National Mission for Clean Ganga (NMCG)
Ministry of Jal Shakti,
River Development & Ganga Rejuvenation
Government of India

Development and Rehabilitation of Sewage Treatment Plants and Associated Infrastructure Under Hybrid Annuity Based PPP Mode at Prayagraj, Uttar Pradesh

(LOA File Number: 50123/447/121, dated 10/11/2018)

Monthly Progress Report
of
Project Engineer
August 2023

Executing Agency	Funding Agency	Project Engineer	Concessionaire
GPCU, Uttar Pradesh Jal Nigam, Prayagraj, Uttar Pradesh 211008	National Mission for Clean Ganga, Ministry of Water Resources, New Delhi 110002	AECOM India Pvt. Ltd., 19/F, Bldg. 5-C, DLF Cyber City, DLF Phase-III, Gurgaon, Haryana-122002	Prayagraj Water Pvt. Ltd., (SPV of ADANI Enterprise Ltd. and Organica Technologiak ZRT) Adani House, 56 Shri Mall, Society, Navrangpura, Ahmedabad.

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1. Introduction

The GoI (Government of India), recognizing that the long-term rejuvenation of the river Ganga will have significant social and economic benefits on the lives of 500 Million people living along its basin, has identified cleaning of the river Ganga as one of its priorities. For this purpose, in May-2015, The Government of India approved the flagship Namami Gange Program for cleaning rejuvenation and protection of river Ganga and its tributaries. In january-2016, The Government of India approved a Hybrid annuity model to implement the STP project under the Namami Gange program on a PPP basis.

Subsequently, the MoWR (Ministry of Water Resources) issued the river Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (Ganga 2016 Order) to constitute various authorities to assist the Government of India in achieving its aim of effective abatement of pollution in the river Ganga. The Ganga 2016 order designated NMCG as the nodal agency for implementation of the Ganga 2016 order.

Rapidly increasing population, rising standards of living and exponential growth of industrialization and urbanisation have exposed water resources, in general, and rivers to various forms of degradation. The mighty Ganga is no exception. The deterioration in the water quality impacts the people immediately. Ganga, in some stretches, particularly during lean seasons has become unfit even for bathing. The threat of global climate change, the effect of glacial melt on Ganga flow and the impacts of infrastructural projects in the upper reaches of the river, raise issues that need a comprehensive response.

In the Ganga basin approximately 12,000 million litres per day (MLD) sewage is generated, for which presently there is a treatment capacity of only around 4,000 MLD. Approximately 3000 MLD of sewage is discharged into the mainstream of the river Ganga from the Class I & II towns located along the banks, against which treatment capacity of about 1000 MLD has been created till date.

The Uttar Pradesh Jal Nigam (Jal Nigam) is a statutory body constituted under the Uttar Pradesh Water Supply and Sewerage Act, 1975, and has the power to develop, maintain and regulate water supply and sewerage works in Uttar Pradesh. With a view to implement the Namami Gange programme and the Ganga 2016 Order, the Jal Nigam, in association with the NMCG, has decided to undertake the Project;

- Development and Rehabilitation of Sewage Treatment Plants (STPs) and Associated Infrastructure at Prayagraj under Hybrid Annuity based PPP mode in State of Uttar Pradesh.

While the Jal Nigam will be the principal executing agency and bidding authority for the Project, NMCG will be responsible for making payments to the Concessionaire and Project Engineer.

2. Hybrid Annuity Model (HAM)

Government of India has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga and Yamuna. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga and Yamuna, various interventions are planned such as Interception & Diversion works and development & operation of Sewage Treatment Plants (STPs).

Considering various development models in practice for the construction, operation and maintenance of Sewage Treatment Plants, Government of India has approved the Hybrid Annuity based Public Private Partnership (PPP) mode as one of the options for the development & operation of STPs. Under this model, private investor/developer will design, build, finance, construct, rehabilitate, renovate, operate and maintain the asset (STPs, IPS, and MPS) to the Project Executing Agency/Jal Nigam at the end of the Concession Period (15 years). 40% of the Capital cost will be paid to the developer during construction of the STP. Balance 60% along with Operation & Maintenance (O&M) cost will be paid over the Concession Period on achievement of key performance indicators as per the contract. Entire cost of development and operation of the STPs will be 100% funded by the Government of India as central sector scheme.

National Mission for Clean Ganga (NMCG) and Uttar Pradesh Jal Nigam (UPJN) appointed M/s. AECOM India Pvt. Ltd., as Project Engineer for this project through tendering process. Letter of Award is issued dated 4th February 2019 and agreement signed between the parties on 5th April 2019.

3. Objectives

Objectives to achieve effective Development of Sewage Treatment Plants (STPs) at Jhunsi, Naini and Phaphamau, rehabilitation of existing STPs & associated Infrastructure and operation and maintenance of all assets for 15 years in Prayagraj, Uttar Pradesh, under Hybrid Annuity based PPP mode are proposed under this project.

The objectives that NMCG and the UP Jal Nigam wish to achieve through the Project is mentioned in **Figure 1;**

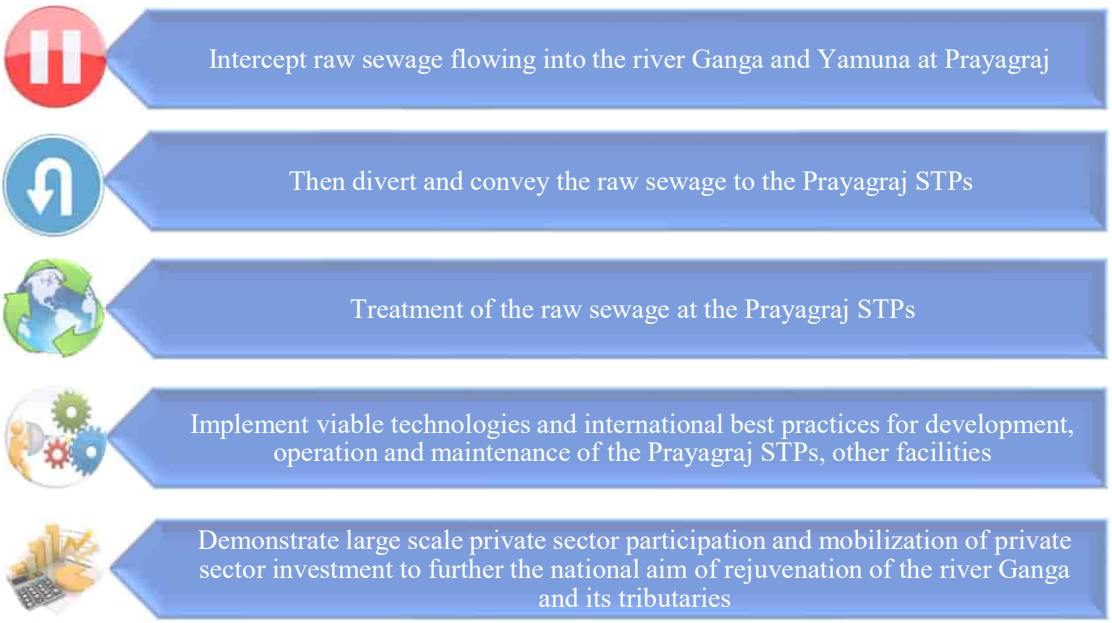

Figure 1 : Objectives of NMCG and UP JAL NIGAM

Government of India has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga and Yamuna. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga and Yamuna, various interventions are planned such as Interception & Diversion works and development & operation of Sewage Treatment Plants (STPs). Considering various development models in practice for the construction, operation and maintenance of Sewage Treatment Plants, Government of India has approved the Hybrid Annuity based Public Private Partnership (PPP) mode as one of the options for the development & operation of STPs. Under this model, private investor/developer will design, build, finance, construct, rehabilitate, renovate, operate and maintain the asset (STPs and Associate Infrastructure) to the Project Executing Agency/Jal Nigam/ at the end of the Concession Period (say 15 years). 40% of the Capital cost will be paid to the developer during construction of the STP. Balance 60% along with Operation & Maintenance (O&M) cost will be paid over the Concession Period on achievement of key performance indicators as per the contract. Entire cost of development and operation of the STPs will be 100% funded by the Government of India as central sector scheme.

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4. Project at Glance

The Project components details of each Facility, their grouping in each Package is presented below.

Sr. No.	Particulars	Description
1.0	**Name of Project**	**Development and Rehabilitation of Sewage Treatment Plants and Associated Infrastructure under HAM based PPP mode at Prayagraj, Uttar Pradesh**
	Client	National Mission for Clean Ganga (NMCG) and Uttar Pradesh Jal Nigam (UPJN)
2.0	Executing Agency	Uttar Pradesh Jal Nigam, Ganga Pollution Control Unit, Prayagraj, Uttar Pradesh
3.0	Project Engineer	AECOM India Pvt. Ltd.
4.0	Concessionaire	Prayagraj Water Pvt. Ltd. (SPV of ADANI Enterprise Ltd. JV Organica Technologiak ZRT)
5.0	Contract Value (Capex + Opex)	INR 908.3 Crore
6.0	Effective Date	16th September 2019
7.0	Construction Completion Date	Package-I; 24 months from effective date Package-II; 12 months from effective date Package-III; 6 months from effective date
6.0	Operation & Maintenance	Package-I; 15 years from commercial operation date Package-II; 16 years from commercial operation date Package-III; 16.5 years from commercial operation date

5. Site Location

Entire work has been divided/ distributed in the following 3 packages.

- Package-I: Construction of 03 Nos. new STP's with Associated Infrastructure (Naini-II (42 MLD), Jhunsi (16 MLD) & Phaphamau (14 MLD)). Setup rooftop Solar Power Plant of capacity 930kW (110kW at Phaphamau, 800kW at Naini-II and 20kW at Jhunsi).

- Package II: Rehabilitate and Restore 02 Nos. STP's with Associated Infrastructure (Rajapur (60 MLD) & Naini-I (60+20 MLD).

- Package III: Rehabilitate and Restore 04 Nos. STP's with Associated Infrastructure Numayadahi (50 MLD), Ponghat (10 MLD), Kodra (25 MLD) & Salori (29 MLD).

6. Project Components

The Project components details of each Facility, their grouping in each Package is presented below

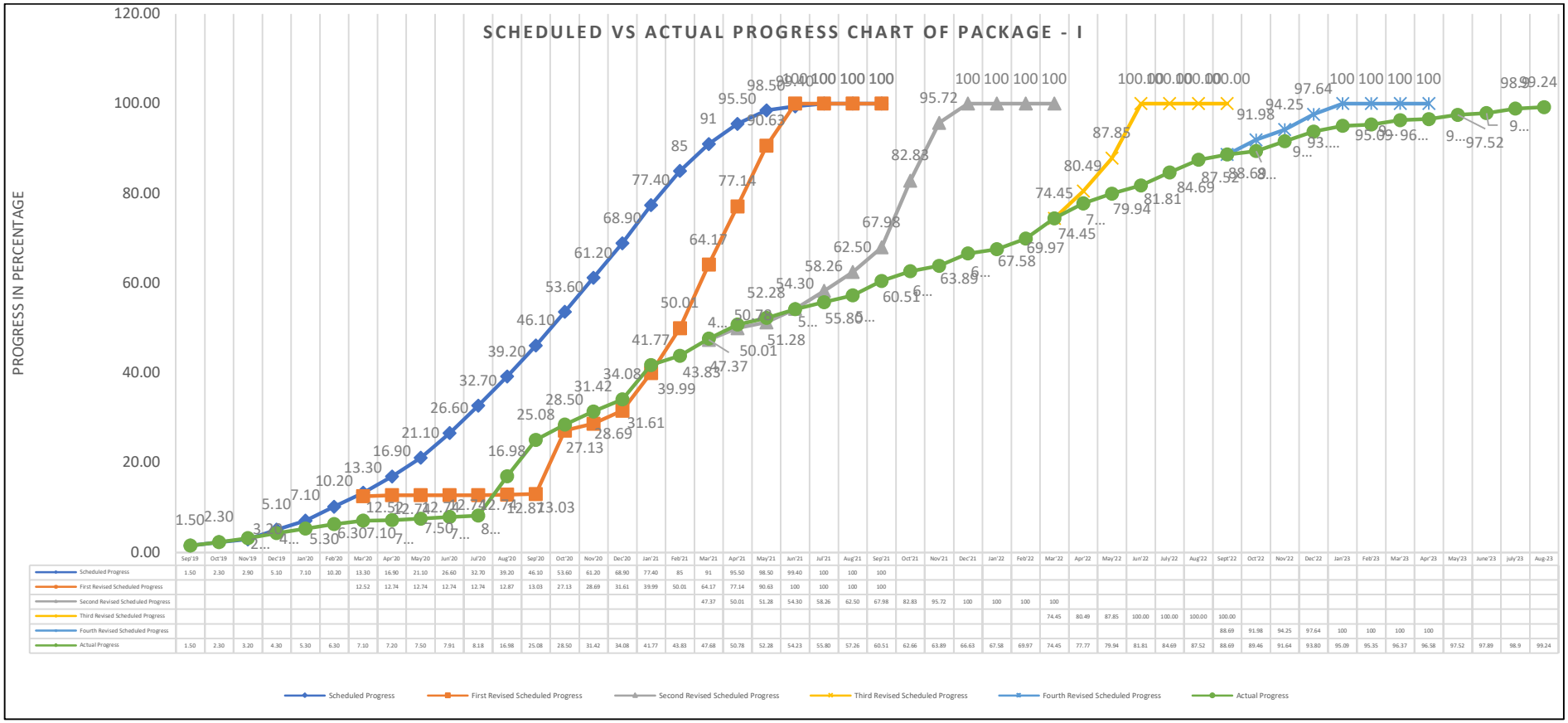
Package Number - I				
Nature of work	**Facilities**			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD at Jhunsi along with their Associated Infrastructure, as per the provisions of the Concession Agreement, and in adherence to the applicable Key Performance Indicators			
Sr. No.	**Facility Name**	**Part Of**	**Details**	**Capacity (Average)**
1	Phaphamau Facilities (District -F)	Phaphamau STP Facilities	Phaphamau STP Plant	14 MLD
			Solar Power Plant	110 Kw
		Phaphamau Associated Infrastructure	Basna Nalla SPS	5.53 MLD
			Nalla Tapping and Trunk Sewer	2 Nos. Tapping
			Shantipuram Main Pumping Station	14 MLD
2	Naini Facilities (District - G)	Naini – II STP Facilities	Naini –II STP	42 MLD
			Solar Power Plant	800 Kw
		Naini -II Associated Infrastructure	Mawaiya Drain SPS	35.85 MLD
			Mawaiya Drain Tapping and Trunk Sewer	3 Nos. Tapping
			Mahewaghat Drain SPS	2.15 MLD
			Mahewaghat Drain a nd Trunk Sewer	3 Nos. Of Tapping
			Main Pumping Station	43.5 MLD
3	Jhunsi Facilities	Jhunsi STP Facilities	Jhunsi STP	16 MLD
			Solar Power Plant	20 Kw
		Jhunsi Associated Infrastructure	Shastri Bridge SPS	16 MLD
			Nalla Tapping a nd Trunk Sewer	13 Nos. Tapping
			Main Pumping Station	16 MLD

Package Number - II				
Nature of work	**Facilities**			
Rehabilitation	Design (wherever necessary), rehabilitate, restore, finance, operate and transfer two existing STP Facilities, one of capacity 80 MLD at Naini (District A) and other of capacity 60 MLD at Rajapur (District D) along with their Associated Infrastructure as per the provisions of the Concession Agreement, and in adherence to the applicable Key Performance Indicators.			
Sr. No.	**Facility Name**	**Part Of**	**Details**	**Capacity (Average)**
1	Naini -I Facilities (District A)	Naini–I STP Facilities	Naini –I STP (60 MLD) STP Technology: ASP	60 MLD
			Naini –I STP (20 MLD) STP Technology: ASP	20 MLD
			Naini- I Biogas Plant	600 KW
		Naini–I Associated Infrastructure	Chachar Nalla SPS	35 MLD with 2 Nos. Tapping
			Gaughat MPS	80 MLD
2	Rajapur Facilities (District D)	Rajapur STP Facilities	Rajapur STP STP Technology: UASB	60 MLD
		Rajapur Associated Infrastructure	Mumfordgunj SPS	55 MLD with 1 Nos. Tapping
			Rajapur SPS	25 MLD with 1 Nos. Tapping

Package Number - III				
Nature of work	**Facilities**			
Rehabilitation	Design (wherever necessary), rehabilitate, restore, finance, operate and transfer four existing STP Facilities, one of capacity 50 MLD at Numayadahi (District B), one of capacity 29 MLD at Salori (District C), one of capacity 25 MLD at Kodra (District E) and another of capacity 10 MLD at Ponghat (District E), along with their Associated Infrastructure, as per the provisions of the Concession Agreement, and in adherence to the applicable Key Performance Indicators.			
Sr. No.	**Facility Name**	**Part Of**	**Details**	**Capacity (Average)**
1	Salori Facilities (District - C)	Salori STP Facilities	Salori STP (29 MLD) STP Technology: FAB	29 MLD
		Salori Associated Infrastructure	Salori MPS	29 MLD with 1 Nos. Tapping
2	Numayadahi Facilities (District B)	Numayadahi STP Facilities	Numayadahi STP STP Technology: Bio tower + ASP	50 MLD
		Numayadahi Associated Infrastructure	Ghaggar Nalla SPS	50 MLD with 1 Nos. Tapping
			Sasur Kadheri SPS	15 MLD with 1 Nos. Tapping
			Lukarganj SPS	16.5 MLD with 1 Nos. Tapping
3	Kodra Facilities (District E)	Kodra STP Facilities	Kodra STP STP Technology:Bio tower + ASP	25 MLD
		Kodra Associated Infrastructure	Kodra MPS	25 MLD with 1 Nos. Tapping
4	Ponghat Facilities (District E)	Ponghat STP Facilities	Ponghat STP STP Technology: Bio tower + ASP	10 MLD
		Ponghat Associated Infrastructure	Ponghat MPS	10 MLD with 1 Nos. Tapping

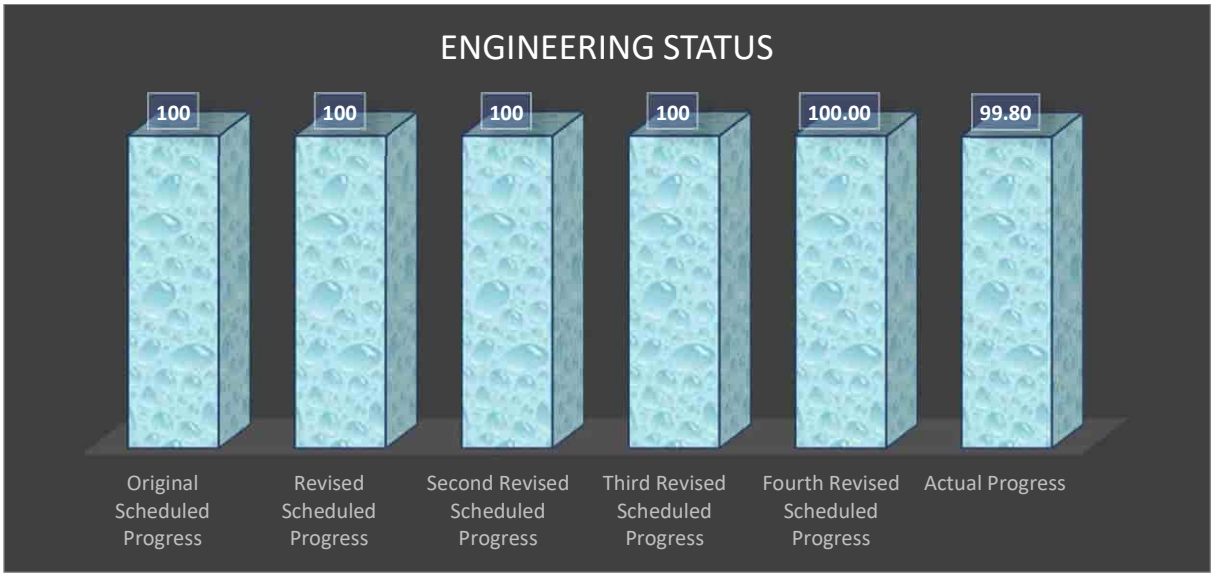
7. Status of project

7.1 Package-I Overall progress status



- **Project Engineer has provided observation on Concessionaire August'23-month MPR vide letter number AIPL/NMCG/PRAYAG/1659 on dated 22.09.2023 Therefore, status may be change after observation incorporated by Concessionaire.**

7.1.1. Engineering status



7.1.2. Engineering status as per construction plan

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
1.	**Engineering**	11-01-19	20-11-22				
2.	**Basic Engineering**	11-01-19	15-03-20				
3.	**Phaphamau & Associated Infr**	11-01-19	14-08-19				
4.	Submission of Basic Engg. Drawings/documents to UPJN	11-01-19	11-02-19	100%	100%	0%	100%
5.	Resubmission, review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	11-02-19	14-08-19	100%	100%	0%	100%
6.	**Naini- II & Associated Infr**	11-01-19	11-10-19				
7.	Submission of Basic Engg. Drawings/documents to UPJN	11-01-19	11-02-19	100%	100%	0%	100%
8.	Resubmission, review and Approval of Basic Engg. of	11-02-19	11-10-19	100%	100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
	drawings/documents from UPJN/PE/IIT						
9.	**Jhunsi STP**	11-01-19	15-03-20				
10.	Submission of Basic Engg. Drawings/documents to UPJN (Based on old location)	11-01-19	11-02-19	100%	100%	0%	100%
11.	Submission of Basic Engg. Drawings/documents to UPJN (based on revised location)	10-11-19	10-12-19	100%	100%	0%	100%
12.	Resubmission, review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	10-12-19	15-03-20	100%	100%	0%	100%
13.	**Jhunsi associated Infrastructure**	11-01-19	15-03-20				
14.	Submission of Basic Engg. Drawings/documents to UPJN (Based on old location)	11-01-19	11-02-19	100%	100%	0%	100%
15.	Submission of Basic Engg.Drawings/documents to UPJN (based on revised location)	01-01-20	31-01-20	100%	100%	0%	100%
16.	Review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	25-10-19	15-03-20	100%	100%	0%	100%
17.	**Detail Engineering**	01-03-20	20-11-22				
18.	**Submission of Detailed Engineering drawings to UPJN**	01-03-20	10-11-22				
19.	Mechanical	01-03-20	15-10-22	100%	100%	0%	100%
20.	Electrical and C&I	01-03-20	20-08-22	100%	100%	0%	100%
21.	Civil & Structure	01-03-20	10-11-22	100%	99%	0%	99%
22.	**Review and Approval of Engineering**	01-03-20	20-11-22				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
	drawings by UPJN/PE/IIT						
23.	Mechanical	01-03-20	30-10-22	100%	100%	0%	100%
24.	Electrical and C&I	01-03-20	05-10-22	100%	100%	0%	100%
25.	Civil	01-03-20	20-11-22	100%	99%	0%	99%

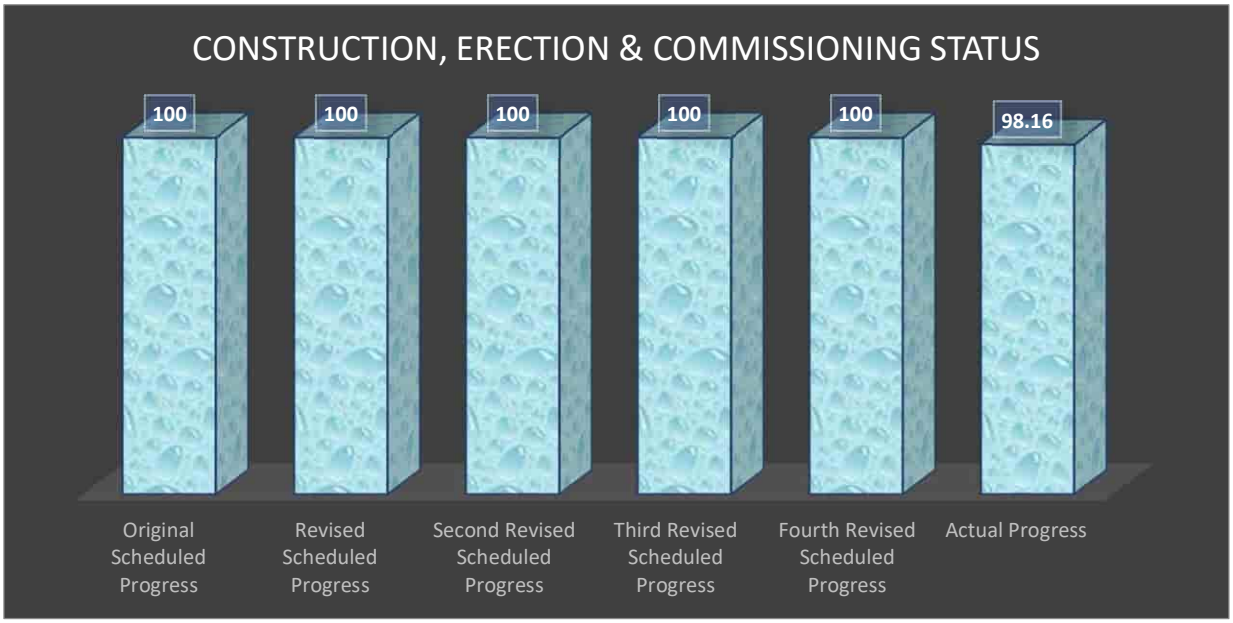
7.1.3 Procurement & Supply status

7.1.4 Procurement & Supply status as per construction plan

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
1.	**Ordering of material**	**01-03-20**	**30-09-22**				
2.	Mechanical	01-03-20	31-08-22	100%	100%	0.00%	100%
3.	Electrical and C&I	01-03-20	30-09-22	100%	100%	0.00%	100%
4.	**Manufacturing Clearance and Supplies**	**01-10-20**	**30-11-22**				
5.	**Mechanical**	**01-10-20**	**10-11-22**				
6.	Pumps	01-11-20	31-08-22	100%	100%	0.00%	100%
7.	Tube settler	01-11-20	25-04-22	100%	100%	0.00%	100%
8.	Screen (Coarse & fine)	01-12-20	25-04-22	100%	100%	0.00%	100%
9.	Grit removal system	01-12-20	25-04-22	100%	100%	0.00%	100%
10.	Blowers	01-11-20	15-10-22	100%	100%	0.00%	100%
11.	Volute press/ STE	15-01-21	31-01-22	100%	100%	0.00%	100%
12.	Diffuser	15-01-21	30-04-21	100%	100%	0.00%	100%
13.	Media/ Bio module	01-10-20	25-10-20	100%	100%	0.00%	100%
14.	Supply of pipes	15-01-21	15-10-22	100%	100%	0.00%	100%
15.	Chlorination	15-01-21	31-03-22	100%	100%	0.00%	100%
16.	Valves & Gates	15-01-21	10-11-22	100%	100%	0.00%	100%
17.	Other misc. Material	01-11-20	31-08-22	100%	100%	0.00%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
18.	**Electrical and C&I**	**01-10-20**	**30-11-22**				
19.	PLC Panel	01-11-20	20-04-22	100%	100%	0%	100%
20.	Flow Meters, Transmitters	01-11-20	20-04-22	100%	100%	0%	100%
21.	MCC Panel	28-02-21	30-09-22	100%	100%	0%	100%
22.	Analyzers	01-11-20	15-04-22	100%	100%	0%	100%
23.	HT/ LT switchgear	15-12-20	10-11-21	100%	100%	0%	100%
24.	Distribution Transformer	15-12-20	20-10-22	100%	100%	0%	100%
25.	Diesel Generators (DG's)	28-02-21	31-07-22	100%	100%	0%	100%
26.	Solar Panel	01-01-21	30-11-22	100%	100%	0%	100%
27.	CC TV	01-10-20	25-10-20	100%	100%	0%	100%
28.	HT/LT/C&I CABLES	01-11-20	20-10-22	100%	100%	0%	100%
29.	Other misc. material	01-12-20	31-10-22	100%	90.00%	10%	100%

