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
October 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;

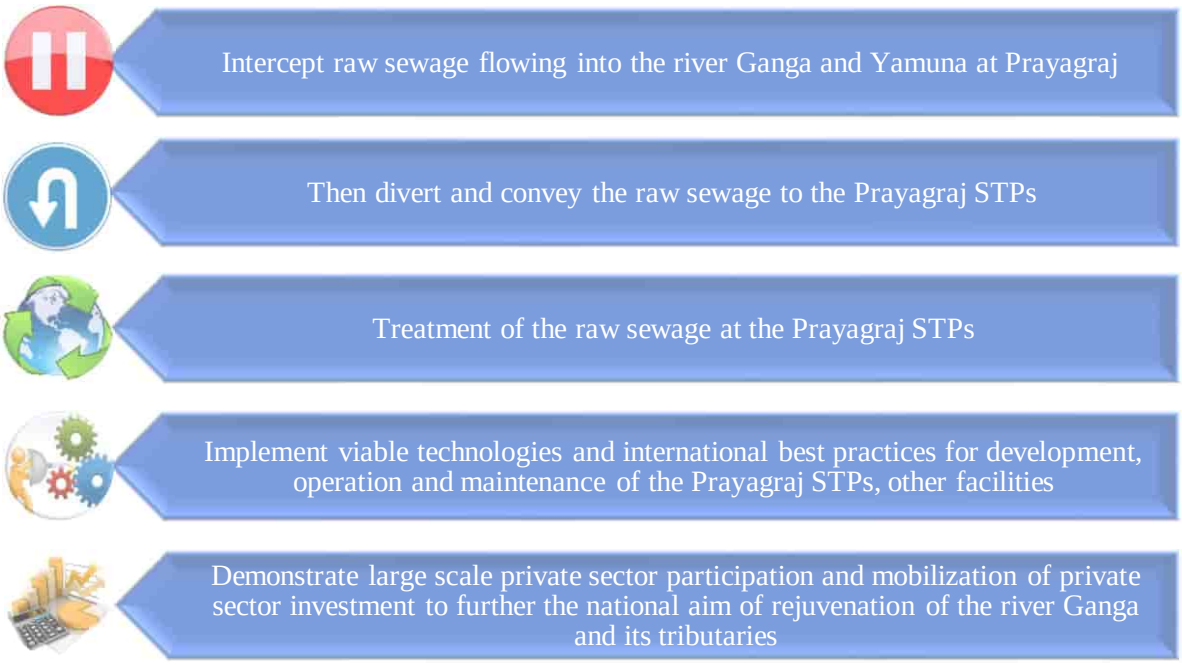

Figure 1 : Objectives of NMCG and UP JAL NIGAM

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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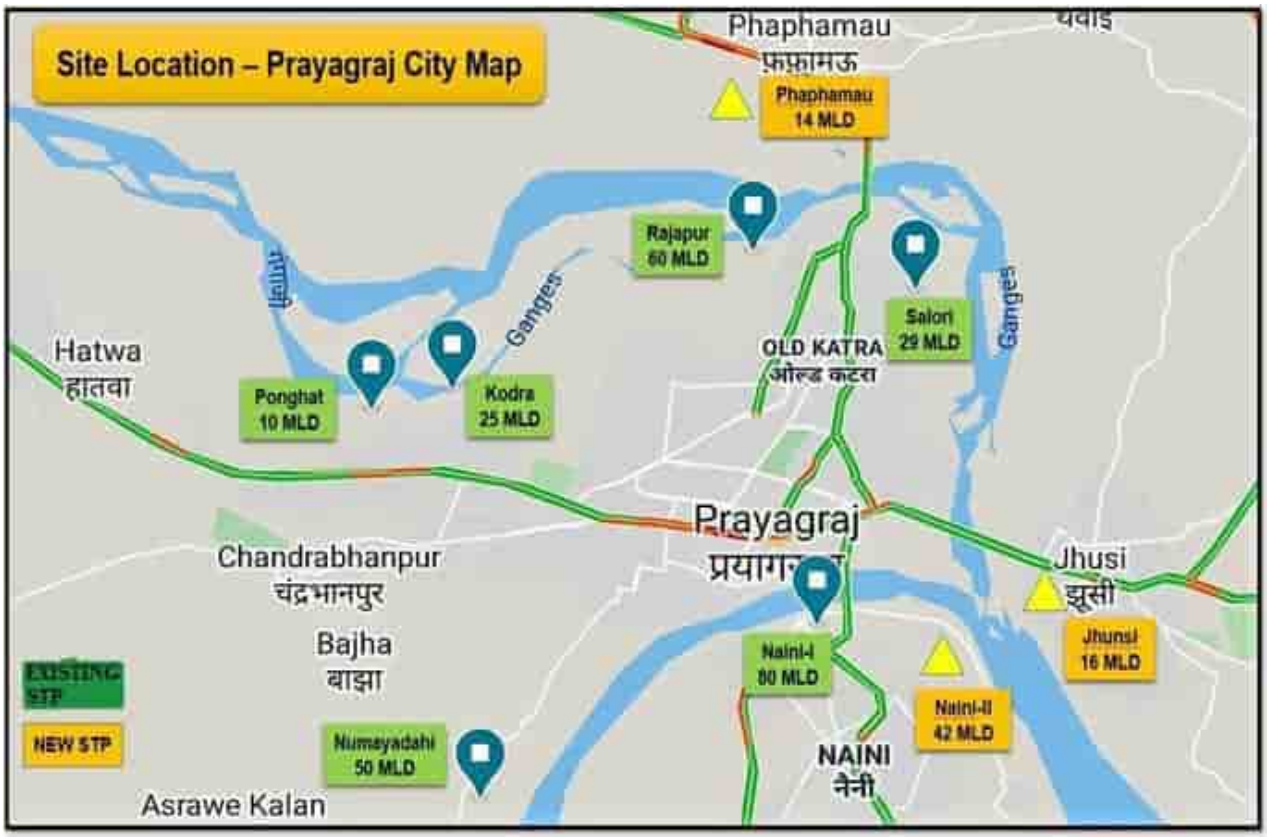
4. Project at Glance

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

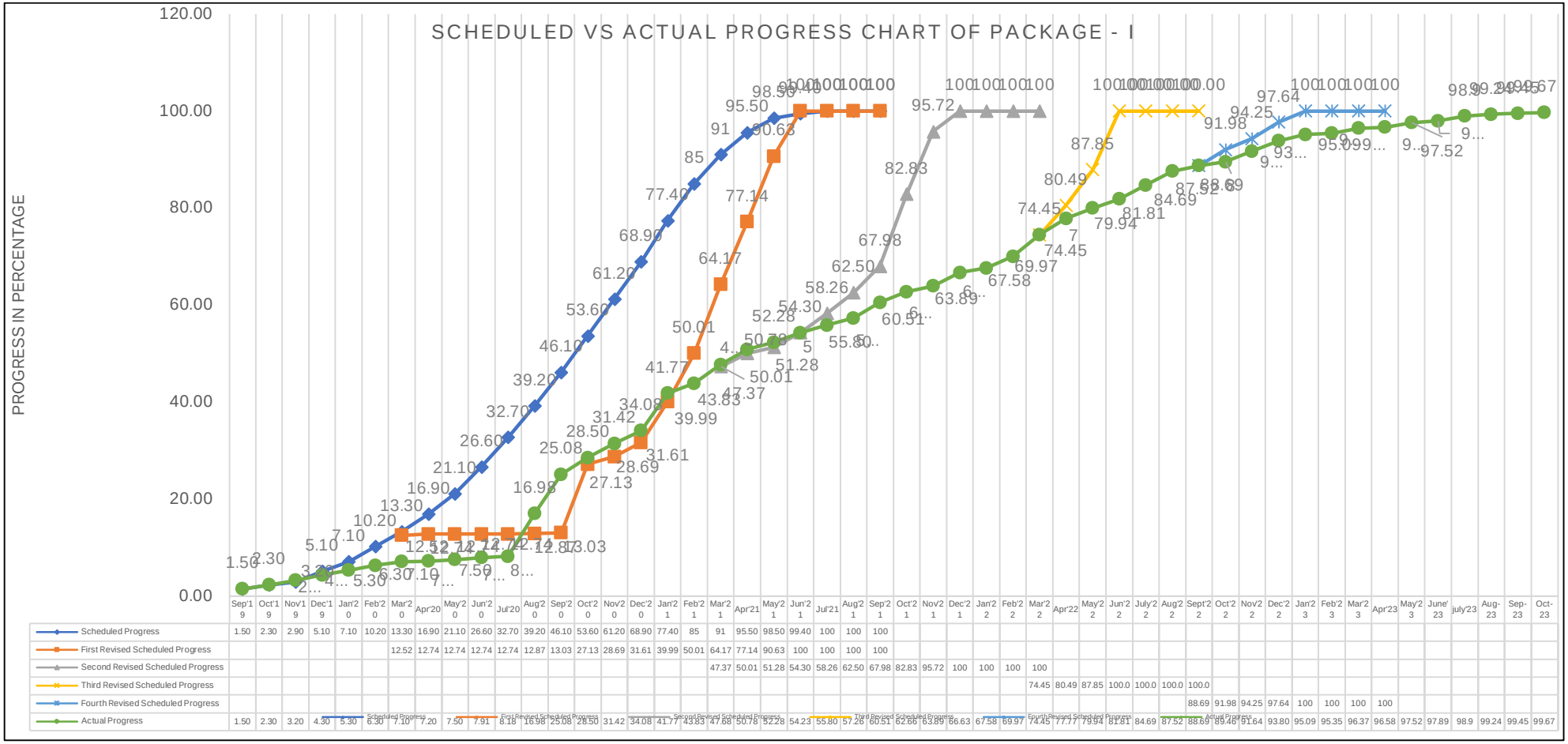
Package Number - I				
Nature of work	Facilities			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD at 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

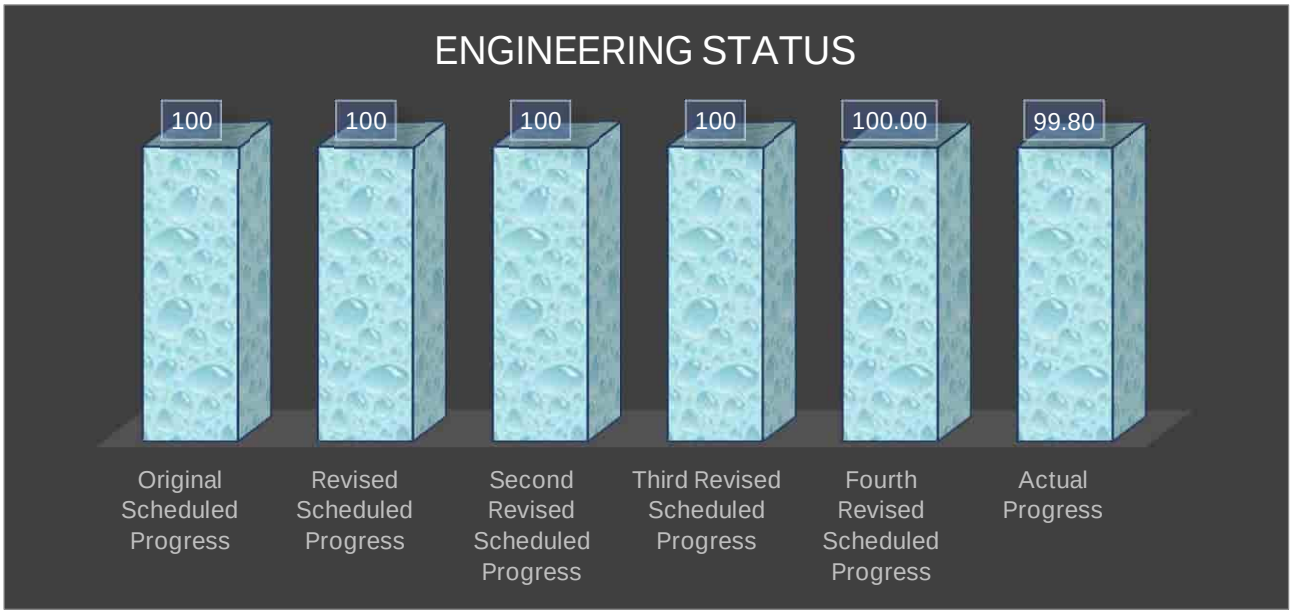
7. Status of project

7.1 Package-I Overall progress status



	Sep'19	Oct'19	Nov'19	Dec'19	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20	Jan'21	Feb'21	Mar'21	Apr'21	May'21	Jun'21	Jul'21	Aug'21	Sep'21	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22	Mar'22	Apr'22	May'22	Jun'22	July'22	Aug'22	Sept'22	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23	Apr'23	May'23	June'23	july'23	Aug-23	Sep-23	Oct-23
Scheduled Progress	1.50	2.30	2.90	5.10	7.10	10.20	13.30	16.90	21.10	26.60	32.70	39.20	46.10	53.60	61.20	68.90	77.40	85	91	95.50	98.50	99.40	100	100	100																								
First Revised Scheduled Progress							12.52	12.74	12.74	12.74	12.74	12.87	13.03	27.13	28.69	31.61	39.99	50.01	64.17	77.14	90.63	100	100	100	100																										
Second Revised Scheduled Progress																			47.37	50.01	51.28	54.30	58.26	62.50	67.98	82.83	95.72	100	100	100	100																				
Third Revised Scheduled Progress																															74.45	80.49	87.85	100.0	100.0	100.0	100.0												
Fourth Revised Scheduled Progress																																					88.69	91.98	94.25	97.64	100	100	100	100						
Actual Progress	1.50	2.30	3.20	4.30	5.30	6.30	7.10	7.20	7.50	7.91	8.18	16.98	25.08	28.50	31.42	34.08	41.77	43.83	47.68	50.78	52.28	54.23	55.80	57.26	60.51	62.66	63.89	66.63	67.58	69.97	74.45	77.77	79.94	81.81	84.69	87.52	88.69	89.46	91.64	93.80	95.09	95.35	96.37	96.58	97.52	97.89	98.9	99.24	99.45	99.67

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%

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)
8.	Resubmission, review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	11-02-19	11-10-19	100%	100%	0%	100%
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/documen	25-10-19	15-03-20	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)
	ts from UPJN/PE/IIT						
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 drawings by UPJN/PE/IIT	01-03-20	20-11-22				
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%

