



# PROJECT ENGINEER *for*

National Mission for Clean Ganga- Development, Rehabilitation with  
Operation & Maintenance of STPs at Kanpur under Hybrid Annuity based PPP mode

## Shah Technical Consultants Private Limited

ADDRESS: 117/231 "O" Block Geeta Nagar near Ram Lila Ground, Kanpur-208025 Phone -05123571573 E-  
Mail:pe.kanpurstc@gmail.com

Ref. STC / PE / KNP/1532/Jajmau

Date : 02.04.2022

To,  
Superintend Engineer  
Construction Circle,  
Ganga Pollution Control Unit,  
Uttar Pradesh Jal Nigam,  
Etawah  
Email:se.etw.upjn@gmail.com

**Sub: HAM KANPUR:** Inspection Report of 43 MLD Jajmau Phase 2, Inspection done on 30.03.2022

Dear Sir,

Inspection of 43 MLD STP Jajmau facilities Phase -2 by STC team dated 30.03.22. Following UPJN & STC officials were present.

1. Mr. Sehzeb Iqbal , UPJN, J.En Civil
2. Mr. Satish Kamaraju, STC Kanpur (Process Expert)
3. Mr. Anuj Kushwaha, STC Kanpur (Support Engineer- Civil)
4. Mr. Ajay kumar Goyal, STC Kanpur (Support Engineer-Mechanical).
5. Mr. Satyam Bharati, KRMPPL Representative (Process Engineer)

Please find enclosed the concerned Inspection Report of 43 MLD STP Jajmau Phase II facilities for the inspection done on 30.03.2022.

Some major issues which are pending from long back are highlighted below for 43 MLD STP Jajmau Phase 2 facilities:-

- Auto system of mechanical screen needs to be installed at 43 MLD STP Jajmau.
- Mechanical screen No. 1 & 2 needs to be functional properly at 43 MLD STP Jajmau.
- Grit classifier system need to be operational properly at 43 MLD STP Jajmau
- V-Notches/Weir plates were not available in Grit chamber.
- Primary sludge wastage is not adequate due to which excessive gas bubbles were found on the surface of the clarifier.
- Power backup for Flow meter need to be installed at 43 MLD STP Jajmau.
- The sludge thickener operation needs immediate attention since the supernatant from the thickener is discharging heavy solids into the PST inlet distribution chambers overloading the PST system.
- The sludge digester taken offline since handover dated 25.08.2022 and it was found that the sludge is being diverted to sludge holding ponds which are already at its brim.
- Sludge digested feed pumps and Poly dosing mixing agitator no.1 & no.2 need to be repaired at 43 MLD STP Jajmau.
- RTLOMS need to be arranged by KRMPPL.
- Electrical Engineer is not available at site.
- Plant in charge of 43 MLD STP was not available at site.

- Site visitor register was not available at site for 43 MLD STP.
- All pumps required hour meter.
- Deployment of adequate nos. of staff, well qualified and experienced for STP.
- TEPH pump no.4 need to be repaired on urgent basis.

Your kind attention is required at the "Original Date of Issue" for long pending items and instructs the Concessionaire to submit the compliance report for compliance of all issues / deficiencies as indicated in the inspection report.

Encl: Inspection report of 43 MLD STP Jajmau

Yours sincerely



(Dr. GiridharPrabhukumar)Team  
Leader, STC Kanpur

Copy to the following with enclosure for information:

1. Mr. Rajat Gupta , SWMS,NMCG, NewDelhi
2. Ms. NidhiDwivedi, Project officer (Technical),NMCG, New Delhi
3. Chief Engineer, Kanpur Zone, UP Jal Nigam,Kanpur.
4. PM-Ist, PM-IIIrd, PM-E&M, GPCU, UPJal Nigam,Kanpur.
5. Mr. P.C. Shukla, Concessionaire'sRepresentative
6. Project Manager,Kanpur River Management Pvt. Ltd.,Kanpur.
7. Construction Manager , Kanpur River Management Pvt. Ltd.,Kanpur

