

Minutes of Meeting # 8

Project : Development of STPs and TTP Projects along with associated infrastructure in Mathura under Hybrid Annuity based PPP mode, Uttar Pradesh

Date : 7thDecember 2018

Location : Office of the Project Manager, Drainage and Sewerage Unit, UPJN, Mathura

List of Attendees:

1. Mr.Maharaj Singh, Project manager (D&SU), UP Jalnigam, Mathura
2. Mr. Deepak Chauhan, Project Manager (E&M), UP Jal Nigam, Agra.
3. Mr. Waseem Athar, Project Engineer, UP Jal Nigam, Mathura.
4. Mr. Sumit Project Engineer (E&M), UP Jal Nigam,Agra
5. Mr. A.Srinivasan, General Manager – MACE
6. Mr. Sathish Kamaraju, Senior Process Engineer, MACE
7. Mr. M. Jaya krishnan, Project Engineer, MACE
8. Mr.K.C.Agarwal, GM, Triveni
9. Mr. Kailash chand Dhawan, AGM - Triveni
10. Mr.Sunil Bhargava, Process Engineer, Triveni
11. Ms, Kajal Verma, Asst. Manager- Triveni
12. Mr.Biswajit Majumdar, Triveni

Agenda of the Meeting:

- To discuss and approve Basic Engineering Package and Phase I drawings for 20 MLD TTP at Trans Yamuna

The following points were discussed based on the observations made and replies provided by MWMPPL at earlier occasions (refer earlier minutes of meeting and compliance resolution sheets provided by MWMPPL) during the meeting held on 7th December 2018 at UPJN office Mathura.

Sr. No.	Description	Action by	Remarks
A	General Comments of TTP		
1	Selection of the proposed Pressure Disc Filtration system compared to the technologies listed in the CA agreement and submission of supporting documents	MWMPPL	MWMPPL agreed to provide reference of existing similar wastewater treatment plants along with its performance, upstream system details, etc.

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			<p>MWMPL to provide the reasons for changing from CA requirement to pressurized disc filter with advantage and disadvantage of all the system mentioned in CA and the pressurized disc filter on or before 10th December 2018.</p> <p>MACE and UPJN to review and provide the status of compliance and observations if any</p>
2	<p>Proposed Pressurized Disc Filter system: The flow and solids loading rates need to be indicated in the design calculations.</p> <p>Please indicate the reference of this document if submitted. Further, please clarify the selected disc filter technology is gravity type and widely used in the wastewater tertiary treatment market (ULBs). Also, verify CA Sch 10 Part A2 Clause 1.12.3 to satisfy the minimum requirements.</p>	MWMPL	<p>MWMPL agreed to discuss with the vendor and include the flow and solid loading rates in the revised document and drawings on or before 11th December 2018.</p> <p>MWMPL agreed to provide reference of existing similar municipal (ULBs) wastewater treatment plants along with its performance, upstream system details, etc. MWMPL to provide the reasons for changing from CA requirement to pressurized disc filter with advantage and disadvantage of all the system mentioned in CA and the pressurized disc filter on or before 10th December 2018.</p> <p>MACE and UPJN to review and provide the status of compliance and observations if any</p>
3	<p>UF Membrane system: There is no reference in the submitted document to comply with the specification requirements specified in the Schedule 10 Part A2 Clauses 1.12.4 & 1.12.9</p> <p>Feed strainer is a must as per clause 1.12.4 whereas the same is removed in the submitted documents instead</p>	MWMPL	<p>Based on the discussion, it was decided that strainer to be provided in less micron. Disposal blending tank will be provided for rejects of Uf backwash and RO reject as per CA.</p> <p>MWMPL will confirm the provision of the above requirement on or before 10th December 2018.</p>

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	<p>of providing strainer with lesser microns.</p> <p>As per CA the UF system should be either pressure driven/vacuum driven.</p>		<p>MWMPL informed that submerged vacuum UF system is proposed.</p> <p>MWMPL to provide the reasons for changing from CA requirement to submerged vacuum UF system with advantage and disadvantage of all the system mentioned in CA and the submerged vacuum UF system.</p> <p>MACE and UPJN to review and provide the status of compliance and observations if any</p>
4	<p>UF Membrane system: There Please indicate the selection meets the design criteria of CA Schedule 10 Part A2 Clauses 1.12.4 & 1.12.9,</p> <p>Revised process design calculation need to be submitted complying to the above clauses.</p>	MWMPL	<p>MWMPL agreed for the same and will submit the revised document and drawings on or before 11th December 2018 along with the reference page of the revised document in the compliance resolution sheet.</p> <p>MACE and UPJN to review and provide the status of compliance and observations if any</p>
5	<p>TTP Treatment System: For each of the sub-treatment TTP systems, inlet and outlet conditions needs to be defined for process performance. Control Philosophy write-up of the entire TTP system needs to be submitted.</p> <p>To be incorporated in the revised design doc and drawing</p>	MWMPL	<p>MWMPL agreed to include in the revised document, along with the inlet and outlet conditions, system pressures in MBD with a note saying for information purposes only where KPIs are to be considered for performance criteria.</p> <p>MWMPL informed that the control philosophy can be submitted after approval of PID, PFD, MBD and</p>