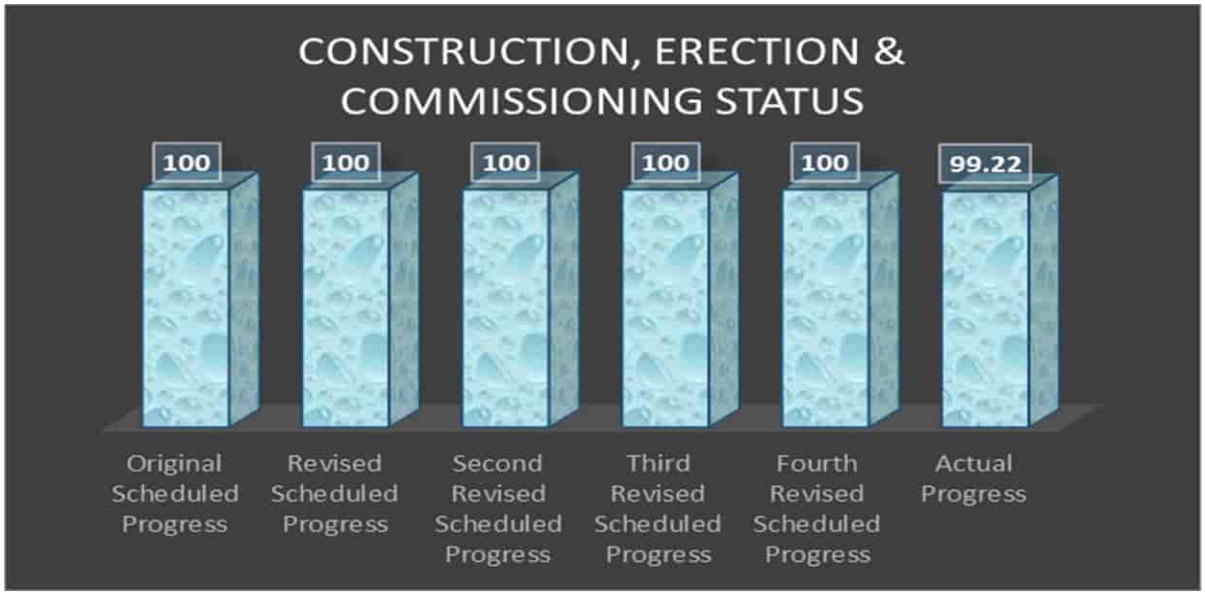
7.1.3 Procurement & Supply status

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%

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)
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%
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%	100%	0%	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%	25%	75%	100%
36.	Staff quarter	01-12-22	20-01-23	100%	100%	0%	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				

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)
46.	Rising main	01-04-22	09-11-22				
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%

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)
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%	100%	0%	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%	100%	0%	100%
81.	Electrical and C&I- SPS & MPS	20-08-22	31-01-23				
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%	100%	0%	100%
87.	Other misc. work	20-12-22	30-01-23	100%	100%	0%	100%
88.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	100%	0%	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%	0%	100%
91.	COD	30-04-23	30-04-23	100%	100%	0%	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%

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)
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%
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				

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)
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				
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%	100%	0%	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%	100%	0%	100%
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%

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)
168.	PLC Panel & Online monitoring system	16-08-22	31-12-22	100%	100%	0%	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%	100%	0%	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%	100%	0%	100%
180.	Other misc. work	15-07-22	30-01-23	100%	100%	0%	100%
181.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	100%	0%	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%	100%	0%	100%
184.	COD	30-04-23	30-04-23	100%	100%	0%	100%
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%	100%	0%	100%
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%	100%	0%	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%

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)
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%	100%	0%	100%
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%	67%	0%	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%	95%	5%	100%
214.	Other Misc. works	15-11-22	30-01-23	100%	70%	5%	75%
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%	100%	0%	100%
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%			

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)
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%	10%	20%
233.	Mechanical Erection- STP unit	01-04-22	30-01-23				
234.	Pumps	20-11-22	20-01-23	100%	100%	0%	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%	0%	100%
237.	Chlorination	20-11-22	30-01-23	100%	100%	0%	100%
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%	100%	0%	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%	95%	5%	100%
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%	20%	100%
248.	Other misc. work	01-12-22	30-01-23	100%	90%	5%	95%
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%	90%	0%	90%
253.	Instrumentation works	01-11-22	30-01-23	100%	90%	0%	90%
254.	CCTV	01-11-22	30-01-23	100%	100%	0%	100%
255.	Cable laying	01-11-22	30-01-23	100%	95%	5%	100%
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%	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)
261.	HT/LT Panel erection	15-11-22	30-01-23	100%	100%	0%	100%
262.	Cable laying	15-11-22	30-01-23	100%	100%	0%	100%
263.	DG Installation	15-11-22	30-01-23	100%	100%	0%	100%
264.	PLC Panel & Online monitoring system	15-11-22	30-01-23	100%	0%	90%	90%
265.	Other misc. work	15-11-22	30-01-23	100%	75%	5%	80%
266.	Commissioning of Mech., Electrical and C&I	31-01-23	31-01-23	100%	80%	0%	80%
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	100%	100%	0%	100%
269.	COD	30-04-23	30-04-23	100%	100%	0%	100%

7.1.7 Package-I Status

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
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. 87/PWPL/35

Phaphamau Facility COD

OFFICE OF THE SUPERINTENDING ENGINEER,
CIRCLE OFFICE,
U.P. JAL NIGAM(RURAL), PRAYAGRAJ
Email -se.prayagdruraljn@gmail.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 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 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/36

Jhunsi Facility COD

OFFICE O F THE SUPERINTENDING ENGINEER,

CIRCLE OFFICE,

U.P. JAL NIGAM(RURAL), PRAYAGRAJ

Email –se_2circle@rediffmail.com

Letter no. 110 /P.W.P.L /46 Dated: 26/09 /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 Jhunsi facility under Package-I.**

Reference:

1. Concession Agreement dated 11th Jan 2019
2. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/896 dated 29th Mar 2023
3. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/901 dated 11th Apr 2023
4. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/902 dated 17th Apr 2023
5. NMCG Letter No. F. No. Pr 23012/2/2021 dated 26th May 2023
6. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/915 dated 13th July 2023
7. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/921 dated 25th July 2023
8. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/O&M/691 dated 26th Aug 2023
9. AECOM letter no. AIPL/NMCG/PRAYAG/1645 dated 28th Aug 2023
10. UPJN letter no. 96/PWPL/38 dated 29th Aug 2023
11. NMCG Letter No. F. No. Pr 12012/6/2018 dated 05th Sep 2023
12. PWPL letter no. PWPL/UPJN/PRAYAGRAJ/SITE/925 dated 05th Sep 2023
13. AECOM letter no AIPL/NMCG/PRAYAG/1653 dated 13th Sep 2023.
14. UPJN letter no 104/PWPL/40 dated 18th Sep 2023.
15. PWPL Letter no. PWPL/UPJN/PRAYAGRAJ/SITE/927 dated 18th Sep 2023
16. AECOM letter no. AIPL/NMCG/PRAYAG/1656 dated 20th Sep 2023.
17. UPJN Letter no. 105/PWPL/41 dated 21st Sep 2023
18. UPJN Letter no. 109/PWPL/45 dated 23rd Sep 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. 14, Construction completion certificate vide letter mentioned at Sr. no. 17 and Trial Run completion certificate vide letter mentioned at Sr. no. 18 after the detailed assessment of the documents provided by you.

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

Sl. No.	Description	Commercial Operations Date (COD)
1	Construction Works of Jhunsi facility under Package-I	01.08.2023

This Commercial Operations Date certificate is being issued on the basis of instructions received from NMCG vide letter mentioned at Sr. no. 5 & 11.

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

(Praveen Kutti)
Superintending Engineer

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

Commercial Operations Date was announced on 26.09.2023 vide letter no. 110/PWPL/46

KPI REPORT'S OF PACKAGE - I,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE – I

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 0532-2684690

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 October'2023.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Phaphamau Facility	04-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
2.	Site inspection of Naini-II Facility	05-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
3.	Site inspection of Jhunsi Facility	06-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation & maintenance activities of plant
4.	Site inspection of Phaphamau Facility	12-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
5.	Site inspection of Naini-II Facility	13-Oct-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities of plant
6.	Site inspection of Jhunsi Facility	13-Oct-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation & maintenance activities of plant
7.	Site inspection of Phaphamau Facility	16-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
8.	Site inspection of Naini-II Facility	18-Oct-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities of plant
9.	Site inspection of Jhunsi Facility	21-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation & maintenance activities of plant
10.	Site inspection of Phaphamau Facility	25-Oct-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M activities of plant
11.	Site inspection of Naini-II Facility	27-Oct-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities of plant

12.	Site inspection of Naini-II Facility	28-Oct-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M activities of plant
13.	Site inspection of Jhunsi Facility	30-Oct-23	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation & maintenance 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

Basna Nalla SPS Current status (Functional)

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)

Mahewaghat SPS– Current status (Functional)

Mawaiya SPS– 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/1667	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – II	9-Oct-2023	S.E.-2 Circle(Rural) - UPJN
2.	AIPL/NMCG/PRAYAG/1668	Regarding intake of complete sewage at Jhunsi facility	10-Oct-2023	S.E.-2 Circle(Rural) - UPJN
3.	AIPL/NMCG/PRAYAG/1669	Submission of O & M Monthly Progress report for the month of September, 2023 of Package – III	17-Oct-2023	S.E.-2 Circle(Rural) - UPJN
4.	AIPL/NMCG/PRAYAG/1670	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity Based PPP Mode.	17-Oct-2023	NMCG, New Delhi
5.	AIPL/NMCG/PRAYAG/1671	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity Based PPP Mode.	17-Oct-2023	NMCG, New Delhi
6.	AIPL/NMCG/PRAYAG/1672	Submission of O & M Tax Invoice of 9th quarter (June 2023 – August 2023) of Package - II	17-Oct-2023	S.E.-2 Circle(Rural) - UPJN
7.	AIPL/NMCG/PRAYAG/1673	Submission of O & M Monthly Progress report for the month of September, 2023 of Package – II	20-Oct-2023	S.E.-2 Circle(Rural) - UPJN
8.	AIPL/NMCG/PRAYAG/1674	Inspection Reports of Package-II facilities	21-Oct-2023	S.E.-2 Circle(Rural) - UPJN

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
9.	AIPL/NMCG/PRAYAG/1675(A)	Inspection Reports of Package-III facilities	21-Oct-2023	S.E.-2 Circle(Rural) - UPJN
10.	AIPL/NMCG/PRAYAG/1675(B)	Regarding the submission of MPR and compliance report for the month of Sep'23.	26-Oct-2023	S.E.-2 Circle(Rural) - UPJN
11.	AIPL/NMCG/PRAYAG/1676	Regarding release of final milestone payment of Naini-II and Phaphamau Facility under Package-I.	26-Oct-2023	S.E.-2 Circle(Rural) - UPJN
12.	AIPL/NMCG/PRAYAG/1677	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – III	28-Oct-2023	S.E.-2 Circle(Rural) - UPJN
13.	AIPL/NMCG/PRAYAG/1678	Inspection Reports of Naini-II facility & Phaphamau facility under Package-I	31-Oct-2023	S.E.-2 Circle(Rural) - UPJN
14.	AIPL/NMCG/PRAYAG/1679	Inspection Report of Jhunsi Facility under Package-I	31-Oct-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.	117/PWPL/(PRAYAGRAJ)/47	Regarding release of final Milestone Payment for Naini-II of Package-I	05-Oct-23	S.E.-2 Circle (Rural)-UPJN,
2.	PWPL/UPJN/PRAYAGRAJ/O&M/712	Regarding rectification and replacement of Diffusers at Numayadahi STP	05-Oct-23	Prayagraj water private limited
3.	PWPL/UPJN/PRAYAGRAJ/O&M/713	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – II	07-Oct-23	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/O&M/714	Shutdown of Gaughat and Chacharnala Pumping station for replacement of Flowmeter at Gaughat Pumping Station	10-Oct-23	Prayagraj water private limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/715	Submission of O & M Tax Invoice of 9th quarter (June 2023 – August 2023) of Package - II	10-Oct-23	Prayagraj water private limited
6.	PWPL/UPJN/PRAYAGRAJ/O&M/716	Regarding O & M Payment of Quarter -9 i.e., June – 23 to August -23 for Package – II facilities for the STP Project at Prayagraj under HAM based PPP Model .	10-Oct-23	Prayagraj water private limited
7.	PWPL/UPJN/PRAYAGRAJ/O&M/717	Submission of O & M Monthly Progress report for the month of September, 2023 of Package – III	10-Oct-23	Prayagraj water private limited
8.	PWPL/UPJN/PRAYAGRAJ/O&M/718	Submission of O & M Monthly Progress report for the month of September, 2023 of Package – II	10-Oct-23	S.E.-2 Circle (Rural)-UPJN,
9.	966/PWPL/(PRAYAGRAJ)/95	Regarding shutdown of Gaughat and Chacharnala Pumping station for replacement of Flowmeter at Gaughat Pumping Station	10-Oct-23	PM-I (Rural)-UPJN

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
10.	PWPL/UPJN/PRAYAGRAJ/O&M/719	Regarding finalization revised Guaranteed Energy Consumption for Phaphamau facility under Package-I.	12-Oct-23	Prayagraj water private limited
11.	PWPL/UPJN/PRAYAGRAJ/O&M/720	Regarding intake of complete raw sewage inside the Jhunsi STP under Package-I after flood period in river Ganga	12-Oct-23	Prayagraj water private limited
12.	1002/PWPL/(PRAYAGRAJ)/98	Regarding Extention of shutdown of Gaughat and Chacharnala Pumping station for replacement of Flowmeter at Gaughat Pumping Station	13-Oct-23	PM-I (Rural)-UPJN
13.	PWPL/UPJN/PRAYAGRAJ/SITE /929	Regarding the submission of MPR and compliance report for the month of Sep'23.	13-Oct-23	Prayagraj water private limited
14.	PWPL/UPJN/PRAYAGRAJ/O&M/721	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping Stations (Flow Record for the month of Sep, 2023)	14-Oct-23	Prayagraj water private limited
15.	119/PWPL/(PRAYAGRAJ)/47	Regarding replacement of Ponghat inlet gravity line	16-Oct-23	S.E.-2 Circle (Rural)-UPJN
16.	PWPL/UPJN/PRAYAGRAJ/O&M/722	Submission of O & M Tax Invoice of 9th quarter (June 2023 – August 2023) of Package - II	18-Oct-23	Prayagraj water private limited
17.	1014/PWPL/(PRAYAGRAJ)/99	Regarding start of O&M of 16 MLD Jhunsi STP	19-Oct-23	PM-I (Rural)-UPJN
18.	121/PWPL/(PRAYAGRAJ)/48	Regarding Vetting of MPS Design and Drawing for STP on Trivenipuram location for Jhunsi facility.	21-Oct-23	S.E.-2 Circle (Rural)-UPJN,
19.	122/PWPL/(PRAYAGRAJ)/49	Regarding submission of Proposal for Trivenipuram ADA STP under Package-I	21-Oct-23	S.E.-2 Circle (Rural)-UPJN,

