 <p>432-003</p>	<p>ENQUIRY VALVES</p>	<p>Bharat Heavy Electricals Limited (A Government of India undertaking) HIGH PRESSURE BOILER PLANT PURCHASE DEPARTMENT/VALVES TIRUCHIRAPPALLI-620 014.</p>	<p>Phone:04312577913 FAX :0431-2520383 Email: fayasmalik@bheltry.co.in</p>	
		<p>ENQUIRY NO. EN:SFV:137</p>	<p>DATE 16.05.2015</p>	<p>DUE DATE FOR QUOTATION 08.06.2015</p>
		<p>Please quote Enquiry No., and due date in correspondences This is only a request for quotation and not an order.</p>		
<p>Supply of Inconel Safety valve.</p> <p><u>Date , Time & Venue of tender opening :</u></p> <p>08.06.2015 at 14.30 Hrs. at Valves Purchase Conference Hall , Building No 24, III Floor BHEL, Tiruchirappalli-620 014, Tamil Nadu State, India.</p>	<p><u>Scope of supply</u></p> <p>Supply of Inconel Safety Valve as per the purchase specification enclosed.</p> <p>-List of Annexures Annexure 1A- Scope of Supply Annexure 1B- Data sheet Annexure 1C- Specification Annexure 2- General terms & Conditions Annexure 3A- Schedule of Deviation Format Annexure 3B- Performance Bank Guarantee Annexure 4- Unpriced format Annexure 5- Priced format</p>			
<p>The rate of Excise Duty and Sales Tax, Prevalent on the date of quotation, should be clearly indicated in the quotation itself.</p> <p>Please, submit your lowest quotation in duplicate subject to our terms and conditions , for the above materials, so as to reach us on or before the due date by 14.00 Hrs. (IST)</p> <p>Quotation will be opened at 14.30 Hrs. (IST) on the due date in the presence of tenderers who may like to be present.</p> <p>Late tenders will not be considered.</p>		<p>Yours faithfully,</p> <p>For Bharat Heavy Electricals Ltd</p> <p>Fayaz Malik K Engineer/Purchase/Valves</p>		



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 1 of 10

TABLE OF CONTENTS

S.NO	CONTENT	PAGE NO
1.0	GENERAL	2
2.0	DESIGN AND CONSTRUCTION	3
3.0	INSPECTION AND TESTING	4
4.0	ADDITIONAL REQUIREMENTS	6
5.0	DOCUMENT REQUIREMENTS	7
6.0	SAMPLE IBR TEST FORMATS	9

REV. NO	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY	DATE
00	FIRST ISSUE	R. RABIN	S. MADHULINGAM	E. ATHIANNAVI	30.07.14



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 2 of 10

1.0 **GENERAL**

This specification, together with the applicable data sheets relevant for the specific project, covers the requirements for the design, materials, construction details, manufacture, nameplate marking, inspection, testing, painting, packing and shipment of safety valves. The offer shall be submitted along with all the documents required in this specification.

- 1.1 Data sheet indicates the type, size, required relieving capacity etc. of the selected valve. However, vendor shall be responsible to size and select the proper valve with orifice relieving area meeting the indicated operating conditions.
- 1.2 Data sheets specify the minimum acceptable materials for body, Seat bushing, Disc, Spring, Inlet neck etc. Alternate superior material of construction shall also be acceptable, with prior written approval by us.
- 1.3 The manufacture, inspection and testing of valves shall conform in all respects to the applicable requirements of ASME Section-I and IBR.
- 1.4 Supplier shall attach the list of supplied projects with the parameters, for each safety valve models for the given flow parameters or higher, which are in service for more than two years to consider the technical suitability.
- 1.5 The valves covered under this specification shall be governed by the following standards. However the valves conforming to other International Standards may be acceptable provided they are equivalent or superior to those listed below:

ANSI-American National Standards Institute

ASME-American Society of Mechanical Engineers

ASTM -American Society for Testing and Materials.

