



Bharat Heavy Electricals Limited

(High Pressue Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

An ISO 9001
Company

ENQUIRY NOTICE INVITING TENDER		Phone: +91 431 257 79 38 Fax : +91 431 252 00 31 Email : tvenkat@bheltry.co.in Web : www.bhel.com	
TWO PART BID Tender to be submitted in two Parts	Enquiry Number: 2851400021	Enquiry Date: 05.02.2014	Due date for submission of quotation: 14.03.2014

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.


Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Qty.	Delivery Required	Delivery Terms Required
10	Flux Baking Oven as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	2 Nos.	5 Months	F.O.R, BHEL Stores, Power Equipment Fabrication Plant, Bharat Heavy Electricals Ltd., Mundipar- 441804, Sakoli Taluk, Bhandara District, Maharashtra State.

Important points to be taken care during submission of offer:-

1. Compliance Form No. BND/IND/07 to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
2. EMD for this Tender will be Rs. 40,000.00/-
3. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.
4. The time period required for Erection and Commissioning of the item shall be 1 week from the date of intimation from BHEL requesting supplier to depute Service Engineers about site readiness.

BHEL's General guidelines / instructions (refer MM/CE/GENL/001-EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under Enquiry reference "2851400021".

Tenders should reach us before 14:00 hours on the due date Tenders will be opened at 14:30 hours on the due date Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present	Yours faithfully, For BHARAT HEAVY ELECTRICALS LIMITED  5/2/2014 DGM / Capital Equipment / MM
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L.N. SEKAR,
Dy. General Manager,
Capital Equipment / MM
BHEL, Tiruchirappalli-620 014.

PART A:FLUX BAKING OVEN

SECTION – 1:Qualifying Criteria

The BIDDER has to compulsorily meet the Qualifying criteria indicated in SECTION –I to get qualified. Otherwise the technical offer will not be considered.

S. No.	REQUIREMENTS	VENDOR's RESPONSE
1.0	Only BIDDER /VENDOR (OEM) who have a minimum of last Five Years (as on date of opening of tender) of Continuous Experience in Design, Manufacture & Supply of “ Flux Baking Oven ” are eligible to quote for this tender. Vendor shall indicate the actual no. of years of experience in the field.	
2.0	Only those vendors (OEMs) should quote, who have commissioned in the last 5 years, at least 1 No. of “Flux Baking Oven” of capacity 100 kg or above and such equipment is working satisfactorily for more than one year after commissioning.	
3.0	Number of “Flux Baking Oven” supplied & commissioned till date.	
4.0	Year of Launch of the quoted Model in this tender.	
5.0	Vendor to submit ONE Performance certificate for satisfactory performance of minimum 1 No. of the Flux baking oven specified in Clause 2.0, from the customer, for a minimum period of one year from the date of commissioning (as on original date of opening of tender). A suggestive format of Performance certificate is provided as annexure.	
6.0	Servicing facility to be available in India. Details on Service-After-Sales Set-Up in India (Address of Agents / Service Centres), to be furnished compulsorily.	
7.0	BHEL reserves the right to accept or reject the OEMs based on the assessment of their technical capability. BHEL reserves the right to verify the information provided by the Vendor. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.	

SECTION - 2

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

S. No.	REQUIREMENTS	VENDOR's RESPONSE
8.0	The BIDDER shall give details about supply of similar Flux Baking Oven to BHEL units if any with Make, Model and Year of Supply & Commissioning etc.	
9.0	A complete reference list of Customers shall be furnished to whom such offered model has been supplied in the last ten years with Qty., Year of commissioning with contact details of the customers.	
10.0	Any Additional Data to supplement the manufacturing capability of the BIDDER.	

SECTION - 3

The BIDDER to note:

S. No.	PARTICULARS	VENDOR'sRESPONSE
11.0	The BIDDER shall submit the offer in Two Parts – 1. Technical [with PART A & PART B]& 2. Commercial and Price Bid.	
12.0	The VENDOR's RESPONSE against each clause in PART A & B of the offer should be filled by the BIDDER compulsorily with complete details.	
13.0	The BIDDER shall assure a continuous support for Spares and Service for Ten Years, from the date of commissioning of the equipment at BHEL Works.	
14.0	The Technical Offer shall be supported by Product Catalogue and Data Sheets in original and complete technical details / literature on the quoted models of Flux Baking Oven.	
15.0	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.	

The performance certificate should be produced **on Customer's Letter Head.**

Suggestive Format of Performance Certificate

(On Customer's letter head)

PERFORMANCE CERTIFICATE

1. Supplier of the machine :
2. Make & Model of the m/c :
3. Month & Year of Commissioning :
4. Quantity :
5. Machine Details
 - a) Holding Capacity (kg) :
 - b) Chamber Dimension :
 - c) Rated Temperature :
6. Application for which m/c is used :
7. Performance of the Machine : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
8. After sales service : Satisfactory / Good / Average / Not Satisfactory
(Strike off whichever is not applicable)
9. Any Other remarks :

Date:

Signature & Seal of the Authority
Issuing the Performance Certificate

Technical Specification for Flux Baking Oven

Qty.: 2 nos.

