (As per Clause No. 5.7.1) (Yes / No)	
Contract Execution Bank Guarantee (CEBG) as per Clause 5.10 (Yes / No) (Offers from vendors not accepting to submit CEBG will be rejected)	
Performance Bank Guarantee (PBG) as per Clause 5.11 (Yes / No) (Offers from vendors not accepting to submit PBG will be rejected)	
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier) (Yes / No) (Offers from vendors not accepting to the guarantee period will be rejected)	
Inspection (please Specify the Place of Inspection)	
Erection & Commissioning/ Installation/ Training (Please confirm whether charges are included in the total cost or not)	
Approximate Net Weight of the total Consignment	
Approximate Gross Weight of the total Consignment	

Signature & Office Seal of the bidder

CHECK LIST

Bidder's acceptance to BHEL Visakhapatnam 's Standard Commercial Terms & Conditions.

Applicable for foreign bidders (To be submitted along with the offer – please do not change the format)

BHEL Visakhapatnam Tender No: & Date:	Bidders Confirmation / response
Prices have been quoted on "FIRM PRICE" basis only (Yes / No)	
Prices basis (FOB/CFR/CIF – Please Specify)	
Insurance (Please confirm whether included or not)	
Validity of offer (we require a minimum period of 120 days from the date of Tender Opening – please Specify)	
Currency in which quoted (please Specify)	
Port of loading (please Specify)	
Country of Origin (please Specify)	
Delivery period from the date of Letter of Intent (please Specify) A loading @ ½ % of the Purchase Order value per week will be done for the grace period requested. For evaluation 4 weeks will be considered as one month. Vendors quoting a delivery period beyond the 'the requested delivery plus the allowed grace period' is liable for rejection.	
Liquidated damages as per clause 5.12 (we require acceptance to @ ½% per week subject to a maximum of 10%)	
Risk Purchase as per clause 5.13 (Offers from vendors not accepting the Risk Purchase terms will be rejected) (Yes / No)	
Payment terms (As per Clause No. 5.7.2)	
Agency commission (refer clause 5.14)	
Contract Execution Bank Guarantee (CEPG) as per Clause 5.10 (Yes / No) (Offers from vendors not accepting to submit CEBG will be rejected)	
Performance Bank Guarantee (PBG) as per Clause 5.11 (Yes / No) (Offers from vendors not accepting to submit PBG will be rejected)	
Guarantee as per clause 5.9 (The equipment shall be guaranteed for a period of 18 months from the date of supply or 12 months from the date of commissioning and acceptance whichever is earlier). (Offers from vendors not accepting to the requested guarantee period will be rejected) (Yes / No)	
Inspection (please Specify)	
Erection & Commissioning/ Installation/ Training (Please confirm whether charges are included in the total cost or not)	
Dimension of the Largest Part (please Specify)	
Packing Schedule (No of containers and their Sizes) (please Specify)	
Approximate Net Weight of the total Consignment (please Specify)	
Approximate Gross Weight of the total Consignment (please Specify)	

Signature & Office Seal of the bidder