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
20.	PWPL/UPJN/PRAYAGRAJ/O&M/726	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – III	27-Oct-23	Prayagraj water private limited
21.	PWPL/UPJN/PRAYAGRAJ/O&M/727	Submission of O & M Monthly Progress report for the month of Feb 2023 (19th Feb, 2023 to 28th Feb, 2023) of Naini-II Facility under Package – I	27-Oct-23	Prayagraj water private limited
22.	PWPL/UPJN/PRAYAGRAJ/O&M/728	Submission of O & M Monthly Progress report for the month of March 2023 of Naini-II Facility under Package – I	27-Oct-23	Prayagraj water private limited
23.	PWPL/UPJN/PRAYAGRAJ/O&M/729	Submission of O & M Monthly Progress report for the month of April 2023 of Naini-II Facility under Package – I	27-Oct-23	Prayagraj water private limited
24.	PWPL/UPJN/PRAYAGRAJ/O&M/730	Submission of O & M Monthly Progress report for the month of May 2023 of Naini-II Facility under Package – I	27-Oct-23	Prayagraj water private limited
25.	PWPL/UPJN/PRAYAGRAJ/SITE /929	Regarding release of final milestone payment of Phaphamau Facility under Package-I.	28-Oct-23	Prayagraj water private limited
26.	124/PWPL/(PRAYAGRAJ)/150	Regarding O&M Payment of 9th Quarter of Package - II	28-Oct-23	S.E.-2 Circle (Rural)-UPJN,
27.	1037/PWPL/(PRAYAGRAJ)/104	Regarding payment of environmental compensation imposed in view of the sewage/effluent being disposed after purification from 25 MLD STP Kodra, Prayagraj, not being disposed as per the prescribed standards.	28-Oct-23	PM-I (Rural)-UPJN
28.	1038/PWPL/(PRAYAGRAJ)/105	Regarding payment of imposed environmental compensation in view of the sewage/effluent being disposed after purification from 10 MLD STP Ponghat, Prayagraj, not being	28-Oct-23	PM-I (Rural)-UPJN

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
		disposed as per the prescribed standards.		
29.	1039/PWPL/(PRAYAGRAJ)/106	Regarding payment of environmental compensation imposed in view of sewage/effluent being disposed after purification from 80 MLD STP Naini, Prayagraj, not being disposed as per the prescribed standards.	28-Oct-23	PM-I (Rural)-UPJN

13. EHS targets, Achievement & compliance report for the month of October 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. 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-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/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 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, RCC work, brick work and flooring work is completed. Plaster work and painting work is pending.	Outer plaster / outer painting work is pending and preparation for the stagging is under progress.
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.	Completed	Completed
3.	At Shastri Bridge SPS, construction of boundary wall and approach road is pending.	Work is pending	Toe wall construction work has been completed.
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 before flood. Currently, after receding of water level in river, all I&Ds are tapped except for lakkar nalla in which repairing of I&D structure is in progress as it is damaged due to flood. Also, the line between Savitri Nalla and Dham Nalla is choked. Currently, temporary pumping arrangement is provided for transferring sewage, but Concessionaire is required to rectify the problem and provide	I&D restoration work is under progress

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 2023
		permanent solution.	
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 before flood however during inspection of I&D structures after receding of water level in river, it was found that minor repairing is required which is caused due to flood. Also, strengthening of retaining walls is required for ensuring 100% availability.	I&D restoration work is under progress
6.	At Shastri Bridge SPS, landscaping and site development work is pending.	Work is pending.	Landscaping work will be completed post completion of pathway work.
7.	At Shastri Bridge SPS, installation of permanent type display/sign boards is pending.	Work is pending.	Completed
8.	At Shastri Bridge SPS, permanent arrangement for water supply is pending.	Completed	Completed
9.	At Jhunsi MPS, installation of permanent type display/sign boards is pending.	Completed	Completed
10.	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.	Only last stretch is pending and same will be completed during O&M tenure
Works related to or dependent on proposed Variation			

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 2023
1	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.	Will be done post COS approval.
2	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.	Will be done post COS approval.
3	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.	Will be done post COS approval.
4	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.	Will be done post COS approval.
5	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.	Will be done post COS approval.
6	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.	Will be done post COS approval, however bare minimum pathway work for approach will be done.
7	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	Will be done post COS approval.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 2023
		variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	
8	At Jhunsi STP, arrangements for rainwater harvesting 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.	Work is under progress.
9	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.	Will be done post COS approval.
E&M Work Works as per Scope of Works given in Schedule-1 of Concession Agreement			
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.	• Completed • Completed
2	At Shastri Bridge SPS, electrical works are pending.	• Outdoor lighting is pending. • Installation of chimney for DG set is pending.	• Completed • Completed
3	At Shastri Bridge SPS, instrumentation works are pending.	• Testing & commissioning work of differential level transmitter is pending. • Commissioning work of level transmitter is pending. • Transmission of signal from SCADA system of Shastri Bridge SPS to Jhunsi STP is pending.	• Completed • Completed • Work is under progress.
4	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, order of desired gates is placed, and purchase order is released. Gates will be received at site by the end of Dec-23 as per PO. However, this work is not part of scope of works given in Schedule-1 of	Gate procurement is under progress.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 2023
		Concession Agreement but must be done as per site requirement at no extra cost to UPJN.	
5	At Jhunsi MPS, laying of permanent power cable from Jhunsi STP to Jhunsi MPS is pending.	Completed	Completed
6	At Jhunsi MPS, installation of pressure transmitter in header line of pumps is pending.	Completed.	Completed
7	At Jhunsi MPS, installation of differential level transmitter for mechanical screen is pending.	Commissioning is completed. However, testing for the same is pending as mechanical screen is under maintenance.	Completed
8	At Jhunsi MPS, installation of outlet flowmeter is completed but it is not working.	Commissioning is completed. Calibration for the same is pending.	Completed
9	At Jhunsi MPS, installation of CCTV system is not started yet.	Completed	Completed
10	At Jhunsi STP, E&M works of screw conveyor and other arrangements for grit removal units is pending	Completed	Completed
11	At Jhunsi STP, installation of plants for FCR tanks are pending.	Work is pending.	Erection of plants are under progress
12	At Jhunsi STP, installation of differential level transmitter for mechanical screen is pending.	Commissioning is completed. However, testing for the same is pending.	Completed
13	At Jhunsi STP, installation of inlet and outlet analyzers is pending.	Commissioning is completed. However, calibration and validation for the same is pending.	Inlet almost completed except COD sensor pending Outlet completed
14	At Jhunsi STP, installation of DO analysers for FCR tanks is pending.	Commissioning is completed. However, currently one DO analyzer is working, and one is not. Also, testing for the same is pending.	Completed
15	At Jhunsi STP, installation of chlorine analyser at the outlet of STP is pending	Commissioning is completed. However, testing for the same is pending.	Completed
16	At Jhunsi STP, installation of outlet flowmeter is pending.	Commissioning is completed. Calibration for the same is pending.	Completed
17	At Jhunsi STP, erection & commissioning works of PLC system are pending.	Completed.	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1679 as on 31st October 2023.		Concessionaire action taken as on date 22nd November 2023
18	At Jhunsi STP, erection & commissioning works of SCADA system are pending.	All works are completed however, report generation in SCADA related to KPIs, flow and run hour of equipment is not accurate and fine tuning of online monitoring system is required.	Almost 90% of the work is completed and balance work is under progress.
19	At Jhunsi STP, installation of asset management system is not started yet.	Work is pending.	Work in progress
20	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 at no extra cost to UPJN.	If any requirement arises same will be taken care during O&M tenure.
Works related to or dependent on proposed Variation.			
1	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.	Will be executed post COS approval.
2	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.	Will be executed post COS approval.

Note: M/s. PWPL reply is under observation, it will be updated according in inspection report of November 2023 provided by Project engineer.

2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report

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

Date	Daily Feed Quantity MLD (Design-42 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)	
01-Oct-23	41740	41.74	7.61	7.93	155	22	320	40	289	24	NA	700	0.2	23.77	1700000	
02-Oct-23	49620	49.62	7.68	7.98	160	20	346	41	294	25	NA	600	0.2	24.31	1300000	
03-Oct-23	40880	40.88	7.59	7.89	155	22	314	42	277	23	NA	400	0.3	25.44	1700000	
04-Oct-23	42000	42	7.72	7.87	165	23	310	44	264	25	NA	700	0.3	24.8	1400000	
05-Oct-23	40810	40.81	7.7	7.92	160	24	326	46	259	24	NA	500	0.2	25.12	1700000	
06-Oct-23	40790	40.79	7.61	7.93	155	20	321	44	266	22	NA	700	0.2	24.51	1300000	
07-Oct-23	39720	39.72	7.72	7.91	165	17	320	38	282	20	NA	400	0.2	23.9	1100000	
08-Oct-23	42710	42.71	7.75	7.94	160	19	328	36	270	23	NA	600	0.2	25.11	1400000	
09-Oct-23	39900	39.9	7.76	7.93	165	22	314	42	261	21	NA	500	0.3	24.2	1200000	
10-Oct-23	38620	38.62	7.73	7.95	155	23	326	46	268	22	NA	600	0.2	24.5	1700000	
11-Oct-23	40190	40.19	7.59	7.97	160	21	328	42	285	23	NA	400	0.2	25.01	1400000	
12-Oct-23	38150	38.15	7.7	7.96	155	22	322	44	274	21	NA	500	0.3	24.7	1100000	
13-Oct-23	38870	38.87	7.69	7.99	165	23	336	45	280	20	NA	600	0.2	24.57	1300000	
14-Oct-23	39650	39.65	7.5	7.91	160	25	318	48	268	22	NA	400	0.2	25.14	1700000	
15-Oct-23	39290	39.29	7.66	7.9	155	24	305	49	257	26	NA	700	0.3	23.95	1400000	
16-Oct-23	41230	41.23	7.53	7.94	160	23	324	46	270	24	NA	600	0.3	24.5	1200000	
17-Oct-23	36600	36.6	7.68	7.97	165	24	334	48	287	22	NA	700	0.2	24.12	1400000	
18-Oct-23	37420	37.42	7.7	7.94	160	22	344	44	282	21	NA	400	0.2	25.1	1300000	
19-Oct-23	37460	37.46	7.74	7.97	165	24	348	46	290	23	NA	600	0.3	23.88	1700000	
20-Oct-23	39900	39.9	7.8	7.94	160	23	324	45	278	24	NA	700	0.2	24.24	1100000	
21-Oct-23	35410	35.41	7.74	7.89	155	21	318	42	280	22	NA	500	0.2	25.07	1400000	
22-Oct-23	37880	37.88	7.76	7.92	160	22	324	44	268	20	NA	400	0.3	24.64	1700000	
23-Oct-23	37820	37.82	7.73	7.9	165	23	332	46	283	23	NA	600	0.2	23.95	1300000	
24-Oct-23	38490	38.49	7.71	7.89	160	24	320	48	278	20	NA	400	0.2	24.57	1400000	
25-Oct-23	36750	36.75	7.69	7.88	155	23	312	47	264	22	NA	500	0.3	25.16	1300000	
26-Oct-23	38020	38.02	7.67	7.89	160	21	316	48	260	19	NA	400	0.3	24.31	1700000	
27-Oct-23	37780	37.78	7.7	7.91	155	20	322	46	266	18	NA	600	0.2	24.5	1400000	
28-Oct-23	36860	36.86	7.74	7.93	160	19	324	44	279	17	NA	400	0.2	23.9	1100000	
29-Oct-23	38260	38.26	7.76	7.89	165	20	334	46	264	19	NA	500	0.3	24.58	1200000	
30-Oct-23	37190	37.19	7.7	7.87	160	22	326	48	286	18	NA	600	0.2	25.1	1700000	
31-Oct-23	36510	36.51	7.69	7.84	155	23	320	46	279	22	NA	700	0.2	24.77	1400000	
Average	**39242.58**	**39.24**	**7.69**	**7.92**	**159.68**	**21.97**	**324.39**	**44.55**	**274.45**	**21.77**		**545.16**	**0.24**	**24.56**	**1409677.42**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken Report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R), Prayagraj 2. Mr. Karunakar Singh, AE, UPJN(R), Prayagraj 3. Mr. Sudheer, APE, GPCU, UPJN(R), Prayagraj 4. Mr. Jitender Yadav, JE, UPJN(R), Prayagraj 5. Mr. Gaurav Gupta, AECOM 6. Mr. Sudhir Tomar, AECOM 7. Mr. Teekam Singh, PWPL 8. Mr. Rahul Kumar Azaad, PWPL 9. Mr. Rahul Chaudhary, PWPL 10. Mr. Devkant Sharma, PWPL
Place(s) of Inspection	• 42 MLD STP at Naini-II, Prayagraj • 43.54 MLD MPS at Naini-II, Prayagraj • 35.85 MLD SPS at Mawaiya, Prayagraj • 2.15 MLD SPS at Mahewaghat, Prayagraj

Visit was done on 5th October 2023, 13th October 2023, 18th October 2023, 27th Oct 2023 & 28th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-II STP	35.41 to 49.62
2	Naini-II MPS	35.41 to 49.62
3	Mawaiya SPS	33.96 to 46.96
4	Mahewagaht SPS	0.76 to 1.22

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	17 to 25 mg/l
2	TSS – Effluent	< 50 mg/l	20 to 26 mg/l
3	pH – Effluent	6.5 – 9.0	7.87 to 7.99
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.77 to 25.44 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1000000 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	Naini II STP	0.90 to 52.68
2	Naini II Associated Infrastructure	46.16 to 63.42

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

- Status of tasks related to Construction phase:

A. Civil Works:

Sr. No.	Work description	Status	Concessionaire action taken as on date 22nd November 2023
1.	At Naini-II STP, rectification for problem of water logging in area between FCR and Tube settler tank is in progress.	Completed but permanent solution for the same must be provided i.e., land filling in the area must be done as suggested.	Rectification work is done, however if any problem arises best solution will be done during O&M period.
2.	At Naini-II STP, rectification of effluent pipeline near outfall area as per site condition.	Work is pending. Currently, temporary arrangement is provided by means of boulder pitching and concrete. However, this work was completed once but pipes broke down in the month of June-23 due to soil erosion.	The same will be done in accordance with the joint discussion with client in next summer season.

B. E&M Works:

Sr. No.	Work description	Status	Concessionaire action taken as on date 22nd November 2023
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.	As informed by Concessionaire, order of desired gates is placed, and purchase order is released. Gates will be received at site by the end of Dec-23 as per PO. However, this work is not part of scope of works given in Schedule-1 of Concession Agreement but must be done as per site requirement at no extra cost to UPJN.	Will be done during O&M period
2.	At Naini-II STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days. Therefore, Concessionaire is suggested to keep doing fine tuning of analyzers during O&M phase also for keeping all parameters shown by inlet and outlet analyzers within desired range of variation as per CPCB norms and Concession Agreement.	Completed
3.	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.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations. Also, run hour report from for equipment in SCADA system is not complete. Therefore, Concessionaire is suggested to keep doing fine tuning of SCADA system during O&M phase also and do the changes as per observations given for getting better performance as per CPCB norms and Concession Agreement.	Completed
4.	At Naini-II STP, installation of asset management system is pending.	Asset Management System is almost ready hence Concessionaire is required to use the same in daily maintenance activities. Reports generated from Asset Management System must be filed regularly and	Completed

		submitted along with Monthly Progress Reports. Also, changes must be made as per observations given for better performance.	