**HEAD OFFICE:** 407, RAHEJA CENTRE, PLOT NO. 214, NARIMAN POINT, MUMBAI – 400 021, INDIA

PHONE : 2287 1061, 2282 0018,22820121 E-Mail : stemumbai@vsnl.com,[stc@stc.co.in](mailto:stc@stc.co.in)



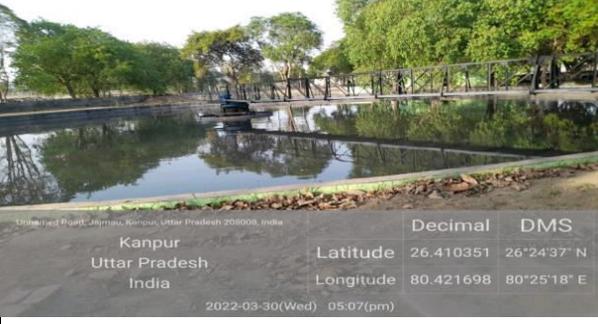
SITE INSPECTION REPORT FOR 43 MLD JAJMAU PHASE-II STP

JAJMAU PHASE-II STP - 43 MLD

Inspection Date: 30.03.2022

VIRTUAL INSPECTED BY:  
PE, UPJN  
  
UPJN- Team  
1. Mr. Shehdev Iqbal (Jen civil)  
  
STC-Team  
2. Mr. Ajay Goyal (Support Engineer-Mechanical)  
3. Mr Anuj Kushwaha(Support Engineer Civil)  
  