AWS-American Welding Society

IEC-International Electro technical Commission

ISA-Instrument Society of America

IBR-Indian Boiler Regulations

NEMA-National Electrical Manufacturers Association

NEC-National Electrical Code

NFPA-National Fire Protection Association

OSHA-Occupational Safety and Health Administration



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 3 of 10

- 1.6 All welding procedures and welders shall be qualified in accordance with the appropriate sections of the AWS Code D14.6 or ASME Section-IX, AWS Code 1.1 and IBR. When welders and welding procedures are qualified in accordance with codes other than those specified the Seller must take exception at the time of quotation. The procedures and materials proposed must be submitted to the Purchaser with the quotation for review and approval.
- 1.7 All materials, construction and design of the pressure parts shall conform in all respects to the applicable requirements of ASME Section-I and IBR.
- 1.8 Safety valves shall be furnished in accordance with ASME Section-I and IBR.
- 1.9 All pressure retaining parts of the valve shall be made of materials, including specific limitations on various materials that are in full compliance with PG-5 of ASME Code Section-I.
- 1.10 Only materials listed and rated in B16.34 are acceptable and materials offered shall be appropriate to the design conditions listed.
- 1.11 All materials shall be readily identifiable. Mill test reports shall be obtained for all pressure boundary parts. These test reports shall be available for review at the Seller's shops. Copies of these are to be supplied to the Purchaser, if requested, prior to ordering.
- 1.12 Nothing in this Specification shall be construed as relieving the Seller of his responsibility for compliance with all applicable codes and regulations.
- 2.0 **DESIGN AND CONSTRUCTION**
- 2.1 The function of the Safety Valve is to provide over pressure protection for ASME Code Section-I fired vessels.
- 2.2 The Safety Valve assembly should include respective Test Gag, Hydrostatic Plug for butt welded valves, Lifting Lever, Cap, Weather protection hood or Spring Cover etc.
- 2.3 All the Safety Valves shall be suitable for outdoor installation.
- 2.4 Safety valves shall be of the direct spring loaded type and shall have a tight, positive & precision closing and shall be of pop type.
- 2.5 Sizing shall be carried out as per ASME Sec-I and IBR (Indian Boiler Regulations). The seller is required to accurately calculate and verify the sizes of the valves based upon the Valve Design conditions submitted by the Purchaser in the data sheet. Seller shall request any additional process data that may be required for proper analysis and sizing. Seller shall submit their calculations for Purchaser approval and record.
- 2.6 Construction and Materials shall conform to ASME Section-I Code.



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 4 of 10

- 2.7 The design of valve seat and guiding arrangement shall ensure consistent operation reseating and tightness over several successive operations.
- 2.8 Safety valves shall have the feature of adjustable blow down for the range given in ASME Section-I and IBR.
- 2.9 Valves shall have open yoke and suitable weatherproof cover for spring.
- 2.10 Unless otherwise mentioned, end connections details shall be as below:
a) Threaded end connections shall be NPT as per ANSI/ASME B1.20.1
b) Flanged end connections shall be as per ANSI/ASME B16.5.
c) Butt welding end connection as per ASME B16.25 (Welding End Detail for Joint Without Backing Ring).
- 2.11 Wherever stelling of Disc and Seat bushing has been specified, it stands for stelling of the seat area or the entire disc contour, unless otherwise specified.
- 2.12 The allowable tolerance in set pressure is as per ASME Section-I.
- 2.13 Nameplates shall be of white non-hygroscopic material with engraved black lettering and shall be suitably fixed on both front and rear sides. The nameplates shall have the following details minimum.
i) Tag number as per purchaser's data sheet.
ii) Manufacturer's Model number
iii) Manufacturer's Serial number
iv) Size & Rating for Inlet and Outlet
v) Seat diameter
vi) Manufacturer's name/trade mark.
vii) Blow down as percentage of set pressure.
viii) Accumulation as percentage of set pressure.
ix) Lift
x) Certified capacity of steam in Kg/h (with type test report to be submitted)
xi) Valve set pressure.
xii) Relieving Temperature.
xiii) Cold bench set pressure.
xiv) Date of manufacture.

