

BHARAT HEAVY ELECTRICALS LIMITED,
(A Government of India Enterprises)
Heavy Plates & Vessels Plant
Visakhapatnam – 530 012 INDIA.
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NOTICE INVITING TENDER(NIT)

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

SUB: HIGH MAST LIGHT

Our Ref: **MM/2/10/1969/CAP/W-156/5156**

DATE: 24.01.2014

Sealed quotations in duplicate are invited from suppliers on or before **18.02.2014** **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.	HIGH MAST LIGHT	6 Nos.
	Encl: 1. Qualifying Criteria PART A 3 Pages 2. Technical Specifications PART B 10 Pages 3. General Terms/ commercial terms and conditions (INCLUDING CHECK LIST) 9 Pages	

For BHARAT HEAVY ELECTRICALS LIMITED,

For Sr. MANAGER (MM)

HIGH MAST LIGHT

Part-A

SECTION – I : QUALIFYING CRITERIA

The BIDDER has to compulsorily meet the following requirements to get qualified for considering the technical offer:

Sl. No.	REQUIREMENTS	VENDOR'S RESPONSE
1.0	<p>Only those vendors (OEMs), who have supplied and commissioned at least ONE HIGH MAST LIGHT OF 30 MTRS HIGHT 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.</p> <p>However, if such equipment had already been supplied to any of BHEL units , then that machine should be presently working satisfactorily for more than six months after it's commissioning and acceptance (from the date of opening of Tender).</p>	
	The vendor should submit following information where similar machine has been supplied for qualification of their offer.	
1.1	Name and postal address of the customer or company where similar equipment is installed.	
1.2	Name and designation of the contact person of the customer.	
1.3	Phone, FAX no and email address of the contact person of the customer.	
1.4	Month and Year of commissioning of the equipment.	
1.5	Application for which the equipment is supplied	
1.6	BHEL VISAKHAPATNAM 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.	
2.0	DELIVERY - The bidder shall quote the best possible delivery. However the delivery shall not exceed 03 months with an additional grace period of 01 month. The delivery period shall be reckoned from date of purchase order to despatch from the vendor works.	

HIGH MAST LIGHT

Part-A

SECTION – I I

The BIDDER / VENDOR are requested to provide the following information:

Sl. No.	REQUIREMENTS	VENDOR's RESPONSE
3.0	The BIDDER/VENDOR to furnish Reference List of Customers, with full address, details of contact person, where High mast light have been supplied in the past.	
4.0	Details of High mast light supplied to other BHEL units, if any. (Year of commissioning)	
5.0	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centres in South India.	
6.0	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

HIGH MAST LIGHT

Part-A

SECTION – III

The BIDDER to note:

Sl. No.	REQUIREMENTS	VENDOR's RESPONSE
7.0	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1. Technical Offer [with PART A & PART B] & commercial offer 2. Price Bid.	
8.0	The Technical Offer shall contain a comparative statement of Technical Specifications demanded by BHEL VISAKHAPATNAM and Offer Details submitted by the Bidder , against each clause. A just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement where specific details are required may lead to disqualification of the Technical Offer.	
9.0	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.	
10.0	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.	

TECHNICAL SPECIFICATIONS FOR HIGH MAST LIGHT				
NOTE :-				
1. Those Vendors (OEM) who submit complete information would only be considered.				
2. The vendor (OEM) should fill the "Offered" Column in compliance to specified requirements and also "Deviations" if any.				
ADDRESS OF THE SUPPLIER :		ADDRESS OF THE INDIAN AGENTS :		
TELEPHONE NOS. :		TELEPHONE NOS. :		
FAX NOS. :		FAX NOS. :		
E-MAIL ADDRESS :		E-MAIL ADDRESS :		

SCOPE OF WORK:

This specification defines the requirements for design, fabrication, supply, installation at BHEL VISAKHAPATNAM, testing and commissioning of high mast lighting system, including supply and installation of associated cables and materials, design of civil and structural foundation and supply of all related materials such as light fittings, bulbs, chokes, foundation bolts etc.

CODES AND STANDARDS

The equipment shall comply with the requirement of latest revision of following standards

Issued by BIS (Bureau of Indian Standards), unless and otherwise specified.