7.1.5 Construction, Erection & Commissioning status



7.1.6 Construction, Erection & Commissioning status as per construction plan

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
1.	**Finalization & Mobilization of Execution Contractors**	01-01-20	15-04-22				
2.	Finalization & Mobilization of Civil Contractor (Phaphamau & Naini-II)	01-01-20	31-01-20	100%	100%	0.00%	100%
3.	Finalization & Mobilization of Civil Contractor (Jhunsi)	01-04-20	30-04-20	100%	100%	0.00%	100%
4.	Finalization & Mobilization of Mech. Contractor	01-01-21	18-11-21	100%	100%	0.00%	100%
5.	Finalization & Mobilization of Electrical Contractor	01-01-21	15-04-22	100%	100%	0.00%	100%
6.	Finalization & Mobilization of C&I Contractor	01-01-21	15-04-22	100%	100%	0.00%	100%
7.	Arrangement of Construction Power & Water and Site Office	01-06-20	30-06-20	100%	100%	0.00%	100%
Erection Commissioning, Trial Run and COD of Phaphamau STP (14 MLD) & Associated works							
8.	Tree cutting work	01-01-20	31-01-20	100%	100%	0.00%	100%
9.	Dismantling of existing structure	01-01-20	31-01-20	100%	100%	0.00%	100%
10.	**FCR tank unit**	01-12-19	15-01-23				
11.	Excavation work	01-12-19	15-03-20	100%	100%	0.00%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
12.	Boulder filling work	15-03-20	10-10-20	100%	100%	0.00%	100%
13.	PCC work	01-10-20	09-10-20	100%	100%	0.00%	100%
14.	RCC upto completion	01-10-20	31-10-21	100%	100%	0.00%	100%
15.	Other Misc Works	01-01-22	15-01-23	100%	100%	0.00%	100%
16.	Hydrotesting	15-01-22	25-04-22	100%	100%	0.00%	100%
17.	**Tube settler, CCT & Sludge storage Tank**	16-01-21	20-01-23				
18.	Earth work & Boulder filling work	16-01-21	28-02-21	100%	100%	0.00%	100%
19.	PCC work	01-02-21	28-02-21	100%	100%	0.00%	100%
20.	RCC upto completion	01-02-21	20-04-22	100%	100%	0.00%	100%
21.	Other Misc Works	16-04-22	20-01-23	100%	100%	0.00%	100%
22.	Hydrotesting	25-07-22	20-08-22	100%	100%	0.00%	100%
23.	**Main Process Building**	01-03-21	20-01-23				
24.	Excavation	01-03-21	10-11-21	100%	100%	0.00%	100%
25.	Rubble soling/ Stone filling work	03-07-21	20-11-21	100%	100%	0.00%	100%
26.	PCC	10-07-21	10-12-21	100%	100%	0.00%	100%
27.	Structure completion (Expect finishing works)	20-07-21	10-11-22	100%	100%	0.00%	100%
28.	Other Misc Works	10-11-22	20-01-23	100%	100%	0.00%	100%
29.	Hydrotesting	10-11-22	20-11-22	100%	100%	0.00%	100%
30.	**Basana Nala SPS and I&D Works**	05-11-21	20-01-23				
31.	Excavation work	05-11-21	25-11-21	100%	100%	0.00%	100%
32.	PCC	25-11-21	05-12-21	100%	100%	0.00%	100%
33.	RCC upto completion	05-12-21	15-11-22	100%	100%	0.00%	100%
34.	Hydrotesting	15-11-22	25-11-22	100%	100%	0.00%	100%
35.	Boundary wall	01-12-22	20-01-23	100%			
36.	Staff quarter	01-12-22	20-01-23	100%	95%	5%	100%
37.	Other Misc Works	15-06-22	20-01-23	100%	95%	0%	95%
38.	**Shantipuram MPS and I&D Works**	01-09-20	20-01-23				
39.	Excavation work	01-11-20	28-03-21	100%	100%	0.00%	100%
40.	PCC	28-03-21	30-04-21	100%	100%	0.00%	100%
41.	RCC work upto completion	01-04-21	30-07-22	100%	100%	0.00%	100%
42.	Other Misc Works	01-05-22	20-01-23	100%	100%	0.00%	100%
43.	Hydrotesting	10-08-22	20-08-22	100%	100%	0.00%	100%
44.	Staff quarter	01-09-20	15-01-23	100%	100%	0.00%	100%
45.	**Pipe laying (Rising Main & Gravity Main)**	15-11-21	10-11-22				
46.	**Rising main**	01-04-22	09-11-22				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
47.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-04-22	25-10-22	100%	100%	0%	100%
48.	Hydrotesting	25-10-22	09-11-22	100%	100%	0%	100%
49.	**Gravity Main**	15-11-21	10-11-22				
50.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	25-10-22	100%	100%	0%	100%
51.	Hydrotesting	26-10-22	10-11-22	100%	100%	0%	100%
52.	Other works	01-01-20	25-01-23	100%			
53.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
54.	Other misc works (Boundary Wall, Road, rainwater harvesting, Land scaping etc)	01-11-22	25-01-23	100%	100%	0%	100%
55.	**Mechanical Erection- STP unit**	15-06-22	30-01-23				
56.	Pumps	01-12-22	30-01-23	100%	100%	0%	100%
57.	Lamella clarifier/ Tube settler	15-11-22	30-01-23	100%	100%	0%	100%
58.	Grit removal system	15-11-22	30-01-23	100%	100%	0%	100%
59.	Blowers & Diffuser	15-07-22	30-01-23	100%	100%	0%	100%
60.	Firefighting System	15-12-22	30-01-23	100%	100%	0%	100%
61.	Screens	10-12-22	30-01-23	100%	100%	0%	100%
62.	Piping, Valves & Gates	20-07-22	30-01-23	100%	100%	0%	100%
63.	Chlorination	20-08-22	15-10-22	100%	100%	0%	100%
64.	Media Installation/ Bio module	15-06-22	10-12-22	100%	100%	0%	100%
65.	Other misc. work	10-12-22	30-01-23	100%	100%	0%	100%
66.	**Mechanical Erection- SPS & MPS**	20-08-22	30-01-23				
67.	Pumps	15-10-22	20-01-23	100%	100%	0%	100%
68.	Screens	20-08-22	20-01-23	100%	100%	0%	100%
69.	Piping, Valves & Gates	20-08-22	20-01-23	100%	100%	0%	100%
70.	Other misc. work	20-08-22	30-01-23	100%	100%	0%	100%
71.	**Electrical and C&I- STP Unit**	20-08-22	30-01-23				
72.	Transformer Installation	01-11-22	31-12-22	100%	100%	0%	100%
73.	HT/LT Panel erection	01-11-22	31-12-22	100%	100%	0%	100%
74.	Instrumentation works	15-12-22	30-01-23	100%	100%	0%	100%
75.	CCTV	01-01-23	30-01-23	100%	100%	0%	100%
76.	Cable Laying	15-10-22	20-01-23	100%	100%	0%	100%
77.	PLC Panel & Online monitoring system	10-11-22	30-01-23	100%	95%	5%	100%
78.	Solar Panel	01-12-22	30-01-23	100%	70%	0%	70%
79.	DG Installation	20-08-22	31-08-22	100%	100%	0%	100%
80.	Other misc. work	01-12-22	30-01-23	100%	95%	5%	100%
81.	**Electrical and C&I- SPS & MPS**	20-08-22	31-01-23				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
82.	Transformer Installation	20-11-22	10-01-23	100%	100%	0%	100%
83.	HT/LT Panel Erection	20-08-22	31-12-22	100%	100%	0%	100%
84.	CABLE LAYING	01-11-22	15-01-23	100%	100%	0%	100%
85.	DG Installation	15-11-22	15-12-22	100%	100%	0%	100%
86.	PLC Panel & Online monitoring system	20-11-22	30-01-23	100%	95%	5%	100%
87.	Other misc. work	20-12-22	30-01-23	100%	95%	5%	100%
88.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	95%	5%	100%
89.	**Trial Run, Final Inspection and COD**	01-02-23	30-04-23				
90.	Trial Run and Final Inspection	01-02-23	30-04-23			100%	100%
91.	COD	30-04-23	30-04-23			100%	100%
92.	**Erection Commissioning, Trial Run and COD of Naini-II (42 MLD) & Associated works**						
93.	Removal of shrubs	01-01-20	28-02-20	100%	100%	0%	100%
94.	**FCR tank unit**	01-02-20	25-01-23				
95.	Excavation work	01-02-20	15-03-20	100%	100%	0%	100%
96.	Boulder filling work	26-10-20	30-11-20	100%	100%	0%	100%
97.	PCC work	01-11-20	30-11-20	100%	100%	0%	100%
98.	RCC work upto completion	01-12-20	31-12-21	100%	100%	0%	100%
99.	Other Misc Works	01-12-21	25-01-23	100%	100%	0%	100%
100.	Hydrotesting	01-03-22	15-03-22	100%	100%	0%	100%
101.	**Tube settler, CCT & Sludge storage Tank**	16-01-21	20-01-23				
102.	Earth work & Boulder filling work	16-01-21	22-01-21	100%	100%	0%	100%
103.	PCC work	19-01-21	31-01-21	100%	100%	0%	100%
104.	RCC work upto completion	01-03-21	10-05-22	100%	100%	0%	100%
105.	Other Misc Works	10-06-22	20-01-23	100%	100%	0%	100%
106.	Hydrotesting	20-08-22	30-08-22	100%	100%	0%	100%
107.	**Main Process Building**	01-02-21	20-01-23				
108.	Excavation	01-02-21	31-05-21	100%	100%	0%	100%
109.	Rubble soling/ Stone filling work	01-07-21	31-07-21	100%	100%	0%	100%
110.	PCC	01-07-21	31-07-21	100%	100%	0%	100%
111.	Structure completion (Expect finishing works)	01-05-21	10-05-22	100%	100%	0%	100%
112.	Other Misc Works	01-06-22	20-01-23	100%	100%	0%	100%
113.	Hydrotesting	10-05-22	30-05-22	100%	100%	0%	100%
114.	**Mawaiya SPS and I&D work**	01-02-21	15-01-23				
115.	Excavation work	01-02-21	28-02-21	100%	100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
116.	PCC	01-05-21	15-06-21	100%	100%	0%	100%
117.	RCC WORK upto completion	15-05-21	20-05-22	100%	100%	0%	100%
118.	Hydrotesting	20-05-22	30-05-22	100%	100%	0%	100%
119.	Boundary wall	10-08-22	15-01-23	100%	100%	0%	100%
120.	Staff quarter	01-05-22	15-01-23	100%	100%	0%	100%
121.	I&D Other misc works	01-04-22	31-08-22	100%	100%	0%	100%
122.	**Mahewaghat SPS and I&D work**	01-01-21	30-01-23				
123.	Excavation work	01-01-21	15-04-21	100%	100%	0%	100%
124.	PCC	01-01-21	15-04-21	100%	100%	0%	100%
125.	RCC Work upto completion	30-05-21	10-05-22	100%	100%	0%	100%
126.	Other finishing work	01-06-22	20-01-23	100%	100%	0%	100%
127.	Hydrotesting	10-06-22	20-06-22	100%	100%	0%	100%
128.	Boundary wall	01-05-22	20-01-23	100%	100%	0%	100%
129.	Staff quarter	26-04-22	30-12-22	100%	100%	0%	100%
130.	I&D Other misc works	01-05-22	30-01-23	100%	100%	0%	100%
131.	**Naini-II MPS and I&D work**	26-10-20	30-01-23				
132.	Excavation work	16-01-21	25-04-21	100%	100%	0%	100%
133.	PCC	16-01-21	25-04-21	100%	100%	0%	100%
134.	RCC Work upto completion	01-05-21	15-05-22	100%	100%	0%	100%
135.	Other finishing work	26-04-22	30-01-23	100%	100%	0%	100%
136.	Hydrotesting	01-06-22	15-06-22	100%	100%	0%	100%
137.	Staff quarter	26-10-20	15-12-22	100%	100%	0%	100%
138.	I&D Other misc works	26-04-22	30-01-23	100%	100%	0%	100%
139.	**Pipe laying (Rising Main & Gravity Main)**	16-01-21	20-09-22				
140.	Rising main	16-01-21	15-09-22	100%			
141.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-21	15-09-22	100%	100%	0%	100%
142.	Hydrotesting	15-07-22	15-09-22	100%	100%	0%	100%
143.	**Gravity Main**	01-03-21	20-09-22				
144.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-03-21	05-09-22	100%	100%	0%	100%
145.	Hydrotesting	10-09-22	20-09-22	100%	100%	0%	100%
146.	Other works	01-01-20	30-01-23	100%			
147.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
148.	Other misc works (Boundary Wall, Road, rain water harvesting, Land scaping etc)	01-03-21	30-01-23	100%	100%	0%	100%
149.	**Mechanical Erection- STP unit**	01-04-22	30-01-23				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
150.	Pumps	01-09-22	15-09-22	100%	100%	0%	100%
151.	Lamella clarifier/ Tube settler	01-05-22	15-09-22	100%	100%	0%	100%
152.	Grit removal system	01-06-22	15-09-22	100%	100%	0%	100%
153.	Piping, Valves & Gates	26-04-22	15-10-22	100%	100%	0%	100%
154.	Firefighting System	01-09-22	20-10-22	100%			
155.	Chlorination	01-09-22	30-09-22	100%	100%	0%	100%
156.	Blowers & Diffuser	01-05-22	30-09-22	100%	100%	0%	100%
157.	screens	01-06-22	30-06-22	100%	100%	0%	100%
158.	Media Installation/ Bio module	01-04-22	30-09-22	100%	100%	0%	100%
159.	Other misc. work	01-09-22	30-01-23	100%	100%	0%	100%
160.	**Mechanical Erection- SPS & MPS**	10-06-22	30-01-23				
161.	Pumps	15-07-22	30-09-22	100%	100%	0%	100%
162.	Screens	01-07-22	31-07-22	100%	100%	0%	100%
163.	Piping, Valves & Gates	10-06-22	31-10-22	100%	99%	0%	99%
164.	Other misc. work	01-07-22	30-01-23	100%	100%	0%	100%
165.	**Electrical and C&I- STP Unit**	01-05-22	30-01-23				
166.	Transformer Installation	01-07-22	31-08-22	100%	100%	0%	100%
167.	HT/LT panel erection	15-05-22	20-09-22	100%	100%	0%	100%
168.	PLC Panel & Online monitoring system	16-08-22	31-12-22	100%	95%	5%	100%
169.	Instrumentation works	01-07-22	30-11-22	100%	100%	0%	100%
170.	CCTV	01-12-22	30-01-23	100%	100%	0%	100%
171.	CABLE LAYING	01-05-22	30-10-22	100%	100%	0%	100%
172.	Solar Panel	15-06-22	30-11-22	100%	100%	0%	100%
173.	Other misc. work	01-09-22	30-01-23	100%	95%	5%	100%
174.	**Electrical and C&I- SPS & MPS**	01-06-22	30-06-22				
175.	Transformer Installation	01-07-22	30-09-22	100%	100%	0%	100%
176.	HT/LT panel erection	01-07-22	30-09-22	100%	100%	0%	100%
177.	CABLE LAYING	01-07-22	30-10-22	100%	100%	0%	100%
178.	DG Installation	01-07-22	30-07-22	100%	100%	0%	100%
179.	PLC Panel & Online monitoring system	01-09-22	30-01-23	100%	95%	5%	100%
180.	Other misc. work	15-07-22	30-01-23	100%	99%	1%	100%
181.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	98%	2%	100%
182.	**Trial Run, Final Inspection and COD**	01-02-23	30-04-23				
183.	Trial Run and Final Inspection	01-02-23	29-04-23		100%	0%	100%
184.	COD	30-04-23	30-04-23		100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
185.	**Erection Commissioning, Trial Run and COD of Jhunsi STP (16 MLD) & Associated works**						
186.	**FCR tank unit**	01-10-20	30-01-23				
187.	Excavation work	01-10-20	25-10-20	100%	100%	0%	100%
188.	Boulder filling work	26-10-20	29-10-20	100%	100%	0%	100%
189.	PCC work	30-10-20	30-10-20	100%	100%	0%	100%
190.	RCC up to completion	31-10-20	15-10-21	100%	100%	0%	100%
191.	Other finishing work	01-03-22	30-01-23	100%	90%	5%	95%
192.	Hydro testing	01-04-22	30-04-22	100%	100%	0%	100%
193.	**Tube settler, CCT & Sludge storage Tank**	01-01-21	30-01-23				
194.	Earth work & Boulder filling work	01-01-21	15-02-21	100%	100%	0%	100%
195.	PCC work	16-02-21	28-02-21	100%	100%	0%	100%
196.	RCC up to completion	01-03-21	05-04-22	100%	100%	0%	100%
197.	Other finishing work	01-02-22	30-01-23	100%	90%	10%	100%
198.	Hydro testing	05-04-22	20-04-22	100%	100%	0%	100%
199.	**Main Process Building**	01-06-21	30-01-23				
200.	Excavation & Column	01-06-21	16-06-21	100%	100%	0%	100%
201.	Rubble soling/ Stone filling work	16-06-21	26-06-21	100%	100%	0%	100%
202.	PCC	26-06-21	30-06-21	100%	100%	0%	100%
203.	Structure completion (Except finishing works)	01-07-21	10-11-22	100%	100%	0%	100%
204.	Other finishing work	01-05-22	30-01-23	100%	90%	5%	95%
205.	Hydro testing	01-08-22	10-09-22	100%	100%	0%	100%
206.	**Shastri bridge SPS and I&D work**	16-04-22	30-01-23				
207.	Excavation work	16-04-22	28-04-22	100%	100%	0%	100%
208.	PCC	28-04-22	02-05-22	100%	100%	0%	100%
209.	RCC up to completion	02-05-22	10-12-22	100%	100%	0%	100%
210.	Other finishing work	01-11-22	30-01-23	100%	50%	17%	67%
211.	Hydro testing	10-12-22	20-12-22	100%	100%	0%	100%
212.	Boundary wall	15-12-22	30-01-23	100%			
213.	Staff quarter	20-11-22	30-01-23	100%	85%	10%	95%
214.	Other Misc. works	15-11-22	30-01-23	100%	40%	30%	70%
215.	**Jhunsi MPS and I&D work**	01-09-20	30-01-23				
216.	Excavation work	01-08-21	15-10-21	100%	100%	0%	100%
217.	PCC	16-10-21	20-10-21	100%	100%	0%	100%
218.	RCC up to completion	21-10-21	30-04-22	100%	100%	0%	100%
219.	Other finishing work	01-06-22	30-01-23	100%	90%	5%	95%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
220.	Hydro testing	01-07-22	15-07-22	100%	100%	0%	100%
221.	Staff quarter	01-09-20	30-11-22	100%	100%	0%	100%
222.	Other Misc. works	01-07-22	30-01-23	100%	90%	0%	90%
223.	**Pipe laying (Rising Main & Gravity Main)**	15-11-21	04-01-23				
224.	Rising main	15-11-21	25-12-22	100%			
225.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	15-12-22	100%	100%	0%	100%
226.	Hydro testing	05-12-22	25-12-22	100%	100%	0%	100%
227.	**Gravity Main**	16-01-22	04-01-23				
228.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-22	20-12-22	100%	100%	0%	100%
229.	Hydro testing	15-12-22	04-01-23	100%	95%	0%	95%
230.	Other works	01-02-20	30-01-23	100%			
231.	Site office (Temporary office)	01-02-20	30-04-20	100%	100%	0%	100%
232.	Other misc. works (Boundary Wall, Road, rain water harvesting, Land scraping etc.)	01-12-22	30-01-23	100%	10%	0%	10%
233.	**Mechanical Erection- STP unit**	01-04-22	30-01-23				
234.	Pumps	20-11-22	20-01-23	100%	95%	5%	100%
235.	Lamella clarifier/ Tube settler	01-04-22	30-10-22	100%	100%	0%	100%
236.	Fire fighting System	01-01-23	30-01-23	100%		100%	100%
237.	Chlorination	20-11-22	30-01-23	100%	95%	0%	95%
238.	Grit removal system	01-12-22	30-01-23	100%	100%	0%	100%
239.	Blowers & Diffuser	01-07-22	31-12-22	100%	100%	0%	100%
240.	Screens	20-11-22	31-12-22	100%	100%	0%	100%
241.	Piping, Valves & Gates	01-07-22	25-01-23	100%	99%	1%	100%
242.	Media Installation/ Bio module	15-04-22	25-12-22	100%	85%	0%	85%
243.	Other misc. work	01-12-22	30-01-23	100%	90%	0%	90%
244.	**Mechanical Erection- SPS & MPS**	20-10-21	30-01-23				
245.	Pumps	20-11-22	20-01-23	100%	100%	0%	100%
246.	Screens	01-12-22	15-01-23	100%	70%	0%	70%
247.	Piping, Valves & Gates	20-10-21	30-01-23	100%	80%	0%	80%
248.	Other misc. work	01-12-22	30-01-23	100%	75%	0%	75%
249.	**Electrical and C&I- STP Unit**	01-09-22	31-01-23				
250.	Transformer Installation	25-10-22	31-01-23	100%	100%	0%	100%
251.	HT/LT panel erection	01-09-22	20-01-23	100%	100%	0%	100%
252.	PLC Panel & Online monitoring system	01-11-22	30-01-23	100%	80%	0%	80%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
253.	Instrumentation works	01-11-22	30-01-23	100%	80%	10%	90%
254.	CCTV	01-11-22	30-01-23	100%	100%	0%	100%
255.	Cable laying	01-11-22	30-01-23	100%	90%	0%	90%
256.	DG Installation	01-09-22	25-01-23	100%	100%	0%	100%
257.	Solar Panel	15-11-22	30-01-23	100%	100%	0%	100%
258.	Other misc. work	01-12-22	30-01-23	100%	90%	0%	90%
259.	**Electrical and C&I- SPS & MPS**	01-11-22	31-01-23				
260.	Transformer Installation	01-11-22	30-01-23	100%	50%	25%	75%
261.	HT/LT Panel erection	15-11-22	30-01-23	100%	75%	15%	90%
262.	Cable laying	15-11-22	30-01-23	100%	65%	20%	85%
263.	DG Installation	15-11-22	30-01-23	100%	50%	45%	95%
264.	PLC Panel & Online monitoring system	15-11-22	30-01-23	100%			
265.	Other misc. work	15-11-22	30-01-23	100%	50%	0%	50%
266.	Commissioning of Mech., Electrical and C&I	31-01-23	31-01-23	100%	50%	15%	65%
267.	**Trial Run, Final Inspection and COD**	01-02-23	30-04-23				
268.	Trial Run and Final Inspection	01-02-23	30-04-23				
269.	COD	30-04-23	30-04-23				

7.1.7 Physical construction Activities in August'23 month

PHYSICAL CONSTRUCTION ACTIVITIES, ACTION TAKEN REPORT, RECOMMENDATION AND KPI REPORT FOR PACKAGE-I IS MENTIONED IN

ANNEXURE - I

Naini-II Facility COD

OFFICE OF THE SUPERINTENDING ENGINEER,
CIRCLE OFFICE,
U.P. JAL NIGAM(RURAL), PRAYAGRAJ
Email [illegible]

Letter no. 87/PWPL/35 Dated: 11/08 /2023

To,

General Manager – Project
M/s. Prayagraj Water Private Limited,
"Adani House", 56, Shrimali Society,
Near Mithakhali Six Road
Navrangpura, Ahmedabad 380006
Gujarat, India.

