

Bharat Heavy Electricals Limited
Ramachandrapuram : : Hyderabad – 502032
M&S - DIVISION

SCOPE OF WORK (ANNEXURE – I)

TENDER No.: M&S/P&C/2022/45, dt.: 30.09.2022

NAME OF WORK: Operation and Maintenance of RO Plant at Surface Treatment Section

S.No.	Description of Item / Activity	Vendor's Acceptance
1	Technical details of Existing RO Plant. Reverse Osmosis & Ultra filtration system (500LPH) along with following equipment.	
1.1	Raw water Pump	
1.2	Dual Media Filter	
1.3	Activated carbon filter	
1.4	Ultra filtration System	
1.5	Back Wash Pump	
1.6	Reverse Osmosis plant along with pressure tube	
1.7	HP Pump, HP&LP switches, control panel, membrane	
1.8	Interconnecting Pipes & Fittings	
1.9	Motor Control Panel	
1.1	Chemical Dosing system (dosing Pump & chemical Tank)	
1.11	Flow Meters	
1.12	Pressure gauges	
2	Scope of Work	
2.1	Daily operation & routine maintenance of Reverse Osmosis plant	
a	Checking of Input tank level as and when required.	
b	Operation of the raw water pump as per requirement.	
c	Cleaning the unit of the plant and tanks regularly, backwashing and dosing of chemical such as sodium hydroxide, HCL, Naocl etc. time to time.	
d	Backwashing of the ACF as per the requirement	
e	Maintainance of Log sheet / log book	
f	Monitoring of water flow through water meter and noting down its reading.	
g	Arrangement of salt solution and regeneration of softener bed as and when required.	
h	Arrangement of chlorine dosing as per requirement.	
i	Checking of water quality once in a month with test kit and keep a record of result.	
j	Carrying out treated water (output of RO) analysis once in a quarter and submitting the report from a reputed Labs(MECC / NABL).	
k	Arresting of leakage and Regular maintainance of RO Plant equipments.	
l	Carrying out overhauling, preventive maintenance and Major repair of RO Plant including accessories as per the requirement.	
m	Vendor shall carry out any other activites which may arise and are not included above but are essential to meet the RO plant working properly.	
n	Vendor shall carry out calibration / get calibrated PH meter, Flow meter etc. as per the statutory frequency.	

2.2	Timing of operation and deployment of operators	
a	<i>Deployment of Operators</i> : Vendor shall deploy skilled / semi-skilled operators for daily operation and maintenance of the plant on all BHEL working day during the contract period.	
b	<i>Timing of Operation</i> : Monday to Saturday - 06:30hrs. to 15:00hrs. or equivalent hours. It may be required to run the plant beyond normal hours or on other non-working days due to exigencies of work.	
2.3	Annual Maintenance of water Treatment plant	
a	One service engineer shall visit the plant as and when called by Contract executing officer.	
b	Attending all breakdown calls within 24 hours.	
c	Provide information to the operator for preventive and protective maintenance during visit.	
d	Vendor shall carry out preventive maintenance schedule under supervision of an experienced service engineer.	
e	Any instrument /parts of water treatment plant replaced by vendor shall have one year warranty from the date of installation/replacement.	
3	Scope of Supply The following parts/ Chemicals are to be supplied by vendor for smooth operation of the RO &UF plant for one year.	
i	NaoCl - 15 litres	
ii	HCl - 15 litres	
iii	Ph Buffer Solution - 15 litres	
iv	NaoH - 15 litres	
v	Antiscalant - 15 litres	
vi	UF Membrane - 1 No.	
vii	RO Membrane - 1 No.	
viii	Micron Filters - 2Nos.	
ix	Reputed Make Multiport Valve for Filter(Top Mount), 25NB - 2Nos.	
x	RO feed Pump (1Hp,230V, KDS-134+ Kirloskar Pump) to suit the existing suction and deliver heads - 1 No.	
4	Submission of Reports: Vendor shall submit the Treated water analysis reports for every three months. (Test report should be from Govt. approved test laboratory / NABL/MEFCC accredited Laboratory only)	