IS-325	Three-phase induction motors
IS-1554	PVC insulated (Heavy-duty) electrical cables
IS-2309	Code of practice for protection of building and allied structures against lightning
IS-2629	Code of practice for galvanizing
IS- 3043	Code of practice for earthing.
IS-3618	Phosphate treatment of iron and steel for protection against corrosion
IS-4691	Degree of protection provided by enclosure of rotating machines
IS-4759	Code of practice for hot dip galvanizing

IS-9968 Elastomer insulated cables (Part-1) for working voltage up to and including 1100V.

IS-13947 Low voltage switchgear and control gear: General rules

In case of imported equipment standards of the country of origin shall be applicable, if these Standards are equivalent or stringent than the applicable Indian standards.

The equipment and the installation shall also conform to the provisions of Indian Electricity rules and other statutory regulations currently in force in the country.

In case Indian standards are not available for any equipment, standards issued by IEC/BS/VDE/IEEE / NEMA or equivalent agency shall be applicable.

In case of any contradiction between various referred standards /specifications/data sheet and statutory regulations, the following order of priority shall govern:

- a) Statutory regulations
- b) Project data sheets
- c) Job specification
- d) This specification
- e) Codes and standards

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
1.0	GENERAL REQUIREMENTS			
1.1	The offered equipment shall be brand new with state of art technology and proven field track Record. No prototype equipment shall be offered.	Vendor to confirm		
1.2	Vendor shall ensure availability of spare parts and maintenance support services for the offered Equipment at least for 15 years from the date of supply.	Vendor to confirm		
1.3	Vendor shall give a notice for at least one year to the end user of equipment BHEL VISAKHAPATNAM before phasing out the product/spares to enable the end user for placement of order for spares and services.	Vendor to confirm		
1.4	The high mast lighting system shall have a minimum design life of 25 years unless otherwise specified.	Vendor to confirm		
2	SITE CONDITIONS AND SYSTEM PARTICULARS The equipment and materials to be supplied and installed by the vendor shall be suitable for continuous and trouble free operation at 45degree Celsius unless.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
3	EQUIPMENT SPECIFICATIONS The high mast and other equipment and materials shall be of the best quality and shall conform to the specifications given hereunder.	Vendor to confirm		
4	Mast			
4.1.0	The high mast shall be of continuously tapered, polygonal cross section construction. Minimum height of mast shall be 30 meters unless otherwise specified. The mast shall be fabricated from steel plates in suitable number of sections, telescopically jointed giving a continuous tapered profile and presenting good visual appearance. The base flange shall be provided with high tensile anchor bolts. The bottom section shall have adequate sized opening with a hinged door to accommodate electric drive for winch, cable, plug socket, etc., The opening shall be such as to permit clear access to the above components inside the mast. The opening shall be complete with a close fitting, dust and vermin proof door, weather protected with gaskets of durable material and provided with a heavy-duty double locking arrangement.	Vendor to specify		
4.1.1	The means for natural ventilation of the mast shall be provided.	Vendor to specify		
4.1.2	Both the inner and the outer surfaces of the entire fabricated mast shall be hot dip galvanized. The amount of galvanizing shall be 610gm per sq.metre unless otherwise specified	Vendor to specify		
4.1.3	The whole head frame assembly shall be covered and protected by an aluminum canopy secured to the frame by stainless steel bolts and nuts. The canopy shall have suitable prevention arrangement against entry of birds etc.	Vendor to confirm		
4.1.4	The mast shall have integral power tool for winch drive unless otherwise specified. The mast shall have stainless earthing terminal(02 nos) at convenient location in the base compartment and these shall be suitable for connection with 40x5mm GI strip to the plant-earthing network unless otherwise specified.	Vendor to confirm		
4.1.5	Lightning rod at the top of the mast for the lightning protection of the lighting mast system as per standard: IS-2309 shall be provided.	Vendor to confirm		
4.1.6	The complete design of the mast and associated foundation shall be such that mast is structurally and mechanically safe.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
5.0	Lantern Carriage			