Subject: Design, Build, Rehabilitate, Finance, Operate and Transfer Sewage Treatment Plants (STPs) along with Associated Infrastructure with operation and maintenance period of 15 Years under Hybrid Annuity Based PPP model in Phaphamau, Jhunsi, Naini-II, Naini-I, Salori, Numayadahi, Rajapur, Ponghat & Kodara at Prayagraj (erstwhile Allahabad), Uttar Pradesh, India - **Issuance of Commercial Operations Date for Naini-II facility under Package-I.**

Ref:
1] Concessionaire agreement No. 31/GM/2018/19 dated 11th January 2019
2] Effective Date declaration dated 16th Sept 2019
3] PWPL Letter No PWPL/UPJN/PRAYAGRAJ/SITE/862 dated 30th Nov 2022
4] PWPL Letter No PWPL/UPJN/PRAYAGRAJ/SITE/905 dated 11th May 2023
5] AECOM Letter No. AIPL/NMCG/PRAYAG/1607 dated 18th May 2023
6] NMCG Letter No. F. No. Pr 23012/2/2021 dated 26th May 2023
7] PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/906 dated 30th May 2023
8] AECOM Letter No AIPL/NMCG/PRAYAG/1619 dated 08th Jun 2023.
9] PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/911 dated 17th June 2023
10] UPJN Letter No. 68/PWPL/24 dated 19th Jun 2023.
11] UPJN Letter No. 1330/W-9/141 dated 20th Jun 2023.
12] NMCG Letter no. F. No. Pr-12012/6/2018/PPP/NMCG dated 07th Jul 2023.
13] UPJN letter no. 75/PWPL/19 dated 14th July 2023
14] PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/917 dated 18th July 2023
15] AECOM letter no. AIPL/NMCG/PRAYAG/1637 dated 24th July 2023
16] UPJN Letter No: 83/PWPL/32 dated 27th July 2023
17] PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/921 dated 02nd Aug 2023
18] UPJN Letter No: 85/PWPL/33 dated 02nd Aug 2023

Dear Sir,

With reference to the above cited subject, it is to be noted that we have issued the 8th Milestone completion certificate vide letter mentioned at Sr. no. 13, Construction completion certificate vide letter mentioned at Sr. no. 16 and Trial Run completion certificate vide letter mentioned at Sr. no. 18 after the detailed assessment of the documents provided from the Concessionaire.

In view of the same, we are hereby issuing the COD certificate to the Concessionaire. Details of the same are mentioned below:

Sl. No.	Description	Commercial Operations Date (COD)
1	Construction Works of Naini-II facility under Package-I	19.02.2023

This completion certificate is being issued on the basis of instructions received from NMCG vide letter mentioned at Sr. no. 6 & 12 and undertaking submitted by PWPL vide letter mentioned at Sr. no. 17.

Furthermore, all the conditions mentioned in Trial run completion certificate remains applicable.

Yours Faithfully

Project Manager	**Executive Engineer**	**Superintending Engineer**
Ganga Pollution Control Unit	**Division office (E&M)**	**Circle office, UPJN (Rural), Prayagraj**
UPJN (Rural), Prayagraj	**UPJN (Rural), Prayagraj**	

Copy Forwarded to Following for information and necessary action:

1. Executive Director (Project), NMCG, New Delhi
2. Additional Project director, SMCG Lucknow.
3. Chief Engineer (Ganga), UP Jal Nigam (Rural) Lucknow
4. Chief Engineer (Kanpur Zone), UP Jal Nigam (Rural) Lucknow
5. Shri Rajat Gupta, NMCG, New Delhi
6. Project Manager, GPCU, UP Jal Nigam (Rural), Prayagraj
7. Executive Engineer, Division office (E&M), UP Jal Nigam (Rural), Prayagraj
8. M/s. AECOM India Pvt Ltd.

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Commercial Operations Date was announced on 11.08.2023 vide letter no. 87/PWPL (Adani)/35

Phaphamau Facility COD

OFFICE OF THE SUPERINTENDING ENGINEER,
CIRCLE OFFICE,
U.P. JAL NIGAM(RURAL), PRAYAGRAJ
Email -se_2circleo@rediffmail.com

Letter no. 88/PWPL/36 Dated: 11/08/2023

To,

General Manager – Project
M/s. Prayagraj Water Private Limited,
"Adani House", 56, Shrimali Society,
Near Mithakhall Six Road
Navrangpura, Ahmedabad 380006
Gujarat, India.

Subject: Design, Build, Rehabilitate, Finance, Operate and Transfer Sewage Treatment Plants (STPs) along with Associated Infrastructure with operation and maintenance period of 15 Years under Hybrid Annuity Based PPP model in Phaphamau, Jhunsi, Naini-II, Naini-I, Salori, Numayadahi, Rajapur, Ponghat & Kodara at Prayagraj (erstwhile Allahabad), Uttar Pradesh, India- **Issuance of Commercial Operations Date for Phaphamau facility under Package-I.**

Ref:
1) Concessionaire agreement No. 31/GM/2018/19 dated 11th January 2019
2) Effective Date declaration dated 16th Sept 2019
3) PWPL Letter No PWPL/UPJN/PRAYAGRAJ/SITE/871-A dated 30th Dec 2022
4) PWPL Letter No PWPL/UPJN/PRAYAGRAJ/SITE/905 dated 11th May 2023
5) AECOM Letter No. AIPL/NMCG/PRAYAG/1607 dated 18th May 2023
6) NMCG Letter No. F. No. Pr 23012/2/2021 dated 26th May 2023
7) PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/907 dated 30th May 2023
8) AECOM Letter No AIPL/NMCG/PRAYAG/1620 dated 08th Jun 2023.
9) PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/911 dated 17th June 2023
10) UPJN Letter No. 69/PWPL/25 dated 19th Jun 2023
11) UPJN Letter No. 1329/W-9/140 dated 20th Jun 2023
12) NMCG Letter no. F. No. Pr-12012/6/2018/PPP/NMCG dated 07th Jul 2023.
13) UPJN letter no. 76/PWPL/30 dated 14th July 2023
14) PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/918 dated 18th July 2023
15) AECOM letter no. AIPL/NMCG/PRAYAG/1638 dated 24th July 2023
16) UPJN Letter No. 82/PWPL/31 dated 27th July 2023
17) PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/921 dated 02nd Aug 2023
18) UPJN Letter No. 86/PWPL/34 dated 02nd Aug 2023

Dear Sir,

With reference to the above cited subject, it is to be noted that we have issued the 8th Milestone completion certificate vide letter mentioned at Sr. no. 13, Construction completion certificate vide letter mentioned at Sr. no. 16 and Trial Run completion certificate vide letter mentioned at Sr. no. 18 after the detailed assessment of the documents provided from the Concessionaire.

In view of the same, we are hereby issuing the COD certificate to the Concessionaire. Details of the same are mentioned below:

Sl. No.	Description	Commercial Operations Date (COD)
1	Construction Works of Phaphamau facility under Package-I	28.03.2023

This completion certificate is being issued on the basis of instructions received from NMCG vide letter mentioned at Sr. no. 6 & 12 and undertaking submitted by PWPL vide letter mentioned at Sr. no. 17.

Furthermore, all the conditions mentioned in Trial run completion certificate remain applicable.

Yours Faithfully

Project Manager
Ganga Pollution Control Unit
UPJN (Rural), Prayagraj

Executive Engineer
Division office (E&M)
UPJN (Rural), Prayagraj

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Copy Forwarded to Following for information and necessary action:

1. Executive Director (Project), NMCG, New Delhi
2. Additional Project director, SMCG Lucknow.
3. Chief Engineer (Ganga), UP Jal Nigam (Rural) Lucknow
4. Chief Engineer (Kanpur Zone), UP Jal Nigam (Rural) Lucknow
5. Shri Rajat Gupta, NMCG, New Delhi
6. Project Manager, GPCU, UP Jal Nigam (Rural), Prayagraj
7. Executive Engineer, Division office (E&M), UP Jal Nigam (Rural), Prayagraj
8. M/s. AECOM India Pvt Ltd.

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Commercial Operations Date was announced on 11.08.2023 vide letter no. 88/PWPL (Adani)/36

7.2 Package-II status

OFFICE OF THE GENERAL MANAGER,
कार्यालय महाप्रबन्धक,
GANGA POLLUTION CONTROL UNIT,
गंगा प्रदूषण नियंत्रण इकाई,
U.P. JAL NIGAM, PRAYAGRAJ
उ० प्र० जल निगम, प्रयागराज
Email- ***gmganga.allahabad@gmail.com***

Letter no. 2484 /PWPL (Adani) / 496 Dated: 20/ 09 / 2021

To,

General Manger-Project
M/s. Prayagraj Water Private Limited,
"Adani House", 56, Shrimali Society,
Near Mithakhall Six Road,
Navrangpura, Ahmedabad 380006
Gujarat, India.

Name of Work: Development and Rehabilitation of Sewage Treatment Plants and Associated Infrastructure under Hybrid Annuity Based PPP Mode at Prayagraj, Uttar Pradesh.

Sub:- Concession Agreement no. 31/GM/2018-19:Issuance of Commercial Operations Date of Package-II.

Ref :- 1. Our office Letter No 2474/PWPL(Adani)/486 dated 18.09.2021
2. Our office Letter No. 2483/PWPL(Adani)/495 dated 20.09.2021

Sir,

With reference to the above mentioned subject, it is to be noted that we have issued the 4th Milestone completion certificate vide Letter No. 2474/PWPL(Adani)/486 dated 18.09.2021 & Rehabilitation Completion Certificate vide Letter No. 2483/PWPL(Adani)/495 dated 20.09.2021 after the detailed assessment of the documents provided by the concessionaire.

In view of the same, we are hereby issuing the COD certificate to the concessionaire. Details of the same is mentioned below-

Sl. No.	Description	Commercial Operations Date (COD)
1	Rehabilitation works under Pkg-II	01.06.2021

(M.C. Srivastava)
General Manager

End No & date: As above.
Copy to following for information and necessary action

1- Executive Director(Projects), NMCG, New Delhi.
2- Chief Engineer (Ganga), U.P. Jal Nigam Lucknow.
3- Chief Engineer (Prayagraj Zone), U.P. Jal Nigam, Prayagraj.
4- Mr. Rajat Gupta, Sr. Specialist, NMCG, New Delhi.
5- Project Manager (I/E&M), Ganga Pollution Control Unit, U.P. Jal Nigam, Prayagraj.
6- AECOM India Pvt. Ltd. (Project Engineer), Gurgaon.

20/9/21
General Manager

Commercial Operations Date was announced on 01.06.2021 vide letter no. 2484/PWPL (Adani)/496

KPI REPORT'S OF PACKAGE - II,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - II

7.3 Package-III status

OFFICE OF THE GENERAL MANAGER,
कार्यालय महाप्रबन्धक,
GANGA POLLUTION CONTROL UNIT,
गंगा प्रदूषण नियंत्रण इकाई,
U.P. JAL NIGAM, PRAYAGRAJ
उ0 प्र0 जल निगम, प्रयागराज,
दूरभाष : 0532-2684329, 2684691, फैक्स 0532-2684899

Letter No. 2336/PWPL(Adani)/423 Dated: 02/11/2020

To,

M/s. Prayagraj Water Private Limited,
"Adani House", 56, Shrimali Society,
Near Mithakhali Six Road,
Navrangpura, Ahmedabad-380006
Gujrat, India.

Name of Work: Development and Rehabilitation of Sewage Treatment Plants and Associated Infrastructure under Hybrid Annuity Based PPP Mode at Prayagraj, Uttar Pradesh.

Subject: **Concession Agreement no. 31/GM/2018-19:** Issuance of Commercial Operations Date of Package-III.

Sir,

With reference to the above mentioned subject, it is to be noted that we have issued the 2nd Milestone completion certificate vide Letter No. 2328/PWPL(Adani)/415 dated 31.10.2020 & Rehabilitation Completion Certificate vide Letter No. 2330/PWPL(Adani)/417 dated 31.10.2020 and LD Waiver Letter No. 2331/PWPL(Adani)/418 dated 31.10.2020 after the detailed assessment of the documents provided by the concessionaire.

In view of the same, we are hereby issuing the COD certificate to the concessionaire. Details of the same is mentioned below-

Sl. No.	Description	COD Commencement Date
1	Rehabilitation works under Pkg-III	01.11.2020

Yours faithfully

02.11.2020

General Manager

Endt No. & and date as above:

Copy to following:

1- E.D.(Projects), NMCG, New Delhi.
2- MD, UPJN Lucknow.
3- Chief Engineer (Ganga), U.P. Jal Nigam Lucknow.
4- Chief Engineer (Prayagraj Zone), U.P. Jal Nigam Prayagraj.
5- Shri. Madav Kumar, Sr. Economics and Financial Expert, NMCG, New Delhi.
6- Project Manager (I/E&M), GPCU, U.P. Jal Nigam Prayagraj.
7- AECOM India Pvt. Ltd. (Project Engineer), Gurgaon.

Commercial Operations Date was announced on 02.11.2020 vide letter no. 2336/PWPL (Adani)/423

KPI REPORT'S OF PACKAGE - III,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - III

8. Meetings, Discussions and Site Visits:

Regular progress review meetings are being held at UPJN office & sites. Following meetings were held during the month of August'2023.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Jhunsi STP	01-Aug-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
2.	Site inspection of Naini-II STP	04-Aug-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
3.	Site inspection of Phaphamau STP	06-Aug-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
4.	Site inspection of Naini-II STP	10-Aug-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
5.	Site inspection of Phaphamau STP	12-Aug-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
6.	Site inspection of Jhunsi STP	15-Aug-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
7.	Site inspection of Naini-II STP	17-Aug-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
8.	Site inspection of Phaphamau STP	21-Aug-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities and operation and maintenance of plant
9.	Site inspection of Jhunsi STP	21-Aug-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities of plant

10. Photos of Meetings / Site Visits and Activities

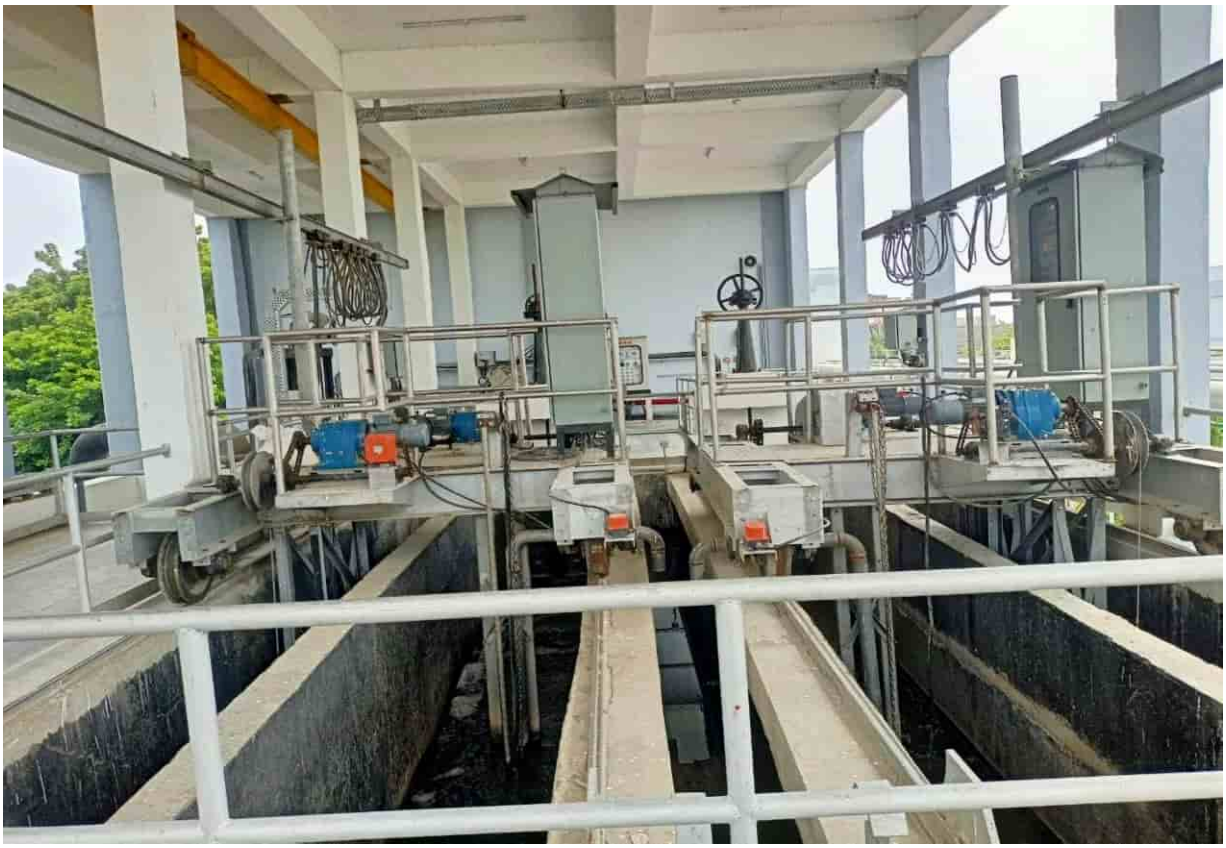
PACKAGE - I

PHAPHAMAU FACILITY

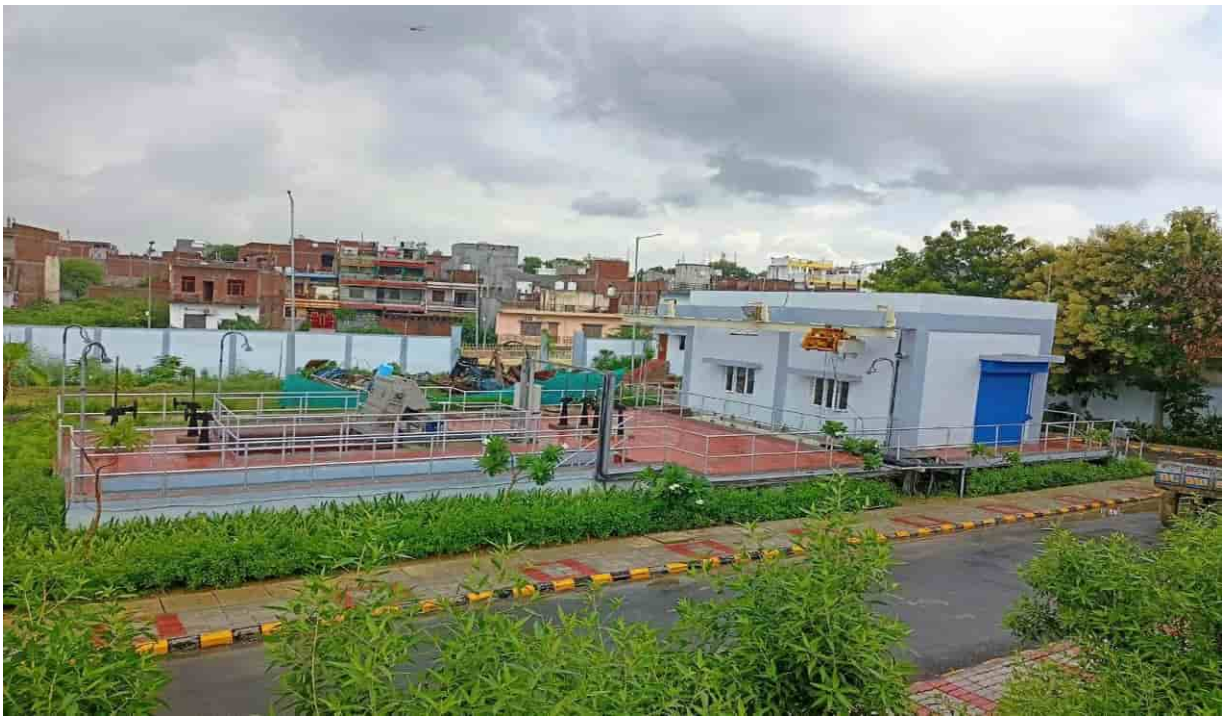
Main Plant view of 14 MLD Phaphamau STP

STP campus – Road and Finishing work status

PHAPHAMAU FACILITY



Process Building: Current status (Functional)



Shantipuram MPS: Current status (Functional)

FCR Tank: Current status (Functional)

FCR Tank

NAINI-II FACILITY

Naini-II STP Process aera.

Naini-II STP Staff quarter and Solar area

NAINI-II FACILITY

Tube settler– Current status (Functional)

FCR Tank – Current status (Functional)

JHUNSI FACILITY

Jhunsi MPS – Current Status (Functional)

Tube settler– Current Status (Functional)

JHUNSI FACILITY

FCR Tank – Current status (Functional)

Shastri Bridge SPS – Inside finishing Work is progress

11. Outward Register

List of key design & documents were reviewed by Project Engineer during this period as below.

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
1.	AIPL/NMCG/PRAYAG/1642	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – III	8-Aug-2023	S.E.-2 Circle(Rural) - UPJN
2.	AIPL/NMCG/PRAYAG/1643	Regarding submission of Invoice against th certification of 8th construction milestone for the naini -II facility & phaphamau facility under package -I of prayagraj STP project.	18-Aug-2023	NMCG, New Delhi
3.	AIPL/NMCG/PRAYAG/1644	Regarding the submission of MPR and compliance report for the month of Jul'23.	19-Aug-2023	Prayagraj water private limited
4.	AIPL/NMCG/PRAYAG/1645	Regarding Trial Operations of Jhunsi STP under Package-I.	28-Aug-2023	S.E.-2 Circle(Rural) - UPJN
5.	AIPL/NMCG/PRAYAG/1646	Inspection Reports of Package-II Facilities	28-Aug-2023	S.E.-2 Circle(Rural) - UPJN
6.	AIPL/NMCG/PRAYAG/1647	Inspection Reports of Package-III Facilities	28-Aug-2023	S.E.-2 Circle(Rural) - UPJN
7.	AIPL/NMCG/PRAYAG/1648	Inspection Reports of Package-I Facilities	30-Aug-2023	S.E.-2 Circle(Rural) - UPJN

12. Inward Register

List of key design & documents were received by Project Engineer during this period as below.

