

ANNEXURE 1D
QUALITY REQUIREMENTS

Additional Quality Requirements for procurement of ERVs for Maitree (2x660 MW) Project

1. Raw Materials shall be as per BHEL Engineering Specification and international material specifications of ASME Sec II 2015 Ed.
2. Welders / welding operators and Welding procedures shall be qualified as per ASME BPVC Sec IX 2015 Ed.
3. Heat Treatment shall be as per qualified WPS and ASME Sec I 2015 Ed. Wherever Gr 91 is involved in the welds, such welds shall be post sweld heat treated at 760±10 Deg C with soaking time of one hour/inch of job thickness.
4. NDE on raw materials, machined edges and welds shall be carried out & accepted as below, as applicable:

SI No	NDE Method	Test Method	Acceptance Criteria
1	UT – on forgings	ASTM A388	ASME BPVC Sec VIII 2015 Ed Div 2 Cl 3.3.4
2	UT on Pipes	ASTM E213	ASTM E213 with 5% notch (0.3 mm min & 1.5 mm max)
3	RT	ASME BPVC Sec V	ASME BPVC Sec VIII 2015 Ed Div 1 UW-51 & Mandatory Appx 4
4	MT	ASTM E709	ASME BPVC Sec VIII 2015 Ed Div 1 Mandatory Appx 6
5	PT	ASTM E165	ASME BPVC Sec VIII 2015 Ed Div 1 Mandatory Appx 8

5. Hydrostatic test, seat leak test and functional test shall be carried out as per BHEL Engineering Specification & BHEL/Customer approved datasheets.
6. All forgings/bars of diameter/wall thickness above 40 mm shall be UT tested.
7. Hardness testing shall be done on raw materials of Gr 91/92 as per the material specifications and results reported in MTCs.
8. Hardness testing shall be done after PWHT on welds wherever Gr 91/92 materials are involved and shall be within 195-300 HBW and results reported in inspection records.
9. All fillet welds shall be MPI/LPI tested after PWHT.
10. All suppliers (Raw materials & valve manufacturers) shall have valid ISO 9001 certificate.
11. Inspection shall be carried out by ASME Authorised inspection agencies or their subsidiaries.
12. Creep testing shall be carried for castings & forgings of high chrome steels used above 540 Deg C as per CIP:938 Latest revision.
13. Manufacturer Test certificate (MTC) shall be as per BS EN 10204 Type 3.2.

Note: - Vendor must submit their acceptance on above referred points and in case of any deviation please mention them on Schedule of deviation sheet.

ANNEXURE 2B
SPECIAL TERMS AND
CONDITONS



BHARAT HEAVY ELECTRICALS LTD

VALVES PURCHASE

Trichy - 620 014, India

SPECIAL TERMS AND CONDITIONS (ENSFV00192)

1. All material should be inspected by **ASME** approved inspection agency, Customer and BHEL.
2. **Performance Bank Guarantee is Applicable:** Vendor should provide a performance bank guarantee (PBG) for 10% of the total Purchase order value valid for a 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).
3. Evaluation will be as **total package** with cost to BHEL which will include Commissioning spares and commissioning assistance.
4. Delivery should be **24 weeks** from date of purchase order and if supplier offers more than this delivery period BHEL will operate 0.5% loading factor for evaluation of their offer for every week delay.
5. **Guarantee Period:** The complete system shall be guaranteed for 24 months of trouble free performance from the date of shipment or 18 months from commissioning date whichever is earlier. In case of any failure or trouble reported from site, the supplier shall depute their representative immediately to attend the problem and replace the defective components/parts, free of cost.
6. **Commissioning Assistance:** Commissioning assistance should be quoted in price bid, Quotation should contain exact value including all expenses like commissioning charges, travel, accommodation etc. Since commissioning requirement and time depends on the equipment supplied by the supplier, number of days required for commissioning should be decided by the vendor for arriving commissioning charges. Vendor have to quote firm price in currency without any variable elements. **Vendor should NOT specify that commissioning charges will be quoted separately.**

Loading Criteria

1. Any deviation in the payment term will attract loading as mentioned. "Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.
2. In the case of Usance LCs the loading will be considered @ 1.5% on the offered Value.
3. For LC at sight the loading will be considered @ 3.5% on the offered Value.
4. Normally CAD at sight, Confirmed LCs and Advance payment are liable for rejection.
5. Any deviation from the LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).