5.1	The Lantern carriage shall be of steel tubular ring type construction designed to accommodate the specified number of lighting fixtures and balance counter weights shall be provided wherever required. The carriage shall be fabricated in two halves jointed by bolted flanges to enable easy removal from the erected mast for replacement and maintenance purpose.	Vendor to confirm		
5.2	The complete lantern carriage assembly shall be hot dip galvanized after fabrication. It shall have perfect self-balance arrangement so as to avoid swing and to prevent damage to mast surface or other installed parts, during lowering/raising operation of carriage.	Vendor to confirm		
5.3	All hardware used shall have necessary corrosion protection. The carriage shall have weather protected IP-55 cast aluminum junction box with required number of terminals (phase, neutral and earth) for connection to the designed number of flood light fitting and associated control gears fixed on the carriage.	Vendor to confirm		
5.4	Unless otherwise specified, Lantern carriage shall be suitable for accommodating a minimum of 12 numbers of flood light fixtures.	Vendor to confirm		
5.5	The flood light fixtures shall have die cast aluminum body with facility for lamp centering and focusing and shall be provided with angle indicator for aiming, and also with anodized and polished aluminum reflector with control gearbox.	Vendor to specify		
5.6	Each high mast shall have minimum two numbers aviation obstruction lighting fixtures with two minimum 40W neon lamps for mast and shall be provided at height of above 30meters.	Vendor to confirm		
5.7	Provision shall also be available to test the luminaries while lantern carriage is in lowest position by connecting the plug to the receptacle provided on the lantern carriage.	Vendor to confirm		
6.0	Winch Assembly.			
6.1	For lowering and rising of lantern carriage assembly, a winch arrangement shall be fixed in the bottom of the mast. This shall have provision to operate both manually and electrically.	Vendor to confirm		
6.2	The winch shall be suitable to handle the weight of the lantern carriage assembly with lighting fixtures and all other accessories, with factor of safety not less than two unless otherwise specified.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
6.3	Minimum two number of winch drum shall be provided for the winch assembly. The winch shall be of self-sustaining type with positive locking arrangement without the need for brake shoe, springs, or clutches.	Vendor to confirm		
6.4	The winch shall be self-lubricating type by means of an oil bath.	Vendor to confirm		
6.5	The mast shall be fitted with flexible stranded high tensile strength stainless steel wire ropes, which shall have a factor of safety not less than five times the safe working load of winch.	Vendor to confirm		
6.6	Particular care shall be exercised in all aspects of design, manufacture, testing and installation arrangements of the system to ensure safety under all operating conditions.	Vendor to confirm		
6.7	The material of construction for top pulley block shall be non-corrosive and preferably made up of die cast LM-6 aluminum alloy, with self-lubricating bearing. The design shall ensure that the operation of pulleys is maintenance-free.	Vendor to confirm		
7.0	<u>Power Tool for Winch Drive.</u> The rating and capacity of the electric motor used in power tool shall be compatible to lift the design load of lantern carriage with design margin of minimum 20%. The winch drive shall incorporate torque limiter. Manual handle shall also be provided for hand operation of winches. Power tool shall have self-alignment arrangement.	Vendor to confirm		
8.0	<u>Feeder Pillar Box</u>			
8.1	Each high mast shall be supplied with one power supply feeder pillar distribution box, which shall be located near it.	Vendor to confirm		
8.2	The feeder pillar-box shall be metal enclosed, freestanding type made out of 2mm thick mild sheet steel, epoxy painted and IP-55 weather protected. Additional canopy for rain protection shall be provided as an integral part of feeder pillar distribution box.	Vendor to confirm		
8.3	The feeder box shall be complete with incomer Switch fuse/MCB, ELCB, motor starters for winch drive, MCB for lighting control, timer for switching on/off of mast lighting and socket with 15 A MCB, shall be provided.	Vendor to confirm		
8.4	Motor starter shall be complete with switch fuse, contactor, and bimetal relay with single phasing prevention feature.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
8.5	LEDS for indication of incoming power supply healthy for feeder pillar incomer shall be provided.	Vendor to confirm		
8.6	Feeder pillar shall have adequate space to receive incoming and outgoing cable terminations for 415V, TPN supply loops in and loops out arrangement. The feeder pillar-box shall be complete with double compression nickel-plated brass cable glands and tinned copper lugs.	Vendor to confirm		