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
1.	PWPL/UPJN/PRAYAGRAJ/SITE /921	Regarding completion of balance work for Naini-II & Phaphamau facility under Package-I.	02-Aug-23	Prayagraj water private limited
2.	PWPL/UPJN/PRAYAGRAJ/O&M/674	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – III	03-Aug-23	Prayagraj water private limited
3.	PWPL/UPJN/PRAYAGRAJ/SITE /921A	Regarding shutdown of Jhunsi Plant due to rise in the level of river Ganga under Package-I	04-Aug-23	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/O&M/675	Submission of O & M Quarterly Progress report for the 3rd Quarter of Package – II	05-Aug-23	Prayagraj water private limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/676	Regarding Water Level Increase and Temporary Suspension of Operations at Sasurkhaderi SPS	07-Aug-23	Prayagraj water private limited
6.	PWPL/UPJN/PRAYAGRAJ/O&M/677	Regarding the level of Ganges increasing at Salori STP	07-Aug-23	Prayagraj water private limited
7.	PWPL/UPJN/PRAYAGRAJ/O&M/678	Regarding the level of Ganges increasing, and Basna Nala I&D inlet gate closed	07-Aug-23	Prayagraj water private limited
8.	PWPL/UPJN/PRAYAGRAJ/SITE /922	Regarding the submission of MPR and compliance report for the month of Jul'23.	07-Aug-23	Prayagraj water private limited
9.	PWPL/UPJN/PRAYAGRAJ/O&M/679	Submission of O & M Monthly Progress report for the month of July, 2023 of Package – III	08-Aug-23	Prayagraj water private limited
10.	PWPL/UPJN/PRAYAGRAJ/O&M/680	Submission of O & M Monthly Progress report for the month of July, 2023 of Package – II	10-Aug-23	Prayagraj water private limited
11.	87/PWPL/(PRAYAGRAJ)/35	Regarding issuance of Commercial Operations Date for Naini-II Facility under Package- I	11-Aug-23	S.E.-2 Circle (Rural)-UPJN
12.	88/PWPL/(PRAYAGRAJ)/36	Regarding issuance of Commercial Operations Date for Phaphamau Facility under Package- I	11-Aug-23	S.E.-2 Circle (Rural)-UPJN

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
13.	PWPL/UPJN/PRAYAGRAJ/O&M/681	Commencement of Extended Operation Hours for Gas Engine as per the generation and availability of Bio-Gas at Naini 1	16-Aug-23	Prayagraj water private limited
14.	723/PWPL/(PRAYAGRAJ)/84	Public interest regarding treatment of sewage/fecal sludge/septage in the fair area during the organization of Maghamela 2023-24.	16-Aug-23	PM-I (Rural)-UPJN
15.	PWPL/UPJN/PRAYAGRAJ/O&M/682	Regarding disposal of sludge generated during Magh mela in manhole of Jhunsi and Naini-II Facility.	17-Aug-23	Prayagraj water private limited
16.	PWPL/UPJN/PRAYAGRAJ/SITE /922A	Regarding release of Milestone-VIII payment for Naini-II facility under Package-I.	17-Aug-23	Prayagraj water private limited
17.	PWPL/UPJN/PRAYAGRAJ/SITE /923	Regarding release of Milestone-VIII payment for Phaphamau facility under Package-I.	17-Aug-23	Prayagraj water private limited
18.	PWPL/UPJN/PRAYAGRAJ/O&M/683	Regarding the update on Force Majeure Event at Jhunsi Facility due to flood situation in Prayagraj	19-Aug-23	Prayagraj water private limited
19.	737/PWPL/(PRAYAGRAJ)/85	Status of Sewage Treatment Plant in Ganga front towns of Uttar Pradesh	21-Aug-23	PM-I (Rural)-UPJN
20.	PWPL/UPJN/PRAYAGRAJ/O&M/684	Regarding Breakdown of Surface Aerator no 4 at Naini 1 Aeration Tank	22-Aug-23	Prayagraj water private limited
21.	PWPL/UPJN/PRAYAGRAJ/O&M/689	Status of Sewage Treatment Plant in Ganga front towns of Uttar Pradesh	24-Aug-23	Prayagraj water private limited
22.	PWPL/UPJN/PRAYAGRAJ/O&M/690	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping Stations (Flow Record for the month of July ,2023)	24-Aug-23	Prayagraj water private limited
23.	PWPL/UPJN/PRAYAGRAJ/O&M/691	Regarding Trial Operations of Jhunsi STP under Package-I.	26-Aug-23	Prayagraj water private limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
24.	PWPL/UPJN/PRAYAGRAJ/SITE /924	Regarding Trial Operations of Jhunsi Facility under Package-I.	29-Aug-23	Prayagraj water private limited
25.	PWPL/UPJN/PRAYAGRAJ/O&M/692	Submission of O & M Monthly Progress report for the month of July, 2023 of Package – III	29-Aug-23	Prayagraj water private limited
26.	96/PWPL/(PRAYAGRAJ)/38	Regarding issuance of Commercial Operation Date for Jhunsi Facility under Package-I	30-Aug-23	S.E.-2 Circle (Rural)-UPJN

13. EHS targets, Achievement & compliance report for the month of June 2023

Sr. No.	Goals	Target of the month	Achievement of this Month	Previous Month achievement	Remark
1	Zero total recordable injuries	100%	100%	100%	
2	All personnel Health and Safety inducted	100%	100%	100%	
3	100% incident reporting and investigation	100%	100%	100%	
4	100% adherence of usage of appropriate PPE's at work	100%	100%	100%	

14. Status of statutory permits:

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
	Phaphamau Facility (Package - I)			
1	Power connection (During commissioning Period)	Electricity Board	2 No.	Approved by NMCG vide letter no-Pr-12012/6/ 2018 /PPP / NMCG Dated 24.06.2022 • Power connection at STP is completed. • Power connection at Basna Nalla SPS. is completed.
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	88 No.	Received NOC From Forest Dept for Cutting 88 Nos. of trees.
4	Road cutting & crossing	Public Works Department	NA	Not Required
5	Railway Crossing	Commissioner Railway Safety	NA	Not Required
6	National Highway cutting & crossing	National Highway Authority of India	1 No.	Permission Received from NH PWD vide letter no. 70/NH-96/330 dated 12th Jan 2022 and work has been completed.
7	Revenue Road cutting & crossing	Panchayat/Local Authority	NA	Not Required

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
8	Obtaining No Objection Certificate for various sewerage facilities under the ULB for handing them over to JN	ULB/District Administration	NA	Not Required
9	Construction of Weirs/pipeline crossings	Irrigation department/ULB	2 No.	Received
10	Approach Road to new Facilities	Forest Department/Panchayat/Local Authority/Irrigation Department	NA	Not Required
11	Consent to operate for Existing Facilities	ULB and SPCB	NA	NA
	Naini-II Facility (Package - I)			
1	Power connection (During commissioning Period)	Electricity Board	3 No.	• Approved by NMCG vide letter no-Pr-12012/6/ 2018 /PPP / NMCG Dated 24.06.2022 • Power connection at STP and Mawaiya SPS and Mahewaghat is completed.
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	-	Will be applied as and when required, presently not required.
4	Road cutting & crossing	Public Works Department	1 No.	Applied on dated 19.10.2020 for STP main line. NOC received from Mahewaghat SPS to Naini-II MPS on 08th Dec'2020 from Provincial Division. NOC received from PDA on 03.02.2021.
5	Railway Crossing	Commissioner Railway Safety	1 No.	Permission received from Railway vide Letter No. 86-W/KM/821/L-PRYJ-NYN Dated:16.07.2021
6	National Highway cutting & crossing	National Highway	NA	NA

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
		Authority of India		
7	Revenue Road cutting & crossing	Panchayat/Local Authority	1 No.	Total 01 nos. NOC received from PDA on 03.02.2021
8	Obtaining No Objection Certificate for various sewerage facilities under the ULB for handing them over to JN	ULB/District Administration	NA	Not Required
9	Construction of Weirs/pipeline crossings	Irrigation department/ULB	6 No.	Received
10	Approach Road to new Facilities	Forest Department/Panchayat/Local Authority/Irrigation Department	NA	Not Required
11	Consent to operate for Existing Facilities	ULB and SPCB	1 No.	NA
	Jhunsi Facility (Package - I)			
1	Power connection (During commissioning Period)	Electricity Board	2 No.	Approved by NMCG vide letter no-Pr-12012/6/ 2018 /PPP / NMCG Dated 24.06.2022 Power connection at Jhunsi STP is completed. Shastri bridge sps under progress.
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	NA	Not Required
4	Road cutting & crossing	Public Works Department	NA	NA
5	Railway Crossing	Commissioner Railway Safety	1 No.	Permission received from railway vide letter No W/98-13/2020/71/W- DATED 29/03/2022
w	National Highway cutting & crossing	National Highway	NA	NA
7	Revenue Road cutting & crossing	Panchayat/Local Authority	1 No.	Permission received

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
8	Obtaining No Objection Certificate for various sewerage facilities under the ULB for handing them over to UPJN	ULB/District Administration	NA	Not Required
9	Construction of Weirs/pipeline crossings	Irrigation department/ULB	13 No	Received
10	Approach Road to new Facilities	Forest Department/Panchayat/Local Authority/Irrigation Depar4ent	NA	Not Required
11	consent to operate for Existing Facilities	ULB and SPCB	NA	NA
12	Laying of Rising main	Irrigation department	NA	Completed

15. Plant & Machinery Status

Sr. No.	Machinery	Phaphamau 14 MLD	Naini II 42 MLD	Jhunsi 16 MLD	Total
1.	JCB	-	-	1	1
2.	Dumper	-	-	-	0
3.	Proclaim	-	-	-	0
4.	Ajax	-	-	-	0
5.	Hydra	-	-	1	1
6.	Roller	-	-	-	0
7.	Submersible Pump 2HP	-	-	-	0
8.	Diesel Pump 5 HP	-	-	-	0
9.	5KV generator	-	-	1	1
10.	Total Station	-	-	-	0
11.	Water tanker	-	-	1	1
12.	Auto level	-	-	1	1
13.	Mixing machine	-	-	1	1
14.	Vibrator			0	0
15.	Tractor	1	1	1	2
16.	Concrete Chipping Machine	-	-	1	1
17.	Welding Machine	1		1	2
18.	Grinding Machine	1	1	2	4
19.	Gas cutting set	-	-	1	1
20.	Chain saw machine	-	-	-	0
21.	Chain Block	-	-	1	1
22.	RM 800	-	-	-	0
23.	Plywood cutting machine	-	-	2	2
24.	Steel cutting machine	-	-	2	2

16. ANNEXURE'S

Annexure- I: **KPI REPORTS OF PACKAGE -I, ACTION TAKEN REPORT AND RECOMMENDATION**

Annexure- II: **KPI REPORTS OF PACKAGE -II, ACTION TAKEN REPORT AND RECOMMENDATION**

Annexure- III: **KPI REPORTS OF PACKAGE -III, ACTION TAKEN REPORT AND RECOMMENDATION**

Annexure- IV: **PROJECT ENGINEER ACTIVITY AS PER TOR**

Annexure- V: **QUALITY CONTROL / QUALITY ASSURANCE**

ANNEXURE-I

ACTION TAKEN REPORT AND KPI REPORT FOR PACKAGE-I

Table of Contents

1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE

1.1 Action taken Report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
	Civil Work		
1	At Shastri Bridge SPS, progress of civil construction works is very slow. As per current status, casting work for 18th lift out 19 is in progress. After casting of all lifts, construction works for super structure and other civil works for the SPS will start.	Currently, all RCC work is completed, and brick work is in progress. Plaster work, flooring work, painting work is pending. Installation of door and windows are also pending.	Brick work, Plaster work & Flooring work is under progress. Installation of Door window has been completed.
2	For Shastri Bridge SPS, staff quarter, which is to be constructed in campus of Jhunsi STP, is under construction but progress is very slow.	Finishing work is pending.	Finishing work is under progress.
3	At Shastri Bridge SPS, construction of boundary wall and approach road is pending.	Work is pending.	Boundary wall is not feasible at site; however, approach road work is under progress.
4	At all 13 Interception and diversion points, arrangement for conveying sewage from existing nalla to the civil structure is pending.	Tapping of all I&Ds was completed except for Trivenipuram Nalla but currently sewage from I&Ds is not taken due to flood in river Ganga	All 13 Nos Nalla has been tapped and sewage will be taken post flood.
5	At all 13 Interception and diversion points, repairing work of civil structure which is damaged due to flood is pending.	Repairing work of civil structure was completed however final condition will be checked once the river water will recede in river Ganga after flood.	Repairing work of all the I&Ds were completed.
6	At Shastri Bridge SPS, landscaping and site development work is pending.	Work is pending.	Landscaping work is not feasible at site.
8	At Shastri Bridge SPS, installation of permanent type display/sign boards is pending.	Work is pending.	Procurement is under progress, however the same will be installed during construction of approach road.
9	At Shastri Bridge SPS, permanent arrangement for water supply is pending.	Work is pending.	Work is under progress.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
10	At Jhunsi MPS, epoxy coating in wet well is pending.	Work is pending.	We have constructed the structure with SRC Cement; hence epoxy is not required.
11	At Jhunsi MPS, landscaping and site development work is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
12	At Jhunsi MPS, land filling work is pending	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
13	At Jhunsi MPS, construction of loading and unloading bay is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
14	At Jhunsi STP, painting work of FCR tank is not started yet. It is suggested to start the painting work at the earliest. Painting should be done as per clause no. 1.4.1 in Schedule-10 of Concession Agreement & as per approved Drawing of FCR tank.	Epoxy Coating in FCR is pending.	We have constructed the structure with SRC Cement; hence epoxy is not required.
15	At Jhunsi STP, construction of boundary wall is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
16	At Jhunsi STP, land filling work is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
17	At Jhunsi STP, construction works for Road & Drain are pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
18	At Jhunsi STP, landscaping and development work for complete site is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
20	At Jhunsi STP, finishing works for various units of STP are pending.	Completed	Completed
21	At Jhunsi STP, laying of effluent pipeline is pending.	Work is pending for last stretch near river. It is required to provide permanent arrangement near last point of effluent discharge as per Schedule-1 in CA to avoid cutting of nearby land.	The work is under progress.
22	At Jhunsi STP, painting work for some civil structures is pending.	Completed	Completed
23	At Jhunsi STP, construction of supports for pipeline from MPS to PTU and PTU to CCT is pending	Work is pending.	90 % work completed and balance 10% is under progress.
24	Arrangements for treatment of sewage generated from Trivenipuram Nalla as per point-B in clause no. 3.2.1 of Schedule-1 of Concession Agreement.	Work is pending.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
25	At Jhunsi STP, leakage rectification is required in outer wall at grit chamber	Completed	Completed
	E&M Work		
1	At Shastri Bridge SPS, mechanical works are pending.	• Alignment and fixing, commissioning work of mechanical screen is pending. • Penstock and spindle for all gates is pending. Installation of firefighting system is pending.	• Alignment work will be carried out after complete water is complete receding. • Same as above. Work is under progress.
2	At Shastri Bridge SPS, electrical works are pending.	• Installation, Cable laying is completed. Cable termination, testing & commissioning of both transformers is pending. • Installation, Cable laying is completed. Cable termination, testing & commissioning of DG set is pending. • Installation, Cable laying is completed. Cable termination, testing & commissioning of HT panel is pending. • Installation, Cable laying is completed. Cable termination, testing & commissioning of MCC panel is pending.	• Both transformer cable termination, however from permanent electrical supply testing is pending. (For testing Permanent 11 KV UPPCL supply required). • DG testing and commissioning completed. • HT commissioning is pending in want of 11 KV electrical supply. • MCC Panel Installation, Cable laying is completed. Testing and commissioning through DG is also completed.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
		• Installation, cable laying, cable termination of harmonic filter panel is pending. Testing & commissioning work is pending. Installation, cable laying, cable termination of UPS system is pending. Testing & commissioning work is pending.	• Cable laying and termination is completed for commissioning - (Permanent power supply is required for commissioning) UPS cable laying, cable termination of UPS system is completed, and commissioning work is under progress- (Permanent power supply is required for commissioning)
3	At Shastri Bridge SPS, instrumentation works are pending.	• Installation of differential level transmitted for mechanical screen is pending. • Installation of level transmitter for sump is pending. • Installation, cable laying, cable termination of both PLC panel is pending. Testing & commissioning work is pending. • Installation & commissioning of SCADA system is pending. • Installation & commissioning of CCTV is pending. Installation of fire alam system is pending.	• Differential level transmitter work completed only commissioning work is under progress. • Level transmitter for sump is completed. • For PLC Panel all installation and cabling work has been completed & commissioning work is under progress. (Permanent power supply is required for commissioning) • For SCADA system Commissioning work is under progress. (Permanent power supply is required for commissioning. • CCTV installation work is under progress. Fire alarm system work in under progress.
4	At all 13 Interception and diversion points, all E&M works are pending.	Completed	Completed
5	At all 13 Interception and diversion points, provide the gate at the inlet of I&D after manual screen for the avoiding of silt collection in manhole and rising main at the time of flood.	As informed by Concessionaire, ordering of desired gates is in process.	The work is executed as per the approved drawings; however this Additional work will be completed during O&M period post flood.
6	At Jhunsi MPS, laying of permanent power cable from Jhunsi STP to Jhunsi MPS is pending.	Work is pending.	• The permanents power cable will be laid after earth filling and same is under COS approval.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
7	At Jhunsi MPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Gate installation is completed but construction of operating platform is pending.	completed
8	At Jhunsi MPS, installation of pressure transmitter in header line of pumps is pending.	Installation is completed but commissioning is pending.	Completed only commissioning work is under progress.
9	At Jhunsi MPS, installation of differential level transmitter for mechanical screen is pending.	Installation is completed but calibration is pending.	Completed only commissioning work is under progress.
10	At Jhunsi MPS, installation of level transmitter in raw sewage sump is pending.	Installation is completed but calibration is pending.	Completed only commissioning work is under progress.
11	At Jhunsi MPS, installation of outlet flowmeter is completed but it is not working.	Installation is completed but calibration is pending.	Installation is completed and calibration is under progress.
12	At Jhunsi MPS, installation of fire alarm and fire-fighting system is not started yet.	Installation of fire alarm system is completed but commissioning is pending.	Completed.
13	At Jhunsi MPS, installation of CCTV system is not started yet.	Installation of CCTV is pending at permanent position.	Completed.
14	At Jhunsi MPS, painting for MS structures inside the facility is pending.	Completed	Completed
15	At Jhunsi MPS, leakage test for sluice gates/valves is pending.	Completed	Completed
16	At Jhunsi STP, installation of chute for screw conveyor of mechanical screens is pending.	Completed but for the final disposal hand trolley is not available at site.	Completed
17	At Jhunsi STP, installation of electrical actuators for inlet and outlet gates of manual screen are pending.	Completed	Completed
18	At Jhunsi STP, pipeline laying for scum removal is pending.	Completed	Completed
19	At Jhunsi STP, E&M works of screw conveyor and other arrangements for grit removal units is pending	Completed but operating platform and hand trolley for final disposal is not available at site.	Operating platform will be done during O&M tenure.
20	At Jhunsi STP, completion of discharge piping, testing & commissioning, cable laying, power connections and installation of LPBS of grit blowers is pending.	Completed but installation of instruments is pending.	Completed
21	At Jhunsi STP, discharge piping, cable laying, power connections, erection of air dryer, testing & commissioning of air compressor is pending.	All works are completed except commissioning.	Completed
22	At Jhunsi STP, installation, cable laying, power connections and laying of associated pipelines of poly dosing system are pending.	All works for poly dosing system are completed but modification works for agitators in poly tanks is pending.	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
23	At Jhunsi STP, installation of plants for FCR tanks are pending.	Work is pending.	Plant installation work will be done post flood.
24	At Jhunsi STP, E&M works for leak detection system and neutralization tower are pending.	All works are completed except filling of Caustic Soda in neutralization tower and testing work.	Work is under progress.
25	At Jhunsi STP, installation, cable laying, power connections of dewatering feed pumps are pending.	Completed	Completed
26	At Jhunsi STP, installation of chimney for DG as per CPCB norms is pending.	Completed	Completed
27	At Jhunsi STP, construction of earthing pits is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.
28	At Jhunsi STP, installation of differential level transmitter for mechanical screen is pending.	Installation completed but calibration is pending.	Completed
29	At Jhunsi STP, installation of inlet and outlet analysers is pending.	Work is in progress	Inlet almost completed except COD sensor pending Outlet completed
30	At Jhunsi STP, installation of DO analysers for FCR tanks is pending.	Installation completed but calibration is pending.	Completed
31	At Jhunsi STP, installation of chlorine analyser at the outlet of STP is pending	Installation completed but calibration is pending.	Completed
32	At Jhunsi STP, installation of outlet flowmeter is pending.	Installation completed but calibration is pending.	Completed
33	At Jhunsi STP, installation of various instruments related to equipment are pending.	Completed	Completed
34	At Jhunsi STP, C&I cable laying for complete site is pending.	Completed	Completed
35	At Jhunsi STP, erection & commissioning works of PLC system are pending.	Work is pending. Concessionaire is also required to provide communication as per approved I/O list.	Work is under progress.
36	At Jhunsi STP, erection & commissioning works of SCADA system are pending.	Work is pending. Also, Report generation regarding KPIs, running hours of equipment and flow is pending in SCADA system as per requirement.	Almost 90% of the work is completed and balance work is under progress.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023.		Concessionaire action taken as on date 12th September 2023
37	At Jhunsi STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending.	Work is pending.	Completed
38	At Jhunsi STP, works for set-up of laboratory are pending. Laboratory instruments are still not available at site.	Completed	Completed
39	At Jhunsi STP, installation of permanent lights inside and outside the units for complete site are pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Inlet lighting has been completed, however outside pole-based lighting work in pending and same will be completed after the approval of COS
40	At Jhunsi STP, installation of asset management system is not started yet.	Work is pending.	Work In progress
41	At Jhunsi STP, work for ventilation system is pending.	Completed	Completed
42	At Jhunsi STP, painting work for various MS structure installed at site is pending.	Completed	Completed
43	At Jhunsi STP, sluice valve of 400 mm is installed in place of approved size of 600mm in bypass line of STP which is not as per valve schedule.	Currently the arrangement is working fine but if any requirement arises in future, Concessionaire is required to do the needful for the same.	If any requirement arises same will be taken care during O&M tenure.
44	At Jhunsi STP, leakage test for sluice gates/valves is pending.	Completed	Completed
45	At Jhunsi STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Work is pending.	Work is under progress.

Note: M/s. PWPL reply is under observation, it will be change according to September 2023 inspection report provided by Project engineer.

2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 Action taken report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023	Concessionaire action taken as on date 12th September 2023
	Civil Works	
1	At Naini-II STP, rectification for problem of water logging in area between FCR and Tube settler tank is in progress.	Completed and if any situation arrive, same will be taken care during O&M.
2	At Naini-II STP, rectification of effluent pipeline near outfall area as per site condition.	Presently completed and will if any situation arrive, same will be taken care during O&M.
3	At Naini-II facility, any left out work mentioned in the concession agreement	All work is completed.
	E&M Work	
1	At all Interception and diversion points, provide the gate at the inlet of I&D after manual screen for avoiding of silt collection in manhole and rising main at the time of flood.	Since, this is betterment works same will be taken care during the course of O&M.
2	At Mawaiya SPS, commissioning of differential level transmitter for mechanical screens is pending.	Completed
3	At Mawaiya SPS, commissioning of harmonic filter panel is pending.	Completed
4	At Mawaiya SPS, VFD for pump no. 4 is not working.	Completed
5	At Mahewaghat SPS, commissioning of harmonic filter panel is pending.	Completed
6	At Naini-II MPS, installation of partition gate in wet well is pending.	Material has already procured and if any problem arrive same will be installed during the course of O&M.
7	At Naini-II STP, commissioning of harmonic filter panel is pending.	Completed
8	At Naini-II STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Completed
9	At Naini-II STP, calibration of DO analyzers for FCR tanks is completed but it is not showing correct values	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023	Concessionaire action taken as on date 12th September 2023
	of parameters.	
10	At Naini-II STP, installation of EOT for PTU is pending.	Alternate arrangement has been done as per the site conditions.
11	At Naini-II STP, commissioning of solar power plant for 800 KW is completed as per CA however work for solar power plant of extra capacity is in progress.	Completed
12	At Naini-II STP, rectifications of observations regarding SCADA system are required which were given during visit. Concessionaire is required to provide report generation regarding KPIs, flow and running hours as per the method discussed at site.	Completed
13	At Naini-II STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending.	Completed
14	At Naini-II STP, installation of asset management system is pending.	Completed
15	At Naini-II STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Completed
16	At Naini-II facility, any left out work mentioned in the concession agreement	All work completed.

Note: M/s. PWPL reply is under observation, it will be change according to September 2023 inspection report provided by Project engineer.