- Status of various units & records at site related to O&M phase:

1. Latest SCADA reports regarding KPIs for the STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized.
2. Latest SCADA reports regarding KPIs for the STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized.
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.
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. Currently screens are running in auto mode through timer.
8. All FCR units are working. Shade on top of FCRs is not installed yet for better maintenance of plants during summer season.
9. Minor Seepages from FCR & some other units can be seen, this must be rectified.
10. There is water logging in area between FCR and Tube settler tank for which a temporary submersible pump is installed for dewatering purpose however Concessionaires is required to provide permanent solution for the same.
11. DO analyzers for all FCR units are working.
12. 5 out of 6 aeration blowers are working. One aeration blower is in maintenance.
13. All tube settler units are working. Rectification problem related to operating drain vales must be completed at the earliest. Also, problem of filling of water in pits for drain valves must be rectified for ease in operation and maintenance of drain valves.
14. Quality of effluent is Good.
15. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
16. All dewatering feed pumps are under maintenance. Currently, submersible pump is being used for transferring sludge from digesters to dewatering building. Concessionaire is required to provide permanent solution for the same.
17. Both chlorinators are working. Both booster pumps are working.
18. Chlorine analyzer at outlet is working but not showing correct values.
19. Installation of Safety shower and eyewash near chlorination unit is pending.
20. One out of two transformers is in maintenance hence there is currently no standby for the STP.
21. Leak absorption system is working and must always be kept in auto mode.
22. Both DGs are working.
23. In SCADA system of STP, signals from associated infrastructure are not coming properly hence report is not generated accurately. Concessionaire is required to rectify this problem for better monitoring.
24. At Sachcha Baba Nalla I&D, cleaning of garbage must be done regularly.
25. For Naini-II MPS, following observations were made during visit:
    a) All submersible pumps are working.
    b) Both mechanical screens are working. Currently screens are running in auto mode through timer.

26. For Mawaiya SPS, following observations were made during visit:

    a) All submersible pumps are working.
    b) Both mechanical screens are working. Currently screens are running in auto mode through timer.
    c) One out of two transformers is in maintenance hence there is currently no standby for the STP.
    d) Pathway restoration work is pending.
    e) DG set is OK for operation.

27. For Mahewaghat SPS, following observations were made during visit:

a) Two out of three submersible pumps are working, one pump is in maintenance.
b) Mechanical screens are working. Mechanical Screen is working on timer Mode.
c) DG set is OK for operation.

28. Since COD is announced for all Package – I 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) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
b) 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.
c) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
d) Quarterly report as per Part-G in Schedule-10 of CA.
e) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
f) Procedure for recording & disposal of complaints.
g) Safety & Health Records. Incident reports must also be submitted along with action plan.
h) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.

2.3 Recommendation's

- 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 FCRs also for checking the efficiency of FCRs.
- 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 material remaining from construction works must be removed from the site.
- 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.
- Awareness trainings for workers must be given for encouraging them to use PPEs.

3. PHAPHAMAU STP AND ASSOCIATE INFRASTRUCTURE

3.1 KPI Report

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

Date	Daily Feed Quantity MLD (Design-14 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)	
01-Oct-23	17310	17.31	7.36	8.1	160	26	320	44	265	26	NA	500	0.3	22.73	1300000	
02-Oct-23	20820	20.82	7.21	8.06	165	28	304	48	325	28	NA	600	0.2	23.74	1400000	
03-Oct-23	17490	17.49	7.3	8.08	150	26	308	48	270	30	NA	400	0.2	22.05	1700000	
04-Oct-23	21060	21.06	7.25	7.91	160	28	320	44	240	20	NA	500	0.3	24.55	1400000	
05-Oct-23	17040	17.04	7.2	7.69	180	26	368	44	275	18	NA	600	0.2	23.84	1700000	
06-Oct-23	17330	17.33	7.21	7.72	165	26	352	44	307	19	NA	400	0.3	24.98	1300000	
07-Oct-23	18470	18.47	7.16	7.7	155	24	320	48	265	15	NA	600	0.2	24.53	1700000	
08-Oct-23	19470	19.47	7.17	7.72	165	26	324	44	240	16	NA	500	0.2	23.2	1400000	
09-Oct-23	18110	18.11	7.22	7.69	160	24	320	48	250	17	NA	400	0.3	23.96	1300000	
10-Oct-23	16880	16.88	7.21	7.7	165	25	316	44	280	20	NA	600	0.2	22.73	1700000	
11-Oct-23	16070	16.07	7.19	7.73	160	26	304	48	305	22	NA	400	0.2	24.29	1400000	
12-Oct-23	15290	15.29	7.18	7.72	155	27	308	44	270	18	NA	500	0.3	22.58	1300000	
13-Oct-23	15890	15.89	7.29	7.74	155	26	320	48	305	16	NA	400	0.2	23.74	1700000	
14-Oct-23	16290	16.29	7.26	7.75	160	24	316	44	290	19	NA	500	0.2	23.02	1400000	
15-Oct-23	16320	16.32	7.27	7.74	165	25	320	48	315	19	NA	400	0.3	23.46	1700000	
16-Oct-23	16290	16.29	7.15	7.75	160	24	304	44	290	16	NA	600	0.2	22.93	1300000	
17-Oct-23	15690	15.69	7.3	7.5	150	25	440	32	290	14	NA	500	0.2	24.53	1400000	
18-Oct-23	16660	16.66	7.2	7.77	155	26	308	44	273	13	NA	400	0.3	23.07	1300000	
19-Oct-23	14960	14.96	7.22	7.79	160	25	304	48	285	14	NA	600	0.2	24.54	1700000	
20-Oct-23	14670	14.67	7.25	7.78	155	27	272	44	230	15	NA	400	0.3	23.47	1400000	
21-Oct-23	15740	15.74	7.46	7.8	160	23	280	44	280	16	NA	600	0.2	24.19	1700000	
22-Oct-23	14340	14.34	7.69	7.81	160	18	272	36	270	15	NA	500	0.2	22.79	1300000	
23-Oct-23	15260	15.26	7.64	7.81	155	20	280	40	271	14	NA	400	0.3	24.54	1400000	
24-Oct-23	15540	15.54	7.62	7.85	155	22	260	36	275	15	NA	500	0.2	22.58	1300000	
25-Oct-23	14970	14.97	7.6	7.82	150	19	272	40	250	13	NA	600	0.3	24.34	1700000	
26-Oct-23	14630	14.63	7.7	7.85	160	18	288	36	260	16	NA	400	0.2	24.53	1400000	
27-Oct-23	15210	15.21	7.66	7.85	165	19	324	36	285	17	NA	600	0.3	22.88	1300000	
28-Oct-23	16050	16.05	7.7	7.85	160	18	288	40	262	17	NA	500	0.2	23.37	1700000	
29-Oct-23	15270	15.27	7.63	7.84	155	19	304	36	262	19	NA	400	0.3	23.02	1300000	
30-Oct-23	15240	15.24	7.53	7.81	165	18	296	40	259	15	NA	600	0.2	23.17	1400000	
31-Oct-23	15610	15.61	7.64	7.85	155	19	292	40	257	15	NA	500	0.3	23.13	1300000	
Average	**16450.65**	**16.45**	**7.37**	**7.80**	**159.35**	**23.45**	**309.81**	**42.71**	**274.23**	**17.65**		**496.77**	**0.24**	**23.56**	**1461290.32**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

3.2 Action taken Report.

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R), Prayagraj 2. Mr. Karunakar Singh, AE, UPJN(R), Prayagraj 3. Mr. Nirender, APE, GPCU, UPJN(R), Prayagraj 4. Mr. Jitender Yadav, JE, UPJN(R), Prayagraj 5. Mr. Gaurav Gupta, AECOM 6. Mr. Sudhir Tomar, AECOM 7. Mr. Teekam Singh, PWPL 8. Mr. Rahul Kumar Azaad, PWPL 9. Mr. Rahul Chaudhary, PWPL 10. Mr. Devkant Sharma, PWPL
Place(s) of Inspection	• 14 MLD STP at Phaphamau, Prayagraj • 14 MLD MPS at Phaphamu, Prayagraj • 5.53 MLD SPS at Basna Nalla, Prayagraj

Visit was done on 4th October, 12thOctober & 16th October 2023 & 25th Oct 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped/Received at Facility (MLD)
1	Phaphamu STP	14.34 to 21.06
2	Shantipuram MPS	14.34 to 21.06
3	Basna nalla SPS	3.68 to 8.21

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	24 to 28 mg/l
2	TSS – Effluent	< 50 mg/l	13 to 30 mg/l
3	pH – Effluent	6.5 – 9.0	7.50 to 8.10
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 600 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.05 to 24.98 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1300000 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	Phaphamu STP	58.33 to 90.69
2	Phaphamau Associated Infrastructure	77.67 to 96.53

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

- Status of tasks related to Construction phase:

A. Civil Works:

Sr. No.	Work description	Status	Concessionaire action taken as on date 22nd November 2023
1.	At Basna Nalla SPS, construction of boundary wall and approach road is pending.	Work for approach road is completed. Boundary wall consisting of concrete columns and barbed wires is completed however Concessionaire has submitted drawings of boundary wall consisting of concrete columns and brick work vide letter no. PWPL/UPJN/PMCG/098/2020 dated 07th Feb 2020 and same was approved vide our mail dated 11th Feb 2020.	Completed
2.	At Basna Nalla SPS, epoxy coating in wet well is pending.	Work is pending.	Work will be done during O&M period
3.	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.	Work for strengthening of retaining wall is pending and will be completed in dry weather season. It must be done to ensure 100% availability of Basna Nalla SPS.	Will be completed during operation period.
4.	At Phaphamau STP, landscaping and development work for complete site is pending.	Completed apart from material stacked at the gate which must be shifted to appropriate place.	Completed

B. E&M Works:

Sr. No.	Work description	Status	Concessionaire action taken as on date 22nd November 2023
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.	As informed by Concessionaire, order of desired gates is placed, and purchase order is released. Gates will be received at site by the end of Dec-23 as per PO. However, this work is not part of scope of works given in Schedule-1 of Concession Agreement but must be done as per site requirement at no extra cost to UPJN.	Will be done post supply completion of gates.
2.	At Phaphamau STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days. Therefore, Concessionaire is suggested to keep doing fine tuning of analyzers during O&M phase also for keeping all parameters shown by inlet and outlet analyzers within desired range of variation as per CPCB norms and Concession Agreement.	Completed
3.	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.	Work is pending. However, Concessionaire vide letter no. PWPL/UPJN/PRAYAGRAJ/SITE/929 dated 28th Oct 2023, have agreed to install solar power plant of remaining capacity i.e., 33 KW.	Remaining capacity of solar will be installed during O&M.

4.	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.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations. Also, run hour report from for equipment in SCADA system is not complete. Therefore, Concessionaire is suggested to keep doing fine tuning of SCADA system during O&M phase also and do the changes as per observations given for getting better performance as per CPCB norms and Concession Agreement.	Completed
5.	At Phaphamau STP, installation of asset management system is not started yet.	Asset Management System is almost ready hence Concessionaire is required to use the same in daily maintenance activities. Reports generated from Asset Management System must be filed regularly and submitted along with Monthly Progress Reports. Also, changes must be made as per observations given for better performance.	Completed

- <u>Status of various units & records at site:</u>

1. Latest SCADA reports regarding KPIs for the STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized.
2. Latest SCADA reports regarding KPIs for the STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized.
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.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. All Grit Removal Units are working.
7. There are some leakages in chamber of screw conveyor and organic return pump for Grit Removal Units. Concessionaires is required to rectify the same.
8. Both Mechanical Screens are working. Currently screens are running in auto mode through timer.
9. All FCR units are working. Shade on top of FCRs is not installed yet for better maintenance of plants during summer season.
10. There is water logging in area between FCR and Tube settler tank for which a temporary submersible pump is installed for dewatering purpose however Concessionaires is required to provide permanent solution for the same.
11. DO analyzers for all FCR unit are working.
12. All aeration blowers are working.
13. All tube settler unit are working. Rectification problem related to operating drain vales must be completed at the earliest. Also, problem of filling of water in pits for drain valves must be rectified for ease in operation and maintenance of drain valves.
14. Quality of effluent is Good.
15. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
16. Both dewatering feed pumps are working.
17. Both chlorinators are working. Both booster pumps are working.
18. Chlorine analyzer at outlet is working but not showing correct values.
19. Both transformers are working.
20. Leak absorption system is working and must always be kept in auto mode.
21. Both DGs are working.
22. In SCADA system of STP, signals from associated infrastructure are not coming properly hence report is not

generated accurately. Concessionaire is required to rectify this problem for better monitoring.

23. For Shantipuram MPS, following observations were made during visit:
    a) All submersible pumps are working.
    b) Mechanical screen is working. Currently screens are running in auto mode through timer.
    c) Provide proper cover for discharge chute of screw conveyor for mechanical screen.
    d) Housekeeping must be improved.

24. For Basna Nalla SPS, following observations were made during visit:
    a) All submersible pumps are working.
    b) Mechanical screen is working. Currently screens are running in auto mode through timer.
    c) DG set is OK for operation.

25. Since COD is announced for all Package – I 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) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    b) 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.
    c) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
    d) Quarterly report as per Part-G in Schedule-10 of CA.
    e) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    f) Procedure for recording & disposal of complaints.
    g) Safety & Health Records. Incident reports must also be submitted along with action plan.
    h) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    i) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

3.3 Recommendation's

- 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 FCRs also for checking the efficiency of FCRs.
- 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 material remaining from construction works must be removed from the site.
- 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.
- Awareness trainings for workers must be given for encouraging them to use PPEs.