3.0 INSPECTION AND TESTING

- 3.1 All safety valves shall be inspected, tested and stamped per applicable ASME Section-I code and IBR. All valves shall be factory calibrated and set as per the process data submitted by the Purchaser and as per applicable ASME code.
- 3.2 Material, Mechanical, Chemical and heat treatment tests shall be performed in a manner as specified in the relevant codes (ASME Section-I code and IBR).
- 3.3 Quality Assurance plan to be submitted for our/clients review & approval. Sample quality plan attached.



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 5 of 10

- 3.4 The material test certificates (correlated to melt number) shall be furnished by the vendor for identification and correlation.
- 3.5 For components like Body, Inlet Neck, Seat Bushing, Disc, Spindle, Spring, Disc Holder & Guide, Blowdown ring and Yoke and Yoke Rod etc. material test certificates (typical) shall be furnished for identification & correlation.
- 3.6.0 Minimum NDT requirements extent of check for Pressure retaining parts/components shall be as follows.
- 3.6.1 Steel Castings: 100% RT on butt weld joints/ends and MPI on change in dimensions /shape shall be carried out.
- 3.6.2 Steel Forgings: 100% MPI and 100% UT on all areas shall be carried out on all forgings.
- 3.6.3 Dye penetrate test as per ASTM E165 shall be performed on all machined surfaces of critical components.
- 3.6.4 For butt-welding ends of all valves, dye-penetrate test as per ASTM E165 shall be carried out on 100% of the valves and the results shall show no defects.
- 3.6.5 Hardness testing shall be done on body seat, disc/wedge facing, spindle, backseat bushing, thrust plate etc. The Purchaser's representative shall also check hardness of random samples.
- 3.6.6 Casting Radiography: For pressure rating below 600 class, one out of ten or part there of the castings per foundry, (irrespective of size and melt) shall be radiographed. If any defects are found (beyond the acceptable level of ASME B16.34), further sample of double the size of initial sampling shall be radiographed. If all samples are within acceptable limit of ASME B16.34, the lot will be accepted. Even if one is found defective, 100% of the lot will be radiographed and castings will acceptable limits of ASME/ANSI B16.34 shall be accepted. For pressure rating of 600 class and above. 100% RT will be done in line with ASME B16.34.
- 3.6.7 100% MPI shall be done on base/body casting with pressure rating 1500 class and above in line with ASME B16.34.
- 3.6.8 Joint welding of pressure parts to be RT entire length of weld with procedure and acceptance in accordance with ASME Section VIII paragraph UW-51 and Mandatory appendix 4.
- 3.7 Each Safety valve, pressure retaining parts shall undergo hydrostatic test as per IBR/ASME code. There shall not be any visible leakage during this test. Test certificate to be furnished in the form of IBR Form IIIC. The contractor shall guarantee his valve as capable of withstanding such hydrostatic tests and shall repair or replace, at his expenses, any item which fails to pass such tests at site.



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 6 of 10

- 3.8 Safety valve shall be tested for opening at specified set pressure. Testing of safety valve shall be with steam only. Attachment 11 to IBR Form III to be furnished
- 3.9 Seat Leakage test as applicable.
- 3.10 Type test report for capacity, shall be furnished for the selected valve series along with offer.