KRMPL-Team  
1. Mr Satyam Bharati, Process Engineer,43 MLD STP Jajmau facilities

S. No.	Equipment	Assessment of Current Condition	Assessment of Current Condition Photo	Corrective Action Suggested by STC	Original Date of Issue	Proposed Date to Resolve by KRMPL	Current Status of Compliance												
A	Inlet Chamber	1.Intel chamber painting for internal and external surfaces are not satisfactory. 2.Lubrication of sluice gate not done. 3.Cleaning work of chamber is pending.	 <p>CC081447, Jajmau Sub Metro City, Kanpur, Uttar Pradesh 206009, India</p> <table border="1"> <thead> <tr> <th></th> <th>Decimal</th> <th>DMS</th> </tr> </thead> <tbody> <tr> <td>Kanpur</td> <td></td> <td></td> </tr> <tr> <td>Uttar Pradesh</td> <td>Latitude 26.41764</td> <td>26°25'3" N</td> </tr> <tr> <td>India</td> <td>Longitude 80.418106</td> <td>80°25'5" E</td> </tr> </tbody> </table> <p>2022-03-15(Tue) 01:57(pm)</p>		Decimal	DMS	Kanpur			Uttar Pradesh	Latitude 26.41764	26°25'3" N	India	Longitude 80.418106	80°25'5" E	<ol style="list-style-type: none"> <li>1. Chamber and hand railing painting work need to be done.</li> <li>2. Sluice gate need to be lubrication</li> <li>3. Cleaing of inlet chamber need to be done.</li> </ol>	21.09.2021		Pending.
	Decimal	DMS																	
Kanpur																			
Uttar Pradesh	Latitude 26.41764	26°25'3" N																	
India	Longitude 80.418106	80°25'5" E																	
1	Fine Screen No.1(Mecahnical)	Non-operated and not proper alignment	 <p>CC081447, Jajmau Sub Metro City, Kanpur, Uttar Pradesh 206009, India</p> <table border="1"> <thead> <tr> <th></th> <th>Decimal</th> <th>DMS</th> </tr> </thead> <tbody> <tr> <td>Kanpur</td> <td></td> <td></td> </tr> <tr> <td>Uttar Pradesh</td> <td>Latitude 26.417707</td> <td>26°25'3" N</td> </tr> <tr> <td>India</td> <td>Longitude 80.418173</td> <td>80°25'5" E</td> </tr> </tbody> </table> <p>2022-03-30(Wed) 02:41(pm)</p>		Decimal	DMS	Kanpur			Uttar Pradesh	Latitude 26.417707	26°25'3" N	India	Longitude 80.418173	80°25'5" E	<ol style="list-style-type: none"> <li>1.Fine Screen need to be cleaning properly.</li> <li>2. Screen Level Sensor need to replaced.</li> <li>3. Screen panel autosystem need to be repaired.</li> <li>4. Panel stand need to be painted.</li> <li>5. Cable tray need to be replaced and painted.</li> <li>6.All light creen area aneed to be replaced.</li> <li>7. Disposal material need to be removed on regular basis.</li> <li>8. Manual trolly need to be provided for Disposal material.</li> <li>9. All motors need to covered by canopies.</li> <li>10. Fine screen 2 (mechanical) need to maintenace for proper functional.</li> </ol>	21.09.2021		Pending.
	Decimal	DMS																	
Kanpur																			
Uttar Pradesh	Latitude 26.417707	26°25'3" N																	
India	Longitude 80.418173	80°25'5" E																	
2	Fine Screen No.2 (Mecahnical)	Not Operational (Fine screen no 2 found not in proper operation)	 <p>CC081447, Jajmau Sub Metro City, Kanpur, Uttar Pradesh 206009, India</p> <table border="1"> <thead> <tr> <th></th> <th>Decimal</th> <th>DMS</th> </tr> </thead> <tbody> <tr> <td>Kanpur</td> <td></td> <td></td> </tr> <tr> <td>Uttar Pradesh</td> <td>Latitude 26.417707</td> <td>26°25'3" N</td> </tr> <tr> <td>India</td> <td>Longitude 80.418173</td> <td>80°25'5" E</td> </tr> </tbody> </table> <p>2022-03-30(Wed) 02:41(pm)</p>		Decimal	DMS	Kanpur			Uttar Pradesh	Latitude 26.417707	26°25'3" N	India	Longitude 80.418173	80°25'5" E	<ol style="list-style-type: none"> <li>1.Fine Screen need to be cleaning properly.</li> <li>2. Screen Level Sensor need to replaced.</li> <li>3. Screen panel autosystem need to be repaired.</li> <li>4. Panel stand need to be painted.</li> <li>5. Cable tray need to be replaced and painted.</li> <li>6.All light creen area aneed to be replaced.</li> <li>7. Disposal material need to be removed on regular basis.</li> <li>8. Manual trolly need to be provided for Disposal material.</li> <li>9. All motors need to covered by canopies.</li> <li>10. Fine screen 2 (mechanical) need to maintenace for proper functional.</li> </ol>	21.09.2021		Pending.
	Decimal	DMS																	
Kanpur																			
Uttar Pradesh	Latitude 26.417707	26°25'3" N																	
India	Longitude 80.418173	80°25'5" E																	
3	Fine Screen No.3(Manual)	Opertaional	 <p>CC081447, Jajmau Sub Metro City, Kanpur, Uttar Pradesh 206009, India</p> <table border="1"> <thead> <tr> <th></th> <th>Decimal</th> <th>DMS</th> </tr> </thead> <tbody> <tr> <td>Kanpur</td> <td></td> <td></td> </tr> <tr> <td>Uttar Pradesh</td> <td>Latitude 26.417707</td> <td>26°25'3" N</td> </tr> <tr> <td>India</td> <td>Longitude 80.418173</td> <td>80°25'5" E</td> </tr> </tbody> </table> <p>2022-03-30(Wed) 02:42(pm)</p> <p>screen pannel</p>		Decimal	DMS	Kanpur			Uttar Pradesh	Latitude 26.417707	26°25'3" N	India	Longitude 80.418173	80°25'5" E		16.12.2021		Pending.
	Decimal	DMS																	
Kanpur																			
Uttar Pradesh	Latitude 26.417707	26°25'3" N																	
India	Longitude 80.418173	80°25'5" E																	