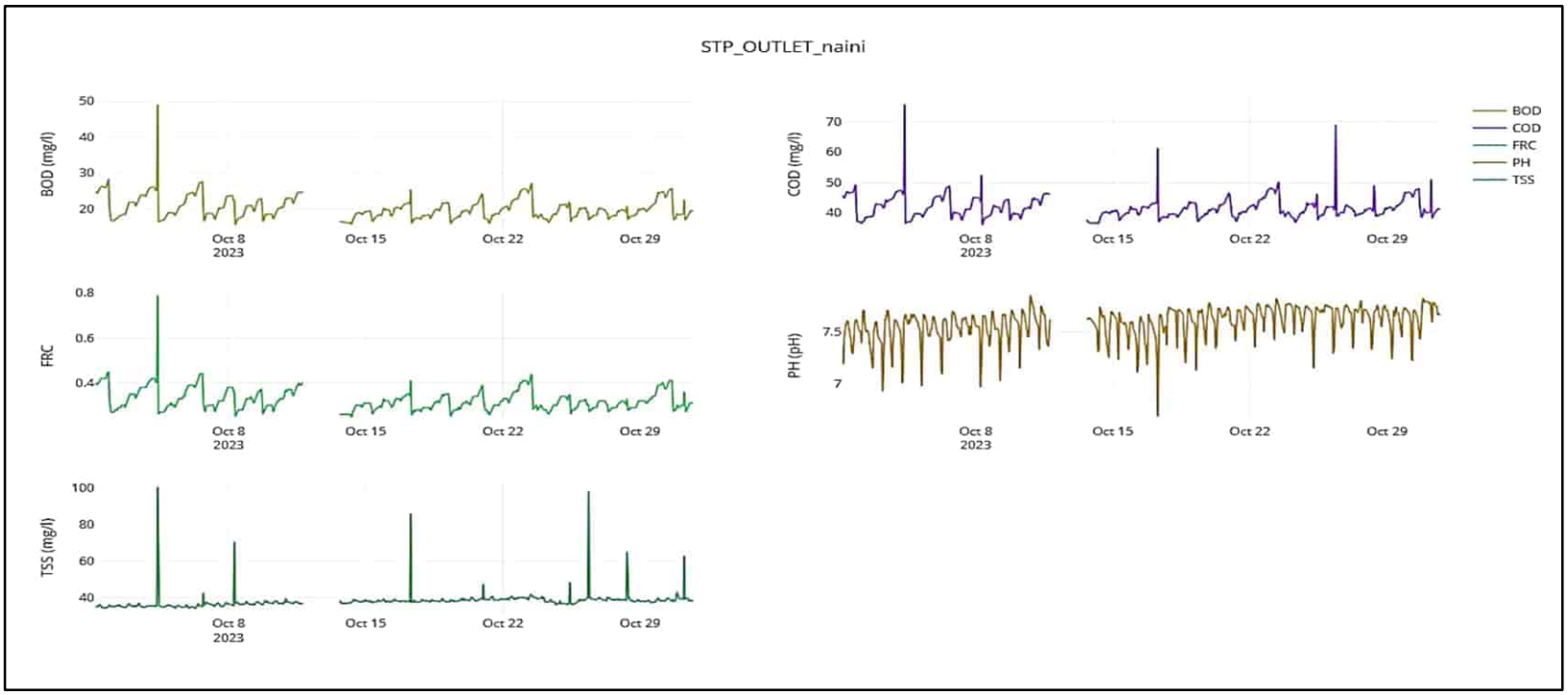
ANNEXURE-II

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 fine tuning of multi parameter analyzer from OEM is in progress.
2. In the blank areas, data did not transfer to CPCB as Naini-I facility was in shutdown for replacement of flowmeter in new header line of Gaughat MPS from 11.10.2023 to 14.10.2023.
3. 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)	
01-Oct-23	108960	108.96	7.05	7.53	140	25	312	42	271	32	NA	500	0.3	23.60	1700000	
02-Oct-23	121340	121.34	7.09	7.43	135	20	308	38	279	35	NA	600	0.2	24.00	1200000	
03-Oct-23	107810	107.81	7.08	7.41	130	22	296	44	268	36	NA	700	0.3	24.22	1400000	
04-Oct-23	104150	104.15	7.19	7.46	140	21	302	42	275	35	NA	500	0.2	24.70	1300000	
05-Oct-23	105070	105.07	7.12	7.49	125	20	306	40	269	37	NA	400	0.3	24.60	1100000	
06-Oct-23	113560	113.56	7.10	7.53	135	24	310	42	277	33	NA	600	0.3	23.80	1400000	
07-Oct-23	115910	115.91	7.18	7.57	140	21	312	40	271	35	NA	500	0.2	24.20	1300000	
08-Oct-23	117200	117.20	7.26	7.55	130	20	304	38	280	34	NA	400	0.3	23.60	1100000	
09-Oct-23	116120	116.12	7.35	7.56	125	21	298	42	268	38	NA	700	0.2	24.20	1700000	
10-Oct-23	114390	114.39	7.36	7.59	130	19	293	41	268	39	NA	600	0.3	24.66	1200000	
11-Oct-23	80340	80.34	7.20	7.51	135	24	306	46	266	36	NA	400	0.2	24.80	1300000	Naini-I Facility (Naini-I STP, Gaughat MPS & Chacharnala SPS)stopped at 18:50 on 11.10.2023 for the replacement work of flow meter in new header line Gaughat MPS, so the flow is less than the normal flow for 11.10.2023 and O MLD for 12.10.2023 and 13.10.2023. Naini-I Facility is restarted on 14.10.2023 at 00:50
12-Oct-23	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	22.70	1100000	
13-Oct-23	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	22.80	1400000	
14-Oct-23	110500	110.50	7.41	7.50	130	18	305	40	275	37	NA	500	0.3	24.11	1300000	
15-Oct-23	112230	112.23	7.43	7.52	125	19	302	41	278	40	NA	700	0.2	24.40	1200000	
16-Oct-23	111350	111.35	7.46	7.51	130	20	308	42	266	38	NA	400	0.3	24.46	1100000	
17-Oct-23	110850	110.85	7.33	7.49	135	18	298	39	269	36	NA	600	0.2	24.64	1400000	
18-Oct-23	111890	111.89	7.27	7.56	130	20	302	40	278	39	NA	500	0.3	24.92	1200000	
19-Oct-23	109660	109.66	7.31	7.57	125	19	306	42	275	37	NA	700	0.3	24.41	1700000	
20-Oct-23	111480	111.48	7.29	7.61	130	22	294	44	277	40	NA	800	0.2	24.26	1300000	
21-Oct-23	110240	110.24	7.21	7.58	135	18	300	42	265	38	NA	600	0.3	24.70	1100000	
22-Oct-23	112150	112.15	7.11	7.62	140	23	312	44	271	40	NA	700	0.2	24.46	1400000	
23-Oct-23	116370	116.37	7.14	7.60	130	21	296	42	268	39	NA	500	0.3	23.87	1100000	
24-Oct-23	119080	119.08	7.17	7.64	125	19	300	40	273	38	NA	600	0.3	24.33	1400000	
25-Oct-23	113680	113.68	7.19	7.61	135	20	303	42	270	35	NA	400	0.2	24.24	1300000	
26-Oct-23	115370	115.37	7.17	7.62	125	19	286	39	279	40	NA	600	0.3	24.70	1700000	
27-Oct-23	114360	114.36	7.16	7.63	120	18	309	41	281	38	NA	400	0.2	24.20	1100000	
28-Oct-23	115790	115.79	7.13	7.61	130	19	304	40	276	37	NA	500	0.3	24.37	1200000	
29-Oct-23	114880	114.88	7.21	7.59	135	22	288	43	272	38	NA	800	0.2	24.20	1700000	
30-Oct-23	110700	110.70	7.17	7.57	130	21	302	46	274	39	NA	700	0.3	24.44	1400000	
31-Oct-23	112340	112.34	7.13	7.69	135	19	296	43	268	40	NA	600	0.2	24.20	1300000	
Average	**104444.19**	**104.44**	**7.22**	**7.56**	**131.38**	**20.41**	**302.00**	**41.55**	**272.66**	**37.21**	**NA**	**568.97**	**0.26**	**24.22**	**1325806.45**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Tauseef, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Satwant, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. 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 29th September 2023, 6th October 2023, 12th October 2023 & 20th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	80.34 to 121.34
2	Gaughat MPS	82.46 to 124.12
3	Chacharnalla SPS	25.82 to 45.44

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	20 to 25 mg/l
2	TSS – Effluent	< 50 mg/l	32 to 39 mg/l
3	pH – Effluent	6.5 – 9.0	7.41 to 7.59
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.70 to 24.80 %
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	21.40 to 77.74
2	Naini I Associated Infrastructure	68.95 to 82.35

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

- Status of various units & records at site:

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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized apart from variations in pH values.
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. 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. 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. 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. All two mechanical screens of 20 MLD part are working. Cleaning brush is not working properly replacement of brush is required. Currently screens are running in auto mode through timer however differential level sensors are not working.
12. For 60 MLD, all grit removal units are working.
13. For 20 MLD, all grit removal units are working.
14. 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.
15. Telescopic valves of Primary Settling Tanks are not working.
16. 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.
17. 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.
18. 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.
19. Two Aeration blowers are working. One Aeration blower is in maintenance.
20. All Final Settling Tanks are working.
21. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
22. 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.

23. In RSPH unit of 60 MLD, all pumps are working.
24. In RSPH unit of 20 MLD, all pumps are working.
25. Both chlorinators are in working condition. Both booster pumps are working.
26. Leak absorption system is working. Checking of concentration for caustic solution filled in leak absorption system must be done every month.
27. 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.
28. 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).
29. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
30. Both thickeners are in working condition. Installation of actuators for drain valves is pending.
31. All thickened sludge transfer pumps are working.
32. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
33. For TEPH panel, modification of room is completed but panel erection is not started yet as per the electrical norms.
34. Both DGs are in operation.
35. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
36. All filtrate pumps are working.
37. 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.
38. Installation of new submersible pumps as dewatering feed pumps is in progress. Currently, digested sludge is being fed to sludge drying beds.
39. 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.
40. All Digesters are working.
41. Heat exchangers, sludge recirculation pumps for all digesters are working.
42. In compressor room, all six compressors are working.
43. Both Gas holders are working.
44. Gas flare is working.
45. H2S scrubber unit is working. Analyzers fitted at inlet & outlet unit are working.
46. 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.
47. 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.
48. Rehabilitation works for tube well unit are pending.
49. Landscaping work of the plant must be improved.
50. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, new Computer Maintenance Management system (CMMS) is installed which is under observation. Also, data from the same must be provided in MPR as supporting documents for maintenance activities
51. Painting of all units from inside is in progress.
52. CCTV camera at the outlet point of STP is not working.
53. 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.
54. 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.
55. For Gaughat MPS, following observations were made during visit:

a) Replacement of flowmeter in new header line is completed however reports generated from the same are under observation.
b) 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.
c) All HNC pumps are working.
d) 2 out of 3 submersible pumps are in working condition.
e) Both mechanical screens of HNC pumps are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
f) Both mechanical screens for submersible pumps are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
g) 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.
h) It is suggested to install manual screen in receiving chamber of SPS for reducing load on mechanical screens.
i) In PLC panels, indication for ON/OFF of mechanical screens, belt/screw conveyor is not coming.

56. 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 set is 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 low and must be maintained around 0.99, rectification of this problem is required.

57. 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.

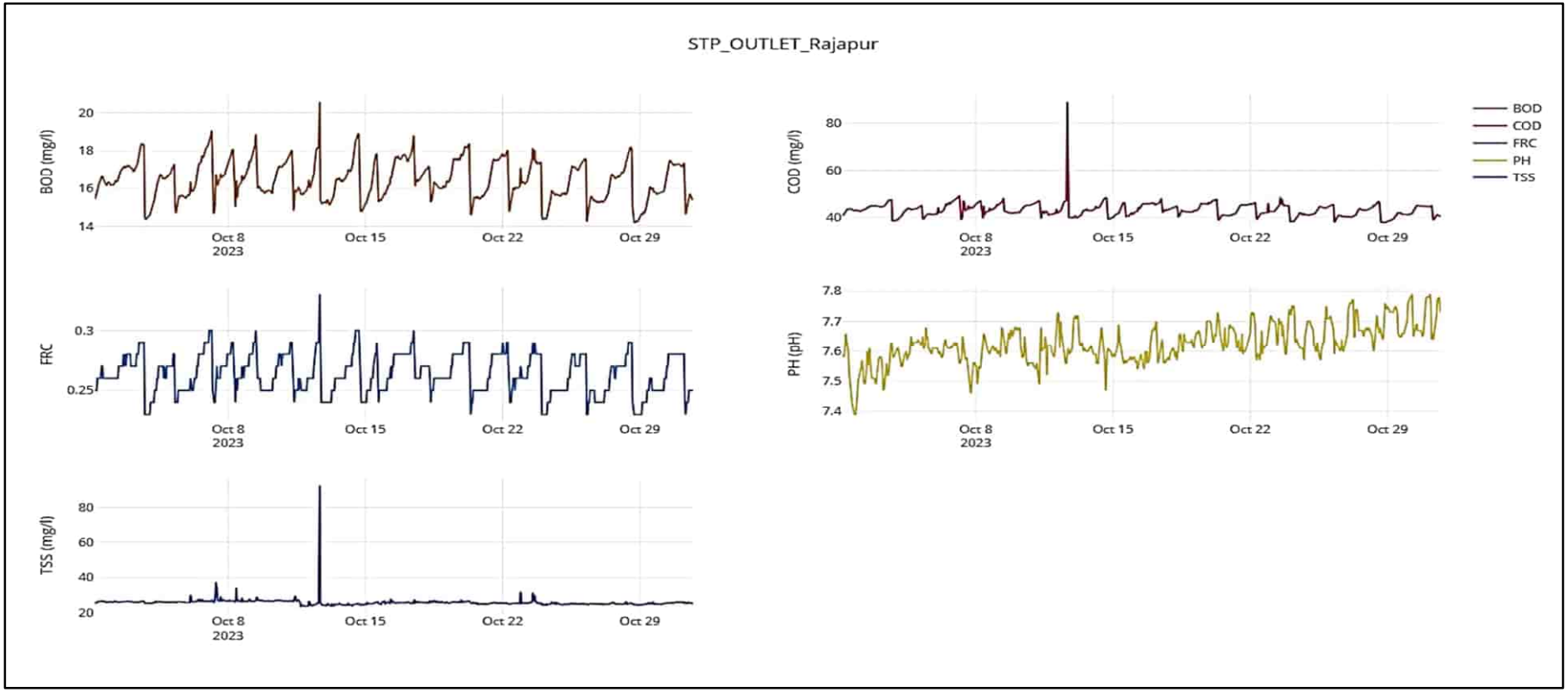
1.3 Recommendation's

- 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 fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is pending.