4.0 ADDITIONAL REQUIREMENTS

- 4.1 Machined surfaces shall be suitably protected.
- 4.2 Valve ends shall be protected by means of metallic covers/polythene caps/rubber and protectors to prevent damage to ends & also to avoid foreign material entering the valve while shipment & storage.
- 4.3 All the valves shall be packed suitably in wooden cases in order to avoid damage during transit and also during storage at site.
- 4.4 Valve Tag nos. shall also be incorporated in all the dispatch documents. In addition to the tagging requirements of ASME Section-I, each valve shall be assigned a unique valve number and have a permanent stamped metal tag bearing the "Valve Number" securely attached to the valve. (These valve numbers shall be provided to the Seller). Tags shall be attached either by welding or riveting to the valve body, if the body is large enough to do so. The method of attachment shall not degrade the pressure rating of the valve. Tag attachment to the smaller valve bodies shall be by minimum 20-gauge stainless steel wire. All tags shall be made of stainless steel plate and attached to the valve so as to be visible after valve installation. The tag number shall be punched or etched into the tag so that the tag number is recognizable even if the tag has been painted. Each valve accessory item furnished with the valve, but not securely attached to the valve, shall be provided with an identification tag also.
- 4.5 All painted surfaces shall be given a minimum coating 2.0 mils dry film thickness.
- 4.6 All unpainted surfaces shall be protected with a rust preventive, which can be removed by solvent washing.
- 4.7 Paint specifications are to be submitted for purchaser's review with bid.
- 4.8 All exposed machined surfaces shall be coated with suitable rust preventative coating prior to shipment.
- 4.9 The Seller shall adequately crate, block, anchor and protect equipment as required to prevent damage during overseas shipment and outdoor storage for a period of one (1) year at the site.
- 4.10 All threaded connections shall be plugged or capped with standard pipe plugs or caps.
- 4.11 List of Commissioning spares shall be quoted if applicable.



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 7 of 10

- 4.12 List of recommended spares for 5 years trouble free operation of valves shall be quoted.
- i) Upper Adjusting Ring 2 nos. of each type
 - ii) Lower Adjusting Ring 2 nos. of each type
 - iii) Upper Adjusting Ring Lock Pin 2 nos. of each type
 - iv) Lower Adjusting Ring Lock Pin 2 nos. of each type
 - v) Disc 2 nos. of each type
 - vi) Guide 1 no. of each type
 - vii) Disc Holder 1 no. of each type
 - viii) Spindle 1 no. of each type
- 4.13 Recommended List of special tools and equipment (required for assembling, complete dismantling and maintenance of all equipment supplied) to be provided and also to be supplied along with valve.
- 4.14 Vendor has to furnish complete inputs required for the selection of silencer (i.e. Noise level data, recommended input/outlet pipe size etc.) along with the quotation.
- 5.0 **DOCUMENT REQUIREMENTS**
- 5.1 Materials of all parts & trim details to be furnished by vendor along with quote.
- 5.2 General arrangement drawing with mounting details, BOM, Face to Face & overall dimensions, Marking for identification of recommended spare components.
- 5.3 Valve sizing calculations as per IBR and ASME Sec I with valve model, inlet outlet size, orifice details, Rated/ Certified Capacity.
- 5.4 Recommended Inlet Stub End connection Edge preparation details for our approval.
- 5.5 Copy of type test report for capacity, for the selected valve series.
- 5.6 Sound Pressure Level calculations.
- 5.7 Valve Outlet Pressure While relieving.
- 5.8 Shipment weight & volume details.
- 5.9 Equipment preservation procedure during shipment, pre-erection storage period & Extended storage period.
- 5.10 Operation & maintenance manual 6 sets and one soft copy.
- 5.11 All GA drawings, Test Certificates (in the form of IBR form IIIC and Attachment 11 to Form III as per IBR), Seat leakage test report, filled datasheets and Material test Certificates.
- 5.12 The following details should be submitted
- i) Special tool list



