

PRE-QUALIFYING CRITERIA FOR PROCUREMENT OF ST ROTOR FORGING THROUGH OPEN TENDER

Scope: Supply of rotor forging as per HY19499, Revision-00.

Cross referred standard: AA0850150, AA0850155, AA0850106, AA0850152, ASTM E837, IS 1608, IS 1757, HY0800099.

Following are the mandatory requirements (1, 2 & 3). Offers of vendors not meeting these requirements will not be considered.

1. Minimum experience requirement:

The vendor must have successfully manufactured and supplied minimum 3 rotor shafts for steam turbine application in last 10 years with the following minimum dimension and weight on tender issue date:

- Rotor barrel diameter: $\geq 900\text{mm}$
- Rotor length: $\geq 5000\text{mm}$
- Weight of rotor shaft (as delivered): ≥ 36 Tons (In rough machined supply condition)

In support of above, the vendor has to furnish details of 3 supplies preferably in the format given below:

Sl.NO	Purchase order number /customer details	Dimension: diameter (max) & length	Delivered weight	Year of supply
1				
2				
3				

Vendor to furnish unpriced PO's of the rotor forging listed in the table above.

Vendor shall also provide test certificates of all three rotors of the claimed experience listed above.

2. Technical qualification:

Vendor must have following in-house manufacturing and testing facilities for manufacturing and testing of rotor shaft as per enquiry drawing and specification (including cross-referred standards)

- Steel melting including refining, (List of steel melting facilities & refining (VD/ESR) shall be provided)
- Forging press with capacity
- Vertical heat treatment facility for rotor, (Indicating max dia & length)
- Thermal stability facility at temperature $\geq 660^{\circ}\text{C}$
- Axial core trepanning facility
- Machining as per enquiry drawing and specification
- NDT Facilities

Vendor has to submit filled annexure 1 for in house manufacturing and testing facilities.

3. Vendor to confirm supply shall be as per BHEL enquiry drawing and specification and all cross-referred documents referred there in. Pointwise confirmation to BHEL specification shall be provided.

Deviation from enquiry drawing and specification is not acceptable.

Annexure 1

Vendor to submit details of manufacturing and testing facilities as per format below:

STEEL MELTING FACILITIES:

Melting furnaces details (type, capacity etc.)	
Refining facility details (vacuum degassing, ESR, etc)	
Maximum ingot size • Diameter [mm] • Length [mm] • Weight [mm]	

FORGING FACILITY:

Press capacity in KN	
Max. forging weight in MT	
Manipulator Capacity	
Remarks:	

Heat treatment facilities

1. Availability of vertical heat treatment facility for heat treatment of rotor	
2. Maximum diameter, length and weight of shaft which can be vertically heat treated	
3. Quenching type & medium	

Testing facilities:

1. Chemical analysis , tensile testing, impact, micro-examination etc.	
2. NDT facilities- UT,MPI, boroscopic, residual stress measurement etc	

Machining facilities:

Facility for axial core trepanning 1. minimum & maximum diameter of the core which can be trepanned 2. maximum length of axial core that can be trepanned	
Surface finish of axial bore (Specify achievable value)	
Concentricity, cylindricity and parallelity to achieve drawing requirements.	

Heat stability testing facilities

Max. diameter of forging Max. length of forging Max. weight of forging Max. testing temperature	
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Note: The manufacturer shall submit the above information in English with relevant evidences, duly signed and company stamped.

BHEL may visit vendor's works for evaluation before technically accepting the offer. Vendor shall confirm the same.

Vendor shall submit the required documents for vendor registration.