



BHARAT HEAVY ELECTRICALS LIMITED
Heavy Power Equipment Plant, Ramachandrapuram
Hyderabad-502 032, INDIA
Phones:
Fax Nos:
E-mail:

Date:
Due Date:
Supplier Qtn No.
Date :

**TENDER DOCUMENTS TO BE FILLED BY THE SUPPLIER FOR FRP INDUCED DRAFT COUNTER
FLOW COOLING TOWER**

ADDRESS OF THE SUPPLIER:

TELEPHONE NOS:

FAX NOS:

E-MAIL ADDRESS

Sl.No.	Description for BHEL Requirement Specification No.:S-EMT-239/00, Dt.11.04.2014	Offered	Deviations	Remarks
1.0	PURPOSE: Induced Draft Counter Flow Cooling Tower is required for cooling of Stator bars after straight part baking operation.			
2.0	SCOPE: The scope of supply includes Design, Manufacture, Supply, Erection and Commissioning of induced draft counter flow cooling tower with complete accessories. All equipment's furnished is to be heavy-duty Industrial design for long operating life and suitable at outdoor.	Vendor to confirm		
3.0	JOB DETAILS:			
3.1	Inlet hot water temperature to cooling tower : 90 ° C	Vendor to confirm		
3.2	Outlet cold water temperature from cooling tower : 35-40 ° C	Vendor to confirm		
3.3	Design wet-bulb temperature of ambient air : 28 ° C	Vendor to confirm		
4.0	TECHNICAL SPECIFICATIONS:			
4.1	Cooling tower model	Vendor to specify		
4.2	Type of cooling tower	Vendor to specify		
4.3	Water flow :	Vendor to specify		
4.4	Fiberglass Reinforced Polyester (FRP) cold water basin capacity in liters.	Vendor to specify		

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4.5	Heat Load removal capacity of cooling tower : 330000 Kcal/hr.	Vendor to confirm		
4.6	Mechanical Equipment data			
4.6.1	Motor Make & Capacity (HP)	Vendor to specify		
4.6.2	Motor Type	Vendor to specify		
4.6.3	Motor RPM	Vendor to specify		
4.6.4	Fan Make & Diameter	Vendor to specify		
4.6.5	No.of fan blades	Vendor to specify		
4.6.6	Fan Type : Axial flow, Adjustable Pitch	Vendor to confirm		
4.6.7	Overall tower size (L x B x H) in mm	Vendor to specify		
4.6.8	Water drift loss	Vendor to specify		
4.6.9	Water evaporation loss	Vendor to specify		
4.6.10	Type of water distribution system	Vendor to specify		
4.6.11	Approximate operating weight in Kg.	Vendor to specify		
4.7	Material of construction :	Vendor to specify		
4.7.1	Structure/ Body/ Fan desk / Fan stack / Louvers / cold water basin / Fill support :	Vendor to specify		
4.7.2	Fill :	Vendor to specify		
4.7.3	Drift Eliminator :	Vendor to specify		
4.7.4	Fan Assembly :	Vendor to specify		
4.7.5	Fan cover :	Vendor to specify		
4.7.6	Electric Motor :	Vendor to specify		
4.7.7	Pipe / Nozzles :	Vendor to specify		
4.7.8	Water distribution header :	Vendor to specify		
5.0	SPARES:			
5.1	Itemized breakup of spares used on the machine in sufficient quantity as per recommendation of vendor for 2 years of trouble free operation on three shifts continuous running basis should be offered by vendor. The list to include following, in addition to other recommended spares: (Unit Price of each item of spare should be offered)	Vendor to Submit		

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5.2	Vendor to confirm that complete list of spares for Cooling tower, along with specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine.	Vendor to confirm		
6.0	DOCUMENTATION:			
6.1	Five sets of following documents (5 Hard copies) in English language should be supplied along with the Cooling Tower	Vendor to confirm		
6.2	Operation & Maintenance Instructions			
6.3	Spare Parts Manual			
6.4	GA Drawing			
6.5	Assembly drawings			
6.6	Test curves related to guarantee condition			
7.0	ERECTION & COMMISSIONING			
7.1	Vendor to take full responsibility for erection. Water shall be provided by BHEL at only one point to be indicated by Vendor in their foundation / layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. MS/GI, C-class piping , cabling whichever required for sucessful comissioning of the cooling tower is in the scope of venodr. Pipe line from CNC Hydraulic press to the cooling tower including all accessories required as per enclosed Annexure- I shall be included in the standard scope of the machine.	Vendor to confirm		
7.2	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the Vendor on returnable basis.	Vendor to confirm		
7.3	Schedule of Erection and Commissioning shall be submitted with the offer.	Vendor to confirm		

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8.0	TESTING & ACCEPTANCE			
	The equipment shall be offered for inspection by BHEL Engineers at suppliers works prior to dispatch.	Vendor to confirm		
	Testing: - cooling tower should be tested at the supplier's works to determine its efficiency and show the capacity, difference of temperatures shall be measured and recorded at our works.	Vendor to confirm		
9.0	GAURANTEE			
	24 months from the date of acceptance of the machine at BHEL works.	Vendor to confirm		
10.0	GENERAL :			
10.1	Machine Model No.	Vendor to specify		
10.2	Total connected load (KVA):	Vendor to specify		
10.3	Floor area required (Length, Width, Height) for complete machine & accessories	Vendor to specify		
10.4	Painting of Cooling Tower : RAL 6011 Reseda Green (Polyurethane Paint)	Vendor to confirm		
10.5	Total weight of the Cooling Tower	Vendor to specify		
10.6	The offer shall include the catalog for offered equipment and a complete technical description of all parts of the cooling system and the materials of construction of the major parts.	Vendor to confirm		
10.7	GA Drawing, Schematic & Foundation Diagram Showing the Layout and Interconnections, P&I diagram shall be submitted along with the offer.	Vendor to confirm		
10.8	The civil foundation drawings with layout to be submitted within one month of Purchase order release.	Vendor to confirm		

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11.0	QUALIFYING CRITERIA			
	Only those vendors (OEMs), who have supplied and commissioned at least 2 nos. of Induced Draft Counter Flow cooling towers of 6 m ³ /hr. or higher 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. However, if such equipment had already been supplied to BHEL, then that equipment should be presently working satisfactorily for more than six months after it's commissioning and acceptance (from the date of opening of Tender).			
	The vendor should submit following information where similar type of cooling tower has been supplied for qualification of their offer.			
	1. Name and postal address of the customer or company where similar equipment is installed.	Vendor to specify		
	2. Name and designation of the contact person of the customer.	Vendor to specify		
	3. Phone, FAX no and email address of the contact person of the customer.	Vendor to specify		
	4. Month and Year of commissioning of the equipment.	Vendor to specify		
	5. Application for which the equipment is supplied	Vendor to specify		
	6. Along with the Technical offer, the Vendor to should submit one performance certificate from the customer for the satisfactory performance of the equipment supplied to them.	Vendor to submit		
	7. BHEL 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.	Vendor to confirm		