S.No	Particulars	BHEL Specification	BIDDERS OFFER With Technical Details
1.0	Scope	Design, Manufacture, Supply, Erection and Commissioning of 100 kg Flux baking oven with complete accessories at the specified location. The Baking oven including flux holding tray, controller etc. shall be a complete package.	
2.0	Application	The flux baking ovens are required for Industrial use - heating and baking Flux used for Submerged Arc Welding	
3.0	Baking Oven Parameters		
3.1	Type	Electric	
3.2	Operating Temperature range	Ambient to 400°C	
3.3	Rate of Heating	150°C / hr	
3.4	Power rating (kW)	Supplier to specify	
3.5	Input Power Supply	415V±10%, 50Hz±3%, 3Ph (3 wire system - without neutral)	
4.0	Heating Chamber		
4.1	Clear heating chamber dimensions	Supplier to design optimally based on the tray dimensions and to load TWO trays. Supplier to give their proposed design details.	
4.2	Supports for the trays	Suitable supports in stainless steel to be provided to hold the trays and convenient for loading and unloading. The trays to be stacked vertically.	
4.3	Rollers for easy loading and unloading of tray	4 small rollers to be fixed to the supports on each side, for easy loading and unloading of the tray. The tray moves on the rollers.	
4.4	Internals material	The inner wall and the baffle shall be made of 2 mm SS 304 to withstand temperatures of up to 400° C on continuous duty.	

Flux Baking Oven

S.No	Particulars	BHEL Specification	BIDDERS OFFER With Technical Details
4.5	Insulation	The oven casing shall be of double wall construction with ceramic fibre blanket / ceramic wool insulation in between inner and outer wall. There should not be any heat leakage. Bidder to specify the thickness of Insulation.	
4.6	Outer wall temperature	60°C (maximum). Bidder to confirm. Bidder to also specify the mode of measuring this temperature. Thermal calculation to be enclosed.	
4.7	Safety	Heating element contactors to be electrically interlocked with door to shut off power to heaters as door opens and restore power when closed.	
4.8	Fan for circulation	a) Suitable fan with motor for air circulation to be mounted on the top of furnace. b) The fan to be connected to the motor by a belt drive so that the motor shaft does not get heated up.	
4.9	Heating Elements	Ni-Cr 80/20 resistance wires in the form of coils. Supplier to specify the make of heating elements	
5.0	Flux holding tray		
5.1	No. of trays to be loaded in to the chamber	2	
5.2	Flux holding capacity of each tray	50 kg	
5.3	Material	4 mm Stainless Steel sheet suitably reinforced	
5.4	Tray dimensions	Depth 600mm x Width 450mm x Height 100mm (as shown in the sketch)	
5.5	Handles	Suitable handles for handling by crane and by hand, to be provided as shown in the sketch	
6.0	Flux properties: to be considered by the supplier for designing		
6.1	Flux	Agglomerated and Fused	

Flux Baking Oven

S.No	Particulars	BHEL Specification	BIDDERS OFFER With Technical Details
6.2	Grain size	0.2 to 2 mm	
6.3	Bulk density	1.1 to 2 kg per litre	
7.0	Controls		
7.1	Oven Temperature indication	Digital and Thermocouple activated	
7.2	Timer	Bidder to specify suitable timer	
7.3	Switches to be provided	a) Fan motor control push button b) Control power ON-OFF switch c) Heater element contactors d) Reset button	
7.4	Indicators to be provided	a) Mains on indicator for three phases separately. b) Fan on indicator. c) Heater on indicator.	
7.5	The controller to be calibrated and the calibration certificate to be provided along with the equipment		
7.6	Temperature controller panel cut-out size	92mm x 92mm (minimum). Bidder to specify.	
7.7	Make of the controller	EUROTHERM, YOKOGAWA, HONEYWELL, FUJI OR CHINULAKSONS	
7.8	Tolerance	Within +/- 5° C of set temperature	
7.9	Thermocouple	'K' Type thermocouple (Chromel - Alumel) with suitable compensating lead wires.	
7.10	Control Transformer	Control transformer for Single phase supply for control unit to be provided.	
7.11	Control panel can either be annexed to side of the furnace with adequate protection from heat or separate electrical control shall be provided. Bidder to specify.		
7.12	Temperature display shall be on the front of the panel. Bidder to confirm		
7.13	Pilot hole shall be provided on the back wall as well as side walls for inserting thermocouple for inspection. Bidder to confirm.		
8.0	Spares	O & M spares for two year trouble free operation to be listed out item wise by the supplier.	
8.1	O & M spares for two year trouble free operation as listed out		
	a) Heating elements	- 2 sets	
	b) Thermocouple	- 3 Nos	
	c) Fan to motor belt	- 1 No	
	d) On/Off switch	- 1 No	

Flux Baking Oven

S.No	Particulars	BHEL Specification	BIDDERS OFFER With Technical Details
9.0	General		
9.1	Painting	Heat resistant aluminium paint	
9.2	General arrangement drawing for the oven shall be provided with the offer.		
9.3	Details like rating, specification, make of electric and mechanical bought-out items shall be listed in the general arrangement drawing.		
9.4	O&M manuals	Three copies of the detailed Operation and Maintenance manual and safety instructions in English to be provided along with the equipment. The controller operation manual and circuit diagram with proper identification of potentiometers to be provided.	
9.5	Inspection	The equipment shall be offered for inspection prior to despatch.	
9.6	Commissioning	Supplier to commission the equipment at BHEL works.	
9.7	Performance Guarantee	The equipment performance shall be guaranteed for a minimum period of twelve months from the date of commissioning	

Annexure

Flux Holding Tray Sketch (not to scale)