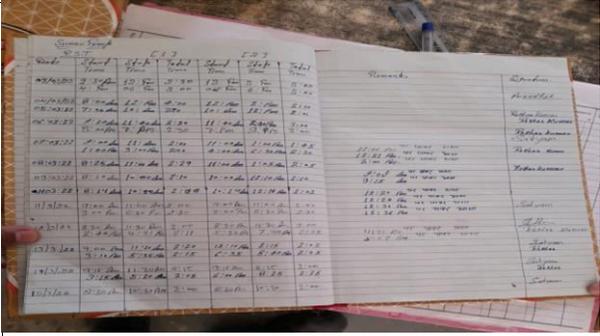
B.	Grit Mechanism					
1	Grit chamber-1 1)Organic pump with Motor 2)Scraper 3)Classifier Mechanism	Operational		<p>1. KRMPPL has not taken any permission from UPJN/STC before charge grit chamber on 17.03.2022. Shutdown duration was 08.03.2022 to 17.03.2022</p> <p>2. Alignment of classifier found improper .</p> <p>3. Painting needs to be done to equipment / covers wherever rusting.</p> <p>4. Organic pump checked and found satisfactory.</p> <p>5. Cable tray need to be painted.</p> <p>6. All E&amp;M equipments shall be lubricate on regular basis and maintain the log book at site.</p> <p>7. Log book need to be maintained</p> <p>8. KRMPPL need to clean grit chamber tank properly.</p> <p>9. Reapiring work in grit chamber need to be done.</p> <p>10. Coal tar epoxy coat need to be done.</p> <p>11. V-Notches/Weir plates were not available in Grit chamber.</p>	30.09.2021	Pending
C	Inlet flow meter	Operational		<p>1. Flow meter cover need to be replaced. 2. Visual of flow is not clear.</p> <p>3. Log book need to be maintained.</p> <p>4. At the time of power failure there are no power backup is available for flow meter. So KRMPPL has to provided power backup facility.</p>	21.09.2021	Pending
	Open Channel	Operational		<p>1. Open channel need to be cover with frame cover .</p> <p>2. Repairing and Painting work need to be done.</p>	16.12.2021	Pending
D	Primary Unit					
1	Primary sedimentation tank	Operational		<p>1. Cleaning work of PST need to be done.</p> <p>2. Cracks repairing work need to be done.</p> <p>3. Painting work need to be done.</p> <p>4. "V" notch need to be replaced.</p> <p>5. Handrailing work need to be paint.</p> <p>6. Alignment need to be rectified for PST.</p> <p>7. Log book need to be maintained.</p> <p>8. Scum chamber need to be clean.</p> <p>9. loose concrete work need to be cleaned and track should be proper grout.</p> <p>10. Housekeeping need to be done.</p> <p>11. Sludge need to be clean properly .</p> <p>12. Primary sludge wastage is not adequate due to which excessive gas bubbles were found on the surface of the clarifier.</p>	21.09.2021	Pending

E	Panel room	Operational		<p>1.Screen panel voltmeter need to be replaced. 2. Dosing agitator ammeter need to be replaced .</p>	21.09.2021		Pending
F	Sludge System						
1	Centrifuge feed pump(No.1 &2)	Operational-1 Nos Pump No.2 found non-functional		<p>1. Pump cleaning need to be required. 2. Pump lubrication need to be done on regular basis by KRMPPL. 3. Pump RPM need to be increase as per design. 4. Vibration and Temperature need to be measure on regular basis. 5. Pump log book has not maintained by KRMPPL. 6. Pump no. 02 found heavy vibration due to bearing in damaged condition.Bearing need to be changed.</p>	21.09.2021		Pending
2	Centrifuge panel	Operational		<p>1.Panel no.1 need to be repaired. 2. Panel no. 2 voltmeter need to be replaced . 3.Panel door damage need to be repair</p>	21.09.2021		Pending
3	Centrifuge No.1	Operational		<p>1. Need to be overhauled &amp; servicing. 2.Pipe support shall be installed properly for sludge feed line and dosing line. 3. Electrical cables need to be lineup properly. 4.CCTV has been installed by KRMPPL on 05.03.2022 but their specification has not submitted by KRMPPL yet. 6. • The quality of dewatered sludge is not adequate since liquid is being noticed during the site visit. 7. • 2 Nos. centrifuges operated by KRMPPL, 12 hrs. Each due to non-availability of VFD, only one at a time being operated.</p>	21.09.2021		Pending
4	Centrifuge No.2	Operational		<p>1. Need to be overhauled &amp; servicing. 2. Dosing of Poly electrolyte dosing in sludge feed line not properly tapping according to design .Therefore dosing line tapping from upword to downward direction.KRMPPL has not taken action as same. 3. Dosing line has not been connected with sludge feed line of centrifuge No 2. 4. Pipe support shall be installed properly for sludge feed line and dosing line.</p>	21.09.2021		Pending