2.2 KPI Report

Naini-2 STP, 42 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design- 25 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Desig n- <9)	Final pH (Desig n- 6.5 to 9.0)	Inlet BOD (Desig n- <250 mg/l)	Final BOD (Desig n - <20 mg/l)	Inlet COD (Desig n- <500 mg/l)	Final COD (Desig n - <50 mg/l)	Inlet TSS (Desig n- <500 mg/l)	Final TSS (Desig n - <30 mg/l)	Inlet (Desig n - NA)	Final (Desig n - <1000 MPN/100 ml)	Final (Desig n - 0.2 mg/l)	Outlet Coacetratio n (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Aug-23	46760	46.77	7.5	7.7	185	20	344	40	278	20	NA	400	0.2	24.7	1200000	Plant availability is 100%
02-Aug-23	49170	49.17	7.41	7.74	180	19	332	44	290	25	NA	500	0.3	25.2	1400000	Plant availability is 100%
03-Aug-23	71730	71.73	7.7	7.6	185	18	340	44	294	43	NA	800	0.3	25.4	1700000	Plant availability is 100%
04-Aug-23	52310	52.31	7.37	7.61	170	17	320	40	277	31	NA	700	0.2	24.9	1300000	Plant availability is 100%
05-Aug-23	47520	47.52	7.39	7.71	175	18	324	36	302	24	NA	500	0.3	23.8	1700000	Plant availability is 100%
06-Aug-23	44290	44.29	7.51	7.86	185	17	348	32	304	25	NA	600	0.3	25.1	1400000	Plant availability is 100%
07-Aug-23	45410	45.41	7.22	7.8	175	16	332	32	284	21	NA	400	0.2	24.5	1200000	Plant availability is 100%
08-Aug-23	44190	44.19	7.47	7.81	155	20	312	40	280	20	NA	500	0.3	25.7	1100000	Plant availability is 100%
09-Aug-23	44120	44.12	7.62	7.86	180	23	320	48	274	19	NA	700	0.3	25.9	1400000	Plant availability is 100%
10-Aug-23	44280	44.28	7.52	7.88	185	25	360	48	276	16	NA	400	0.2	24.6	1200000	Plant availability is 100%
11-Aug-23	43440	43.44	7.39	7.8	170	21	348	44	268	17	NA	600	0.3	23.59	1700000	Plant availability is 100%
12-Aug-23	43350	43.35	7.46	7.88	165	25	324	48	272	23	NA	500	0.2	24.12	1300000	Plant availability is 100%
13-Aug-23	45680	45.68	7.49	7.9	170	24	332	44	300	24	NA	700	0.3	25.98	1100000	Plant availability is 100%
14-Aug-23	46100	46.1	7.53	7.92	165	25	340	48	294	25	NA	600	0.2	25.07	1400000	Plant availability is 100%
15-Aug-23	46540	46.54	7.5	7.88	170	24	320	44	273	24	NA	400	0.3	24.5	1200000	Plant availability is 100%
16-Aug-23	44540	44.54	7.49	7.89	165	25	328	48	280	26	NA	500	0.3	25.04	1400000	Plant availability is 100%
17-Aug-23	39330	39.33	7.54	7.87	160	21	312	40	287	20	NA	400	0.2	24.43	1700000	Plant availability is 100%
18-Aug-23	45480	45.48	7.45	7.84	165	23	316	44	285	23	NA	600	0.3	25.34	1200000	Plant availability is 100%
19-Aug-23	43190	43.19	7.49	7.9	160	24	312	48	291	25	NA	700	0.2	24.7	1400000	Plant availability is 100%
20-Aug-23	43440	43.44	7.53	7.92	165	25	324	44	301	24	NA	500	0.3	25.17	1700000	Plant availability is 100%
21-Aug-23	47120	47.12	7.64	7.87	155	24	308	48	283	26	NA	600	0.3	24.3	1200000	Plant availability is 100%
22-Aug-23	51120	51.12	7.51	7.83	160	25	312	48	293	27	NA	700	0.2	25.34	1100000	Plant availability is 100%
23-Aug-23	77600	77.6	7.38	7.64	165	26	300	49	287	31	NA	400	0.3	25.51	1300000	Plant availability is 100%
24-Aug-23	54530	54.53	7.34	7.69	155	22	296	40	263	17	NA	500	0.3	25.4	1200000	Plant availability is 100%
25-Aug-23	68490	68.49	7.4	7.7	165	23	308	46	270	29	NA	700	0.2	24.53	1400000	Plant availability is 100%
26-Aug-23	55530	55.53	7.46	7.73	160	25	314	44	286	21	NA	600	0.2	24.1	1100000	Plant availability is 100%
27-Aug-23	48100	48.1	7.6	7.81	165	24	302	46	268	22	NA	500	0.3	24.57	1700000	Plant availability is 100%
28-Aug-23	47850	47.85	7.63	7.78	170	23	322	48	280	25	NA	400	0.3	25.11	1200000	Plant availability is 100%
29-Aug-23	45780	45.78	7.54	7.83	185	24	342	45	306	22	NA	600	0.2	25.4	1400000	Plant availability is 100%
30-Aug-23	46180	46.18	7.57	7.84	180	25	350	46	287	21	NA	500	0.3	24.9	1700000	Plant availability is 100%
31-Aug-23	44100	44.1	7.53	7.9	175	24	358	48	294	20	NA	600	0.3	25.54	1300000	Plant availability is 100%
Average	**48944.19**	**48.94**	**7.49**	**7.81**	**169.84**	**22.42**	**325.81**	**44.00**	**284.74**	**23.74**	**NA**	**551.61**	**0.26**	**24.92**	**1364516.13**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3. PHAPHAMAU STP AND ASSOCIATE INFRASTRUCTURE

3.1 Action taken report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023	Concessionaire action taken as on date 12th September 2023
	Civil Works	
1	At Basna Nalla SPS, construction of boundary wall and approach road is pending.	Approach road: Completed. Boundary Wall: Work will be taken up after passing of rainy season.
2	At Basna Nalla SPS, epoxy coating in wet well is pending.	The structures are made of SRC cement, hence epoxy coating is not required.
3	At Basna Nalla SPS, staff quarter, which is to be constructed in campus of Phaphamau STP, is under construction shuttering work for casting of slab for Second floor is in progress.	Completed
4	At Basna Nalla SPS, it is required to provide strength to temporary bund required for diverting sewage to tapping point. Breakage of this bund is very frequent due to which raw water goes to the river without any treatment.	Completed
5	At Basna Nalla SPS, construction of loading and unloading bay is pending.	Completed
6	At Basna Nalla SPS, landscaping and site development work is pending.	Landscaping work is not feasible as per the site conditions.
7	At Phaphamau STP, landscaping and development work for complete site is pending.	Completed.
8	At Phaphamau facility, any left out work mentioned in the concession agreement	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023	Concessionaire action taken as on date 12th September 2023
	E&M Works	
1	At Shantipuram and Basna Nalla Interception and diversion points, provide the gate at the inlet of I&D after manual screen for the avoiding of silt collection in manhole and rising main at the time of flood.	Since, this is betterment works same will be taken care during the course of O&M.
2	At Basna Nalla SPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Material has already procured and if any problem arrive same will be installed during the course of O&M.
3	At Basna Nalla SPS and PhaphamauSTP, commissioning of harmonic filter panel is pending.	Completed
4	At Phaphamau STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Completed
5	At Phaphamau STP, calibration of DO analyzers for FCR tanks is completed but it is not showing correct values of parameters.	Completed
6	At Phaphamau STP, installation of solar plant of 77.1 KW capacity but solar plant of 110 KW is to be installed at STP as per CA.	Completed for 77.1 KW and concessionaire will meet the power guarantee with that only.
7	At Phaphamau STP, it is required to use more colors and animation in SCADA system for making it more distinguished and user-friendly. Also, report generation regarding KPIs, running hours of equipment and flow is pending in SCADA system as per requirement.	Completed
8	At Phaphamau STP, installation of EOT for PTU area is pending.	Completed
9	At Phaphamau STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending.	Completed
10	At Phaphamau STP, installation of asset management system is not started yet.	Completed
11	At Phaphamau STP, sluice valve of 600 mm is installed in place of approved size of 500mm in bypass line of STP which is not as per approved valve schedule.	if any requirement arises in future, same will be done in O&M tenure.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1648 as on 30th August 2023	Concessionaire action taken as on date 12th September 2023
12	At Phaphamau STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Completed
13	At Phaphamau facility, any left out work mentioned in the concession agreement	All work is completed.

Note: M/s. PWPL reply is under observation, it will be change according to September 2023 inspection report provided by Project engineer.

3.2 KPI Report

Phaphamau STP, 14 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design- 10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <20 mg/l)	Inlet COD (Design- <500 mg/l)	Final COD (Design - <50 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design - <30 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Coacetration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Aug-23	12740	12.74	7.63	7.75	170	23	360	44	312	15	NA	700	0.2	24.44	1400000	Plant availability is 100%
02-Aug-23	16130	16.13	7.53	7.67	165	22	364	44	355	14	NA	400	0.3	23.92	1300000	Plant availability is 100%
03-Aug-23	13030	13.03	7.57	7.6	160	18	324	40	330	18	NA	700	0.2	24.19	1300000	Plant availability is 100%
04-Aug-23	14070	14.07	7.51	7.55	155	22	360	44	342	12	NA	500	0.3	23.03	1700000	Plant availability is 100%
05-Aug-23	13600	13.6	7.54	7.56	170	19	364	44	340	11	NA	700	0.2	24.58	1400000	Plant availability is 100%
06-Aug-23	13170	13.17	7.55	7.63	180	21	368	48	336	9	NA	400	0.3	24.53	1300000	Plant availability is 100%
07-Aug-23	12330	12.33	7.65	7.63	180	22	372	44	325	10	NA	700	0.2	22.33	1700000	Plant availability is 100%
08-Aug-23	12030	12.03	7.66	7.74	185	24	368	40	310	12	NA	400	0.3	23.74	1400000	Plant availability is 100%
09-Aug-23	11400	11.4	7.73	8.2	185	22	364	36	315	16	NA	600	0.2	24.9	1700000	Plant availability is 100%
10-Aug-23	11710	11.71	7.74	7.73	165	18	360	32	305	23	NA	400	0.3	23.21	1400000	Plant availability is 100%
11-Aug-23	12020	12.02	7.78	7.76	170	16	368	28	315	24	NA	700	0.2	23.97	1700000	Plant availability is 100%
12-Aug-23	12070	12.07	7.76	7.79	165	18	360	32	320	28	NA	400	0.3	23.51	1300000	Plant availability is 100%
13-Aug-23	12360	12.36	7.71	7.81	170	17	368	32	320	25	NA	600	0.2	24.23	1400000	Plant availability is 100%
14-Aug-23	11990	11.99	7.83	7.85	175	18	364	32	298	26	NA	600	0.3	23.74	1700000	Plant availability is 100%
15-Aug-23	12240	12.24	7.82	7.88	180	17	360	32	302	23	NA	500	0.2	24.53	1300000	Plant availability is 100%
16-Aug-23	12660	12.66	7.81	7.9	185	18	368	32	347	20	NA	400	0.3	23.25	1400000	Plant availability is 100%
17-Aug-23	14010	14.01	7.79	7.91	180	17	372	36	345	22	NA	600	0.2	22.85	1700000	Plant availability is 100%
18-Aug-23	12200	12.2	7.77	7.83	150	18	330	34	339	24	NA	500	0.3	23.57	1300000	Plant availability is 100%
19-Aug-23	11570	11.57	7.73	7.87	155	17	340	32	302	32	NA	400	0.3	22.47	1400000	Plant availability is 100%
20-Aug-23	12680	12.68	7.71	7.86	160	19	354	36	295	33	NA	500	0.2	23.61	1300000	Plant availability is 100%
21-Aug-23	13710	13.71	7.65	7.84	150	18	334	34	281	29	NA	600	0.3	24.17	1700000	Plant availability is 100%
22-Aug-23	14750	14.75	7.69	7.81	155	19	324	32	309	26	NA	400	0.2	23.87	1400000	Plant availability is 100%
23-Aug-23	17380	17.38	7.53	7.58	150	18	318	36	315	25	NA	500	0.3	21.92	1300000	Plant availability is 100%
24-Aug-23	17800	17.8	7.56	7.63	160	21	304	34	295	32	NA	700	0.2	23.87	1400000	Plant availability is 100%
25-Aug-23	16140	16.14	7.6	7.71	155	19	312	36	335	24	NA	500	0.3	24.13	1700000	Plant availability is 100%
26-Aug-23	14170	14.17	7.45	7.57	175	20	344	34	329	21	NA	600	0.3	23.56	1300000	Plant availability is 100%
27-Aug-23	14010	14.01	7.41	7.61	150	18	336	36	317	28	NA	500	0.2	23.79	1400000	Plant availability is 100%
28-Aug-23	13670	13.67	7.58	7.76	160	22	324	34	308	27	NA	400	0.2	22.35	1300000	Plant availability is 100%
29-Aug-23	15230	15.23	7.72	7.86	165	24	344	36	302	24	NA	500	0.3	23.16	1700000	Plant availability is 100%
30-Aug-23	14590	14.59	7.76	7.84	175	22	340	38	315	22	NA	600	0.2	22.94	1400000	Plant availability is 100%
31-Aug-23	14030	14.03	7.79	7.87	180	20	356	36	322	18	NA	400	0.3	23.36	1300000	Plant availability is 100%
Average	**13531.94**	**13.53**	**7.66**	**7.76**	**167.10**	**19.58**	**349.16**	**36.39**	**318.74**	**21.71**	**NA**	**529.03**	**0.25**	**23.60**	**1451612.90**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

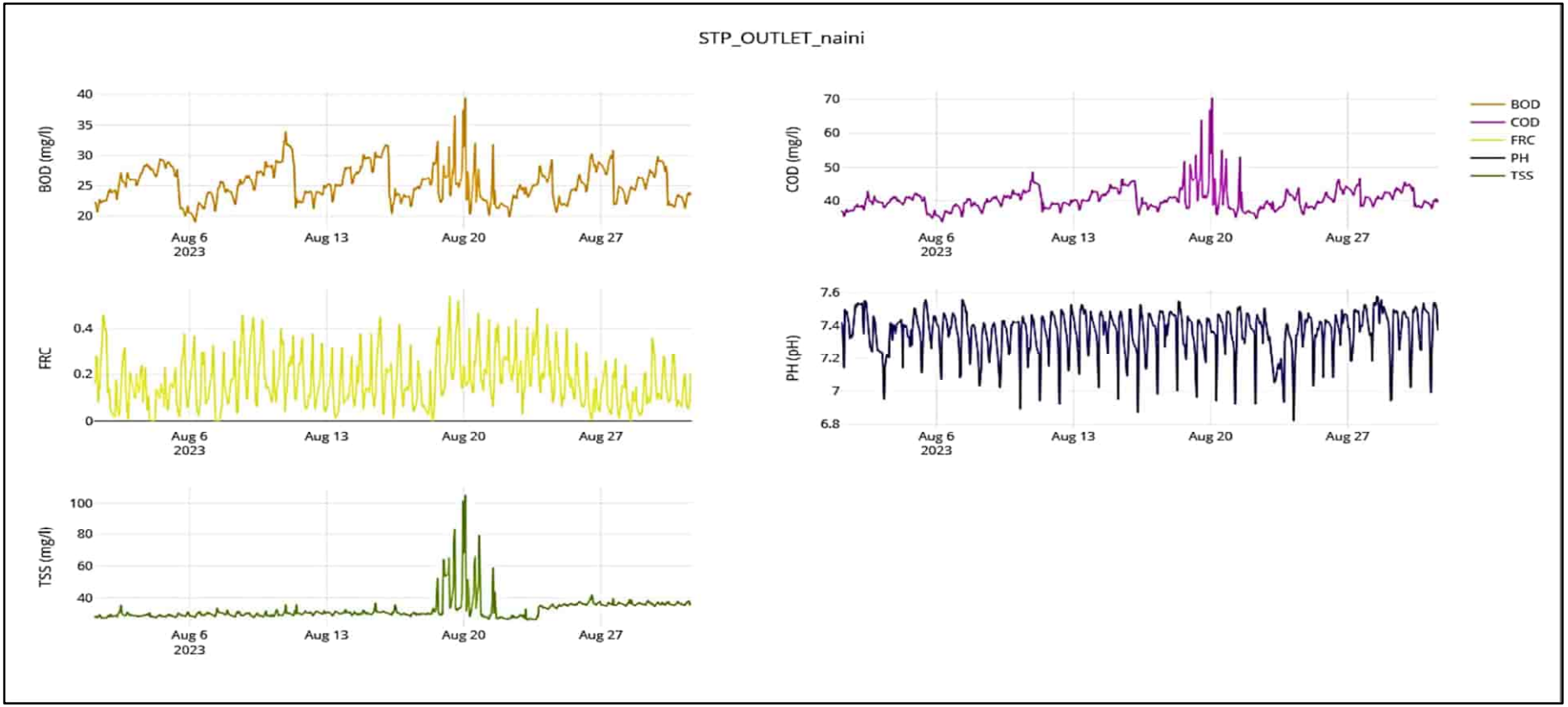
ANNEXURE-II

KPI REPORTS OF PACKAGE -II, ACTION TAKEN REPORT AND RECOMMENDATION

Table of Contents

1. NAINI-I STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for variation in data is going on as calibration of multi parameter analyzer from OEM is in progress.

2. FRC sensor calibration is pending.

Naini-I STP, 80 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-80 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design -<50 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	93610	93.61	7.33	7.47	120	24	294	36	286	27	NA	600	0.2	25.07	1100000	
2-Aug-23	108070	108.07	7.29	7.39	125	25	312	40	296	30	NA	400	0.3	25.30	1400000	
3-Aug-23	116700	116.70	7.33	7.47	130	26	294	38	286	27	NA	700	0.2	25.07	1700000	
4-Aug-23	97220	97.22	7.31	7.35	135	28	302	42	280	30	NA	500	0.3	24.80	1200000	
5-Aug-23	102210	102.21	7.28	7.41	120	24	296	40	269	29	NA	600	0.2	23.86	1400000	
6-Aug-23	112370	112.37	7.31	7.37	125	23	304	38	278	30	NA	700	0.3	25.10	1700000	
7-Aug-23	112120	112.12	7.27	7.39	130	26	300	36	273	31	NA	400	0.2	24.16	1300000	
8-Aug-23	110150	110.15	7.28	7.30	120	24	292	38	279	30	NA	500	0.3	24.80	1100000	
9-Aug-23	106030	106.03	7.26	7.35	125	25	312	42	298	28	NA	600	0.2	24.60	1200000	
10-Aug-23	104950	104.95	7.28	7.39	135	29	306	44	294	30	NA	500	0.3	25.60	1400000	
11-Aug-23	105600	105.60	7.27	7.33	140	25	308	42	288	32	NA	400	0.2	24.60	1200000	
12-Aug-23	107500	107.50	7.24	7.35	125	26	304	40	281	31	NA	500	0.3	24.80	1300000	
13-Aug-23	108910	108.91	7.25	7.37	120	25	316	38	287	33	NA	700	0.2	24.50	1700000	
14-Aug-23	110130	110.13	7.23	7.40	125	26	308	40	276	29	NA	600	0.3	24.30	1100000	
15-Aug-23	106010	106.01	7.24	7.35	135	29	320	44	294	31	NA	500	0.2	24.90	1400000	
16-Aug-23	105650	105.65	7.23	7.31	130	25	312	38	292	29	NA	700	0.2	24.30	1200000	
17-Aug-23	113370	113.37	7.20	7.38	120	24	304	40	285	28	NA	400	0.3	23.94	1700000	
18-Aug-23	114410	114.41	7.24	7.40	125	27	300	42	274	34	NA	600	0.3	24.17	1200000	
19-Aug-23	113860	113.86	7.27	7.35	120	29	296	48	270	41	NA	500	0.2	24.31	1400000	
20-Aug-23	113400	113.40	7.29	7.41	130	25	308	45	288	42	NA	400	0.3	24.90	1400000	
21-Aug-23	113000	113.00	7.31	7.37	120	23	314	38	295	32	NA	500	0.2	24.95	1700000	
22-Aug-23	117780	117.78	7.34	7.45	130	24	296	36	282	28	NA	600	0.3	24.63	1200000	
23-Aug-23	138980	138.98	7.28	7.25	123	25	296	40	284	31	NA	500	0.3	24.70	1300000	
24-Aug-23	115520	115.52	7.22	7.31	130	27	302	38	278	36	NA	700	0.2	24.60	1100000	
25-Aug-23	120150	120.15	7.19	7.32	120	24	314	39	284	37	NA	500	0.3	24.70	1700000	
26-Aug-23	119140	119.14	7.14	7.37	125	27	304	42	279	35	NA	800	0.3	25.12	1200000	
27-Aug-23	116020	116.02	7.09	7.36	135	26	306	43	294	36	NA	400	0.2	24.65	1400000	
28-Aug-23	121230	121.23	7.19	7.45	125	24	304	40	287	38	NA	700	0.2	24.70	1700000	
29-Aug-23	117390	117.39	7.25	7.34	130	25	312	42	295	35	NA	600	0.3	24.68	1200000	
30-Aug-23	116360	116.36	7.07	7.40	135	24	310	40	281	36	NA	800	0.3	25.20	1300000	
31-Aug-23	111960	111.96	7.22	7.39	125	23	318	41	293	39	NA	500	0.2	24.40	1400000	
Average	**111929.03**	**111.93**	**7.25**	**7.37**	**126.87**	**25.39**	**305.29**	**40.32**	**284.71**	**32.42**	**NA**	**561.29**	**0.25**	**24.69**	**1364516.13**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Mr. Tauseef, AE, UPJN. 3. Mr. Satwant, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Azaad, PWPL. 7. Mr. Deepak, PWPL.
Place(s) of Inspection	• 80 MLD STP at Naini-i, Prayagraj • 80 MLD MPS at Gaughat, Prayagraj • 35 MLD SPS at Chacharnalla, Prayagraj

Visit was done on 24th July 2023, 8th August 2023, 18th August 2023 & 23rd August 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	93.61 to 116.70
2	Gaughat MPS	95.90 to 118.75
3	Chacharnalla SPS	35.94 to 48.17

Note: 1) Source for above data is Site record for flow of STP/MPS/SPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	23 to 29 mg/l
2	TSS – Effluent	< 50 mg/l	27 to 33 mg/l
3	pH – Effluent	6.5 – 9.0	7.30 to 7.47
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.86 to 25.60 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

Note: 1) Source for above data is Site record for Laboratory of STP maintain by Concession.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Naini I STP	26.46 to 64.43
2	Naini I Associated Infrastructure	22.06 to 78.66

Note: 1) Source for above data is site record for Power Consumption of STP.

- Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of

multiparameter analyzer at outlet and it was found that the said SCADA reports are stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Validation of calibration in presence of UPJN/Project Engineer is completed and it is under observation.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. For associated infrastructure of Naini-I STP, reports are being generated for both Chacharnalla SPS and Gaughat MPS except for one out of two streams in Gaughat MPS due to problem in flowmeter of one stream. Concessionaire is required to rectify the problem.
   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeters at inlet of STP are working.
6. Outlet flowmeter is not working. This is a long-term pending issue hence Concessionaire to please rectify the problem at the earliest. Also, RCC chamber for the flowmeter is not constructed.
7. SCADA reports regarding flow for Naini-I facilities were checked and it was found that flow records generated from SCADA for both inlet flowmeters of Naini-I STP are matching with manual site records but not matching for outlet flowmeter of Naini-I STP.
8. In Naini-I STP, main MCC panel doesn't have provision for taking power from secondary sources like DG, Solar power generation system and Biogas power generation system simultaneously. Concessionaire is required to the needful for running biogas engine even without power from grid.
9. Gas engine is working. Currently, Biogas engine is operated for 16 hours from 3 PM to 7 AM as per availability of Biogas and for remaining time i.e., 7 AM to 3 PM, the STP is being operated on Solar energy as per availability.
10. All three mechanical screens of 60 MLD part are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
11. In mechanical screens of 60 MLD, rectification of problem for misplaced bars was completed but during recent visit it was found that bars have got loose again. Concessionaire is required to rectify the problem and provide a permanent solution.
12. All two mechanical screens of 20 MLD part are working. Cleaning brush is not working properly, and replacement of brush is required. Currently screens are running in auto mode through timer however differential level sensors are not working.
13. For 60 MLD, all grit removal units are working.
14. For 20 MLD, all grit removal units are working.
15. All Primary Settling Tanks are working. Scum removal is done manually but it is not efficient as good amount of scum can be seen floating on the surface. Since, Scum removing arrangement is installed, modification is required for the same so that scum collection and removal can be done automatically.
16. In all PSTs, it is observed that lumps of sludge are coming to the top in some parts due to which outlet quality of PSTs is deteriorating. Concessionaire is required to increase sludge withdrawal time, sludge feeding time of Digester.
17. Telescopic valves of Primary Settling Tanks are not working.
18. Installation of actuators is pending for drain valves of Primary Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
19. In Aeration Unit of 60 MLD, all surface aerators are in working condition. It is recommended to install DO

analyzer in this tank also for better monitoring.

20. Aeration tank of 20 MLD is in operation. Air distribution is not proper in this tank as excess air is coming from some points due to problem in diffusers. DO analyzer is working.
21. All Aeration blowers are working.
22. All Final Settling Tanks are working.
23. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
24. Installation of actuators is pending for drain valves of Final Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
25. In RSPH unit of 60 MLD, all pumps are working.
26. In RSPH unit of 20 MLD, both Pumps are working.
27. Both chlorinators are in working condition. Both booster pumps are working.
28. Leak absorption system is working.
29. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
30. Storge of Empty and filled chlorine tonner are not done properly as per safety norms. Concessionaire is required to do the needful for the same.
31. Since the chlorine tonner storage in Naini-1 STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per Gas Cylinder Rules (2016).
32. Both thickeners are in working condition. Installation of actuators for drain valves is pending. Installation of flowmeter in lines from blending tank to thickener is completed but calibration for one flowmeter is pending.
33. All thickened sludge transfer pumps are working.
34. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
35. For TEPH panel, modification of room is completed but panel erection is not started yet as per the electrical norms.
36. Both DGs are in operation. Installation work of chimney for DGs as per CPCB norms is pending.
37. Sludge dewatering unit is in operation. Poly preparation unit is in operation.
38. All filtrate pumps are working.
39. There is variation in recorded values of flow from inlet flowmeter at Naini-I STP and outlet flowmeters of Gaughat MPS, please rectify the problem.
40. SCADA report regarding flow of Gaughat MPS is incomplete.
41. Both dewatering feed pumps are under maintenance. Currently, submersible pump is being used for transferring sludge from digesters to dewatering building.
42. For sludge drying beds, it is required to check filter media and gravels as water is not percolating from SDBs. Excavation was done in one SDB and it was found that there is no media in it, pipe beneath the gravel is completely choked, gravel is completely choked with sludge and smaller size of gravel is required to be filled in SDBs. All these problems need to be rectified so that SDB can operate for more number of days as currently SDBs are filled in 3-4 days only. Similarly, other SDBs must also be checked.
43. All Digesters are working.
44. Heat exchangers, sludge recirculation pumps for all digesters are working.
45. In compressor room, all six compressors are working.
46. Both Gas holders are working.
47. Gas flare is working.
48. H2S scrubber unit is working. Analyzers fitted at inlet & outlet unit are working.
49. Installation of service water pumps is pending. It is observed that ground water is being used as service water in whole STP which is a violation of environmental norms. Hence, to stop this installation of service water pumps and laying of required pipeline must be completed at the earliest.
50. Rehabilitation works for storm water pump house are pending. Discussions regarding the feasibility of same has already been done during rehab period and hence the work must be done accordingly.
51. As already decided, repairing/construction of retaining wall is not completed yet. In 2022 also, river water has come inside the STP during flood and various equipment in different units of STP are required to be dismantled and hence when river water has gone down, restarting of STP took 5-6 days which could have been avoided if retaining wall of the STP was repaired/constructed correctly.

52. Rehabilitation works for tube well unit are pending.
53. Landscaping work of the plant must be improved.
54. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, data from Computer Maintenance Management system (CMMS) must be provided in MPR as supporting documents for maintenance data. Currently, CMMS system is installed at Naini-I STP is installed but not working as per requirements of day-to-day maintenance activities. Concessionaire is required to do the modifications as discussed.
55. Painting of units from inside is in progress.
56. CCTV camera at the Inlet and outlet point of STP are working.
57. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement or it must be properly stacked at one place after taking proper consent from UPJN. Concessionaire have told that this is out of their jurisdiction for which Concessionaire is required to go through the mentioned clause and plan for the same accordingly.
58. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
59. For Gaughat MPS, following observations were made during visit:

    a) Replacement of NRV in header line of HNC pumps in Gaughat MPS is required for reducing the effect of water hammering on the pumps. Concessionaire to please do the needful.
    b) All HNC pumps are working.
    c) 2 out of 3 submersible pumps are in working condition.
    d) Both mechanical screens of HNC pumps are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    e) Both mechanical screens for submersible pumps are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    f) DG set of 1000 KVA and DG sets of submersible pumps are working. Repairing work of 11 KV DG synchronization panel is pending. Repairing work of 500 KVA/11KV DG set is pending. Concessionaire to please complete all pending works.
    g) It is suggested to install manual screen in receiving chamber of SPS for reducing load on mechanical screens.
    h) In PLC panels, indication for ON/OFF of mechanical screens, belt/screw conveyor is not coming.

