






SITE INSPECTION REPORT FOR 42 MLD Sajari STP


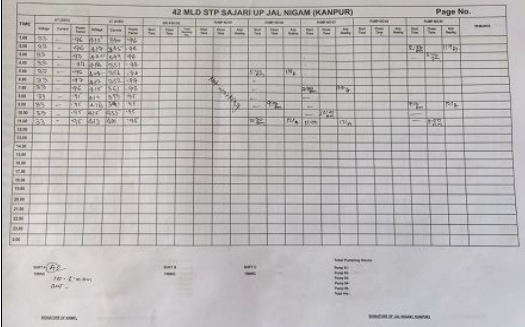

SAJARI STP

Date:
10.05.2022



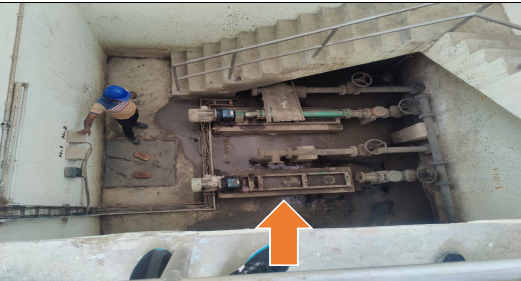
INSPECTED BY:
UPJN Team:
Mr. Ajit Singh (JE Civil)
STC Team:
1) Mr. J.P.Tripathi (O&M expert)
2) Mr. Rohit Suman (Support engg. Mech.)
3) Mr. Pankaj Rawat (Support supervisor civil)
KRMPL Team:
Mr. Anirban Mukherji and KRMPL team

S. No.	Equipment	Assessment of Current Condition	Assessment of Current Condition Photo	Corrective Action Suggested by STC	Corrective Action Completed by KRMPL	Original Date of Issue	Proposed date to resolve by KRMPL	Remark
A	INLET CHAMBER							
1	Inlet Sluice Gates	Operational When UPJN & PE visited site, it was found that inlet sluice gate was not fully opened because of which uniform flow of sewage is not taking place.		Required number of sluice gates must be opened fully for uniform flow of sewage.		10.05.2022		
2	Mech. Coarse screen (no.1)	Non-Operational		1) Need to be rectified at the earliest. 2) Auto system level settings needs to be done for proper functioning and it should be get checked by UPJN & PE. In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to rectify the screen at the earliest.		1) 06.03.2022 2) Since handover 11-10-2019		LONG PENDING
3	Mech. Coarse screen (no.2)	Non-Operational 1) Level sensor is not installed yet for automated.		1) Need to be rectified at the earliest.. 2) Level sensor has to be installed at earliest for automation. In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to rectify the screen at the earliest.		1) 11.04.2022 2) Since handover 11-10-2019	2) 28.02.2022 / New date given 31.08.2022	LONG PENDING
4	Mechanical Screen Level transmitter display	1) Auto System of Mech Coarse Screen -1 & 2 are Under Maintenance 2) Not operating the mechanical screen perfectly 3) Level sensor of 2nd mechanical screen is not available		1) The level setting system has to be corrected as per the inflow level for mechanical screen no. 1 and level sensor for mechanical screen no. 2 has to be installed at earliest for automation. 2) Closing gate must be fixed to the level transmitter casing box. 3) Painting needs to be done on the casing box.		Since handover 11-10-2019	28.02.2022 31.12.2021 31.12.2021	LONG PENDING Not done yet as indicated in KRMPL Letter no. 2453 dated 11.05.2022 for compliance to inspection carried on 11.04.2022 by PE.