5	Centrifuge thickened sludge sump + Agitator 2 Nos.	1 - Operated 1- Operated		<ol style="list-style-type: none"> <li>1. Sludge cleaning work need to be done.</li> <li>2. Need to be overhauled &amp; servicing as required.</li> <li>3. Log book need to be maintained.</li> </ol>	16.12.2021		Pending
6	Poly Dosing( No.1 & 2)	1-Operational 1- Non-Operational		<ol style="list-style-type: none"> <li>1. Need to be Overhauled &amp; Servicing.</li> <li>2. Log book need to be maintained.</li> <li>3. • It was found that polymer mixer was not in operation during site visit.</li> </ol>	21.09.2021		Pending
7	Agitator No.1	Operational		<ol style="list-style-type: none"> <li>1. Need to be rectified.</li> <li>2. Need to Be cleaned the Sump bottom.</li> <li>3. Need to be replaced because it is not in working condition as per design.</li> <li>4. Cleaning of tank need to be done.</li> </ol>	21.09.2021		Pending
8	Agitator No.2	Non-Operational from 02.03.2022		<ol style="list-style-type: none"> <li>1. Rusted steel Structure need to be replaced.</li> <li>2. Coupling got broken on 02.03.2022, KRMPPL need to repaired on urgent basis.</li> <li>3. Cleaning of tank need to be done.</li> </ol>	21.09.2021		Pending
9	Digester No.1	Non-operated		<ol style="list-style-type: none"> <li>1. Digster Need to be cleaned.</li> <li>2. Civil Leakage need to be repaired.</li> <li>3. Pressure relive valve need to be calibration.</li> <li>4. All four nos of motors need to be repaired.</li> <li>5. Canopies need to be replace.</li> <li>6. HDPE gas pipe line need to be proper support.</li> <li>7. The sludge digester taken offline since 8 months and it was found that the sludge is being diverted to sludge holding ponds which are already at its brim. It is very urgent that KRMPPL address this issue at the highest priority.</li> </ol>	21.09.2021		Pending

10	Digester feed Pump(No.1 & 2)	One operated One-Non-operated	 <p>Decimal DMS Latitude 26.416103 26°24'57" N Longitude 80.418251 80°25'5" E 2022-03-30(Wed) 04:09(pm)</p>	<ol style="list-style-type: none"> <li>1. Need to be overhaul and servicing.</li> <li>2. Lubrication of pump need to be done.</li> <li>3. Thickened sludge feed pump no. 2 non available at site since handover.</li> <li>4. Thickened sludge feed pumps required pressure transmitter at discharge line.</li> </ol>	21.09.2021		Pending
G	Sludge Thickner No.1	Non-Operated		<ol style="list-style-type: none"> <li>1. Need to be painted.</li> <li>2. Need to be Clean wier plates.</li> <li>3. Sludge cleaning need to be done.</li> <li>4. Need to be Overhaul and servicing.</li> <li>5. • The sludge thickener operation needs immediate attention since the supernatant from the thickener is discharging heavy solids into the PST inlet distribution chambers overloading the PST system.</li> </ol>	21.09.2021		Pending
1	Supertanant pump no 1 & 2	Operational		<ol style="list-style-type: none"> <li>1. We have found heavy viberation at Pump no 2 during visit.KRMPL need to be repair.</li> <li>2. Pipe support need to be replace as required .</li> <li>3. Viberation and Temperature need to be measure on regular basis.</li> <li>4. Pump log book has not maintained by KRMPL.</li> <li>5. Dewatering from the sump need to be required.</li> </ol>	16.12.2021		Pending
2	Thickened Sludge Pump house and Pumps 1 nad 2 Nos.	Pump no 1 , Operational since 05.02.2022 Pump no. 2, Non-operational since handover	 <p>Decimal DMS Latitude 26.416153 26°24'58" N Longitude 80.418327 80°25'5" E 2022-03-30(Wed) 04:04(pm)</p>	<ol style="list-style-type: none"> <li>1. Need to be Overhaul and repair.</li> <li>2. Cleaning work need to be done.</li> <li>3. Viberation and Temperature need to be measure on regular basis.</li> </ol>	21.09.2021		Pending
H	Blower Room						