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)	
01-Oct-23	83190	83.19	6.98	7.56	120	15	296	40	258	25	NA	400	0.3	23.42	1300000	
02-Oct-23	83710	83.71	7.09	7.55	130	18	300	44	256	26	NA	500	0.2	23.02	1700000	
03-Oct-23	82210	82.21	7.13	7.58	125	17	296	40	262	23	NA	600	0.3	23.23	1300000	
04-Oct-23	78180	78.18	7.12	7.62	120	16	292	44	269	26	NA	700	0.2	24.68	1400000	
05-Oct-23	76300	76.30	7.08	7.63	130	17	304	40	272	25	NA	500	0.3	23.42	1700000	
06-Oct-23	80710	80.71	7.15	7.62	135	18	300	48	266	27	NA	600	0.2	24.56	1400000	
07-Oct-23	72740	72.74	7.17	7.57	130	17	296	44	263	28	NA	700	0.3	23.42	1700000	
08-Oct-23	84540	84.54	7.16	7.61	125	16	292	40	261	26	NA	400	0.2	24.64	1300000	
09-Oct-23	73810	77.62	7.13	7.65	140	18	288	44	259	25	NA	500	0.3	23.11	1400000	
10-Oct-23	80220	80.22	7.15	7.62	125	17	296	44	262	27	NA	600	0.3	23.79	1700000	
11-Oct-23	76840	76.84	7.14	7.60	130	16	300	40	267	25	NA	400	0.2	24.74	1300000	
12-Oct-23	78260	78.26	7.16	7.65	120	17	296	44	263	24	NA	700	0.3	24.97	1700000	
13-Oct-23	79860	79.86	7.14	7.62	125	16	288	40	259	23	NA	500	0.3	23.4	1400000	
14-Oct-23	77080	77.08	7.17	7.61	130	17	292	44	257	25	NA	400	0.2	23.42	1300000	
15-Oct-23	81500	81.50	7.15	7.60	120	15	296	44	264	23	NA	600	0.3	23.16	1700000	
16-Oct-23	78130	78.13	7.16	7.59	135	18	288	48	285	25	NA	400	0.3	24.53	1400000	
17-Oct-23	78240	78.24	7.18	7.62	140	17	292	44	265	24	NA	500	0.2	23.17	1200000	
18-Oct-23	79010	79.01	7.25	7.64	130	16	296	40	258	25	NA	600	0.3	24.79	1300000	
19-Oct-23	80050	80.05	7.26	7.67	125	17	292	48	256	24	NA	400	0.3	23.41	1700000	
20-Oct-23	79870	79.87	7.22	7.64	130	16	300	40	263	25	NA	700	0.2	23.06	1400000	
21-Oct-23	81520	81.52	7.23	7.66	135	18	296	44	259	26	NA	600	0.3	23.78	1700000	
22-Oct-23	79910	79.91	7.26	7.65	140	17	304	40	268	27	NA	500	0.3	23.4	1300000	
23-Oct-23	80020	80.02	7.27	7.70	145	18	296	48	263	24	NA	400	0.2	22.73	1200000	
24-Oct-23	80780	80.78	7.25	7.69	130	16	292	40	258	23	NA	600	0.2	23.38	1400000	
25-Oct-23	81040	81.04	7.26	7.67	135	18	304	44	271	26	NA	500	0.3	23.34	1700000	
26-Oct-23	79190	79.19	7.25	7.66	130	16	296	40	264	25	NA	400	0.3	24.75	1300000	
27-Oct-23	80430	80.43	7.26	7.72	125	17	288	44	257	26	NA	600	0.2	23.35	1700000	
28-Oct-23	79980	79.98	7.29	7.69	130	16	292	40	261	25	NA	700	0.3	23.24	1400000	
29-Oct-23	81990	81.99	7.24	7.72	125	15	300	40	269	24	NA	500	0.2	24.53	1300000	
30-Oct-23	82820	82.82	7.25	7.73	135	18	304	44	271	26	NA	400	0.3	23.83	1400000	
31-Oct-23	80790	80.79	7.21	7.75	130	17	296	40	265	27	NA	600	0.3	24.25	1700000	
Average	**79771.61**	**79.89**	**7.19**	**7.64**	**129.84**	**16.77**	**295.74**	**42.71**	**263.58**	**25.16**	**NA**	**532.26**	**0.26**	**23.76**	**1464516.13**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Tauseef, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Satwant, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Girijesh, 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 28th September 2023, 7th October 2023, 14th October 2023 and 21st October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	72.74 to 84.54
2	Rajapur SPS	2.28 to 11.04
3	Mumfodganj MPS	66.83 to 79.16

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	15 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	23 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.55 to 7.65
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.02 to 24.97 %
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	1.84 to 30.02
2	Rajapur Associated Infrastructure	49.54 to 60.00

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

- Status of various units & records at site:

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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized;
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. 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. One Grit removal unit is working. One grit removal unit is in maintenance. Replacement of chutes is required.
8. Both Mechanical Fine screens at PTU are working but both mechanical screens are not lifting waste efficiently. Currently screens are running in auto mode through timer however differential level sensors are not working.
9. 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.
10. 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.
11. It is suggested that for minimizing the problem of leakage from HDP inlet pipes, it is required to give proper supports under the pipes. Concessionaire to please do the needful.
12. 14 surface aerators were found running, 1 surface aerator is in maintenance. It is recommended to install DO analyzer in this tank also for better monitoring.
13. It is also suggested to clean the Aeration tank for removing dead sludge which in turn will increase the efficiency of Aeration.
14. 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, dead sludge which is deposited in quiescent zone is coming along with effluent which is deteriorating the quality of effluent.
15. Both DG sets are working. It is suggested to increase the height of chimney of DG sets as per CPCB norms.
16. All sludge transfer pumps are in working condition.
17. Sludge dewatering unit is working. Poly dosing unit is working.
18. 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.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. At flood pumping station, all Pumps are in working condition.
21. Since the chlorine tonner storage in Rajapur STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
22. 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.
23. There is variation in recorded values of flow from inlet flowmeter at Rajapur STP and outlet flowmeter of Mumfordganj SPS, please rectify the problem.
24. There is variation in recorded values of flow from inlet flowmeters at Rajapur STP and outlet flowmeter of Rajapur STP, please rectify the problem.
25. 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.

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 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.
27. 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.
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. 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.

30. At Mumfodganj MPS 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 MPS 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 pump is 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.

31. 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.

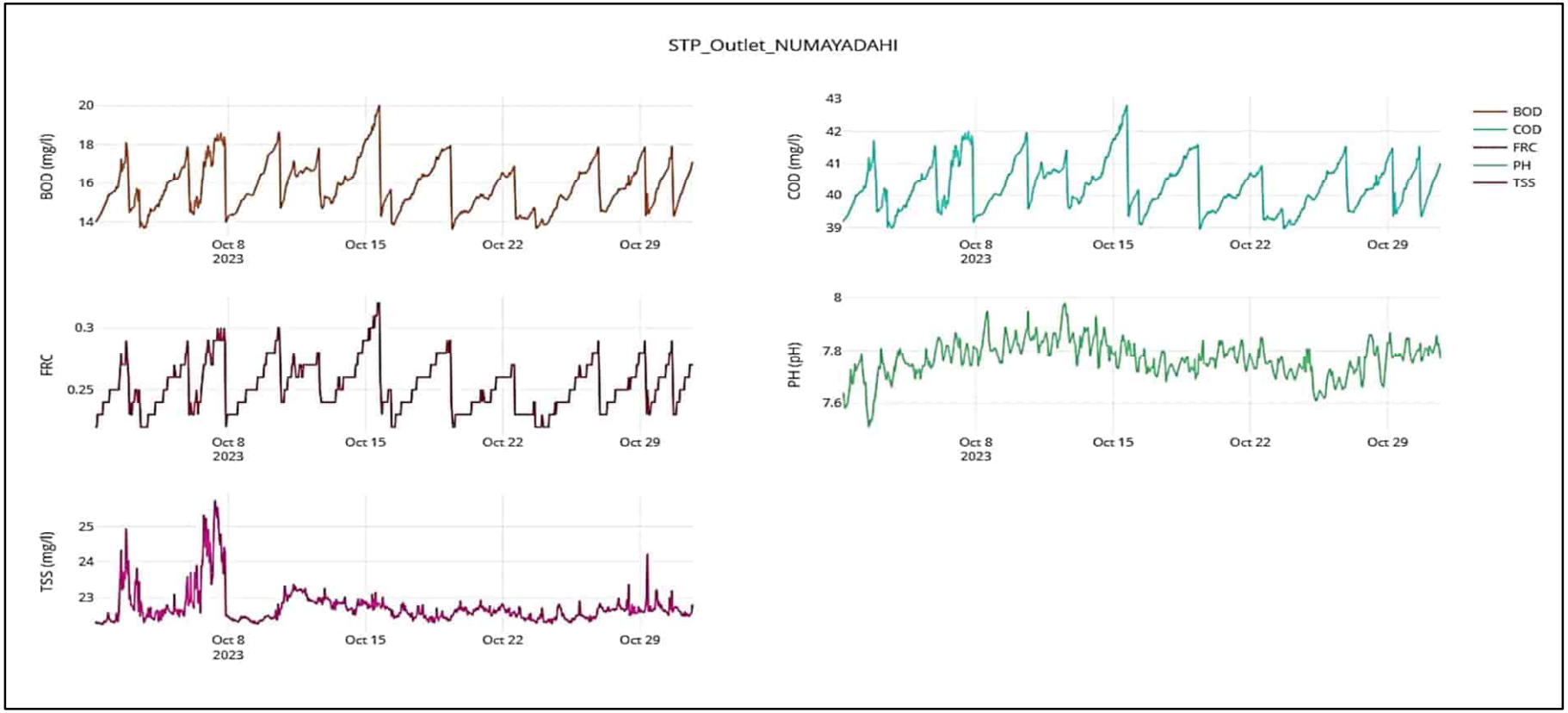
ANNEXURE-III

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 variation in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is pending.

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)	
01-Oct-23	61850	61.85	7.21	7.74	130	16	312	40	262	23	NA	700	0.3	24.17	1400000	
02-Oct-23	61800	61.80	7.18	7.76	140	17	304	44	272	25	NA	600	0.3	23.78	1300000	
03-Oct-23	63700	63.70	7.28	7.67	125	14	316	40	268	24	NA	400	0.2	24.04	1400000	
04-Oct-23	66200	66.20	7.16	7.70	135	16	300	40	258	22	NA	600	0.3	22.99	1700000	
05-Oct-23	63750	63.75	7.21	7.74	130	15	320	44	272	24	NA	500	0.2	22.88	1300000	
06-Oct-23	63260	63.26	7.24	7.80	130	16	312	40	266	25	NA	700	0.3	23.57	1700000	
07-Oct-23	60250	60.25	7.21	7.78	140	18	316	44	278	25	NA	400	0.3	22.99	1100000	
08-Oct-23	62650	62.65	7.19	7.76	135	15	296	36	254	23	NA	600	0.2	24.37	1400000	
09-Oct-23	62750	62.75	7.26	7.82	140	16	304	40	266	24	NA	600	0.3	24.16	1700000	
10-Oct-23	62600	62.60	7.22	7.74	130	16	316	44	272	25	NA	500	0.3	23.75	1400000	
11-Oct-23	61600	61.60	7.18	7.78	145	18	320	44	270	24	NA	400	0.2	24.50	1300000	
12-Oct-23	61320	61.32	7.21	7.76	140	17	308	40	251	22	NA	700	0.3	23.54	1400000	
13-Oct-23	62430	62.43	7.16	7.68	130	15	312	44	272	23	NA	500	0.3	22.85	1700000	
14-Oct-23	61120	61.12	7.13	7.72	145	17	300	40	267	22	NA	600	0.3	22.99	1300000	
15-Oct-23	62500	62.50	7.16	7.78	140	17	320	44	254	24	NA	400	0.2	24.97	1400000	
16-Oct-23	61580	61.58	7.14	7.72	130	15	304	36	258	25	NA	500	0.2	24.32	1300000	
17-Oct-23	61350	61.35	7.22	7.68	135	16	296	40	248	23	NA	700	0.3	23.80	1700000	
18-Oct-23	58800	58.80	7.19	7.74	145	18	324	44	269	24	NA	400	0.3	24.68	1300000	
19-Oct-23	61340	61.34	7.22	7.84	130	16	344	40	280	25	NA	600	0.3	22.41	1400000	
20-Oct-23	63030	63.03	7.26	7.78	140	16	320	36	268	23	NA	500	0.2	23.64	1700000	
21-Oct-23	59390	59.39	7.22	7.67	135	15	324	40	272	25	NA	700	0.3	23.08	1400000	
22-Oct-23	59500	59.50	7.18	7.72	130	16	316	44	282	24	NA	600	0.3	24.04	1100000	
23-Oct-23	60350	60.35	7.26	7.78	130	15	292	36	263	22	NA	400	0.2	23.78	1400000	Due to malfunctioning in inelt flowmeter, cumulative readings from SCADA reports are considered for calculatiing inlet flow
24-Oct-23	61200	61.20	7.22	7.66	135	15	300	40	269	23	NA	700	0.3	23.35	1300000	
25-Oct-23	61360	61.36	7.18	7.74	140	17	312	44	273	22	NA	400	0.3	24.42	1100000	
26-Oct-23	59700	59.70	7.21	7.70	130	16	320	44	276	25	NA	600	0.2	24.40	1400000	
27-Oct-23	57620	57.62	7.26	7.74	140	16	316	40	268	24	NA	400	0.3	22.46	1400000	
28-Oct-23	58300	58.30	7.18	7.77	140	17	304	40	262	22	NA	500	0.3	24.29	1100000	
29-Oct-23	62170	62.17	7.26	7.72	130	15	312	44	271	24	NA	700	0.3	23.24	1700000	
30-Oct-23	61300	61.30	7.21	7.76	135	16	300	40	266	23	NA	600	0.2	23.57	1300000	
31-Oct-23	60550	60.55	7.16	7.78	140	17	304	44	258	22	NA	400	0.3	24.32	1200000	
Average	**61461.94**	**61.46**	**7.21**	**7.74**	**135.48**	**16.10**	**311.10**	**41.16**	**266.61**	**23.58**	**NA**	**545.16**	**0.27**	**23.72**	**1396774.19**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Abhishek Shrivastava, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Rahul Paswan, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Kumar Azaad, PWPL. 10. Mr. Vijay, PWPL. 11. 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 25th September 2023, 4th October 2023, 10th October 2023, 19th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	60.25 to 66.20
2	Ghagharnalla MPS	60.91 to 66.95
3	Sasur Kadheri SPS	32.16 to 36.35
4	Lukerganj SPS	4.63 to 8.35

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 18 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 25 mg/l
3	pH – Effluent	6.5 – 9.0	7.20 to 7.82
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.85 to 24.97 %
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	69.86 to 71.76
2	Numayadahi Associated Infrastructure	97.16 to 103.13

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 September-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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
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. 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 is coming to SCADA system of STP. 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. Calibration of flowmeter is completed but it is not giving accurate values as compared to outlet flowmeter of Ghaharnalla MPS. Concessionaire is required to resolve the problem.
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 conveyer for one grit removal unit is completed.
8. Both Mechanical Screens are working. Currently screens are running in auto mode through timer however differential level sensors are not working. Repairing of electrical panel for screens is required.
9. All Biotowers were in operation. Arms of biotower mechanism for all biotowers are completely rusted and must be replaced at the earliest as they can broke at any time and treatment in biotowers will be completely stopped. 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.
12. All aeration blowers are in working condition & two blowers were found running.
13. DO analyzer at the outlet of all aeration tanks are not working, please check & rectify the problem.
14. Pressure transmitter & temperature transmitter are not installed yet on header line of Aeration blowers.
15. Two Centrifuges are working, and one is under maintenance. All, sludge Feed pumps and Poly dosing pumps are working.
16. Housekeeping near dewatering area is very shabby and must be improved.
17. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
18. All Sludge Recirculation Pumps are in working condition. Cleaning of sludge in valve chamber is required to avoid generation of mosquitos and in turn disease caused by them.
19. Both Secondary clarifiers were found in operation. It is suggested to plan for cleaning of both clarifiers before start of Magh Mela – 2023.
20. Thickener was found in operation.
21. Both booster pumps & both chlorinators are in working condition. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
22. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
23. Installation of new chlorine analyzer at outlet is completed. It is under observation.
24. 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.
25. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at one time hence

concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).

