

**BHARAT HEAVY ELECTRICALS LIMITED**  
**RAMACHANDRAPURAM :: HYDERABAD-32**  
**M&S - P&C**

**Scope of work**

Tender Notice No. M&S/P&C/2016/116 22.02.2017

Name of work: Revamping works of colling water tower at 36/11 area

**Revamping of**

- Cooling tower –I with PVC Virgin honey comb type fills, replacement of hot water distribution system and drift eliminators.
- Cooling tower – II with replacement of FRP stacks, drift eliminators and providing approach to intermediate floor, repair and servicing of inlet water valves.
- Including warranty and performance guarantee for both towers
- Carrying out works as per detailed scope on both cooling towers.

S.No.	Description of work	Qty
<b><u>Civil works</u></b>		
1	<b><u>Cooling Tower-I</u></b> : Providing MS painted vertical support & fixing of monorail, chain block with movable trolley	1 Nos
2	<b><u>Cooling Tower-II</u></b> : Providing Access door & ladder with railing to hot water distribution system including civil works	2 Nos
3	<b><u>Cooling Tower-II</u></b> : Servicing of monorail & replacement of chain block with trolley	1 Nos
<b><u>Mechanical works :</u></b>		
4	<b><u>Cooling Tower-I</u></b> : Removal and replacement of Hot water distribution system (PVC with FRP lining)	2 Nos
5	<b><u>Cooling Tower-I</u></b> : Removal of old fills & providing support (MSHDG) and supply & fixing of fills (PVC vigin Honey comb type)	2 Nos
6	<b><u>Cooling Tower-I</u></b> : Removal & replacement of drift eliminators (PVC wave pass type)	2 Nos
7	<b><u>Cooling Tower-I</u></b> : Supply of spare spray nozzles (PP/HDPE)	200 Nos
8	<b><u>Cooling Tower-II</u></b> : Supply of FRP stacks	2 Nos
9	<b><u>Cooling Tower-II</u></b> : <b>Repair and service of inlet water valves to the cooling tower</b>	2 Nos
10	<b><u>Cooling Tower-II</u></b> : <b>Servicing of Hot water distribution system (PVC with FRP lining)</b>	2 Nos
11	<b><u>Cooling Tower-II</u></b> : Replacement of Drift Eliminators (PVC wave pass type)	2 Nos
12	<b><u>Cooling Tower-II</u></b> : <b>Supply of spare Nozzles (PP/HDPE)</b>	200 Nos
13	<b><u>Cooling Tower-II</u></b> : Testing, Erection, Assembly& commissioning of Fan, Drive shaft and Gear box & Motor	2 Nos
<b><u>Electrical Works:</u></b>		
14	<b><u>Cooling Tower – I</u></b> : Supply and installation of float valve in make-up water inlet lines	2 Nos
15	<b><u>Cooling Tower – I</u></b> : Providing alarm for water over flow including cables up to Junction Box in cooling tower	2 Nos
16	<b><u>Cooling Tower – I</u></b> : Supply and installation of vibration cut off switch including cables from switches to Junction box in cooling tower	2 Nos
17	<b><u>Cooling Tower – I</u></b> : Supply, making provision & Installation of oil level cut off switch including cables from switches to Junction box in cooling tower	2 Nos
18	<b><u>Cooling Tower - II</u></b> : Supply and installation alarm for water over flow including cables up to Junction Box in cooling tower	2 Nos

19	<b>Cooling Tower - II:</b> Supply and installation of float valve in make-up water inlet lines	2 Nos
20	<b>Cooling Tower - II :</b> Supply, installation & Commissioning of Vibration cut off switch including cables from switches to Junction box in cooling tower	2 Nos
21	<b>Cooling Tower - II;</b> Supply, making provision & Installation of oil level cut off switch including cables from switches to Junction box in cooling tower. Supply & installation of Guards (water proof) for Motor, coupling & shaft.	2 Nos

**The scope of work & estimated price includes the following activities also.-**

Sl. No.	DESCRIPTION
1	Supply of detailed drawings & documents for bought out items & revamping works – 3 sets of Hard copies and one set of soft copy.
2	Fabrication, shop assembly & testing
3	Packing , loading & unloading
4	Transportation of materials up to site
5	Dismantling of existing fill, drift eliminator, hot water lateral pipes and complete mechanical equipment
6	Supervision and erection of the cooling tower materials
7	Commissioning of cooling tower
8	Performance data and Acceptable criteria after revamping of cooling towers. Cooling range – Deg. C 10 to 13.75 (12.5 +/- 20%), Design water Inlet temperature 47.0 Deg.C and outlet temperature 34.50)

COMMERCIAL TERMS:

1. Supply and Execution of the above scope of work shall be completed in six months from the date of issue of Service order.
2. Warranty shall be 12 Months from the date of commissioning.

Signature of the contractor