5	Belt Conveyor	When UPJN & STC team reached site, we found conveyor belt in still condition and by seeing the belt condition, it has been observed that KRMPL is not running the belt regularly as per requirement. Upon asking by UPJN & STC team, KRMPL started running the belt.		Every time during visit, conveyor belt was found in still condition, Needs to be operated on regular basis.		08.02.2022		
6	Belt Conveyor disposal							
7	Mech. Coarse Screen On-site Panel	Some of the indicators not working		Non working indicators should be replaced.		31.07.2021		LONG PENDING
B	RAW SEWAGE PUMPING STATION							
1	Raw Sewage Pump-01	Non-Operational		1) Need to be rectified at the earliest. 2) Discharge line pressure gauge calibration/ test certificate needs to be submitted.		1) 10.01.2022 2) 21.09.2021	15.01.2022 / New date 15.05.2022	LONG PENDING
2	Raw Sewage Pump-02	Operational After almost 2 months of non-operational since 13.02.2021, it was made operational on 11.04.2022						
3	Raw Sewage Pump-03	Operational Pressure gauge was found old one and is showing high pressure with respect to others.		Discharge line pressure gauge needs to be replaced and calibration / test certificate needs to be submitted.		31.07.2021		LONG PENDING
4	Raw Sewage Pump-04	Non Operational After almost 2 months of non-operational since 31.12.2021, it was made operational on 07.03.2022, again on 10.05.2022 it become non operational.		1) Needs to be rectified. 2) Discharge line pressure gauge calibration/ test certificate needs to be submitted.		1) 10.05.2022 2) 31.07.2021	15.01.2022	
5	Raw Sewage Pump-05	Operational		In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to rectify the issue and submit the calibration certificate of all pressure gauges at the earliest.		27-10-2021	15.01.2022	LONG PENDING Needs to submit the calibration/ test reports of pressure gauge.





6	Collection Sump Lever sensor	No level transmitter was found inside collection sump		Install the level transmitter at the earliest and maintain the levels of the collection sump on regular basis.		18.11.2021		As per Article 8.8 (a), this has to be provided by the concessionaire
7	Raw Sewage Pumps operation			At an average of around 23 MLD flow (which is 55 % of the average design flow) is coming, therefore atleast 2 to 3 nos. of pumps has to be operated during peak flow & atleast 1 to 2 nos. of pumps to be operated during non peak flow on regular basis in rotational way to tackle the problem of backflow/ reverse flow. In case the flow increase more than 23 MLD, more pumps needed to be operated.		27-10-2021		
8	EOT	Operational		Do lubrication work on regular basis				
9	Raw Sewage Pump Starter cable							
10	Raw Sewage Pump Starter-5	After around 2 months since 27.10.2021, starter has been fixed on 04.01.2022						
11	DI Common header Line							
12	Electro-Magnetic flow meter	Operational After almost 2.5 years since handover, the flow meter is finally calibrated.		Flow meter's flow record must be provided in the log book & MPR		10.05.2022		
13	Panel Room	1) HT Panel & float cum boost charger ammeter not working. 2) Some of the indoor light lights not working. 3) One no. exhaust fan not working.		1) HT Panel ammeter need to be replace. 2) Indoor light 7 no. need to be replace. 3) Exhaust fan 1 no. need to be repaire. 4) Float cum boost charger ammeter need to be repaire immediately.		21-09-2021	15.05.2022	LONG PENDING
C PRIMARY UNIT								
1	Fine screen (No. 1 Mech)	The bar spacing at some places in the screen has increased.		Need to be rectified at earliest.		27-10-2021	15.01.2022	LONG PENDING





2	Fine screen (No.2 Mech)	The bar spacing at some places in the screen has increased.		Need to be rectified at earliest.		27-10-2021	15.01.2022	LONG PENDING
3	Fine Mechancial Screen auto system	No level sensor were present around fine mechanical screen.		1) Level sensor must be installed at earliest. 2) Fine screen must be automated at earliest.		Since handover 11-10-2019	28.02.2021 / New date 30.08.2022	LONG PENDING
4	Belt Conveyor	When STC team reached site, we found conveyor belt in still condition and by seeing the belt condition, it has been observed that KRMPL is not running the belt regularly as per requirement. Upon asking by STC team, KRMPL started running the belt. Also no operator/ manpower was present on PTU during visit.		1) Belt conveyor needs to be operated regularly. 2) Required Operator/ manpower must be present on PTU for regular operation.		07.03.2022		
5	PTU On site Panel	Some of the indicators not working		1) Non working indicators should be replaced. 2) Panel box painting need to be done.		27-10-2021		LONG PENDING
6	Manual screen	Operational						
7	Grit chamber-1 1)Organic pump withMotor 2)Scraper 3)Clasifier Mechanism	Operational		1) Classifier alignment need to be rectified. 2) Canopy must be provide on every motors. 3) Numbering of Grit Mechanism must be done in bold letter so that it can be seen from far positions also.		31.07.2021	31.12.2021 31.01.2022/ 31.05.2022 15.01.2022	Long Pending
8	Grit chamber- 2 1)Motor 2)Scraper/Starter 3)Rack Clasifier Mechanism	Operational		1) Canopy must be provide on every motors. 2) Numbering of Grit Mechanism must be done in bold letter so that it can be seen from far positions also.		31.07.2021	31.01.2022 15.01.2022	Long Pending