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 8 of 10

- ii)Rust preservation schedule
- iii)Painting schedule
- iv)Lubrication list

- 5.13 Reaction force Calculations as per ANSI/ ASME B31.1
- 5.14 Recommended discharge piping size, allowable forces on connections, weight of valve, product catalogue, customer filled in data sheets (if any)
- 5.15 The welding procedure and materials proposed of pressure boundary joints must be submitted to the purchaser with the quotation for review and approval.
- 5.16 Valve opening / rising time & typical exhaust piping details.
- 5.17 If the bid submitted has got any deviation from the technical stipulation in the tender document, the tenderer shall tabulate in the appropriate "schedule of deviation" furnishing full particular of such deviations. Deviations are to be furnished with specific mention to clause number. Only such deviations will be discussed and resolved. Reasons / explanation for such deviations shall be furnished. Any other notes / comments viz. "refer to forwarding letter" etc. is not acceptable.
- 5.18 Even if there is no deviation from the tender document, the tenderer shall submit the deviation form and indicate as "no deviations".



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 9 of 10

ITEM 11 of IBR FORM-III

11. Boilers:

Details of safety valves and test results:

Manufacturer.....
Identification marks of valves.....
Maker's No.....
Type.....
Lift (mm)..... Drawing Nos.....
Valves details:-
Material.....
Valve Seat.....
Flat/Bevel.....
Diameter of valve seating.....
Valve Body:-
Material.....
Opening at neck.....
Opening at outlet.....
Springs:-
Material.....
Process of manufacture.....
Chemical composition.....
Dimensions:
Outside diameter of coil.....
Section of wire.....
Number of coils.....
Free length of coils.....
Test results:-
Place of test..... date.....
Closing down pressure.....
Remarks:-
Does the valve chatter?.....
Does the valve seat leak?.....
Blow off pressure.....
Type of valve and extract of test results.....
Type of valve.....
Place of test..... date.....
Constant 'C' by test results.....
Capacity of the valve for the intended blow off
pressure.....

Signature of Maker's representative

Inspecting Authority
witnessing tests.



**STANDARD SPECIFICATION FOR
SPRING LOADED SAFETY VALVES
FOR ADVANCED ULTRA
SUPERCRITICAL BOILERS**

Spec No: SPEC:SV:024

Rev No: 00

Date: 30.07.2014

Page 10 of 10

FORM III-C

Certificate of Manufacture and test of Boiler Mountings and Fittings (REGULATION 269)

Name of part.....
Maker's name and address.....
.....
Intended working pressure..... .kg./cm²
..... (lb./sq. inch) Hydraulic test
pressure..... .kg./cm²
..... (lb./sq. inch)
Main dimensions.....
Drawing Nos..... Identification
Marks.....
..... Chemical
composition..... Physical test
results.....

- (i) tensile strength.....
- (ii) transverse bend test.....
- (iii) Elongation.....

Certified that the particulars entered herein by us are correct.

The part has been designed and constructed to comply with the Indian Boiler Regulations for a working pressure of _____ and satisfactorily withstood a hydraulic test using water or kerosene or any other suitable liquid to a pressure _____ on the _____ day of _____ 20____ in the presence of our responsible representative whose signature is appended hereunder:

Maker Representative
(Name and signature)

MAKERS _____

We have satisfied ourselves and the valve/fitting has been constructed and tested in accordance with the requirements of the Indian Boiler Regulations, 1950. We further certify that the particulars entered herein are correct.

Place _____

Name and signature of the
Inspecting Officer who
witnessed the tests.


Date _____ 20____.

Name and signature of the
Inspecting Authority Strike out
which is not applicable.

Note: In the case of valve chest made and tested by well known Foundries or Forges recognised by the Central Boilers Board in the manner as laid down in regulations 4A to 4H, particulars regarding the material as certified by them, in any form, shall be noted in the appropriate columns or paragraphs in the certificates and in case of certificates from Well Known Foundries or Forges is produced, such certificate may be accepted in lieu of the certificate from Inspecting Authority in so far as it relates to the testing of material specified in the Form.