26. Both DGs are working.
27. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
28. 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.
29. Make a proper store for storage for flammable and hazardous materials including spare parts.
30. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
31. Housekeeping and cleaning must be improved for all units.
32. All CCTV cameras installed at site are not working except two for the outlet and DG room of STP.
33. 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.
34. 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 catchment area of nalla 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, HNC pumps (4 new + 1 old) are in working condition. One pump is under maintenance.
    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.
35. 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.

36. 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.

37. 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:

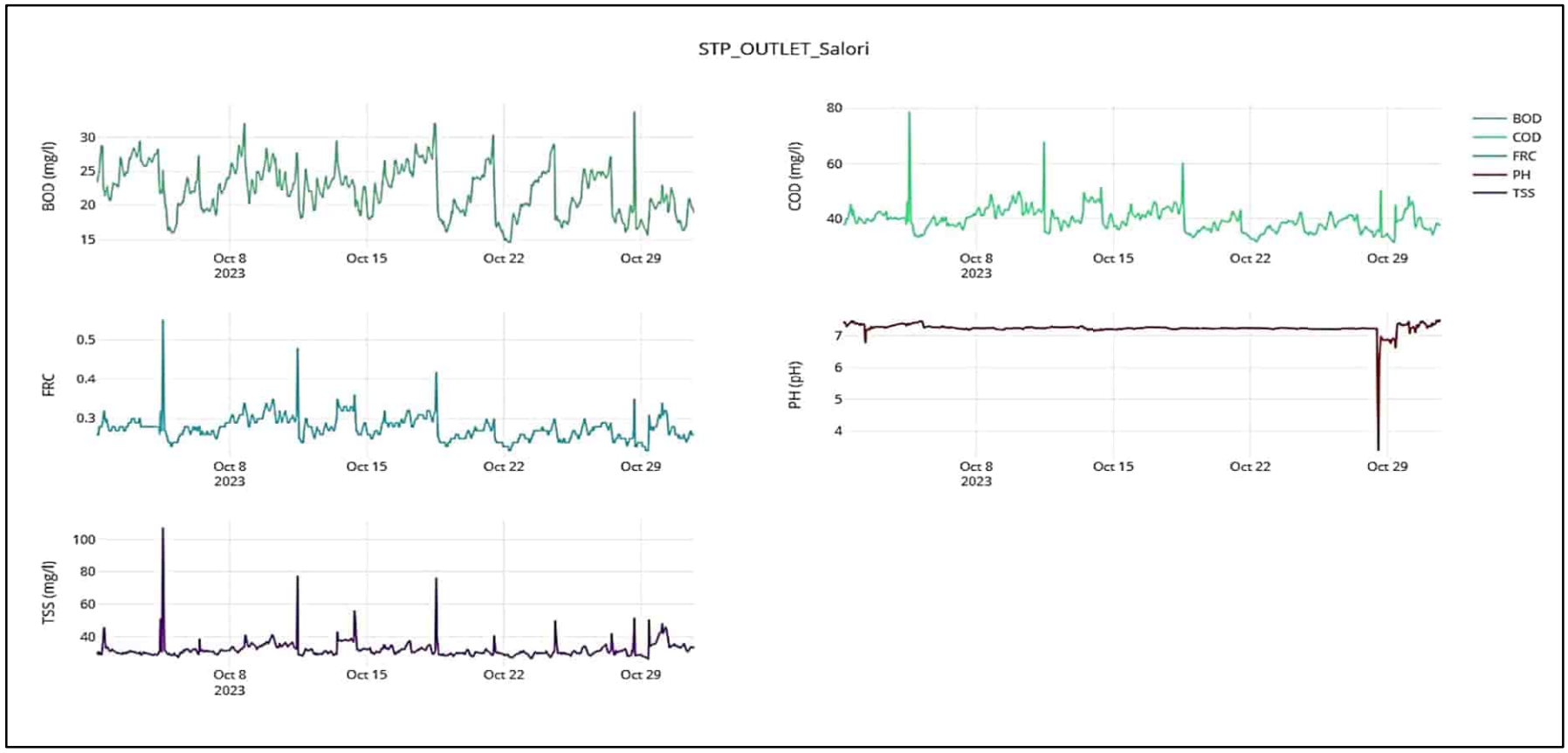
a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
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 variation in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is pending.

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)	
01-Oct-23	32730	32.73	7.29	7.42	155	23	332	44	295	31	NA	500	0.2	23.6	1400000	
02-Oct-23	37500	37.50	7.33	7.48	165	24	340	40	305	29	NA	600	0.3	24.1	1100000	
03-Oct-23	38270	38.27	7.32	7.39	160	27	344	40	302	28	NA	700	0.2	21.1	1700000	
04-Oct-23	37890	37.89	7.28	7.35	150	24	352	36	295	30	NA	600	0.3	22.1	1300000	
05-Oct-23	41410	41.41	7.23	7.50	155	21	332	40	308	32	NA	500	0.3	23.5	1400000	
06-Oct-23	39460	39.46	7.30	7.41	160	23	348	36	296	33	NA	400	0.2	24.9	1100000	
07-Oct-23	39920	39.92	7.18	7.27	155	22	328	40	305	30	NA	700	0.3	23.7	1300000	
08-Oct-23	40170	40.17	7.13	7.35	165	27	344	44	314	32	NA	600	0.3	24.2	1700000	
09-Oct-23	39260	39.26	7.20	7.33	160	25	352	40	309	36	NA	400	0.3	23.5	1400000	
10-Oct-23	36350	36.35	7.09	7.22	155	24	344	44	308	35	NA	500	0.2	24.4	1100000	
11-Oct-23	36360	36.36	7.15	7.37	160	23	356	40	292	34	NA	700	0.3	24.9	1700000	
12-Oct-23	37120	37.12	7.10	7.41	150	22	360	36	310	32	NA	500	0.2	23.2	1300000	
13-Oct-23	37070	37.07	7.21	7.38	155	24	352	44	316	36	NA	600	0.3	23.1	1400000	
14-Oct-23	38150	38.15	7.29	7.35	165	23	356	40	335	38	NA	700	0.3	23.9	1100000	
15-Oct-23	39490	39.49	7.27	7.39	160	23	364	40	317	33	NA	400	0.2	22.9	1300000	
16-Oct-23	36470	36.47	7.31	7.42	155	25	360	44	342	35	NA	500	0.3	23.4	1400000	
17-Oct-23	38310	38.31	7.28	7.38	145	24	348	42	326	34	NA	600	0.3	23.2	1700000	
18-Oct-23	37410	37.41	7.25	7.23	160	26	344	42	308	31	NA	400	0.2	24.4	1100000	
19-Oct-23	37390	37.39	7.06	7.35	155	20	368	36	362	30	NA	700	0.3	24.2	1300000	
20-Oct-23	38210	38.21	6.55	7.40	160	24	360	40	342	30	NA	500	0.3	24.1	1700000	
21-Oct-23	35460	35.46	6.53	7.34	155	23	368	36	357	32	NA	400	0.2	24.4	1400000	
22-Oct-23	38040	38.04	6.70	7.36	150	18	364	32	369	31	NA	600	0.3	23.3	1300000	
23-Oct-23	38450	38.45	6.68	7.39	155	22	368	40	346	30	NA	700	0.2	22.7	1100000	
24-Oct-23	39270	39.27	6.89	7.34	165	24	372	36	352	33	NA	500	0.3	23.4	1400000	
25-Oct-23	37500	37.50	7.32	7.36	155	21	360	36	340	29	NA	400	0.3	23.7	1100000	
26-Oct-23	37610	37.61	7.25	7.32	160	25	352	40	315	32	NA	700	0.3	24.1	1400000	
27-Oct-23	38820	38.82	7.30	7.35	165	23	364	36	336	34	NA	500	0.2	23.8	1300000	
28-Oct-23	38580	38.58	7.11	6.75	155	17	356	32	342	31	NA	600	0.3	23.5	1700000	
29-Oct-23	36100	36.10	7.20	7.24	160	19	360	40	332	35	NA	400	0.3	24.7	1400000	
30-Oct-23	33850	33.85	7.09	7.40	155	20	364	44	345	39	NA	700	0.2	24.2	1300000	
31-Oct-23	36820	36.82	7.27	7.44	160	19	368	40	358	36	NA	600	0.2	24.6	1100000	
Average	**37723.87**	**37.72**	**7.13**	**7.34**	**157.42**	**22.74**	**354.19**	**39.35**	**325.13**	**32.61**	**NA**	**554.84**	**0.26**	**23.70**	**1354838.71**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Abhishek Shrivastava, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Rahul Paswan, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Vaibhav, PWPL
Place(s) of Inspection	• 29 MLD STP at Salori, Prayagraj. • 29 MLD MPS at Salori, Prayagraj.

Visit was done on 26thSeptember 2023, 5th October 2023, 9th October 2023, 16th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	32.73 to 41.41
2	Salori MPS	32.73 to 41.41

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	21 to 27 mg/l
2	TSS – Effluent	< 50 mg/l	28 to 38 mg/l
3	pH – Effluent	6.5 – 9.0	7.22 to 7.50
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.10 to 24.90 %
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	62.73 to 107.98
2	Salori Associated Infrastructure	48.76 to 52.18

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

- Status of various units & records at site:
  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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
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. 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 hence it is suggested to replace the screens. Also, life of screens is complete as they have crossed 15 years since both were taken in operation in year 2007. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. Both FAB units are working. DO analyzers for both FAB units are not working, please rectify the problem.
9. All three aeration blowers are working.
10. 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.
11. During recent visit it was observed that accumulation of sludge in both clarisettlers was way beyond normal and due to which outlet quality was not good. This is not acceptable as TSS load received inside the STP is within design parameters. Also, these kinds of incidents are observed in past also hence Concessionaire is required to rectify the problem or otherwise strict action will be taken if any kind of negligence is recorded in future.
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 was not satisfactory during visit.
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:

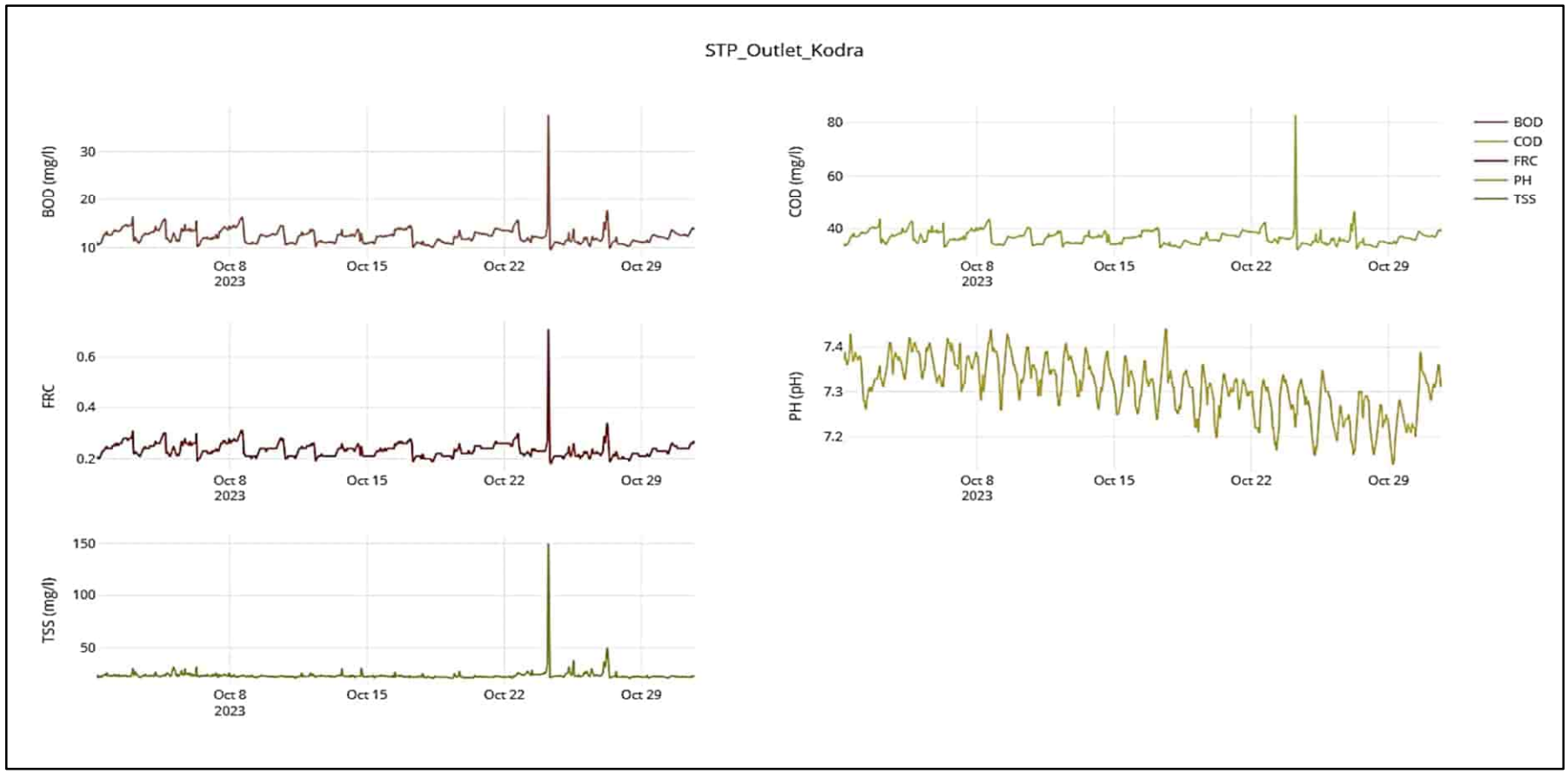
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    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 variation in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is pending.