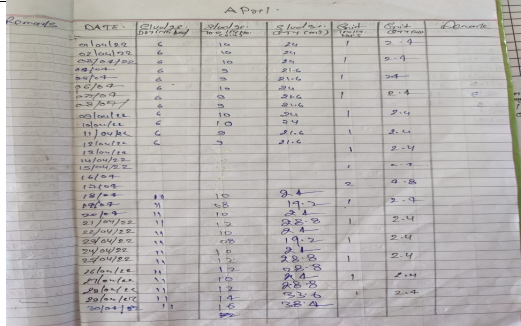
9	Grit Disposal	When STC team reached site, no trolley was found below grit & conveyor chutes.		1) Provide trolley below conveyor and grit chute. 2) Remove the grit on regular basis. 3) Apart from this, make sure that spare trolley must be provided in case of shifting/ removing grit.		11.01.2022		Pending
10	Parshall Flume	No ultrasonic level sensor was found at site. Also, the fixed scale is not readable.		1) Level sensor must be installed at the earliest. 2) Readable scale must be installed. 3) Chart for flow measurement must be fixed at the earliest. 4) Kindly provide the necessary documents on the basis of which scale reading has been provided. 5) KRMPL must record the flough through parshall flumes at every time intervals on daily basis and its register has to be maintained.		1) Since handover 11-10-2019 2) 11.01.2022		LONG PENDING As per Article 8.8 (a), this has to be provided by the concessionaire
11	PST 1	Operational		Vibration check on regular basis through vibration meter and lubrication to be done on regular basis for PST-1.		27-10-2021	31.01.2022 / 31.05.2022	
12	PST 2	Operational Local push buttons was found not working		1) Local push buttons must be rectified at the earliest. 2) Vibration check on regular basis through vibration meter and lubrication to be done on regular basis for PST-2.		27-10-2021	31.01.2022 15.01.2022/ 31.05.2022	LONG PENDING
13	Primary sludge pump no. 1	Operational						
14	Primary sludge pump no. 2	Non-Operational		Need to be rectified at earliest.		10.05.2022		
D AREATION TANK								


1	Aerator no 1	Operational		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		21-09-2021	31.05.2022	LONG PENDING
2	Aerator no 2	Operational		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		21-09-2021	31.05.2022	LONG PENDING
3	Aerator no 3	Operational After 1 month of non operational from 06.03.2022, it was made operational on 13.04.2022		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	LONG PENDING
4	Aerator no 4	Operational		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	LONG PENDING
5	Aerator no 5	Operational Made operational on 13.01.2022		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		1) 08.02.2021 2) 31.07.2021	31.05.2022	LONG PENDING
6	Aerator no 6	Operational		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	LONG PENDING
7	Aerator no 7	Operational After operating 2nd stream from 18.10.2021 for around 1.5 months, KRMPL again shut down 2nd stream from 06.12.2021.		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	KRMPL is operating only one stream but no labour force has been deployed for Schedule maintenance works.
8	Aerator no 8	Operational After operating 2nd stream from 18.10.2021 for around 1.5 months, KRMPL again shut down 2nd stream from 06.12.2021.		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	
9	Aerator no 9	Operational After operating 2nd stream from 18.10.2021 for around 1.5 months, KRMPL again shut down 2nd stream from 06.12.2021.		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	
10	Aerator no 10	Operational Made operational on 19.02.2022		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each areator.		31.07.2021	31.05.2022	