Annexure 1

Sl No	Material Code	Description	Qty	SPEC
10	974610780000	SPRING LOADED SHSV AUSC	1	VDS:SV:1710
		Total Quantity	1	

 Bharat Heavy Electricals Ltd., Trichy-14, Valves Engineering 365-003/A		DATA SHEET		Sheet: 1 of 1
		SPRING LOADED SAFETY VALVE		Date: 30.07.2014
		VDS:SV:1710 Rev: 00		Cust no: NIL
Customer:		M/s BHEL		Pre: S. Madhulingam
		Project: AUSC		Appd: E.Athiannavi
1	Serial no.		1	
2	Tag no.		SV-1	
3	Location		SUPERHEATER OUTLET	
4	Required quantity	nos.	1 no. / Unit	
5	Fluid to be handled		STEAM	
6	Required Capacity	kg/h	20000	
7	Set Pressure	kg/cm ² (g)	164.4	
8	Relieving Temperature	°C	720±5°C	
9	Valve Type		Spring Loaded, Full Lift	
10	Orifice Designation		*	
11	Calculated Orifice Area	mm ²	*	
12	Selected Orifice Area	mm ²	*	
13	Rated Capacity per Valve	kg/h	*	
14	System Design Temperature	°C	735.0	
15	System Operating Pressure	kg/cm ² (g)	135.5	
16	System Design Pressure	kg/cm ² (g)	164.4	
17	Imposed Back Pr.		Atmosphere	
18	Allowable Over Pr.		As per ASME Sec-I	
19	Blowdown	%	As per ASME Sec-I	
20	Applicable Code		ASME Sec-I / IBR	
21	Valve Model		*	
22	Inlet Size & Rating		*	
23	Inlet Type/Standard		Butt Weld/ASME B16.25	
24	Outlet Size & Rating		*	
25	Outlet Type/Standard		Flanged/ASME B16.5	
26	Body Material		INCONEL N06617 / CF8M	
27	Disc Material		INCONEL	
28	Nozzle/Seat Material		INCONEL 740	
29	Inlet Neck Material		INCONEL N06617	
30	Guide Material		MONEL	
31	Spindle Material		316SS / INCONEL	
32	Spring Material		TUNGSTEN STEEL/ INCONEL X-750	
33	Lift	mm	*	
34	Weight	kg	*	
35	Reaction Force	kgf	*	
36	Opening/Raising Time	Seconds	*	
37	Noise generated at source	dBA	*	
38	Inspection/Certification		Hyd.Test (Form-IIIC as per IBR regulation 269), ITEM 11 of IBR FORM-III , Functional test, Leak test	
39	Required Accessories		Blowdown adjustment rings, Manual Lifting Lever, Test Gag, Hydro Test Plug etc	

Notes:
* means Vendor to specify



BHARAT HEAVY ELECTRICALS LTD

Annexure 2A

VALVES PURCHASE

Trichy - 620 014. India

GENERAL TERMS AND CONDITIONS

1. QUOTATIONS:

- a. **BID system:** The offers are invited in Three part bid system (Part I will be Prequalification bid, Part II will be Techno-commercial bid and part III will be Price Bid)
- b. **Submission of Tender:** Each offer should be sent in triple cover separately for each bid and the same should be sealed and super scribed with correct Tender No., description & due date of opening. The outer cover should only bear the address of this office and should not have any indication that a tender is within. Two or more quotations should not be sent in one cover. Tender should not be addressed to any individual's name but only by designation.

BOX NO 5, VALVES/PURCHASE, THE TENDER OPENING TEAM/MM
ROOM NO 26, GROUND FLOOR, BUILDING 24
BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI – 620014, TAMILNADU, INDIA

- c. **Late tenders:** Late tenders will not be considered under any circumstance.
- d. **Regulations:** 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 figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.
- e. **PVC:** Price Variation clause not acceptable. Prices should be firm.
- f. **Deviation.** Any deviations from the specification are to be furnished separately as "Annexure 3A Schedule of Deviation ".If there is no deviation vendor should indicate "No Deviation".
- g. **Confirmation:** Confirmation for compliance is to be given in the offer for all the techno commercial conditions specified in the specification.