8.7	The feeder pillar shall have two numbers external ear thing terminal.	Vendor to confirm		
8.8	The pillar-box shall be installed on a raised concrete foundation block and foundation shall be up to the level of minimum 300mm above ground level	Vendor to confirm		
9.0	LOCAL CONTROL STATION			
9.1	Local control station shall be housed in the feeder pillar box. This control station shall have necessary raise/lower pushbuttons, emergency stop push button etc.	Vendor to confirm		
10.0	CABLE AND CABLE CONNECTIONS			
10.1	All power and control cables including flexible trailing cables shall be supplied laid and terminated by the high mast vendor.	Vendor to confirm		
10.2	The electrical connections from base compartment to the junction box on the lantern carriage shall be made through special multicore trailing cable of minimum size 4 sq.mm copper conductor, EPR insulated metal braided and sheathed in heavy duty Polychloroprene.	Vendor to confirm		
10.3	For control cable minimum 7 cores shall be provided unless otherwise specified. Separate cores shall be used for lighting fixtures; aviation fixtures and one dedicated core shall be kept for ear thing Suitable chemicals shall be added to outer sheath of cable to protect cable against birds, rodent and termite attack.	Vendor to confirm		
10.4	All power and control cables shall be 1100V grade and shall conform to IS-1554 and all flexible-trailing cables shall also comply with requirement of IS-9968.	Vendor to confirm		
10.5	The trailing cable shall be terminated by means of metal cased plug and socket, which shall be provided at the base compartment to enable easy disconnection	Vendor to confirm		
10.6	The cable for connection to flood lighting fixtures/aviation lighting fixtures from junction box provided on lantern carriage shall be through 3C x 2.5 sq.mm copper conductor, PVC insulated, armored and overall PVC sheathed cable. The trailing cable at the lantern carriage shall be taken in flexible metal conduit.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
10.7	Connection to the power tool motor inside mast at the bottom shall be through metal cased plug and socket arrangement to enable easy disconnection.	Vendor to confirm		
10.8	All cabling from feeder pillars to high mast shall be laid in directly buried trenches.	Vendor to confirm		
11.0	CIVIL AND STRUCTURAL: Scope of work			
11.1	The scope of work under this specification includes design, supply a detailed foundation drawing, supply of foundation bolts for high light mast works. The work shall be executed by BHEL VISAKHAPATNAM as per the foundation drawing.	Vendor to confirm		
11.2	Anchor / Foundation Bolts/Mild steel bars/high strength bars for anchor bolts/nuts shall conform to relevant IS code.	Vendor to confirm		
11.3	Design of Foundation a. The foundation shall be placed minimum 1.5 meters below Finished Grade Level (FGL) or Natural Ground Level (NGL), whichever is lower. b. Ground water table shall be considered at FGL/NGL, whichever is higher. c. Factor of safety against overturning and sliding shall be considered as 2.0 and 1.5 respectively. Only 50% of the overburden weight of backfilled soil over base slab of the foundation shall be accounted for checking of over- turning and sliding. All design parameters for foundation shall be as per IS: 456 and referred BIS codes. Limit state method shall be used. d. Safe Bearing of Soil (SBC) shall be as per the Data sheet given after clear P.O.	Vendor to confirm		
11.4	Loadings Loading in general shall be as per IS: 875. The basic wind shall be as per the site location and as called for in IS: 875. K1 and K2 factors shall be unity. K3 shall be appropriate to topography but not less than 1.0.	Vendor to confirm		
11.5	Review of foundation design/drawing Design and drawing shall be prepared on standard size sheets and submitted for review/approval prior to execution of works.	Vendor to confirm		
11.6	Construction shall be done following all safe practices required in IS: 456 and other referred codes.	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
12.0	INSPECTION, TESTING AND ACCEPTANCE AT WORKS			
12.1	During fabrication, the High mast lighting system equipment and materials shall be subject to inspection by BHEL VISAKHAPATNAM or by an agency authorized by BHEL VISAKHAPATNAM to assess the progress of work, as well as to ascertain that only proven raw material is used. The manufacturer shall furnish all necessary information / data concerning the supply to BHEL VISAKHAPATNAM inspectors. The vendor shall give at least 15 days notice to the purchaser regarding the date of testing to enable him or his representative to witness the tests. The equipment shall be guaranteed for 18 months from the date of supply or 12 months from the date of commissioning whichever is earlier.	Vendor to confirm		