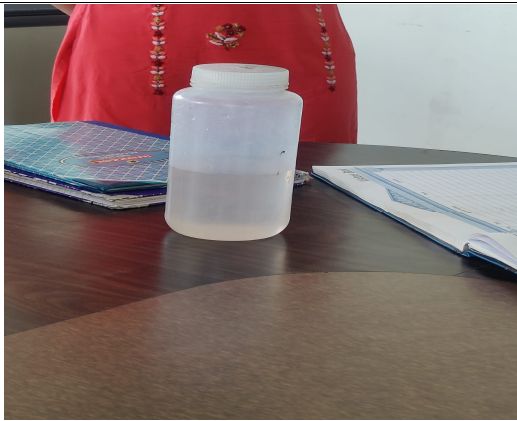
11	Aerator no 11	Operational After operating 2nd stream from 18.10.2021 for around 1.5 months, KRMPL again shut down 2nd stream from 06.12.2021.		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each aerator.		18-11-2021	31.05.2022	
12	Aerator no 12	Operational After operating 2nd stream from 18.10.2021 for around 1.5 months, KRMPL again shut down 2nd stream from 06.12.2021.		Vibration to be checked on regular basis by vibration meter and lubrication needs to be done on regularly for each aerator.		31.07.2021	31.05.2022	
13	Aerators on-site push button and indicator	None of aerator's onsite push buttons and indicators were found working		All aerator's push buttons and indicators needs to be rectified/ replaced.		07.03.2022	15.05.2022	LONG PENDING 15.05.2022 date proposed by KRMPL for rectification vide KRMPL Letter no. 2453 dated 11.05.2022.
E	SECONDARY CLARIFIER AREA							

2	Booster Pump no. 1 & 2	<p>1) Operator doesn't know the operation perfectly.</p> <p>2) Even after closing the gate valves, some flow was observed through valves. Also leakage through valve was found</p>		<p>1) Leakage from Gate valve and through its internal gland must be fixed at earliest.</p> <p>2) Deploy experienced operator who knows the operation.</p>		21-09-2021	15.01.2022	LONG PENDING
3	Chlorination Leak detection device	<p>During visit, cylinder was changed and there was leakage of chlorine but leak detecting device sensor doesn't sensed chlorine. It shows that leak detecting device is not working.</p> <p>Non-Operational</p>		Leakage detection device should be rectified and get it checked by UPJN/ PE		31.07.2021	31.05.2022	LONG PENDING
4	Safety shower	Operational						
G Sludge system								
1	Sludge thickeners 1	<p>Operational</p> <p>1) When UPJN & STC team reached site, it was found that sludge thickener was in still condition, no incoming sludge or dilution water was taking place and no supernatant overflow was taking place which means KRMPL is either not operating the thickener or not operating the thickener properly. Many times instructions have been given to operate the thickener properly but still not operating properly.</p> <p>2) Also, at various points weir plate was found damaged & choked.</p>		<p>1) Sludge thickner must be operated regularly, processing needs to be stabilised and proper expertise must be given to the plant incharge monitoring the operation. Also experienced operator must be deployed.</p> <p>2) Overhaul whole mechanical system</p> <p>3) Damaged & choked weir plates must be cleaned and rectified.</p> <p>In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to take appropriate measures to stabilize the thickening process at the earliest.</p>		03.03.2021		LONG PENDING
2	Sludge thickeners 2	<p>Operational</p> <p>After around 10 months of non-operational since 03.03.2021, it was made operational on 07.01.2022.</p> <p>This thickner was taken into cleaning and without informing/ witnessing it to UPJN or PE, sludge was filled on 07.01.2022.</p> <p>1) When UPJN & STC team reached site, it was found that sludge thickener was in still condition, no incoming sludge or dilution water was taking place and no supernatant</p>		<p>1) Sludge thickner must be operated regularly, processing needs to be stabilised and proper expertise must be given to the plant incharge monitoring the operation. Also experienced operator must be deployed.</p> <p>2) Damaged & choked weir plates must be cleaned and rectified.</p>		11.01.2022		LONG PENDING

