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INDIAN INSTITUTE OF TECHNOLOGY KANPUR
DEPARTMENT OF CIVIL ENGINEERING

Samit Ray Chaudhuri
Associate Professor &
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STRUCTURAL ENGINEERING LABORATORY

PO. IIT KANPUR-208016 (UP), INDIA

17 October 2016

Enquiry no. *CE/STR(Pseudo)/2016-17/Oct/01*

Sealed quotations are invited for the supply and installation of the Chiller/Cooling Tower for the Hydraulic Power Unit (HPU) at our Structural Engineering Laboratory with Maximum Heat Removal Capacity of 269 kW/hr.

As per the requirement of cooling water for the HPU, following are the desired specifications:

Water Inlet Temperature	Minimum Required Flow
15.5^0 C	128.7 lpm
21.1^0 C	166.5 lpm
26.7^0 C	257.4 lpm
32.2^0 C	537.5 lpm

Cooling Water Specifications:

Sr. No.	Parameter	Desired Specifications
1.	Ammonia	None
2.	Bacteria	Must be Bacteriologically safe
3.	Calcium	< 800 ppm
4.	Chlorides	< 5 ppm
5.	Dissolved Solids	> 50 but < 500 ppm ; limit to 150 ppm if abrasive solids present
6.	Iron	3 ppm
7.	Nitrates	< 10 ppm
8.	Nitrogen Components	None
9.	Oxidizing salts/acids	None
10.	pH level	6 to 8.5 Recommended
11.	Silica as SiO2	< 150 ppm to limit Silica Scale
12.	Sulphides	< 1ppm
13.	Sulpher dioxide	< 50 ppm

The other general technical specifications are:

1. Required Water Pressure Differential (at HPU): 0.2/0.3 MPa
2. Maximum inlet pressure 0.8 MPa
3. Cooling Water Pipe/Hose diameter: 5.1cm /2.0in NPT pipe
4. PVC pipes (dia: 2.0 inch/5.1 cm) for circulation of cooling water from chiller/cooling tower location to HPU location.
5. Two shut off valves, 150 or 200 psi Glycerin filled Pressure gages &100°C temperature gages should be installed in series each on water inlet & outlet line.
6. A strainer/filter is needed in water inlet line.

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7. A pair of 2.0 inch dia flexible pipe of suitable length is required to connect HPU water inlet/outlet connection from PVC pipe line.

Kindly send your offer (Original, Signed with the name of signing authority) in a sealed envelope, for the above items mentioning the following:

1. Cost of the item including installation charges with technical specifications in detail
2. Freight, packing etc. charges
3. Warranty period
4. Delivery time
5. Educational discount considering usage for teaching and research
6. Payment terms
7. Any other relevant details

An early reply latest by 25 October 2016 will be highly appreciated.

Thanking you...

Sincerely

Samit Ray Chaudhuri