1	Air Blower No.1	Operational		<ol style="list-style-type: none"> <li>Air Blower remote system cable need to dressed properly.</li> <li>Air blower no.1 need to be rectified .</li> <li>Acoustic hood need to be installed .</li> <li>Vibration and Temperature need to be measure on regular basis.</li> <li>Log book need to be maintained.</li> <li>Pressure guages need to be installed.</li> <li>PRV need to be checked.</li> <li>Discharge line insulation need to be installation.</li> </ol>	21.09.2021		Pending
2	Air Blower No.2	Non-operational since 15.03.2022					
3	Air Blower No.3	Operational					
I	Aeration Tank	Operated		<ol style="list-style-type: none"> <li>Pipe lines need to be changed.</li> <li>Valves need to be changed.</li> <li>Handrails need to be painted.</li> <li>Diffuser line need to be Cleaned and mentained records also.</li> <li>Insulation required for discharge line of blower.</li> <li>Rope need to be replaced.</li> <li>KRMPL need to rectified choke diffusers.</li> </ol>	21.09.2021		Pending
J	Final Sedimentation tank	Operated		<ol style="list-style-type: none"> <li>Cleaning work need to be done.</li> <li>Painting work need to be done.</li> <li>Alignment of Mechanism need to be rectified.</li> <li>"V" notch need to be replace.</li> </ol>	21.09.2021		Pending

K	43 MLD TEPH(5 Nos Pumps) Pumps capacity are 900cum/hr	Operational		<ol style="list-style-type: none"> <li>1. Pump No 2 are not in working condition since 20.02.2022.</li> <li>2. Each pump capacity 900m3/hr.</li> <li>3. Lubrication of each equipment need to be done.</li> <li>4. Log book need to be maintain properly.</li> <li>5. Vibration and Temperature need to be measure on regular basis.</li> <li>6. Ameter need to be repaired.</li> </ol>	21.09.2021		Pending
L	RSPH, Pumps no.1 and 2 ,800m3/hr	Operational		<ol style="list-style-type: none"> <li>1. 2 Nos. of pumps in Operational(1 W +1 S).</li> <li>2. Excess sludge pump No. 2 operational form 15.02.2022</li> <li>3. Ameter need to be repaired.</li> <li>4. Pump no. 2 got heavy vibration, it must be repaired.</li> <li>5. Heavy vibration found in waste activated sludge pump no. 1 .</li> <li>6. All pumps need to lubrication.</li> <li>7. • The quantity of sludge wasting is not adequate and the records show 24 hrs. of operation. It is evident that proper recording of pump hours is not being maintained considering the thick MLSS in aeration basins.</li> </ol>	21.9.2021		Pending
M	Documentation	KRMPL has not maintained documentation work properly		<ol style="list-style-type: none"> <li>1. KRMPL need to maintained all logbooks properly with operational and non-operational equipemnets included dates.</li> <li>2. KRMPL has not maintained any breakdown data of equipments.</li> <li>3. Visitor register has not maintained by KRMPL.</li> </ol>	21.09.2021		Pending

Remarks:-

Important Note- ED (Technical) visited on 07.10.2021 directed to KRMPL to dispose the sludge as per UPPCB/ NGT norms  
1. At the time of power failure there are no power backup is available.KRMPL has been shutting down the STP which was deteriorated process of the 43 MLD STP plant.  
2. CCTV cameras required to installed immediately at centrifuge equipments as agreed by KRMPL.  
3. Landscaping work need to be done by KRMPL.  
4. All mechanical,electrical and instrumentation equipmets need to be functional properly.  
5. Painting work need to be done by KRMPL beacause acceptance criteria not fulfilled yet given below:-  
i) All painted surfaces shall be uniform and pleasing apperance.  
ii) The colour,textures etc shall match exactly with approved samples.  
iii) All stains,splashes and splatters of paint shall be removed from surrounding surfaces.  
6. Stenciling for all units need to be arranged at site.

*P. Giridhar*