		<p>overflow was taking place which means KRMPL is either not operating the thickener or not operating the thickener properly. Many times instructions have been given to operate the thickener properly but still not operating properly.</p> <p>2) Also, at various points weir plate was found damaged & choked.</p>		<p>In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to take appropriate measures to stabilize the thickening process at the earliest.</p>					
3	Thickened sludge pump 1	Operational							
4	Thickened sludge pump 2	Operational							
5	Sludge digester-01	Operational							
6	Sludge digester-02	<p>KRMPL submitted Voltas inspection report for the inspection of the digester done on 07.03.2022 on which PE has given condition clearance to charge sludge into Digester no. 2 only after complying the conditions mentioned in STC letter no. 1526 dated 01.04.2022.</p> <p>KRMPL has charged the digester without complying STC letter no. 1526.</p>		<p>In the meeting dated 11.04.2022, ED (T) NMCG instructed KRMPL that it is the duty of KRMPL to get every rectification work witnessed by PE & UPJN and the issues raised by UPJN & PE must be complied.</p>		<p>11.04.2022</p> <p>01.06.2020</p>			
7	Flow Meter for Bio gas.	Non-Operational		<p>Must be rectified at the earliest</p>		<p>18.11.2021</p>	<p>28.02.2022 / 31.07.2022</p>	<p>LONG PENDING</p> <p>31.07.2022 date is proposed by KRMPL vide KRMPL Letter no. 2453 dated 11.05.2022.</p>	
8	Gas engine -1	Operational							
9	Gas engine -2	Operational							

10	Gas engine -3	Non Operational		Need to be rectified at earliest.		15.04.2022		
11	Gas Scrubbers	Operational		UPJN has advised KRMPL to connect a pipe from scrubber exit directly to H2S analyser for knowing the value of H2S present in scrubbed gas just exiting scrubber.		11.01.2022		Pending
12	Bio gas blower 1 & 2	Operational						
13	Pressure & Temperature Gauges inside Scrubber room	Various pressure & temperature gauges were found not working		Pressure & temperature gauges needs to be replaced		07.03.2022	31.05.2022	Pending
14	Sludge drying bed 1	Filled with sludge		Beds are required to be emptied periodically and Sludge to be disposed on regular basis		23.02.2021	As per KRMPL Letter no. 2453 dated 11.05.2022 , out of the remaining 17 beds, 5 beds will be cleaned by 31.05.2022, 5 beds by 31.06.2022 & balance 7 by 31.07.2022	No record of disposal of sludge is available.
15	Sludge drying bed 2	Filled with sludge since 04.01.2022				04.01.2022		
16	Sludge drying bed 3	Filled with sludge since 08.03.2022				08.03.2022		
17	Sludge drying bed 4	Filled with sludge				23.02.2021		No record of disposal of sludge is available.
18	Sludge drying bed 5	Filled with sludge since 12.02.2022.				12.02.2022		
19	Sludge drying bed 6	Cleaning work in progress since 01.04.2022 but no work done after 12.04.2022		Beds are required to be emptied periodically and Sludge to be disposed on regular basis		11.04.2022		
20	Sludge drying bed 7	Filled with sludge		Beds are required to be emptied periodically and Sludge to be disposed on regular basis		23.02.2021		No record of disposal of sludge is available.
21	Sludge drying bed 8	Filled with sludge						
22	Sludge drying bed 9	Filled with sludge						
23	Sludge drying bed 10	Filled with sludge						
24	Sludge drying bed 11	Cleaning work started from 18.04.2022 and is in progress.						
25	Sludge drying bed 12	Filled with sludge						
26	Sludge drying bed 13	Filled with sludge since 07.03.2022		Beds are required to be emptied periodically and Sludge to be disposed on regular basis		07.03.2022		
27	Sludge drying bed 14	After approx 1.1 years since 23.02.2021, the sludge cleaning work started from 09.03.2022 and cleaning work was completed on 31.03.2022				11.04.2022		
28	Sludge drying bed 15	Filled with Sludge since 07.03.2022				07.03.2022		

29	Sludge drying bed 16	Filled with Sludge since 07.03.2022.		Beds are required to be emptied periodically and Sludge to be disposed on regular basis		07.03.2022		
30	Sludge drying bed 17	Filled with Sludge since 07.03.2022.				07.03.2022		
31	Sludge drying bed 18	Filled with sludge				23.02.2021		No record of disposal of sludge is available.
32	Sludge drying bed	Leakage found around sludge drying bed		1) Needs to be restored at the earliest. 2) RCC Slab must be provided on all chambers.		29.10.2021	15.06.2022	Pending
33	Tubewell pump 1	Operational						
34	Dilution water submersible pump-1	Operational						