12.2	Tests shall be carried out at the manufacturer's works under his care and expense. All routine tests as specified by the applicable standard codes shall be conducted. Type test certificates for the high mast lighting system equipments used shall be furnished from a recognized testing organization.	Vendor to confirm		
12.3	In addition, following acceptance and functional tests shall be conducted on mast to check mechanical and electrical operation. <ul style="list-style-type: none"> a. Mechanical operation of the lantern carriage b. Load carrying capacity test c. Operation of winch for raise and lower d. Visual check of positive locking arrangement of winch system e. Visual and breaking test of the steel wire rope – Test certificate to be submitted. f. Test of all protection, alarm and trip functions g. Check space available for cable termination size and number of terminals, cable supporting devices h. Check accessibility of components i. Check earthing of cubicles and cubicle doors j. Check the quality of galvanization of mast structure – Test certificate to be submitted. 	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
13.	PACKING AND DESPATCH: The equipment shall be divided in to several shipping sections for protection and ease of handling during transportation. The equipment shall be properly packed for transportation by ship/rail or trailer. The equipment shall be wrapped in polyethylene sheets before being placed in wooden crates/cases to prevent damage to the finish. Crates/cases shall have skid bottoms for handling. Special notation such as 'Fragile' , 'This side up', 'Weight', 'Owner's particulars', 'PO nos.' etc., shall be clearly marked on the package together with other details as per purchase order. The equipment may be stored outdoors for long periods before installation. The packing should also be suitable for outdoor storage areas with heavy rains/high ambient temperature unless and otherwise agreed upon.	Vendor to confirm		
14.	FIELD TESTING AND COMMISSIONING			
14.0	Supervision during installation, testing and commissioning shall be carried out by vendor's experienced and trained engineer/supervisor. Any defect pointed out by BHEL VISAKHAPATNAM shall be rectified by vendor at no extra cost to the BHEL VISAKHAPATNAM.	Vendor to confirm		
14.1	Before any part of the High mast system is energized, the pre-commissioning tests shall be carried out. This shall include and be not limited to the following: <ul style="list-style-type: none"> a. Insulation resistance tests b. Continuity test c. Earth continuity check and measurement d. Load current in all phases shall be measured in each mast e. All safety interlock 	Vendor to confirm		
14.2	All pre-commissioning checks and tests both for power distributions and lighting system shall be carried out by vendor in the presence of Engineer-in-charge of BHEL VISAKHAPATNAM.	Vendor to confirm		
14.3	After completion of job, vendor shall carry out the measurement of achieved illumination level in different areas and shall furnish test reports. The focusing angle of fixture shall be changed/adjusted where required.	Vendor to confirm		
14.4	Supply of non integral flood light luminary type with 2 nos of 400 watt SON T lamp & its control gear box -12 fitting/mast. Make: PHILIPS/Bajaj/Wipro/CGL/GE.	Vendor to confirm		
14.5	Supply of twin dome aviation obstruction lighting with lamps – 2 /mast	Vendor to confirm		

SL. No.	DESCRIPTION FOR BHEL VISAKHAPATNAM REQUIREMENT	OFFERED	DEVIATIONS	REMARKS
14.6	Supply of industrial control panel housing with timer contractor for automatic switching on/ off of the mast.	Vendor to confirm		
14.7	Integral power tool fitted inside the mast for its raising & lowering operation.	Vendor to confirm		
14.8	Provision shall be kept for individual circuit selectivity where the total light fittings of the mast are divided into three circuits(R,Y,B)	Vendor to confirm		
14.9	List for two years operational spares shall be offered separately with price break up.	Vendor to confirm		
15.0	DOCUMENTATION			
15.1	Along with offer: GA drawing of mast, wiring fittings, diagram & schematics & catalogues - one set.	Vendor to confirm.		
15.2	After placement of order: GA drawing, electrical schematics, wiring diagrams, motor & cable sizing calculation in four sets to be submitted within two weeks for getting approval from BHEL VISAKHAPATNAM.	Vendor to confirm.		
15.3	Along with supply: GA drawing, electrical schematics, wiring diagrams, operation manual, trouble shooting and commissioning manual in six sets shall be submitted.	Vendor to confirm.		

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
- 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