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	MACE informed that the Control philosophy to be submitted before effective date as per CA		process description. However, after discussion, MWMPL agreed to provide the control philosophy on or before 12 th December 2018
6	<p>TTP – Reject Management: The reject streams from the individual TTP streams need to be identified with the treatment/disposal methods as per concession agreement.</p> <p>The rejects shall comply with CA Sch 10 (Part A2) clause 1.12.7 & 1.12.10</p> <p>As per CA the disposal blending tank to be provided prior to further treatment and disposal meeting the guidelines. There is no description included which is more essential in terms of environmental protection. There is no reference in the submitted document to comply with the specification requirements specified in the said clauses.</p>	MWMPL	<p>MWMPL informed that they have already provided neutralizing tank for CIP water. Disc filter backwash is already collected in a sump and pumped to existing WSP STP. Remaining UF backwash and RO reject is being connected to existing effluent channel individually.</p> <p>MACE and UPJN informed that Disposal blending tank to be provided for rejects of UF backwash and RO reject as per CA.</p> <p>MWMPL will confirm the provision of the above requirement on or before 10th December 2018</p>
7	<p>Stand by for electro mechanical equipment: 100% standby to be provided for filter feed and filter backwash and the remaining of all electro mechanical equipment standby to be provided</p> <p>MACE and UPJN informed that the compliance with the redundancy clause in CA given as per Clause 1.12.9. This implies inclusion of mechanical and electrical equipment.</p>	MWMPL	<p>MWMPL agreed for the same and will submit the revised document and drawings on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
8	<p>DISC FILTER:</p> <p>The description needs to be specific to this project with design criteria- hydraulic loading rates, TSS loading rates, backwash rates, filter media area, and the operation mode under normal and backwash modes.</p>	MWMPL	MWMPL agreed for the same to request the vendor for this information. and will submit the revised document and drawings on or before 11 th December 2018.

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			MACE to review and provide the status of compliance and observations if any
9	<p>Mixing of UF treated water with RO treated water: Need 2-hr HRT RO Product Water/ Treated Water Storage Tank as per Clause 1.12.9. Recommend to separate from Blending Tank for providing consistent quality treated water to IOCL.</p> <p>The same was discussed during the meeting held on 28th November 2018 and no reference in the submitted documents is seen even though it was agreed by MWMP.</p>		<p>MWMP agreed for the same and informed that they are providing static mixer arrangement upstream of RO Product Water/ Treated Water Storage Tank and effective volume will be maintained to 2-hour retention time.</p> <p>Revised document and drawing to be submitted by 11th December 2018 by MWMP.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
10	<p>Addition of TTP disc filter backwash reject to existing STP: Existing specified STPs design capacity are to be considered only for treating the inlet sewage flow and the system need to be upgraded / substantiated for the addition of reject flow</p> <p>There is no reference specified in the submitted documents</p>	MWMP	<p>MWMP agreed for the same and will submit the revised process description incorporating that they shall meet the desired KPI for the existing 14.5 MLD WSP based STP without effecting its treatment capacity of 14.5 MLD and to take necessary measures like increase in pond desludging frequency etc, if required..</p> <p>MACE to review and provide the status of compliance and observations if any</p>
B	Process Flow Diagram Cum Mass Balance diagram		
1	How the flow split-up of 14.50MLD & 16.00MLD is designed .It will be helpful to understand if it is shown.	MWMP	MWMP agreed for the same and will submit the revised document and drawing on or before 11 th