60. For Chacharnalla SPS, following observations were made during visit:

    a) Currently all VNC pumps are working.
    b) Both mechanical screens are working.
    c) Both DG sets are OK for operation.
    d) Old DG set is working.
    e) Installation of pressure transmitter on header line of VNC pumps is pending.
    f) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.
    g) Power factor maintained in this facility is very low and must be maintained around 0.99, rectification of this problem is required.

61. Since COD is announced for all Package – II facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    c) Testing of TN, NH4-N, TP for composite samples of influent must be performed each day as per Part-G in Schedule-10 of CA.
    d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.

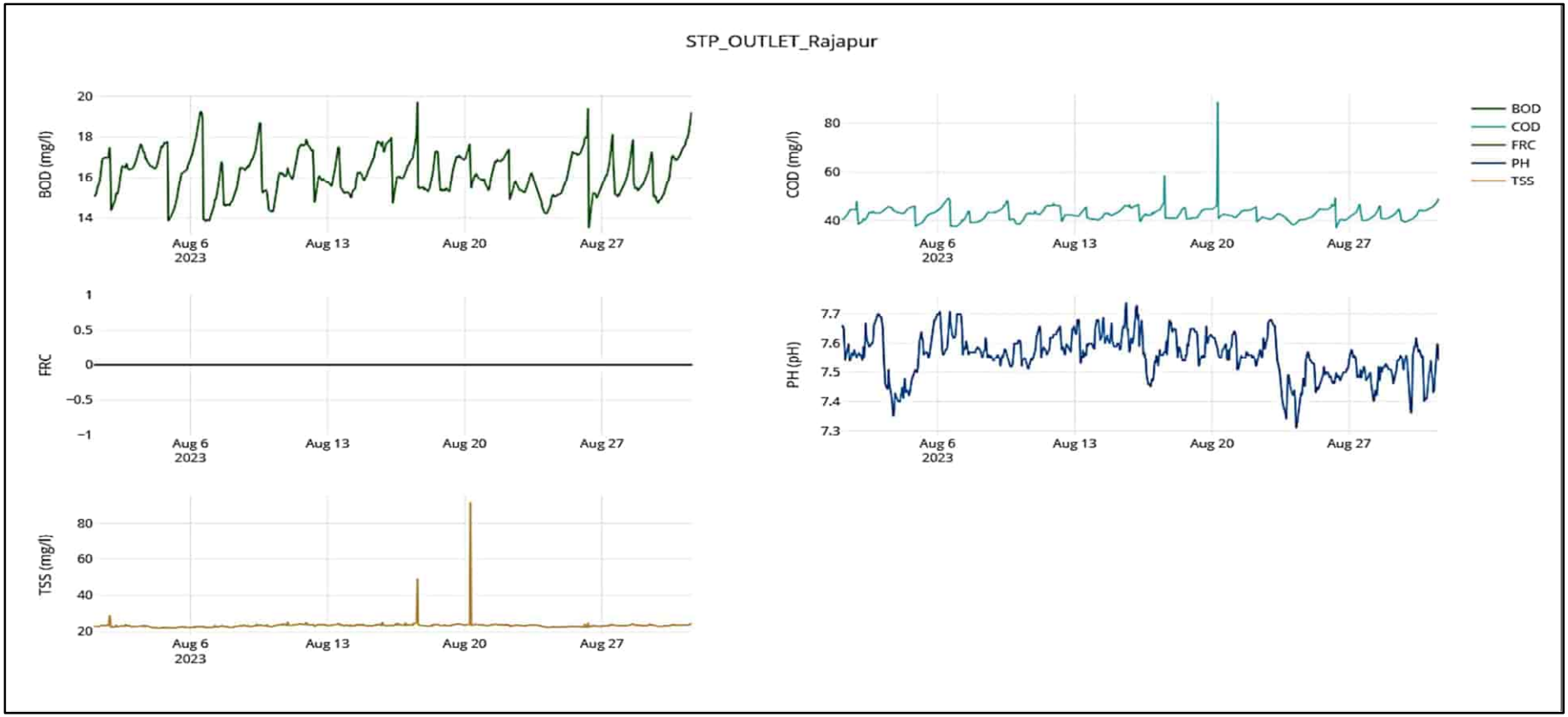
e) Quarterly report as per Part-G in Schedule-10 of CA.
f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. Incident reports must also be submitted along with action plan.
i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

1.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of PSTs also for checking the efficiency of PSTs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

2. RAJAPUR STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for variation in data is going on as calibration of multi parameter analyzer from OEM is in progress.

2.In the blank areas, data was not transfer due to some issue in router and no calibration of FRC sensor.

Rajapur STP, 60 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design <50 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	76890	76.89	7.37	7.61	130	17	308	44	271	25	NA	700	0.3	23.31	1700000	
2-Aug-23	83730	83.73	7.23	7.59	125	16	312	40	268	24	NA	400	0.2	23.24	1300000	
3-Aug-23	84130	84.13	7.38	7.52	135	18	324	44	263	23	NA	600	0.3	23.35	1400000	
4-Aug-23	80320	80.32	7.34	7.49	125	17	292	40	242	24	NA	500	0.3	23.73	1700000	
5-Aug-23	82190	82.19	7.38	7.63	130	16	296	40	251	23	NA	400	0.2	24.74	1300000	
6-Aug-23	78870	78.87	7.39	7.65	140	18	292	44	257	24	NA	500	0.3	23.43	1400000	
7-Aug-23	74760	74.76	7.37	7.62	135	16	304	36	262	23	NA	600	0.2	22.55	1700000	
8-Aug-23	74640	74.64	7.38	7.66	130	17	332	40	324	25	NA	400	0.2	22.83	1400000	
9-Aug-23	75340	75.34	7.59	7.57	125	16	328	44	337	23	NA	500	0.3	24.3	1300000	
10-Aug-23	80360	80.36	7.41	7.58	135	17	332	40	315	24	NA	600	0.2	23.22	1700000	
11-Aug-23	77730	77.73	7.39	7.62	140	18	340	44	307	25	NA	400	0.3	23.42	1400000	
12-Aug-23	81230	81.23	7.25	7.63	125	16	336	40	298	24	NA	500	0.2	24.02	1700000	
13-Aug-23	75630	75.63	7.24	7.61	130	17	328	40	308	25	NA	600	0.2	23.16	1400000	
14-Aug-23	79890	79.89	7.14	7.65	125	16	316	44	295	24	NA	400	0.3	23.72	1300000	
15-Aug-23	77050	77.05	7.12	7.63	135	18	344	48	317	25	NA	500	0.3	23.11	1700000	
16-Aug-23	77650	77.65	7.16	7.6	120	15	336	44	308	24	NA	400	0.2	23.15	1200000	
17-Aug-23	80560	80.56	7.18	7.59	130	17	324	40	289	23	NA	600	0.3	23.11	1300000	
18-Aug-23	80910	80.91	7.15	7.62	120	16	336	44	311	25	NA	500	0.3	23.22	1400000	
19-Aug-23	78970	78.97	7.18	7.61	125	17	332	40	309	24	NA	400	0.2	23.03	1700000	
20-Aug-23	80390	80.39	7.16	7.57	120	16	348	44	321	26	NA	500	0.3	24.32	1300000	
21-Aug-23	78760	78.76	7.13	7.59	130	17	340	40	317	25	NA	600	0.3	24.64	1700000	
22-Aug-23	80840	80.84	7.16	7.6	125	16	304	44	278	24	NA	400	0.3	23.93	1400000	
23-Aug-23	92420	92.42	7.33	7.51	130	17	292	40	257	23	NA	700	0.3	23.12	1200000	
24-Aug-23	87180	87.18	7.26	7.47	135	16	296	36	253	24	NA	500	0.2	23.16	1700000	
25-Aug-23	84120	84.12	7.29	7.51	140	18	304	40	261	23	NA	600	0.3	23.05	1300000	
26-Aug-23	81410	81.41	7.27	7.5	135	17	312	44	273	24	NA	400	0.3	23.15	1400000	
27-Aug-23	78840	78.84	7.23	7.53	125	16	296	40	272	25	NA	500	0.2	23.28	1700000	
28-Aug-23	77160	77.16	7.21	7.5	135	17	304	40	287	24	NA	600	0.3	24.44	1400000	
29-Aug-23	70440	70.44	7.19	7.54	130	16	292	44	268	22	NA	400	0.2	23.85	1200000	
30-Aug-23	70270	70.27	7.22	7.52	135	17	300	40	279	23	NA	600	0.2	23.78	1700000	
31-Aug-23	73420	73.42	7.18	7.47	140	18	304	44	281	24	NA	500	0.3	24.21	1400000	
Average	**79229.03**	**79.23**	**7.27**	**7.57**	**130.32**	**16.74**	**316.26**	**41.68**	**286.42**	**24.00**	**NA**	**509.68**	**0.26**	**23.53**	**1464516.13**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Mr. Tauseef, AE, UPJN. 3. Mr. Manish Srivastava, JE, UPJN 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Azaad, PWPL. 7. Mr. Girijesh, PWPL. 8. Mr. Saurabh, PWPL
Place(s) of Inspection	• 60 MLD STP at Rajapur, Prayagraj • 25 MLD SPS at Rajapur, Prayagraj • 55 MLD MPS at Mumfodganj Prayagraj

Visit was done on 25th July 2023, 11th August 2023, 17th August 2023 & 22nd August 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	74.64 to 84.13
2	Rajapur SPS	5.78 to 9.93
3	Mumfodganj MPS	66.47 to 78.29

Note: 1) Source for above data is Register for flow record of STP & MPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	16 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	23 to 25 mg/l
3	pH – Effluent	6.5 – 9.0	7.49 to 7.66
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.55 to 24.74 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1300000 to 1700000 MPN/gTS

Note: 1) Source for above data is Register for Laboratory of STP.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Rajapur STP	10.46 to 26.26
2	Rajapur Associated Infrastructure	51.74 to 59.28

Note: 1) Source for above data is Register for Power Consumption Record of STP.

- Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.
  1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed by site team however, validation of calibration in presence of UPJN/Project Engineer is pending.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. Also, sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. For associated infrastructure of Rajapur STP, reports are being generated for both Mumforganj SPS and Rajapur MPS.
   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeters at inlet of STP is working.
6. Flowmeter at outlet of STP is working.
7. Both Grit removal units are in working.
8. Installation of Multiparameter analyzer at inlet is completed. Calibration is pending.
9. Both Mechanical Fine screens at PTU are working but both mechanical screens are not lifting screenings efficiently. Also, oil leakages from pipes must be rectified. Currently screens are running in auto mode through timer however differential level sensors are not working.
10. Both UASBs were working satisfactorily. Cleaning of launders and scum from top must be done regularly. Also, several distribution cells were found in choked condition, cleaning for the same must be done on regular basis for avoiding such kind of situations. If it is required to increase the manpower, then same must be done at the earliest.
11. It is suggested to clean the UASB reactors after regular interval of time may be once in a year for removing dead sludge from the reactors which in turn will increase the efficiency of UASBs. Hence, Concessionaire is suggested to plan for the same.
12. It is observed that problem of leakage from HDP inlet pipes is very frequent. For minimizing this problem, it was suggested to give proper supports under the pipes. Concessionaire to please do the needful.
13. 13 surface aerators were found running, 2 surface aerators are in maintenance. It is recommended to install DO analyzer in this tank also for better monitoring.
14. It is also suggested to clean the Aeration tank after regular interval of time for removing dead sludge which in turn will increase the efficiency of Aeration.
15. For Quiescent zone, it is suggested to plan for cleaning of the same for removing dead sludge which in turn will increase the efficiency of Quiescent zone. Currently, a considerable amount of dead sludge deposited in quiescent zone is coming along with effluent which is deteriorating the quality of effluent.
16. Both DG sets are working. It is suggested to increase the height of chimney of DG sets as per CPCB norms.
17. All sludge transfer pumps are in working condition. Concessionaire is required to rectify the problems.
18. Sludge dewatering unit is working. Poly dosing unit is working.
19. For chlorination system, temporary arrangement is provided for using effluent water at the inlet of booster pumps. Concessionaire is suggested to make this arrangement permanent.
20. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
21. At flood pumping station, one pump is under maintenance. Problem for the same must be rectified at the earliest.
22. Since the chlorine tonner storage in Rajapur STP goes beyond 4 tonners at one time hence Concessionaire is required to obtain license regarding chlorine storage as per Gas Cylinder Rules (2016).
23. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
24. There is variation in recorded values of flow from inlet flowmeter at Rajapur STP and outlet flowmeter of Mumfordganj SPS, please rectify the problem.
25. There is variation in recorded values of flow from inlet flowmeters at Rajapur STP and outlet flowmeter of Rajapur STP, please rectify the problem.

26. Gas holder and gas flare are not in operation. It is part of STP facility hence must be made operational. Also, amount of Gas generation also indicates the performance level of UASBs. Concessionaire is requested to complete the maintenance works and take both into operation as follow-up for the same is being done since rehab period.
27. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement or it must be properly stacked at one place after taking proper consent from UPJN. Concessionaire have told that this is out of their jurisdiction for which Concessionaire is required to go through the mentioned clause and plan for the same accordingly.
28. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, data from Computer Maintenance Management system (CMMS) must be provided in MPR as supporting documents for maintenance data. Currently, CMMS system is installed at Rajapur STP is installed but not working as per requirements of day-to-day maintenance activities. Concessionaire is required to do the modifications as discussed.
29. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
30. At Rajapur SPS following observations were made:

    a) Temporary Bund at tapping Point is damaged due to the rain. It is not repaired yet. Most of the Raw Sewage from nearby nalla is going directly into the Ganga River. Concessionaire is suggested to rectify on urgent basis. Also, NMCG has instructed to rectify this issue in meeting dated 26th April 2023.
    b) Nalla tapping of Rajapur SPS is closed at 5:16 PM on 07.01.2023 for taking more sewage from household network as per instructions given by UPJN.
    c) Mechanical coarse Screens at SPS is working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    d) Operation of mechanical screen at SPS is not possible from SCADA.
    e) All submersible pumps are in working condition. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that pump can start & stop on the basis of level in the sump.

31. At Mumfodganj SPS following observations were made:

    a) At tapping point of SPS, manual screen is broken from bottom side, maintenance for the same is required as lot of waste is going inside SPS which can in turn will choke the pumps.
    b) Civil maintenance is required for the floor below bypass gate at tapping point for stopping the leakage from bypass gate.
    c) Both Mechanical coarse screens at SPS are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    d) At Mumfodganj MPS, 4 pumps are OK for operation. Remaining 2 pumps are ok but there is some issue in soft starter due to which it is not possible to operate them. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that pump can start & stop on the basis of level in the sump.
    e) Dismantling joint must be provided along with flowmeter for ease in maintenance.
    f) NRV must be provided in common header to reduce the effect of water hammering.
    g) Site house Keeping & landscaping must be improved. Concessionaire is suggested to keep the old material Properly.

32. Since COD is announced for all Package – II facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    c) Testing of TN, NH4-N, TP for composite samples of influent must be performed each day as per Part-G in Schedule-10 of CA.

d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
e) Quarterly report as per Part-G in Schedule-10 of CA.
f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. Incident reports must also be submitted along with action plan.
i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

2.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of UASBs also for checking the efficiency of UASBs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

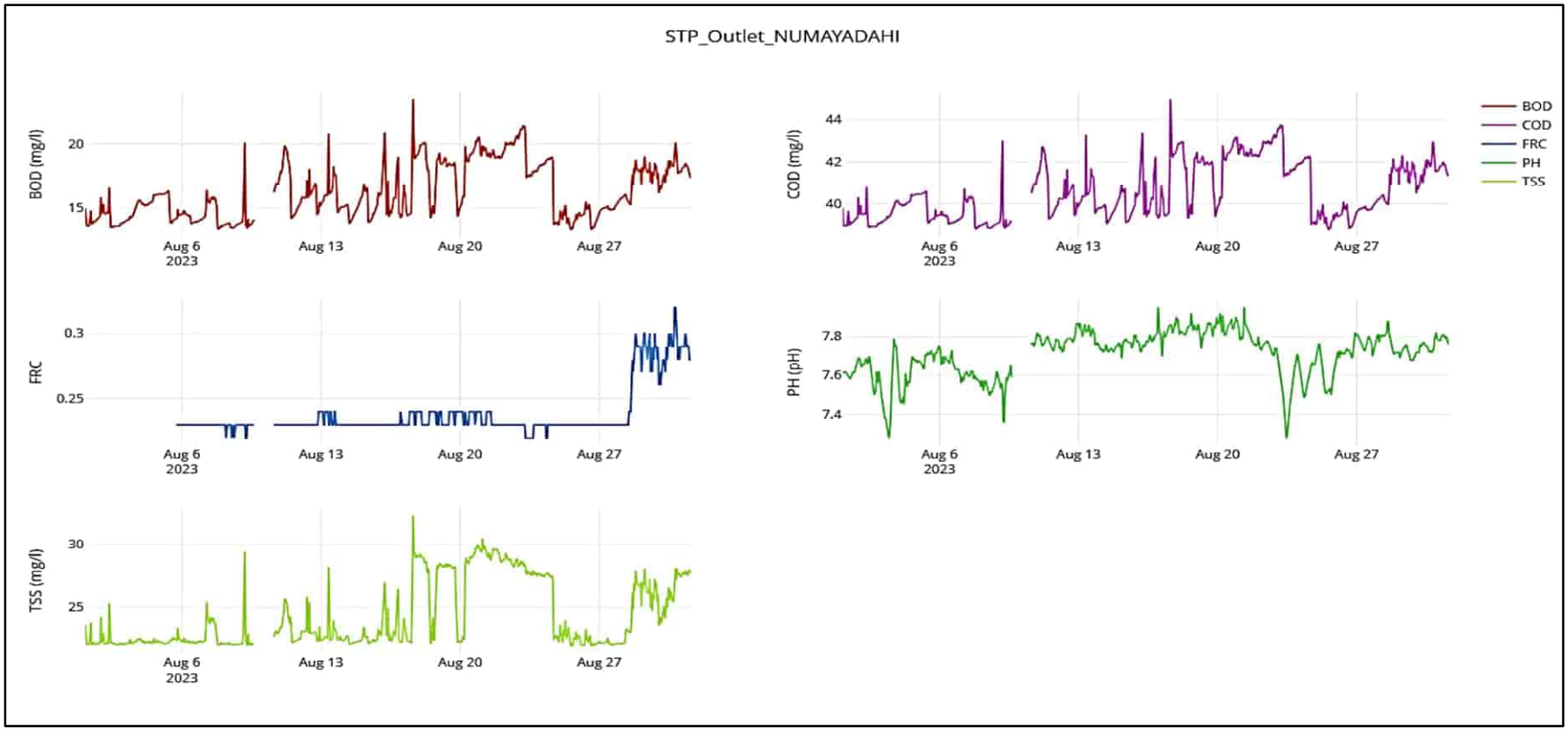
ANNEXURE-III

KPI REPORTS OF PACKAGE -III, ACTION TAKEN REPORT AND RECOMMENDATION

Table of Contents

1. NUMAYADAHI STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for spikes/drops in graphs is going on as fine tuning of multi parameter analyzer from OEM is in progress.

2. In the blank areas, data was not transfer due to some issue in router and no calibration of FRC sensor.

Numayadahi STP, 50 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-50 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design <50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	59830	59.83	7.37	7.76	135	15	312	40	280	24	NA	500	0.3	23.57	1400000	
2-Aug-23	54850	54.85	7.32	7.72	140	13	308	36	246	21	NA	500	0.3	23.87	1700000	
3-Aug-23	60840	60.84	7.69	7.69	130	16	320	40	284	24	NA	600	0.3	24.04	1400000	
4-Aug-23	63940	63.94	7.34	7.76	135	17	296	44	280	23	NA	600	0.3	22.77	1300000	
5-Aug-23	63600	63.60	7.30	7.68	125	15	304	36	305	24	NA	700	0.3	24.09	1100000	
6-Aug-23	54580	54.58	7.34	7.57	120	15	312	40	264	23	NA	500	0.2	24.78	1400000	Operations of Sasur Kadheri SPS were stopped from 9:40 PM on 06.08.2023 to 11:50 PM on 10.08.2023 as I&D was submerged in river water due to flood and water entered into the premises of SPS
7-Aug-23	44900	44.90	7.32	7.59	130	14	256	40	234	21	NA	600	0.2	22.99	1700000	
8-Aug-23	39150	39.15	7.35	7.68	145	15	304	36	264	24	NA	400	0.3	23.22	1100000	
9-Aug-23	32340	32.34	7.32	7.71	135	14	276	40	271	24	NA	700	0.2	24.16	1400000	
10-Aug-23	43880	43.88	7.43	7.66	145	16	284	36	262	23	NA	500	0.2	22.70	1300000	
11-Aug-23	59150	59.15	7.38	7.72	130	17	300	44	281	25	NA	400	0.3	24.82	1700000	
12-Aug-23	60300	60.30	7.42	7.76	125	15	288	40	257	23	NA	600	0.2	23.38	1400000	
13-Aug-23	62200	62.20	7.31	7.69	140	17	316	44	288	25	NA	400	0.3	24.04	1100000	
14-Aug-23	61180	61.18	7.36	7.72	130	14	304	40	258	24	NA	700	0.3	24.79	1300000	
15-Aug-23	57740	57.74	7.21	7.74	145	16	312	44	242	22	NA	500	0.2	23.75	1400000	
16-Aug-23	59700	59.70	7.28	7.67	135	15	300	40	254	26	NA	700	0.3	24.34	1400000	
17-Aug-23	59120	59.12	7.22	7.74	140	17	308	44	262	28	NA	400	0.3	24.04	1300000	
18-Aug-23	60070	60.07	7.28	7.76	125	18	324	44	258	25	NA	600	0.2	24.54	1700000	
19-Aug-23	59530	59.53	7.26	7.74	135	16	320	40	262	26	NA	500	0.3	23.24	1400000	
20-Aug-23	60660	60.66	7.32	7.78	145	18	328	40	278	25	NA	400	0.2	24.37	1100000	
21-Aug-23	60800	60.80	7.36	7.66	140	18	320	44	266	27	NA	600	0.2	23.54	1300000	
22-Aug-23	52200	52.20	7.26	7.69	145	19	304	48	253	26	NA	500	0.3	24.40	1400000	
23-Aug-23	60400	60.40	7.19	7.70	135	18	288	40	239	27	NA	700	0.3	23.35	1700000	
24-Aug-23	61500	61.50	7.27	7.71	130	16	296	44	256	24	NA	400	0.2	23.44	1300000	
25-Aug-23	62330	62.33	7.26	7.62	130	15	304	36	248	22	NA	600	0.3	23.64	1400000	
26-Aug-23	58850	58.85	7.29	7.78	145	15	316	40	258	24	NA	500	0.3	24.01	1100000	
27-Aug-23	59180	59.18	7.24	7.62	140	16	300	44	247	23	NA	700	0.2	24.82	1300000	
28-Aug-23	57650	57.65	7.31	7.74	130	17	312	40	252	24	NA	400	0.3	23.54	1400000	
29-Aug-23	60450	60.45	7.36	7.78	135	17	304	44	272	26	NA	600	0.3	23.11	1700000	
30-Aug-23	62750	62.75	7.38	7.69	135	18	316	44	289	27	NA	500	0.2	24.79	1300000	
31-Aug-23	61120	61.12	7.28	7.71	140	17	304	40	267	26	NA	700	0.3	23.75	1700000	
Average	**57251.29**	**57.25**	**7.32**	**7.70**	**135.32**	**16.10**	**304.39**	**41.03**	**263.77**	**24.39**	**NA**	**548.39**	**0.26**	**23.87**	**1393548.39**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Mr. Abhishek Shrivastava, AE, UPJN. 3. Mr. Rahul Paswan, JE, UPJN 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Kumar Azaad, PWPL. 7. Mr. Jitender, PWPL.
Place(s) of Inspection	• 50 MLD STP at Numayadahi, Prayagraj • 50 MLD MPS at Ghagharnalla, Prayagraj • 15 MLD SPS at Sasur Kadheri, Prayagraj • 16.5 MLD SPS at Lukarganj, Prayagraj

Visit was done on 28th July 2023, 7th August 2023, 14th August 2023 & 25th Aug 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	32.34 to 63.94
2	Ghagharnalla MPS	34.12 to 66.00
3	Sasur Kadheri SPS	0.00 to 37.25
4	Lukerganj SPS	4.68 to 10.99

Note: 1) Source for above data is Site record for flow of STP/MPS/SPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	14 to 17 mg/l
2	TSS – Effluent	< 30 mg/l	21 to 26 mg/l
3	pH – Effluent	6.5 – 9.0	7.57 to 7.76
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.70 to 24.82 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

Note: 1) Source for above data is Site record for Laboratory of STP.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Numayadahi STP	57.89 to 83.18
2	Numayadahi Associated Infrastructure	79.57 to 110.67

Note: 1) Source for above data is Site record for Power Consumption of STP.

- Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
2. Online analyzer at inlet is replaced with new one. Validation of calibration in presence of UPJN/Project Engineer is completed and it is under observation.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops and breakage in data received from site can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Communication of data from PLC system of Ghagharnalla MPS, Sasur Kadheri SPS and Lukarganj SPS has started coming to SCADA system of STP. Concessionaire is required to submit SCADA reports along with MPRs of this facility once correct SCADA reports start generating.