2. COMMERCIAL TERMS & CONDITIONS:

- a. **Terms of Payment:**
 - Import:** Payment 100% against cash against documents after 45 days.
 - Indigenous:** Payment 100% after 45 days on satisfactory receipts and acceptance of material at BHEL stores. Offers requesting for advance payment will be rejected.
- b. **Liquidated Damage:** 0.5% of price for each week of delay up to a maximum of 10% of the undelivered goods.
- c. **Delivery Terms:**
 - Import:** Price should be quoted as CIF/C&F as per ICC Incoterms 2010.
 - Indigenous:** Prices should on FOR BHEL Trichy stores
- d. **Validity of Offer:** Prices should be valid for 120 days from the date of opening of this tender.
- e. **Custom Duties:** As per FTP 2009-2014.
- f. **Risk Purchase:** Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of seller either the whole of goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore. Supplier shall be liable for any loss which the purchaser may sustain by reason for such risk purchases in addition to penalty.
- g. **TAXES/DUTY:** If taxes/Duty is payable, the chapter head/sub-head reference and the rate of the duty should be quoted mentioned in the offer separately. Where ever MODVAT benefit can be availed same have to be passed on to purchaser.
- h. **Miscellaneous:** Any conditions quoted by the seller and are in contravention to the terms prescribed in order and which have not been specifically accepted by Purchaser will not be applicable to the contract.
- i. **Delivery period:** Delivery should be less than 6 months.
- j. **Bank Charges:** All Bank charges outside India are to vendor's account only.
- k. **Supply Record:** Vendor should submit Supply record of Valves with material SB564 UNS N06617 with application, end user details, raw material test certificate, unpriced Purchase order copy,
- l. **Performance Bank Guarantee:** Vendor should provide a performance bank guarantee (PBG) for 10% of the total Purchase order value valid for the guarantee period with an additional claim period of 2 months. Bank guarantee should be as per BHEL format from list of consortium Banks (Annexure 3B).



BHARAT HEAVY ELECTRICALS LTD

Annexure 2A

VALVES PURCHASE

Trichy - 620 014. India

GENERAL TERMS AND CONDITIONS

3. GENERAL CONDITIONS

- a. BHEL reserves the right to finalize the tender as per item sl no wise or as a total package or project wise. Separate orders will be released for each project and documents should be supplied for each order separately.
- b. BHEL reserves the right to increase or reduce or split the Tender Quantity and NOT to order for some or all material based on the changes in project.
- c. BHEL shall have the right to visit vendor works during the execution of contract along with end customer for verifying status, inspection and testing of the material.
- d. BHEL reserves the right to negotiate or re-float the tender in case the quoted prices are not acceptable.
- e. Supplier shall arrange packing to avoid lose or damages during Road Transport, Site handling & Storage.
- f. Purchase Order, PO Item SI No, Material code, Quantity should marked the Packing clearly.
- g. BHEL reserves the right to finalize the tender either through price bid opening or through Reverse Auction route.
- h. BHEL reserves the right to reject the offer of a particular bidder due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units.
- i. The Drawings and Technical documents given in this enquiry are the sole property of BHEL. This should not be misused in any form.