35	Dilution water submersible pump- 2	Operational						
36	Filtration pump no. 1	After around 2 months of non-operational since 01.12.2021 , it was made operational on 07.02.2022.		Ammeter & Voltmeter needs to be replaced		01.12.2021		Pending
37	Filtration pump no. 2	Operational						
38	Treated effluent outlet channel							
Miscellaneous								
1	Motor Canopy	STC found that no canopies were present on the motors of equipments		Fix canopy to each motors of equipments.		27-10-2021	31.01.2022/ 30.05.2022	Long Pending
2	Outdoor lighting	When STC team visited site, it was found that various outdoor lights were not working		Needs to be replaced at the earliest. In the meeting dated 11.04.2022, ED (T) NMCG directed KRMPL to install all lights within a day (i.e, 13.04.2022) and must ensure its 100% availability/ functioning.		27.10.2021 (since long back)	30.06.2022	Long Pending
3	Laboratory	<p>1) Deployed Chemist do not have the right training/ experience for conducting laboratory analyses. The chemist was not aware of COD temperature settling point for the Soxhelt apparatus.</p> <p>2) Daily analysis results reported by KRMPL are not matching with NABL laboratory (Shriram) / IIT Kanpur laboratory reports.</p> <p>3) Soxhelt apparatus was found faulty with the temperature knobs not working properly.</p> <p>4)The list of equipment working/ not-working does not show adequate details about the condition of the equipment and details of repair/replacement and calibration needs.</p> <p>5) Calibration of lab equipments are not done from years as informed by Lab chemist & Plant Incharge.</p> <p>6) Material Safety Data Sheets (MSDS) of the chemicals being used in the laboratory are not available.</p> <p>7) The measurement of residual D.O in aeration basins using portable D.O meter were not being done in-situ in the tank, instead were measured in the samples taken outside of these basins, could lead to erroneous results.</p> <p>8) Samples were found not levelled.</p>		<p>1) Trained chemist has to be deployed for testings at laboratory.</p> <p>2) Laboratory testings needs be done correctly by following right procedure.</p> <p>3) Soxhelt apparatus must be rectified at the earliest.</p> <p>4) List of equipment working/ not-working must be maintained properly and for all equipments.</p> <p>5) All lab equipments must be calibrated and the calibration report needs to submitted to UPJN & PE for review.</p> <p>6) Material Safety Data Sheets (MSDS) of the chemicals being used in the laboratory must be maintained and provided.</p> <p>7) The measurement of residual D.O in aeration basins using portable D.O meter has to be done in-situ in the tank only.</p> <p>8) Samples must be labelled.</p> <p>9) A piping system must be connected to exhaust of laminar air flow cabinet and must be discharged outside laboratory room/ building.</p>		27-10-2021		LONG PENDING
4	Log Books & Register			<p>1) Log Books and registers must be maintained and remain available for all units</p> <p>2) Maintenance register must be filled properly.</p>				Maintenance register proper filling suggestions had already been given to KRMPL site incharge.

5	House Keeping works	At various locations inside the plant, no house keeping works was found.		1) House keeping work at all locations inside the plant has to be done for which deployment of manpowers needs to be done. 2) Do the house keeping works on regular basis		27-10-2021		LONG PENDING
6	Equipments Numbering			Numbering must be provided in bold letters to all the equipments so that it could be seen easily and there should not remain any confusion about which item is no. 1 & which is no. 2		27-10-2021	31.01.2022	LONG PENDING Not done completely and it should be done properly.
7	Manually operated crane	Manually operated crane pulley in Return sludge pump house, primary sludge pump house, thickened sludge pump house etc. were missing lifting chain.		Provide the lifting chain at every places.		18.11.2021		LONG PENDING
8	Water Tap point near DG Set	Water is found scattered near the tap creating unhygienic condition.		Proper CC slab must be constructed and a drain line to nearest drain must be constructed.		08.02.2022		LONG PENDING
9	Gas Holders	Gas holder MS structures are found rusted		1) Painting needs to be done. 2) Level scale must be provided showing capacity of gas at various levels.		08.02.2022		LONG PENDING

P. Giridhar