   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeter at inlet of STP is working.
6. Flowmeter at outlet of STP is working. Calibration of flowmeter is completed but it is not giving accurate values as compared to inlet flowmeter as there is variation between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve the problem.
7. Both grit removal units are in operation. Replacement of screw conveyors for both grit removal units is required as they are not scrapping grit properly.
8. Both Mechanical Screens are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode. Repairing of electrical panel for screens is required.
9. All Biotowers are in operation. Arms of biotower mechanism for all biotowers are completely rusted and must be replaced at the earliest. Replacement of net is also required for all biotowers.
10. Though overhauling of mechanical screens is completed in rehabilitation period but still considerable amount of plastic waste is reaching the biotowers hence the gap must be checked around mechanical screens or otherwise this plastic waste can choke up the media which will ultimately lower the efficiency of Biotowers.
11. All Aeration tanks are working. Air is coming out vigorously from 5-6 points due to problem in diffusers for Aeration tank no. 1 & 2. This must be rectified at the earliest.
12. All aeration blowers are in working condition & two blowers were found running. Abnormal noise was coming from blower no.5, please check & rectify.
13. DO analyzer at the outlet of all aeration tanks are not working properly, please check & rectify the problem.
14. Pressure transmitter & temperature transmitter are not installed yet on header line of Aeration blowers.
15. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 9-10 trolleys per day.
16. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
17. All Sludge Recirculation Pumps are in working condition.
18. Both Secondary clarifiers were found in operation.
19. Both booster pumps & both chlorinators are in working condition. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
20. Leak detection and leak absorption system are working. It must be ensured that the system must work in auto mode all the time.
21. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
22. Storge of Empty and filled chlorine tonner are not done properly as per safety norms. Concessionaires is required to do the needful for the same.
23. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at one time hence Concessionaire is required to obtain license regarding chlorine storage as per Gas Cylinder Rules (2016).
24. Both DGs are working.

25. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
26. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to pleasedo the needful.
27. Make a proper store for storage of flammable and hazardous materials including spare parts.
28. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
29. All CCTV cameras are working.
30. There is variation in recorded values of flow from inlet flowmeter at Numayadahi STP and outlet flowmeter of Ghagharnalla MPS, please rectify the problem.
31. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
32. For Ghagharnalla MPS, following issues are required to be resolved:

    a) Currently, it was observed that overflow occurs sometimes during peak hours due to deposition of sludge in the path of nalla towards tapping point even after running MPS at full capacity. Hence, UPJN is requested to please look into the matter and do the needful.
    b) Repairing of wall of pump house towards sump is required so that no sewage can go inside the pump house in any situation.
    c) Currently, all HNC pumps (4 new + 2 old) are in working condition.
    d) Currently, there was minor leakage of sewage from the retaining wall at the tapping point of MPS, this must be rectified as raw sewage is going directly into the river.
    e) Both Mechanical screens are working.
    f) Both DG sets are working.
    g) During the shutdown taken in the month of May-21, NRV was taken out from the main header line for maintenance purpose, but it is not reinstalled till date. Concessionaire to please do the needful so that effect of back hammering on the pumps can be reduced.
    h) Painting of units in the MPS is completed from outside. It is suggested to start the painting work for all units from inside also.

33. For Sasur Kadheri SPS, following issues are required to be resolved:

    a) Currently, it was found that raw sewage keeps overflowing from the retaining wall even when the pumping from this SPS is around 30-35 MLD which is around 200-230% of the total capacity of SPS i.e., 15 MLD. Due to the amount of overloading on the SPS, overflow of the sewage from retaining wall cannot be stopped. Hence, UPJN is requested to please look into the matter and do the needful.
    b) Currently all submersible pumps in the SPS are OK for operation.
    c) Both Mechanical screens are working.
    d) Both DG sets are OK for operation.
    e) Painting of units in the SPS is completed from outside. It is suggested to start the painting work for all units from inside also.

34. At Lukerganj SPS,

    a) All 6 pumps are OK for operation. It is suggested to complete repairing of old pumps also so that they can be used during emergency situation.
    b) One mechanical screen is working, and one is in maintenance.
    c) Both DG sets are working.
    d) Painting of units in the SPS is completed from outside. It is suggested to start the painting work for all units from inside also.

35. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

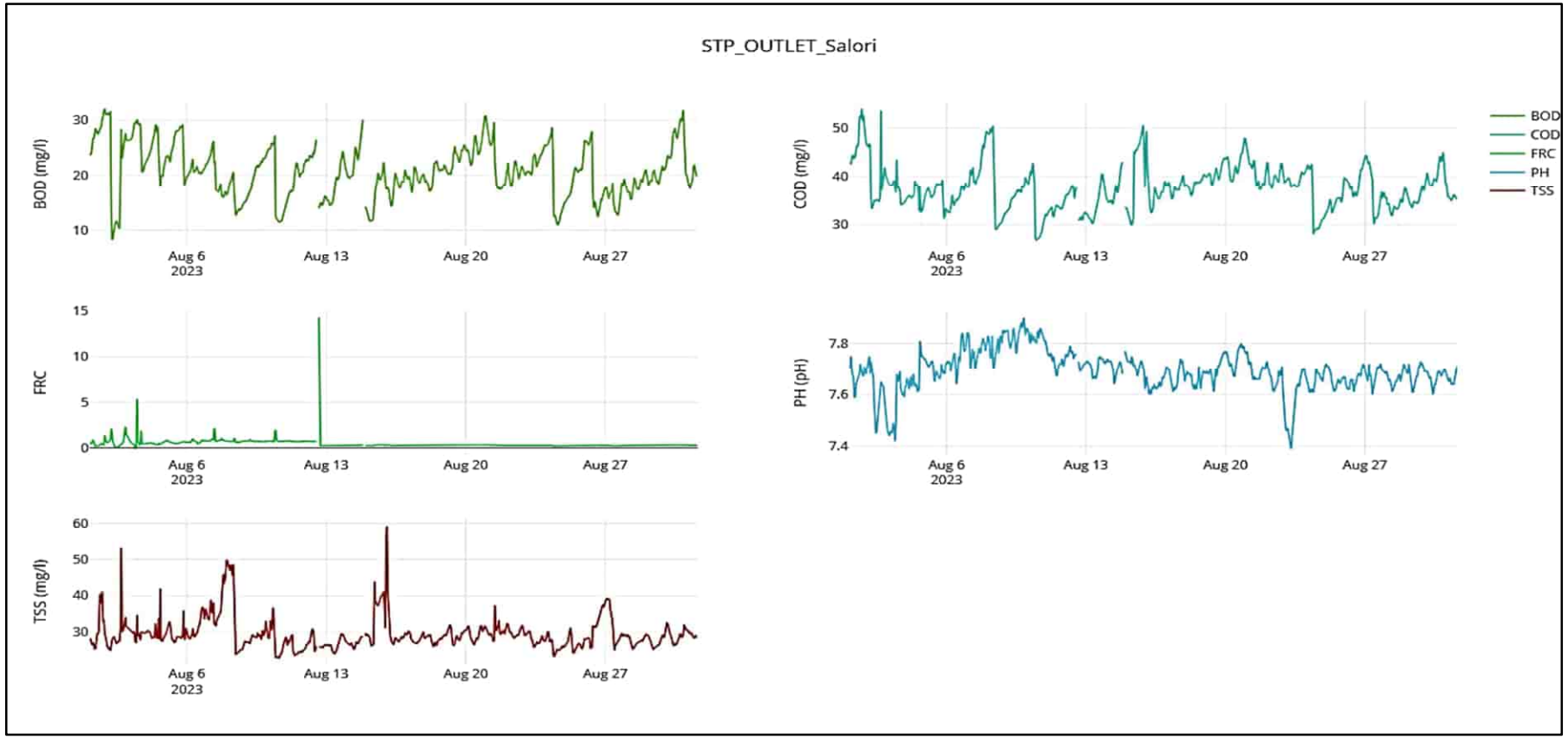
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
    d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
    e) Quarterly report as per Part-G in Schedule-10 of CA.
    f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    g) Procedure for recording & disposal of complaints.
    h) Safety & Health Records. Incident reports must also be submitted along with action plan.
    i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

1.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of PSTs also for checking the efficiency of PSTs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

2. SALORI STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for spikes/drops in graphs is going on as fine tuning of multi parameter analyzer from OEM is in progress.

2. In the blank areas, data was not transfer due to some issue in router and no calibration of FRC sensor.

Salori STP, 29 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design <50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	40610	40.61	7.62	7.64	165	28	364	44	329	33	NA	600	0.3	24.3	1400000	
2-Aug-23	33800	33.80	7.58	7.65	145	22	352	36	338	31	NA	400	0.2	23.4	1100000	
3-Aug-23	35520	35.52	7.63	7.67	155	26	360	40	324	32	NA	700	0.3	25.3	1400000	
4-Aug-23	38540	38.54	7.56	7.62	160	25	352	36	318	31	NA	800	0.2	23.8	1700000	
5-Aug-23	35420	35.42	7.63	7.66	155	25	356	40	326	30	NA	600	0.3	24.3	1300000	Sluice Gate at Amitabh Bachchan Culvert is closed at 8:00 PM on 05.08.2023 due to rise in river level because of flood.
6-Aug-23	9910	9.91	7.58	7.69	160	20	204	32	218	33	NA	500	0.2	25.2	1100000	1. Sluice Gate at Amitabh Bachchan Culvert is closed at 8:00 PM on 05.08.2023 due to rise in river level because of flood. 2. Sluice gates of Allahapur drain are closed at 4:00 PM on 06.08.2023 due to rise in river level because of flood.
7-Aug-23	8590	8.59	7.61	7.67	155	19	208	40	210	36	NA	700	0.3	24.6	1700000	
8-Aug-23	8000	8.00	7.63	7.66	165	17	236	36	253	35	NA	600	0.3	23.8	1200000	
9-Aug-23	7750	7.75	7.65	7.69	155	22	288	36	259	31	NA	400	0.2	24.7	1300000	
10-Aug-23	11710	11.71	7.63	7.82	160	20	320	32	292	27	NA	700	0.2	24.9	1400000	1. Sluice gates of Allahapur drain are opened at 9:00 PM on 10.08.2023 due to fall in river level. 2. Sluice Gate at Amitabh Bachchan Culvert is still close.
11-Aug-23	18170	18.17	7.63	7.76	155	21	256	36	310	24	NA	600	0.3	23.7	1200000	
12-Aug-23	25120	25.12	7.36	7.68	165	22	252	36	322	28	NA	700	0.2	25.3	1300000	
13-Aug-23	31690	31.69	7.29	7.72	160	20	360	32	335	27	NA	500	0.3	24.6	1100000	Sluice Gate at Amitabh Bachchan Culvert is opened at 4:30 PM on 13.08.2023 due to fall in river level. Now complete sewage is coming inside the STP.
14-Aug-23	34550	34.55	7.63	7.73	155	23	364	40	329	29	NA	600	0.3	24.8	1400000	
15-Aug-23	34380	34.38	7.57	7.68	160	18	360	40	334	33	NA	500	0.2	23.9	1200000	
16-Aug-23	37880	37.88	7.62	7.68	145	19	352	36	324	32	NA	400	0.3	25.4	1300000	
17-Aug-23	39020	39.02	7.35	7.57	155	21	356	40	319	30	NA	700	0.2	24.6	1700000	
18-Aug-23	40430	40.43	7.46	7.63	160	20	364	40	313	29	NA	700	0.3	24.8	1400000	
19-Aug-23	36660	36.66	7.21	7.49	155	24	348	44	298	31	NA	700	0.3	23.1	1700000	
20-Aug-23	36670	36.67	7.35	7.66	165	27	356	40	308	30	NA	800	0.2	24.3	1400000	
21-Aug-23	38540	38.54	7.03	7.68	160	23	368	32	347	32	NA	600	0.3	23.5	1100000	
22-Aug-23	37840	37.84	7.24	7.64	155	22	360	36	321	30	NA	500	0.2	24.2	1300000	
23-Aug-23	36200	36.20	7.35	7.58	160	24	328	36	291	29	NA	600	0.2	23.7	1700000	
24-Aug-23	36360	36.36	7.03	7.55	155	19	352	34	305	26	NA	700	0.3	24.7	1200000	
25-Aug-23	37690	37.69	7.32	7.64	165	21	352	36	312	27	NA	500	0.3	24.6	1400000	
26-Aug-23	38150	38.15	7.09	7.68	155	20	364	40	326	30	NA	400	0.3	23.9	1300000	
27-Aug-23	39010	39.01	7.23	7.56	160	18	348	36	318	34	NA	600	0.2	23.2	1700000	
28-Aug-23	40330	40.33	7.31	7.58	155	19	356	36	337	29	NA	700	0.3	24.5	1200000	
29-Aug-23	39930	39.93	7.33	7.61	165	21	360	32	328	28	NA	400	0.2	23.8	1700000	
30-Aug-23	37860	37.86	7.38	7.55	170	27	352	44	332	31	NA	500	0.3	24.3	1400000	
31-Aug-23	38870	38.87	7.36	7.58	155	22	356	40	328	32	NA	700	0.3	25.4	1300000	
Average	**31780.65**	**31.78**	**7.43**	**7.65**	**158.23**	**21.77**	**332.39**	**37.35**	**309.81**	**30.32**	**NA**	**593.55**	**0.26**	**24.34**	**1374193.55**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Mr. Abhishek Shrivastava, AE, UPJN. 3. Mr. Rahul Paswan, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Kumar Azaad, PWPL. 7. Mr. Vaibhav, PWPL
Place(s) of Inspection	• 29 MLD STP at Salori, Prayagraj. • 29 MLD MPS at Salori, Prayagraj.

Visit was done on 27th July 2023, 4th August 2023, 10th August 2023 & 21st August 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	7.75 to 40.61
2	Salori MPS	7.75 to 40.61

Note: 1) Source for above data is site record for flow of STP & MPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	18 to 28 mg/l
2	TSS – Effluent	< 50 mg/l	24 to 36 mg/l
3	pH – Effluent	6.5 – 9.0	7.62 to 7.82
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.30 to 25.30 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

Note: 1) Source for above data is site record for Laboratory of STP.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Salori STP	77.51 to 233.34
2	Salori Associated Infrastructure	49.28 to 55.41

Note: 1) Source for above data is site record for Power Consumption of STP.

- Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter

analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Validation of calibration in presence of UPJN/Project Engineer is completed and it is under observation.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops and breakage in data received from site can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. All Grit Removal Units are working.
7. Both Mechanical Screens are working but both mechanical screens are not lifting screenings efficiently. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. Both FAB units are working.
9. DO analyzers for both FAB units are not working, please rectify the problem.
10. All three aeration blowers are working.
11. Both clarisettlers are working. In Clarisettler no. 1, levelling of outlet launders must be checked as supernatant is not coming equally in all outlet lauders & this can affect the quality of effluent. Concessionaire to please look into the matter & rectify the problem at the earliest.
12. In clarisettlers it is observed that when agitators are operated, sludge starts coming to the top due to which quality deteriorates. Hence, it is suggested to do necessary modifications in agitators so that the problem can be rectified.
13. Quality of effluent is satisfactory.
14. Sludge dewatering unit is in operation, poly dosing unit is in operation.
15. Both Sludge transfer pumps for Clarisettler are working.
16. Both Filtrate pumps are working.
17. Both chlorinators are working. Both booster pumps are working.
18. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
19. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
20. Thickener unit is working. Cleaning of scum from top is required.
21. Both DGs are working.
22. It was found that sludge is being dumped within the STP. Concessionaire to please look into the matter and dump sludge only in the land which is being allotted by UPJN for sludge disposal.
23. At Salori MPS, all pumps are working. Since the programming for running pumps in auto mode is completed, it is suggested to operate them in auto mode for optimum performance.
24. At Salori MPS, it is suggested to rectify problems in old pumps also so that they can be used in emergency Currently, all old pumps are not in working condition.
25. At Salori MPS, one coarse screen is working, and one coarse screen is in maintenance before sump due to which lot of waste is passing and pumps are getting choked and lot of wear and tear is happening in the pumps. Hence, UPJN is requested to instruct M/s Passavant to rectify the problem.
26. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
27. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
28. Installation & commissioning of Public Address System is not completed yet.
29. Housekeeping near FeCl3 dosing system needs to be improved.
30. All CCTV cameras are working.
31. Make a proper store for storage of flammable and hazardous materials including spare parts.
32. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.

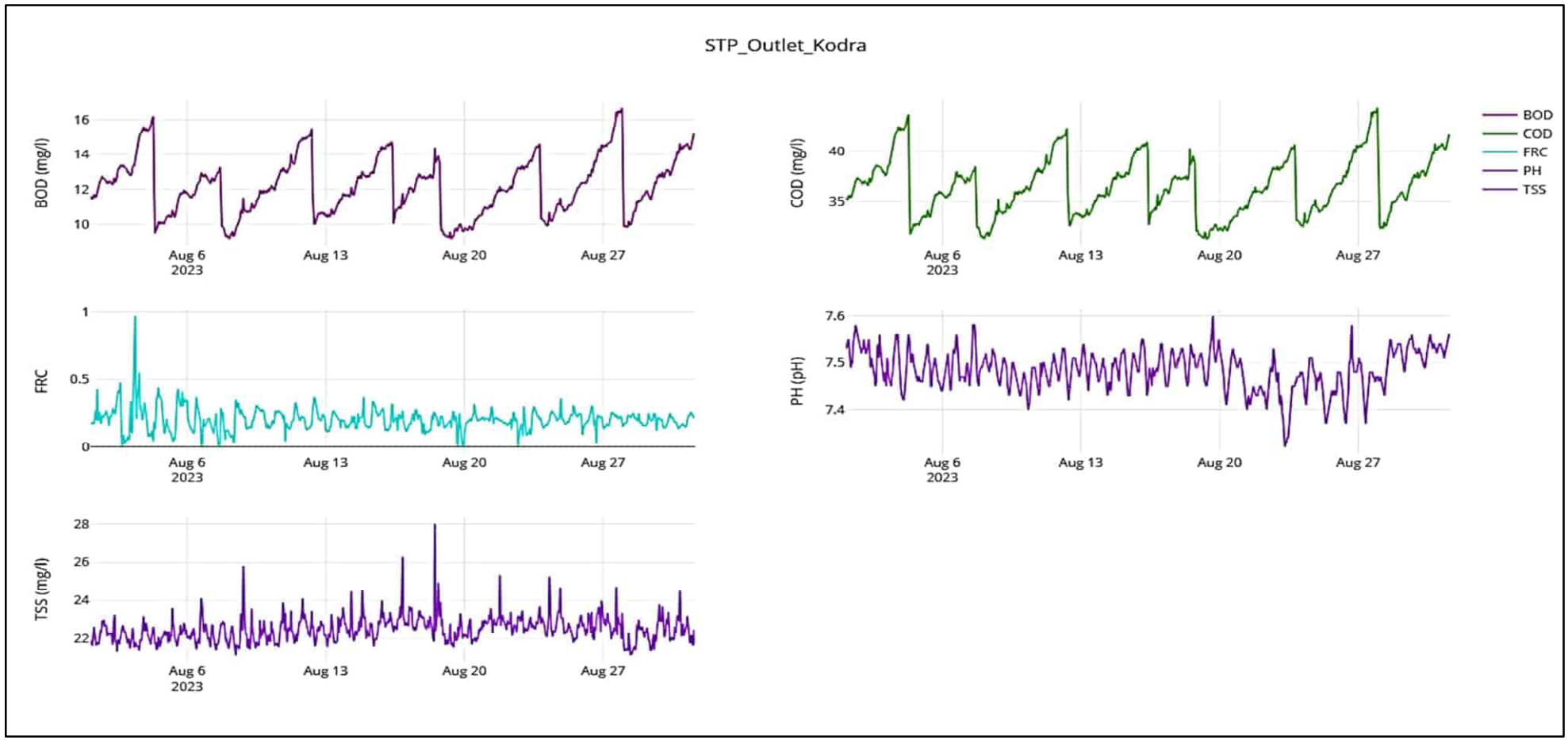
33. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
    d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
    e) Quarterly report as per Part-G in Schedule-10 of CA.
    f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    g) Procedure for recording & disposal of complaints.
    h) Safety & Health Records. Incident reports must also be submitted along with action plan.
    i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

2.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of PSTs also for checking the efficiency of PSTs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

3. KODRA STP AND ASSOCIATE INFRASTRUCTURE

3.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for spikes/drops in graphs is going on as fine tuning of multi parameter analyzer from OEM is in progress.

Kodra STP, 25 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	31270	31.27	7.22	7.53	125	11	308	36	272	23	NA	500	0.3	23.63	1300000	
2-Aug-23	30430	30.43	7.18	7.50	120	13	324	40	263	22	NA	400	0.2	24.31	1400000	
3-Aug-23	29770	29.77	7.20	7.52	130	14	312	44	282	21	NA	600	0.3	24.43	1200000	
4-Aug-23	31530	31.53	7.23	7.49	120	11	296	36	260	22	NA	500	0.2	23.54	1700000	
5-Aug-23	30790	30.79	7.18	7.47	125	10	284	32	266	20	NA	400	0.2	25.15	1100000	
6-Aug-23	31230	31.23	7.19	7.51	130	12	304	36	275	22	NA	700	0.3	24.82	1300000	
7-Aug-23	32240	32.24	7.16	7.48	120	11	288	32	270	20	NA	500	0.3	23.2	1400000	
8-Aug-23	29980	29.98	7.21	7.46	115	10	276	36	254	21	NA	600	0.3	23.24	1300000	
9-Aug-23	29220	29.22	7.17	7.44	125	12	292	32	260	20	NA	500	0.2	24.18	1200000	
10-Aug-23	29910	29.91	7.24	7.49	120	11	284	36	272	22	NA	400	0.3	24.69	1100000	
11-Aug-23	30400	30.4	7.26	7.47	125	13	260	40	254	21	NA	600	0.2	23.96	1700000	
12-Aug-23	30240	30.24	7.23	7.53	130	12	256	36	246	23	NA	500	0.2	23.99	1300000	
13-Aug-23	31330	31.33	7.27	7.50	115	13	264	32	250	22	NA	700	0.3	23.22	1200000	
14-Aug-23	30220	30.22	7.18	7.49	110	12	272	36	258	24	NA	600	0.2	23.19	1400000	
15-Aug-23	29540	29.54	7.23	7.51	120	14	256	40	247	22	NA	400	0.2	24.6	1200000	
16-Aug-23	30540	30.54	7.19	7.47	115	13	276	36	256	25	NA	700	0.2	24.42	1300000	
17-Aug-23	30160	30.16	7.28	7.52	110	12	284	36	262	24	NA	500	0.3	24.48	1400000	
18-Aug-23	31530	31.53	7.26	7.48	120	13	272	40	252	23	NA	600	0.3	24.33	1200000	
19-Aug-23	31030	31.03	7.32	7.53	105	10	252	32	244	22	NA	700	0.3	24.49	1400000	
20-Aug-23	30060	30.06	7.33	7.50	125	11	276	36	250	21	NA	600	0.3	24.57	1300000	
21-Aug-23	30440	30.44	7.30	7.46	110	12	260	32	253	22	NA	400	0.2	25.31	1200000	
22-Aug-23	30210	30.21	7.37	7.49	115	13	268	40	246	23	NA	500	0.2	25.25	1400000	
23-Aug-23	29620	29.62	7.16	7.46	125	14	272	36	240	24	NA	700	0.3	24.16	1200000	
24-Aug-23	29650	29.65	7.19	7.44	120	10	256	32	247	22	NA	400	0.3	24.43	1300000	
25-Aug-23	30060	30.06	7.18	7.42	125	11	264	36	258	23	NA	500	0.3	23.74	1400000	
26-Aug-23	28640	28.64	7.22	7.50	110	13	252	40	243	22	NA	600	0.2	23.92	1700000	
27-Aug-23	28480	28.48	7.31	7.47	105	16	276	44	262	24	NA	500	0.3	24.74	1400000	
28-Aug-23	29870	29.87	7.28	7.51	115	11	268	32	254	22	NA	700	0.3	24.2	1200000	
29-Aug-23	30180	30.18	7.26	7.55	125	12	284	36	262	23	NA	600	0.2	24.21	1300000	
30-Aug-23	29200	29.2	7.22	7.42	120	14	276	40	258	22	NA	700	0.3	24.43	1700000	
31-Aug-23	29900	29.9	7.26	7.52	110	13	268	36	253	21	NA	400	0.3	23.39	1400000	
Average	**30247.42**	**30.25**	**7.23**	**7.49**	**118.87**	**12.16**	**276.77**	**36.39**	**257.06**	**22.19**	**NA**	**548.39**	**0.26**	**24.20**	**1341935.48**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Action taken report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Ms. Shilpa, AE, UPJN. 3. Mr. Narendra, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Azaad, PWPL. 7. Mr. Rajan, PWPL.
Place(s) of Inspection	• 25 MLD STP at Kodra, Prayagraj • 25 MLD MPS at Kodra, Prayagraj

Visit was done on Visit was done on 26th July 2023, 3rd August 2023, 9th August 2023, 16th August 2023 & 25th Aug 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	29.22 to 32.24
2	Kodra MPS	29.22 to 32.24

Note: 1) Source for above data is Register for flow record of STP & MPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	10 to 14 mg/l
2	TSS – Effluent	< 30 mg/l	20 to 25 mg/l
3	pH – Effluent	6.5 – 9.0	7.44 to 7.53
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.19 to 25.15%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

Note: 1) Source for above data is Register for Laboratory of STP.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Kodra STP	76.38 to 98.29
2	Kodra Associated Infrastructure	96.96 to 102.67

Note: 1) Source for above data is Register for Power Consumption Record of STP.

Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Validation of calibration in presence of UPJN/Project Engineer is completed and it is under observation.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. Both grit removal units are working. Repairing/replacement of discharge chute for units is required.
7. Both Mechanical Fine Screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. All Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working. Excess air is coming out from 5-6 points in all aeration tanks due to problem in diffusers. Because of air distribution in not uniform in aeration tanks hence this problem must be rectified at the earliest.
10. Both DO Analyzer are not working at outlet of aeration tank.
11. All Aeration blowers are working.
12. All Centrifuges are in working condition. Discharge chute repairing are required.
13. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
14. All Sludge Recirculation Pumps are working.
15. Both Centrifuge Feed Pumps are working.
16. Both Secondary Clarifiers are working.
17. Thickener unit is working.
18. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be around 0.2 to 0.3 mg/l.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
21. There is variation in recorded values of flow from inlet flowmeter at Kodra STP and outlet flowmeter of Kodra STP, please rectify the problem.
22. One Mechanical coarse Screens at MPS is working. One Mechanical coarse Screens is under maintenance Though the screens are running in auto mode through timer, differential level sensors must also be made operational for running mechanical screens more efficiently through level difference during peak and lean period.
23. At Kodra MPS, all 6 pumps are OK for operation. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that they can start & stop on the basis of level in the sump.
24. At Kodra MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
25. Landscaping of site must be improved; it needs to be made better.
26. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
27. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
28. Installation of Public Address System is done but its commissioning is not completed yet.
29. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
30. Make a proper store for storage of flammable and hazardous materials including spare parts.
31. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.

32. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

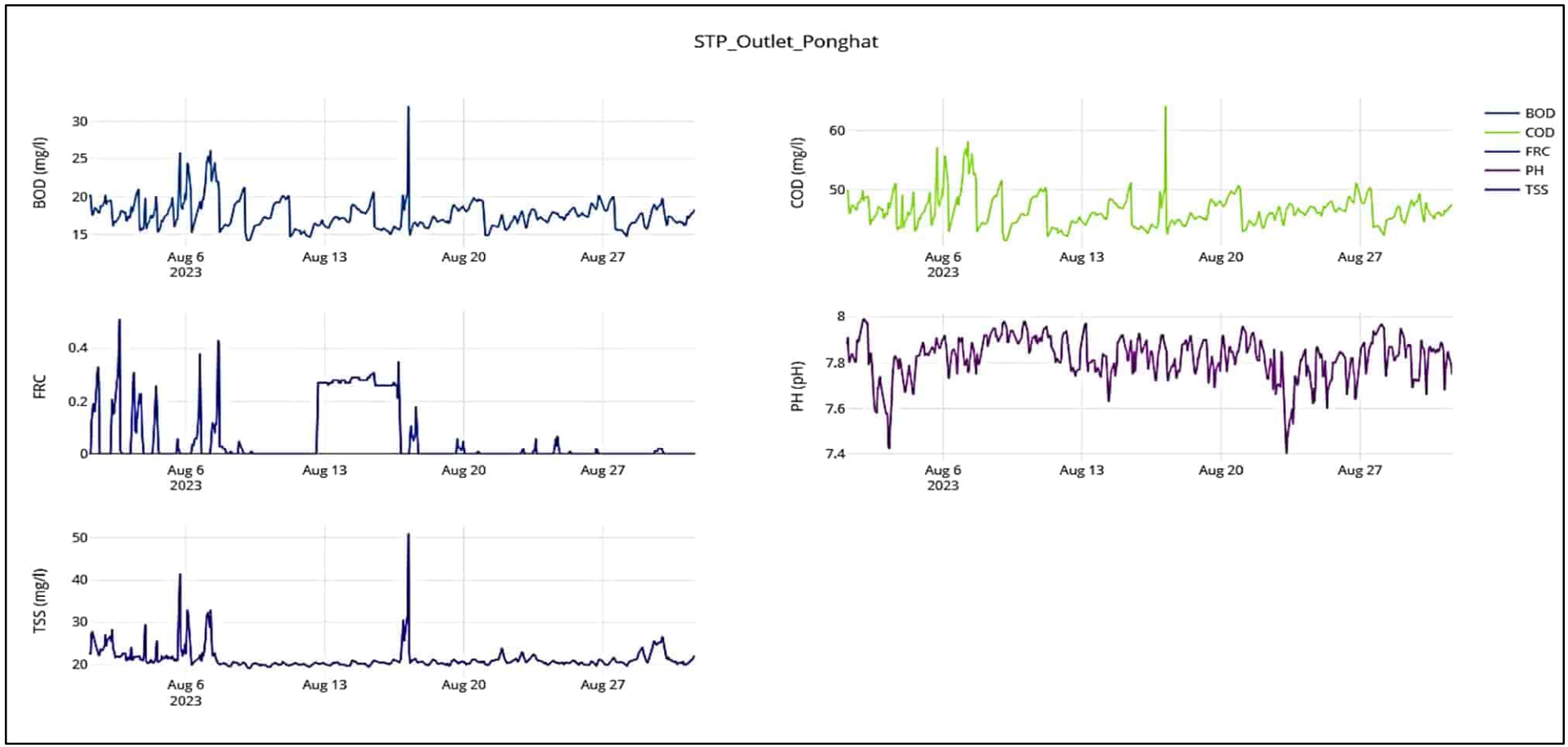
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
    d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
    e) Quarterly report as per Part-G in Schedule-10 of CA.
    f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    g) Procedure for recording & disposal of complaints.
    h) Safety & Health Records. Incident reports must also be submitted along with action plan.
    i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

3.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of PSTs also for checking the efficiency of PSTs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

4. PONGHAT STP AND ASSOCIATE INFRASTRUCTURE

4.1 KPI Report



Source: Online analyzer,

* BOD in Mg/L, COD in Mg/L and TSS in Mg/L

Note: 1. Rectification of problem for spikes/drops in graphs is going on as fine tuning of multi parameter analyzer from OEM is in progress.

Ponghat STP, 10 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design <50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Aug-23	13610	13.61	7.42	7.78	135	17	312	44	278	26	NA	400	0.3	23.18	1300000	
2-Aug-23	13850	13.85	7.38	7.71	125	18	304	48	282	25	NA	700	0.3	22.75	1400000	
3-Aug-23	13770	13.77	7.45	7.59	120	19	300	44	272	24	NA	500	0.2	22.59	1700000	
4-Aug-23	14600	14.60	7.27	7.65	125	17	286	48	264	23	NA	400	0.2	23.19	1500000	
5-Aug-23	14030	14.03	7.38	7.69	128	18	284	40	274	23	NA	600	0.3	24.35	1400000	
6-Aug-23	14060	14.06	7.40	7.35	120	19	304	36	278	28	NA	500	0.3	23.78	1300000	
7-Aug-23	13820	13.82	7.28	7.44	125	19	278	40	258	27	NA	400	0.2	22.94	1200000	
8-Aug-23	13490	13.49	7.25	7.86	126	18	272	44	260	22	NA	500	0.3	22.78	1400000	
9-Aug-23	13010	13.01	7.32	7.82	130	17	268	48	254	21	NA	600	0.3	23.28	1300000	
10-Aug-23	12990	12.99	7.28	7.85	120	18	270	44	258	22	NA	500	0.3	22.85	1700000	
11-Aug-23	13580	13.58	7.33	7.75	125	17	264	48	249	21	NA	400	0.2	22.75	1500000	
12-Aug-23	14960	14.96	7.26	7.61	130	18	272	40	253	24	NA	600	0.2	23.51	1400000	
13-Aug-23	13770	13.77	7.20	7.72	125	16	282	44	258	22	NA	500	0.3	22.86	1300000	
14-Aug-23	11740	11.74	7.24	7.68	130	18	276	48	249	21	NA	400	0.3	23.36	1700000	
15-Aug-23	13440	13.44	7.29	7.75	120	16	280	44	256	22	NA	500	0.2	23.61	1500000	
16-Aug-23	13990	13.99	7.32	7.78	125	17	284	48	264	23	NA	400	0.3	22.73	1300000	
17-Aug-23	14070	14.07	7.28	7.73	130	18	272	44	252	25	NA	600	0.2	23.28	1200000	
18-Aug-23	12640	12.64	7.32	7.76	120	16	282	48	264	22	NA	500	0.3	22.90	1500000	
19-Aug-23	11160	11.16	7.27	7.78	125	17	278	44	258	21	NA	400	0.3	23.12	1400000	
20-Aug-23	12790	12.79	7.30	7.74	120	18	286	48	268	22	NA	600	0.2	23.47	1300000	
21-Aug-23	13490	13.49	7.34	7.78	130	16	272	44	256	23	NA	500	0.3	22.78	1200000	
22-Aug-23	12830	12.83	7.26	7.65	135	18	278	48	260	22	NA	400	0.3	23.32	1400000	
23-Aug-23	13240	13.24	7.31	7.51	130	16	266	44	264	23	NA	600	0.3	23.67	1300000	
24-Aug-23	12800	12.80	7.29	7.74	125	18	276	48	258	22	NA	500	0.2	23.25	1200000	
25-Aug-23	12230	12.23	7.34	7.69	135	17	270	44	262	21	NA	400	0.3	23.70	1400000	
26-Aug-23	13230	13.23	7.27	7.72	130	18	282	48	268	22	NA	600	0.3	23.46	1500000	
27-Aug-23	12670	12.67	7.32	7.75	125	17	288	44	258	21	NA	500	0.2	23.53	1200000	
28-Aug-23	12300	12.30	7.36	7.81	135	18	276	48	266	23	NA	400	0.3	24.15	1300000	
29-Aug-23	12840	12.84	7.30	7.76	120	17	294	44	270	26	NA	600	0.2	23.85	1400000	
30-Aug-23	12650	12.65	7.26	7.71	130	16	300	48	278	23	NA	500	0.3	23.64	1500000	
31-Aug-23	12770	12.77	7.34	7.68	135	18	308	44	268	24	NA	400	0.2	23.40	1300000	
Average	**13239.35**	**13.24**	**7.31**	**7.70**	**126.90**	**17.42**	**282.71**	**45.03**	**263.13**	**23.03**	**NA**	**496.77**	**0.26**	**23.29**	**1387096.77**	

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Inspection Report

Month of Site Inspection	August 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN. 2. Ms. Shilpa, AE, UPJN. 3. Mr. Narendra, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Kumar Tomar, AECOM. 6. Mr. Rahul Azaad, PWPL. 7. Mr. Anjani, PWPL.
Place(s) of Inspection	• 10 MLD STP at Ponghat, Prayagraj • 10 MLD MPS at Ponghat, Prayagraj

Visit was done on 26th July 2023, 3rd August 2023, 9th August 2023, 16th August 2023 & 25th Aug 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	11.74 to 14.96
2	Ponghat MPS	11.74 to 14.96

Note: 1) Source for above data is Register for flow record of STP & MPS.

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	17 to 19 mg/l
2	TSS – Effluent	< 30 mg/l	21 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.35 to 7.86
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100ml
5	Consistency – Sludge	> 20 %	22.59 to 24.35%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

Note: 1) Source for above data is Register for Laboratory of STP.

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Ponght STP	102.27 to 145.40
2	Ponght Associated Infrastructure	76.58 to 85.33

Note: 1) Source for above data is Register for Power Consumption Record of STP.

- Status of various units & records at site after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.
  1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Validation of calibration in presence of UPJN/Project Engineer is completed and it is under observation.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working but it is not showing correct readings as compared to that of inlet flowmeter.
6. Both Mechanical fine screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
7. Both Grit Removal Units are working.
8. Both Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working.
10. Both DO Analyzers at aeration tanks are not working.
11. All Aeration Blowers are working.
12. One Centrifuge is working, and one centrifuge is in maintenance. Sludge generation is 4–5 trolleys per day.
13. All Sludge Feed pumps, and Poly dosing pumps are working.
14. Quality of effluent is satisfactory.
15. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
16. Both Sludge Recirculation Pumps are working.
17. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be 0.2 to 0.3 mg/l.
18. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
19. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
20. At Ponghat MPS, all 6 pumps are OK for operation. Presser transmitter is not installed at pump discharge common header.
21. Both mechanical coarses screen at MPS are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
22. At Ponghat MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
23. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
24. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
25. Installation of Public Address System is done but its commissioning is not completed yet.
26. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
27. Make a proper store for storage of flammable and hazardous materials including spare parts.
28. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
29. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.

c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
e) Quarterly report as per Part-G in Schedule-10 of CA.
f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. Incident reports must also be submitted along with action plan.
i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

4.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.
- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of PSTs also for checking the efficiency of PSTs.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-G in Concession Agreement.
- All the old material obtained due to rehabilitation works in various units must be stacked properly at the identified part of the site and proper record must be maintained.
- It is recommended to follow proper safety measures during O&M, and it must be ensured that workers must wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

ANNEXURE-IV

PROJECT ENGINEER ACTIVITY AS PER TOR

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of Construction material including lab testing.
4,1(ii)	Review, analysis and qualifying assessment of Design Memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	NA	NA
4.1(iii)	Conduct Kick Off meetings	Yes	NA	NA
4.1(iv)	Review and monitor the submissions of the Concessionaire such as: a. Work Schedule b. Detailed Survey report c. Basic Engineering d. Detailed design and Drawings for i. Civil Works 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii. Mechanical and Electrical Works iii. Automation and Instrumentation works iv. Any other allied works e.QA/QC plans	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	f. Environment Health and Safety Plan, material safety data and hazardous chemicals if any.			
4.1(v)	Review of the Drawings and Documents as set forth in Paragraph 4 and 5;	Yes	Yes	Yes
4.1(vi)	Identification of Construction Milestones & Project progress monitoring and issue of Milestone Construction Certificates, Construction Completion Certificate, monitoring Trail run, recommendations for issuance of COD certificate by Jal Nigam etc..	Review and Monitoring of project	Review and Monitoring of project	Review and Monitoring of project
4.1(vii)	To Assist NMCG for getting Statutory permissions	NA	NA	NA
4.1(viii)	Ensure compliance with Statutory provisions under various applicable laws	Yes	Yes	Yes
4.1(ix)	Review, inspection, supervision and monitoring of Construction Works as set forth in Paragraph 6; conducting Tests on completion of construction and issuing Completion/ Provisional Certificate as set forth in Paragraph 6	Yes	Yes	Yes
	Review, inspection and monitoring of O&M as set forth in Paragraph 6;	Yes	Yes	Yes
	determining, as required under the Concession Agreement, the costs of any works or	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	services and/or their reasonableness;			
	determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation	Yes	Yes	Yes
	Determining the Events of default and guidance on consequent Termination notices and Payment as detailed in clauses 16.1 to 16.5of the Concession Agreement	NA	NA	NA
	Determine deficiencies in the commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam	Yes	Yes	Yes
	Any other matter which is not specified in ((vi),(vii), or (viii) above and which creates an obligation or liability on the Employer /NMCG beyond the provisions of the Concession Agreement.	Yes	Yes	Yes
4.1(x)	Ensuring Interim Availability of the existing Facilities during construction period and certifying Scheduled Outages during Scheduled Maintenance.	NA	NA	NA
4.1(xi)	The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	NMCG, in respect of its duties and functions under the Concession Agreement.			
4.1(xii)	The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement.	Yes	Yes	Yes
4.1(xiii)	Assisting the Parties in resolution of Disputes as set forth in Paragraph 9;	Yes	Yes	Yes
4.1(xiv)	Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 20.3 of the Concession Agreement; and	Yes	NA	NA
4.1(xv)	Undertaking all other duties and functions in accordance with this agreement. Project Engineer shall utilize best of analytical tools /computational models for review/analysis of structural/hydraulics wherever essential.	Yes	Yes	Yes
4.2	The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice.	Yes	Yes	Yes
4.3	The Project Engineer must function in a manner to assist and equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities in a manner that: (i) Is in compliance with the Technical Specifications,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Applicable Laws, Applicable Permits and Good Industry Practice; Results in the Facilities achieving the KPIs as detailed in schedule 9of the Concession Agreement and certify within 7 days the KPI adherence Report as per clause 9.12 of the Concession Agreement; (ii) Ensures that the Allahabad Facilities are capable of treating Sewage up to the Design Capacity on a daily basis; (iii) Ensures efficient treatment of Sewage and handling and disposal of STPs By- Products and the Treated Effluent (iv) STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure; (v) Is in compliance with the technology license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure; (vi) Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable			

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Laws and Applicable Permits; and (vii) Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits.			
4.4	Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation and maintenance of the Facilities and shall work closely with the Uttar Pradesh Jal Nigam and NMCG to monitor compliance with the KPIs. The detailed scope of work of the Project Engineer during various stages of the project, to be read in conjunction with the provisions of the Concession Agreement, is outlined in Paragraphs 4-12 of the TOR.	Yes	Yes	Yes
5.1	During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	send its comments/observations to the Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.			
5.2	The Project Engineer shall review and assist the Uttar Pradesh Jal Nigam in approval of the submissions by the concessionaire relating to the "design and, Construction Plan, rehabilitation Plan of existing facilities" so as to confirm to the scope as per Schedule 1 of the Concession Agreement.	Yes	Yes	Yes
5.3	The basic engineering drawings for the construction and rehabilitation in the above case shall mean the designs and documents to be submitted by the Concessionaire and approved by the Uttar Pradesh Jal Nigam as a Condition Precedent and shall include but not limited to (a) Conduct Kick off meeting, Scrutiny of contractor's submittals (b) Process description, process calculations and hydraulic calculations;	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	(c) List of design codes and standards; (d) Master drawing schedule; (e) Drainage design; (f) STP Facilities layout; (g) Process flow diagram; (h) Hydraulic flow diagram; (i) Mass balance diagram; (j) Process and instrumentation diagram; (k) Single line diagram; (l) Electrical load list; and (m) Structure design and drawings (n) Pump Characteristics and (o) General arrangement diagrams of all units of Facilities and; (p) Any other information, design, drawings, etc needed for effective development/rehabilitation and operation of Facilities..			
5.4	The Project Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such Drawings or Documents.	Yes	Yes	Yes
5.5	The Project Engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Concessionaire and furnish its comments within 10 (ten) days of receipt thereof.			
5.6	Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam	NA	NA	NA
6.1	In respect of the Designs Drawing and Documents received by the Project Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall also apply, mutatis mutandis.	Yes	NA	NA
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 8.3, 8.4 and 8.5 of the Concession Agreement including Phase 1 and Phase II Design & Drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 8.6 of the Concession Agreement.	Yes	Yes	Yes
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	on effectiveness or otherwise of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date.			
6.4	The Project Engineer shall review the submissions by the Concessionaire as per Schedule 1 of the Concession Agreement and assist Uttar Pradesh Jal Nigam in assessing the effectiveness them.	Yes	Yes	Yes
6.5	The Project Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the / Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report.	Yes	Yes	Yes
6.6	The Project Engineer shall inspect the Construction Works and the Project as and when necessary and submit a report of such inspection (the "Inspection Report"), preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case. The report shall contain, an overview of the status, progress, quality and safety of construction, including the work methodology adopted,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Project Engineer shall send a copy of its Inspection Report to the / Uttar Pradesh Jal Nigam and the Concessionaire within 3 (three) days of the inspection.			
6.7	However serious lapses, defects and/or deficiencies shall be reported to the Uttar Pradesh Jal Nigam/NMCG immediately without waiting for the monthly progress submissions as mentioned in the previous paragraph.	Yes	Yes	Yes
6.8	For determining that the Construction Works conform to Specifications and Standards, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Project Engineer in accordance with approved norms/Good Industry Practice for quality assurance. The Project Engineer shall issue necessary directions to the	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Concessionaire for ensuring that the tests are conducted in a fair and efficient manner and shall monitor and review the results thereof.			
6.9	The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/ rejection of their results shall be determined by the Project Engineer in accordance with the norms /rules and Good Industry Practice. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice.	Yes	Yes	Yes
6.10	In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests to determine that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests.	Yes	Yes	Yes
6.11	In the event that the Concessionaire fails to	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	achieve any of the Project Milestones, the Project Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Project Engineer identifies that completion of the Project is not feasible within the time specified in the Concession Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire forthwith.			
6.12	If at any time during the Construction Period, the Project Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and common public in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Construction Works that should be suspended for ensuring safety in respect thereof.			
6.13	In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and common public, it may, by notice in writing, require the Project Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Project Engineer shall inspect the suspended works and make a report to the NMCG/ Uttar Pradesh Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam.	NA	NA	NA
6.14	If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same.			
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire.	NA	NA	NA
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual.	Yes	Yes	Yes
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 21.	Yes	Yes	Yes
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'.	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
6.19	The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 8, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with.	Yes	Yes	Yes
6.20	On completion of construction and at behest of Employer, the Project Engineer may review the work done as per 'as built' drawings and identify defects and suggest changes as per clause 8.14(a)of the Concession Agreement.	Yes	NA	NA
6.21	Similarly, the Project Engineer may inspect the trial process and may point out the defects and cause changes or retrial of the process as per clause 8.15(d) of the Concession Agreement	Yes	NA	NA
6.22	Project Engineer shall ensure that the Concessionaire shall meet the Guaranteed Interim Availability of the existing Allahabad STPs and associated infrastructure within 30 days from the Effective Date of the Concession Agreement.	Yes	NA	NA
6.23	Project Engineer shall also ensure that the STP by-products and Treated Effluents discharged from the Existing Facilities meet the relevant Discharge Standards in accordance with the Clause 9.12(c) of the Concession	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Agreement, from 1 year from the Effective Date			
6.24	Project Engineer shall ensure that the Concessionaire shall meet the Guaranteed Interim Availability of the existing Allahabad STP and associated infrastructure within 30 days from the Effective Date of the Concession Agreement.	Yes	NA	NA
6.25	Project Engineer shall also ensure that the STP by-products and Treated Effluents discharged from the Existing Facilities meet the relevant Discharge Standards in accordance with the Clause 9.12(c) of the Concession Agreement, from 1 year from the Effective Date.	Yes	Yes	Yes
7.1	In respect of the Designs, Drawings, and Documents received by the Project Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis.	Yes	Yes	Yes
7.2	The Project Engineer shall review the O&M Manual (Clause 9.2) and the Scheduled Maintenance Programme submitted by the concessionaire and provides its recommendations on the same, including suggestions for change, if any. The O&M Manual shall cover: a) O&M Procedures; b) O&M Plan;	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; i) Human Resources Plans; j) EHS Plans; k) Emergency procedures; l) Management of Assets Plans. And m) Annual Scheduled Maintenance Programme.			
7.3	The Project Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of the Maintenance Program.	Yes	Yes	Yes
7.4	The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam	Yes	Yes	Yes
7.5	The Project Engineer shall verify the daily reports	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis;			
7.6	The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 9.8(b)(iii) (A) to (G) of the Concession Agreement.	Yes	Yes	Yes
7.7	The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet Point or at any other point at the Facilities for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.	Yes	Yes	Yes
7.8	The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 9.8(b)(iii)(E) the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	within 7 (seven) days of receipt of such report			
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M of the Project. The Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection.	Yes	Yes	Yes
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	Yes	Yes	Yes
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.			
7.12	The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.	Yes	Yes	Yes
7.13	The Project Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire.	Yes	Yes	Yes
7.14	In the event that the Concessionaire notifies the Project Engineer of any modifications that it proposes to make to the project, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 15 (fifteen) days of receiving the proposal.	Yes	Yes	Yes
7.15	The Project Engineer shall undertake sewage flow sampling, as and when required by the NMCG/ Uttar	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Pradesh Jal Nigam, under and in accordance with the provisions of this agreement.			
7.16	The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual), including monthly Environmental Monitoring Reports as detailed in Schedule 10(Part G) of the Concession Agreement.	Yes	Yes	Yes
7.17	The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire.	Yes	Yes	Yes
7.18	The Project Engineer will provide necessary assistance to NMCG and UP Jal Nigam for the understanding various projects undertaken through other Central Government/State Government schemes /Urban Local Bodies and advice NMCG/UP Jal Nigam accordingly so that the overall objective preventing flow of untreated sewage into the river Yamuna is accomplished. The support by the proposed PE will include, but not limited to the following: 7.18.1 Preparation of a road map/policy note for	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Aug 2023 to 31st Aug 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	completion of sewage related work at the City Level taking into consideration various schemes implemented through NMCG/Central/State Government funding and/or through Urban Local Body funding; 7.18.2 Assist in developing dovetailing partnerships with other schemes in the sewage sector like AMRUT, SMART City Mission and Swachh Bharat Mission to develop Synergistic plans. 7.18.3 Assist in identification of suitable new technologies for improving sewage infrastructure, economizing investment and for sustainable development and operation of the project; 7.18.4 Collecting information on regular monitoring and of implementation of various projects by the project implementing agencies/Urban Local Bodies and to produce status report;			
7.19	Assist in identification of bottlenecks in implementation of projects and suggesting remedial actions.	Yes	Yes	Yes

ANNEXURE-V

QUALITY CONTROL / QUALITY ASSURANCE

S.NO	Description	Instrument	1st August 2023 to 31st August 2023				Remarks
			As per IS no of test required	No of test conducted	No of test accepted	No of test rejected	
1	Cube test	IS 516-2001	Quantity of concrete (m3)Number of samples 1-5 1 6-15 2 16-30 3 31-50 4 51 and above 4 plus one additional sample for each additional 50 m3 or part thereof.	02	02	0	Jhunsi SPS cube test at Jhunsi site. Cube test is acceptable for 7 Days