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	The flow lines of the above connecting with blending and storage tank needs to be verified and corrected.		December 2018. MACE to review and provide the status of compliance and observations if any
2	<p>The CA Clause Schedule 10 Part A2 Clauses 1.8 refer influent characteristics (BOD5 , TSS Fecal Coliform) for designing the proposed TTP shall be ascertained by concessionaire. A design margin of 15% shall be considered in addition to the ascertained influent characteristics to TTP.</p> <p>The CA Clause Schedule 10 Part A2 Clauses 1.9 refers - "however the tentative value of TDS varies from 1,500 mg/l to 3,000 mg/l.". It is recommended that Concessionaire consider this range and ascertain the system design parameters. MWMPPL to provide the Data assessed by them to arrive at the parameters as specified in Mass balance diagram.</p>	MWMPPL	<p>MWMPPL has informed that secondary effluent samples were collected and tested from both STP 1 and STP 2. These values will be ascertained with CA Clause Schedule 10 Part A2 Clause 1.8 &1.9. The above findings will be included in relevant documents and the revised document and drawings will be submitted on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
3	<p>The Disc filtration system backwash flow of 0.6 MLD is very low (2%). Reconsider this figure based on the installed system with similar characteristics and hydraulic loading rates.</p> <p>MWMPPL to provide the data as per applicable standards. Incase if it is not applicable then the data available based on existing similar plants installed for wastewater treatment systems are to be annexed and referred in the submission.</p>	MWMPPL	<p>MWMPPL has agreed to comply with MACE recommendation to arrive at the design backwash rate and include the same in the revised document and drawing which will be submitted on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
4	Disc Filter Backwash pump is directly connected from the outlet line of disc filter, which will have an impact on	MWMPPL	MWMPPL agreed for the same and will submit the revised document

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	UF feed system. Backwash source needs to take from the treated water storage tank/sump and then to be pumped to disk filter for backwash		and drawings on or before 11 th December 2018 MACE to review and provide the status of compliance and observations if any
5	As per CA clause 1.12.3 the filter water need to be stored in the filtered water storage tank and shall have arrangement of pumps to feed the UF plant.	MWMPL	MWMPL will submit their response on or before 10 th December 2018
6	1. Indicate the UFbackwash water source with quality parameters 2. Pumps (working & standby) As per mass balance there is no excess water available for backwash. Need to be clarified and corrected accordingly	MWMPL	MWMPL agreed to revise the process sizing, Mass balance diagram and process description and will submit the revised document and drawings on or before 11 th December 2018. MACE to review and provide the status of compliance and observations if any
7	Indicate the chemical(s) added & rates The capacity of the dosing tank, dosing pump and dosage rate are not provided in the process description.		MWMPL agreed to incorporate the same in the revised document and drawing which will be submitted on or before 11 th December 2018 MACE to review and provide the status of compliance and observations if any
8	CIP drain & B/W Drain-Disposal of Waste Salts or any other hazardous by-products as per MoEF/CPCB/UPPCB as per Clause 1.12.10 The type and quantum of Hazardous	MWMPL	MWMPL agreed for the same and will submit a separate document along with the control philosophy on or before 12 th December 2018.

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	waste expected need to be specified by MWMPL in order to enable UPJN to identify the existing suitable disposal site.		MACE to review and provide the status of compliance and observations if any
9	<p>RO SYSTEM</p> <ol style="list-style-type: none"> 1. Indicate Inlet and outlet conditions of Cartridge Filters 2. Show clearly in the schematic diagram of all the filters. 3. Indicate filter opening size 4. Max. Pressure Drop Design Parameter to Replace the Unit <p>There is no reference / mention about the same in any of the document.</p> <p>Also there is no indication /reference in the mass balance diagram regarding RO CIP tank and flushing pump as mentioned in design calculation.</p>	MWMPL	<p>MWMPL agreed for the same and will submit revised document and drawing on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
10	<p>A. Indicate the Inlet Temp Requirement based on the two conditions of the feed water temperatures per Clause 1.12.4</p> <ol style="list-style-type: none"> 1. Inlet TDS at 30 degrees C 2. Inlet Feed Pressure at 15 degrees C <p>There is no reference / mention about the same in any of the document.</p>	MWMPL	<p>MWMPL agreed for the same and will submit revised document and drawing on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>
11	<p>Design Criteria of the RO system needs to be listed here such as Permeate, Rejects, Flux Rates, system pressures and Surface Area of Membranes Provided. Also, redundancy needs to be indicated .</p>	MWMPL	<p>MWMPL agreed to incorporate in the process description and will submit revised document and drawing on or before 11th December 2018.</p> <p>MACE to review and provide the status of compliance and observations if any</p>

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12	RO:Include design criteria as per Clause 1.12.9 Design or Sizing Criteria	MWMPL	MWMPL agreed to incorporate in the process description and will submit revised document and drawing on or before 11 th December 2018. MACE to review and provide the status of compliance and observations if any
13	Indicate the levels of parameters at each stage of RO	MWMPL	MWMPL agreed to incorporate in the process description and will submit revised document and drawing on or before 11 th December 2018. MACE to review and provide the status of compliance and observations if any

UPJN informed that if there is any discrepancy in the minutes of meeting content then the same need to be raised by the concern person within a day from the date of receipt of MOM. Otherwise it is deemed that the minutes of meeting is accepted by everyone and there should not be discussion / apprehension on the same in the upcoming meetings.

MWMPL UPJALNIGAM PROJECT ENGINEER