4. DOCUMENTATION:

- a. **With Consignment:**
 - One set of Non Negotiable Documents, O&M Manual, packing list, Fumigation Certificate.
- b. **Through Bank:** All originals in Triplicate, material description in all documents shall be exactly as indicated in PO.
 - Bill of lading /Airway Bill and Certificate of Origin.
 - The invoice indicating the Unit price & total price.
 - Packing List contains quantity, net & gross weight of each item, packing dimensions, PO, Item SI No.
 - Inspection test certificates as per PO, Guarantee/warranty certificates.
 - Original Performance Bank Guarantee in the BHEL format from list of consortium bank, If applicable
- c. **To Purchase :** In soft copy
 - Copy of All Test Certificates as per purchase order.
 - Certificate that materials shipped and shown in the packing list are not less than that invoiced.
 - Copy of Non-negotiable documents
- d. **Identification:** Material code, Purchase Order, PO item SI No, Unique SI No if any should be provided in all despatch documents, materials and packing clearly.

5. TENDER EVALUATION:

Part I-Pre Qualification Bid-

- All Vendors should submit supply record, end user certificate and PO reference, catalogue etc...
- Vendor who are not registered in BHEL Trichy Product Material Directory (PMD) should register online in <http://supplier.bhel.in/> and should submit copy of online registration form wit part I bid.
- BHEL reserves right to visit vendor works before registration for verification of facilities.
- Vendor who doesn't have manufacturing capacity/capabilities/credentials will be rejected.

PART II Techno-commercial Bid.

- All vendors should submit General arrangement drawing, datasheet and C&I diagrams of the offered product
- Point by point technical confirmation of all pages of our technical specifications and commercial conditions are required with your sign and seal along with techno commercial Offer.
- Filled Annexure 4A and Annexure 4B should be submitted.
- IBR certification of the factory should be confirmed with the offer.
- Offers from supplier not having technical capability or not agreed for commercial terms, will be rejected

PART III Price Bid.

- Bidders qualified for both part I and part II will be intimated for participating in priced bid opening/Reverse Auction.
- L1 bidder will be decided based on landed cost for the equipment to BHEL.
- Price Bid should be in BHEL format Annexure 4C
- For evaluation, the exchange rate shall be taken as TT selling rate of SBI on date of Part-1 bid opening.

Note: PART I and PART II will be opened together at time of tender opening

SCHEDULE OF DEVIATIONS

Enq Ref:

Offer Ref:

Date:

Commercial Deviation:

Annexure / Clause No.	Description	Supplier Deviation

Technical Deviation:

Annexure / Clause No.	Description	Supplier Deviation

We confirm acceptance of all the Technical and Commercial requirements as per BHEL Tender, except the above deviations.

Signature with Seal

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

PERFORMANCE BANK GUARANTEE

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

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

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

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

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

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

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

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

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

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

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

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

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

				Annexure 4
BHEL Enquiry No. & Date		Vendor's Offer Ref No. & Date		
MODEL UNPRICE BID FORMAT				
	Currency			
Enq SI No.	Description	Unit	Qty	Unit Price in Currency
1				Quoted/Not Quoted
2				Quoted/Not Quoted
3				Quoted/Not Quoted
4				Quoted/Not Quoted
5				Quoted/Not Quoted
.				Quoted/Not Quoted
.				
	FOR/CIF Value in Currency			Quoted/Not Quoted
	Validity of Price			
	Consignment Package Details			
	Approximate Net / Cross Weight in Kgs			
	Dimension of Consignment			
	Delivery date from the date of Purchase Order			
				Signature & Seal of Vendor
	NOTE:			
	The Unpriced Bid should be submitted strictly in line with the above FORMAT			

					Annexure 5
	BHEL Enquiry No. & Date			Vendor's Offer Ref No. & Date	
	MODEL PRICE BID FORMAT				
	Currency				
Enq SI No.	Description	Unit	Qty	Unit Price in Currency	Value in Currency
1					
2					
3					
4					
5					
.					
.					
	Total Ex-works Value in currency				
	Add Packing & Forwarding Charges if extra				
	CFR/FOR Value in Currency				
	Validity of Price				
	Consignment Package Details				
	Delivery date from the date of Purchase Order				
				Signature & Seal of Vendor	
	NOTE:				
	The Price Bid should be submitted strictly in line with the above FORMAT				