kodra STP, 25 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 (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)	
01-Oct-23	30500	30.50	7.26	7.38	130	12	280	36	276	25	NA	500	0.2	25.44	1300000	
02-Oct-23	31830	31.83	7.22	7.33	120	13	272	40	259	23	NA	600	0.3	24.70	1700000	
03-Oct-23	30310	30.31	7.24	7.38	125	12	308	36	304	24	NA	400	0.2	24.78	1400000	
04-Oct-23	30600	30.60	7.26	7.42	120	14	296	40	287	23	NA	600	0.3	23.87	1100000	
05-Oct-23	30410	30.41	7.15	7.39	130	13	292	36	282	26	NA	500	0.2	23.99	1200000	
06-Oct-23	30020	30.02	7.18	7.37	125	12	284	36	278	23	NA	700	0.2	24.07	1400000	
07-Oct-23	30050	30.05	7.21	7.38	130	13	288	40	272	22	NA	400	0.2	24.56	1100000	
08-Oct-23	30590	30.59	7.18	7.39	125	14	304	36	276	23	NA	600	0.3	23.49	1300000	
09-Oct-23	29940	29.94	7.21	7.42	120	11	308	32	282	24	NA	500	0.2	24.61	1700000	
10-Oct-23	29120	29.12	7.23	7.37	130	12	300	36	272	23	NA	600	0.2	24.90	1400000	
11-Oct-23	29780	29.78	7.20	7.34	120	11	304	32	262	22	NA	700	0.2	24.34	1300000	
12-Oct-23	28330	28.33	7.12	7.32	125	12	320	36	248	24	NA	500	0.2	23.65	1200000	
13-Oct-23	29780	29.78	7.10	7.37	130	11	304	36	256	23	NA	400	0.3	24.24	1100000	
14-Oct-23	29420	29.42	7.27	7.35	135	12	312	40	284	24	NA	600	0.2	23.56	1200000	
15-Oct-23	29190	29.19	7.29	7.38	120	11	328	32	314	22	NA	400	0.2	25.08	1300000	
16-Oct-23	28150	28.15	7.26	7.37	125	14	308	40	278	23	NA	500	0.3	24.40	1400000	
17-Oct-23	28410	28.41	7.22	7.35	130	12	296	36	262	21	NA	600	0.2	24.25	1700000	
18-Oct-23	29120	29.12	7.19	7.32	125	11	312	32	282	20	NA	500	0.2	23.85	1400000	
19-Oct-23	29270	29.27	7.16	7.34	120	12	284	36	273	22	NA	700	0.2	24.41	1300000	
20-Oct-23	28710	28.71	7.04	7.26	130	13	304	36	283	23	NA	600	0.2	24.46	1100000	
21-Oct-23	28970	28.97	7.10	7.28	125	12	292	40	267	22	NA	400	0.3	24.64	1400000	
22-Oct-23	29740	29.74	7.12	7.31	135	14	316	36	285	23	NA	500	0.3	24.43	1200000	
23-Oct-23	28620	28.62	7.16	7.28	120	11	308	32	277	24	NA	700	0.2	23.80	1100000	
24-Oct-23	30160	30.16	7.22	7.33	130	12	300	36	269	23	NA	600	0.2	24.24	1400000	
25-Oct-23	27250	27.25	7.10	7.29	125	11	316	32	284	24	NA	400	0.2	23.73	1300000	
26-Oct-23	27710	27.71	7.14	7.31	135	12	304	36	274	25	NA	700	0.2	24.93	1700000	
27-Oct-23	28680	28.68	7.25	7.36	130	13	300	40	263	27	NA	500	0.3	24.15	1400000	
28-Oct-23	28060	28.06	7.19	7.32	120	11	312	32	278	21	NA	400	0.2	23.56	1100000	
29-Oct-23	28900	28.90	7.21	7.28	125	12	324	36	298	22	NA	700	0.2	24.35	1400000	
30-Oct-23	29320	29.32	7.27	7.30	130	13	336	36	323	23	NA	600	0.2	23.40	1300000	
31-Oct-23	28690	28.69	7.19	7.36	135	14	304	40	282	22	NA	400	0.3	24.28	1200000	
Average	**29342.90**	**29.34**	**7.19**	**7.34**	**126.61**	**12.26**	**303.74**	**36.13**	**278.39**	**23.10**		**541.94**	**0.23**	**24.26**	**1325806.45**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Action taken report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Abhishek Shrivastava, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Narendra, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R) 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Rajan, PWPL.
Place(s) of Inspection	• 25 MLD STP at Kodra, Prayagraj • 25 MLD MPS at Kodra, Prayagraj

Visit was done on 24th September 2023, 10thOctober 2023 & 20th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	28.33 to 31.83
2	Kodra MPS	28.33 to 31.83

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	11 to 14 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 26 mg/l
3	pH – Effluent	6.5 – 9.0	7.32 to 7.42
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.49 to 25.44%
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	90.43 to 97.89
2	Kodra Associated Infrastructure	96.86 to 102.77

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

Status of various units & records at site:

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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
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. 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.
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. One DO Analyzer out of two is working at outlet of aeration tank.
11. All Aeration blowers are working.
12. All Centrifuges are in working condition.
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 0.3 to 0.4mg/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. Make a proper store for storage of flammable and hazardous materials including spare parts.
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.
28. 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.
29. Installation of Public Address System is done but its commissioning is not completed yet.
30. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
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:

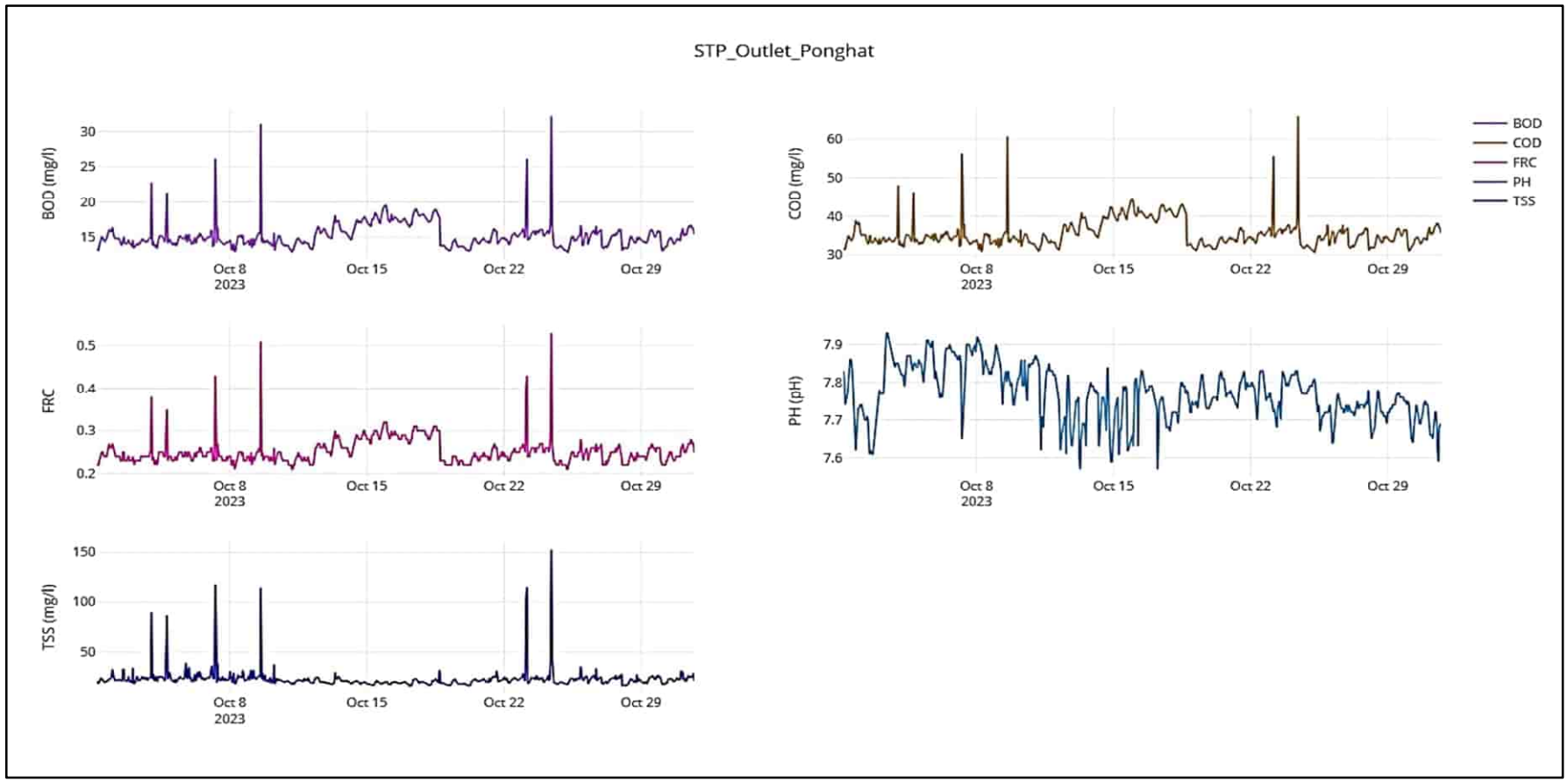
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    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 variation in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is pending.

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)	
01-Oct-23	13200	13.20	7.25	7.69	125	15	280	32	220	24	NA	500	0.3	24.15	1300000	
02-Oct-23	12900	12.90	7.14	7.73	120	16	276	36	210	25	NA	600	0.2	23.95	1400000	
03-Oct-23	12300	12.30	7.34	7.76	130	15	270	32	198	24	NA	700	0.3	24.38	1500000	
04-Oct-23	12850	12.85	7.25	7.72	135	16	276	36	214	28	NA	400	0.3	24.27	1200000	
05-Oct-23	11400	11.40	7.19	7.78	120	15	292	32	286	26	NA	500	0.2	23.78	1400000	
06-Oct-23	13150	13.15	7.24	7.71	130	16	288	36	265	25	NA	600	0.3	23.90	1300000	
07-Oct-23	12720	12.72	7.16	7.68	125	15	272	32	220	28	NA	400	0.3	24.30	1200000	
08-Oct-23	13150	13.15	7.26	7.72	130	14	296	36	288	27	NA	500	0.2	24.09	1500000	
09-Oct-23	12720	12.72	7.22	7.73	120	16	284	32	250	28	NA	700	0.3	23.75	1700000	
10-Oct-23	11710	11.71	7.18	7.75	125	15	280	36	235	23	NA	600	0.2	24.46	1400000	
11-Oct-23	12100	12.10	7.23	7.69	120	14	276	32	240	22	NA	500	0.3	23.84	1200000	
12-Oct-23	13400	13.40	7.05	7.62	125	16	284	36	256	23	NA	700	0.2	24.38	1300000	
13-Oct-23	13130	13.13	7.26	7.58	120	17	272	40	228	24	NA	600	0.3	24.62	1400000	
14-Oct-23	12780	12.78	7.18	7.64	130	18	280	36	240	22	NA	400	0.2	24.16	1500000	
15-Oct-23	13350	13.35	7.27	7.55	125	19	284	44	260	21	NA	500	0.3	23.85	1200000	
16-Oct-23	12740	12.74	7.02	7.61	130	18	296	40	235	20	NA	700	0.2	24.44	1300000	
17-Oct-23	13150	13.15	7.08	7.64	125	17	288	44	228	22	NA	600	0.3	24.68	1400000	
18-Oct-23	13660	13.66	7.23	7.62	130	18	292	40	235	21	NA	400	0.3	23.78	1700000	
19-Oct-23	13930	13.93	7.30	7.71	125	15	296	32	225	20	NA	500	0.2	24.05	1500000	
20-Oct-23	12960	12.96	7.34	7.52	120	14	284	36	220	22	NA	400	0.3	23.95	1200000	
21-Oct-23	13400	13.40	7.26	7.64	130	16	282	32	210	24	NA	600	0.2	24.22	1300000	
22-Oct-23	13040	13.04	7.36	7.68	135	15	296	36	230	25	NA	500	0.3	23.90	1400000	
23-Oct-23	12730	12.73	7.30	7.62	130	18	304	40	245	28	NA	700	0.3	24.18	1500000	
24-Oct-23	12900	12.90	7.24	7.71	135	16	300	36	235	27	NA	400	0.2	23.60	1200000	
25-Oct-23	12970	12.97	7.32	7.64	125	15	296	32	210	26	NA	600	0.3	24.32	1400000	
26-Oct-23	12620	12.62	7.25	7.68	120	16	280	36	215	25	NA	500	0.3	24.10	1700000	
27-Oct-23	13520	13.52	7.30	7.72	130	15	284	32	220	24	NA	700	0.2	23.75	1500000	
28-Oct-23	12690	12.69	7.58	7.66	125	14	280	36	218	23	NA	400	0.3	24.28	1200000	
29-Oct-23	13550	13.55	7.60	7.65	130	16	292	32	225	25	NA	500	0.3	24.38	1300000	
30-Oct-23	13960	13.96	7.35	7.68	120	15	284	36	210	23	NA	700	0.2	23.82	1100000	
31-Oct-23	13630	13.63	7.25	7.62	125	17	288	40	225	27	NA	600	0.3	24.45	1700000	
Average	**12977.74**	**12.98**	**7.26**	**7.67**	**126.29**	**15.87**	**285.55**	**35.74**	**232.13**	**24.26**		**548.39**	**0.26**	**24.12**	**1383870.97**	

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Inspection Report

Month of Site Inspection	October 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Abhishek Shrivastava, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Narendra, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R) 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Rajan, PWPL.
Place(s) of Inspection	• 10 MLD STP at Ponghat, Prayagraj • 10 MLD MPS at Ponghat, Prayagraj

Visit was done on 24th September 2023, 10thOctober 2023 & 20th October 2023 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer through inspection report of September-23:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	11.40 to 13.40
2	Ponghat MPS	11.40 to 13.40

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	14 to 16 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.58 to 7.78
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100ml
5	Consistency – Sludge	> 20 %	23.75 to 24.62%
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	115.36 to 152.86
2	Ponght Associated Infrastructure	69.77 to 89.26

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

- Status of various units & records at site:

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. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at inlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
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. 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. Air is coming out vigorously from 5-6 points due to problem in diffusers. This must be rectified at the earliest.
10. Both DO Analyzers at aeration tanks are not working.
11. All Aeration Blowers are working.
12. Both Centrifuges are working.
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. Make a proper store for storage of flammable and hazardous materials including spare parts.
27. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
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 October 2023 to 31st October 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	NA	NA
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 October 2023 to 31st October 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	Yes	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	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st October 2023 to 31st October 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	NA	NA
	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.	Yes	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 October 2023 to 31st October 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	NA	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 October 2023 to 31st October 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 October 2023 to 31st October 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 October 2023 to 31st October 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 October 2023 to 31st October 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 Concessionaire and furnish its	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st October 2023 to 31st October 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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	Yes	Yes	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 on effectiveness or otherwise	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st October 2023 to 31st October 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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, the materials used and their	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st October 2023 to 31st October 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 Concessionaire for ensuring	Yes	Yes	Yes

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	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 achieve any of the Project	Yes	Yes	Yes

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	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 Construction Works that	Yes	Yes	Yes

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	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.	Yes	Yes	Yes
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 schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same.	Yes	NA	NA
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,	Yes	Yes	Yes

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	works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire.			
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual.	Yes	NA	NA
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
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	Yes	Yes	Yes

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	and suggest changes as per clause 8.14(a)of the Concession Agreement.			
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 Agreement, from 1 year from the Effective Date	Yes	Yes	Yes
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	Yes	Yes	Yes

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	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.			
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; 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;	Yes	Yes	Yes

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	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 submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis;	Yes	Yes	Yes
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

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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 within 7 (seven) days of receipt of such report	Yes	Yes	Yes
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	Yes	Yes	Yes

Activities Carried out as per TOR				
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	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.			
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, 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.	Yes	Yes	Yes
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	Yes	Yes	Yes

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	Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.			
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 Pradesh Jal Nigam, under and in accordance with the provisions of this agreement.	Yes	Yes	Yes
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	Yes	Yes	Yes

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	the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire.			
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 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.	Yes	NA	NA

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	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