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
March 2024

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 januar qy-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;

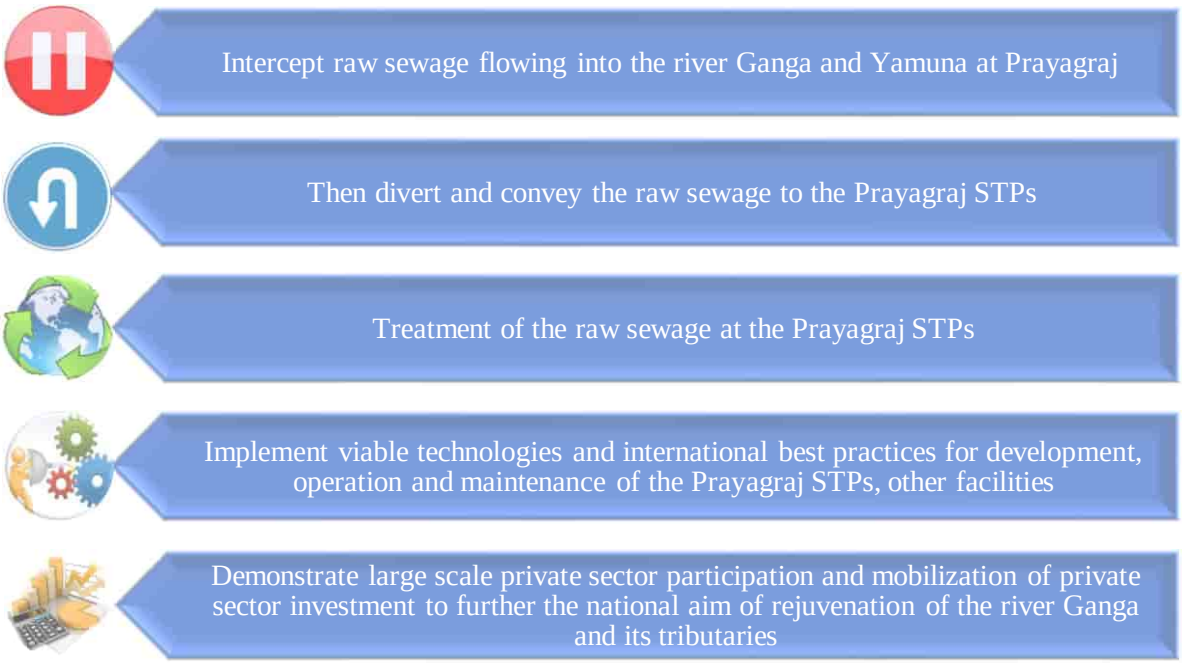

Figure 1 : Objectives of NMCG and UP JAL NIGAM

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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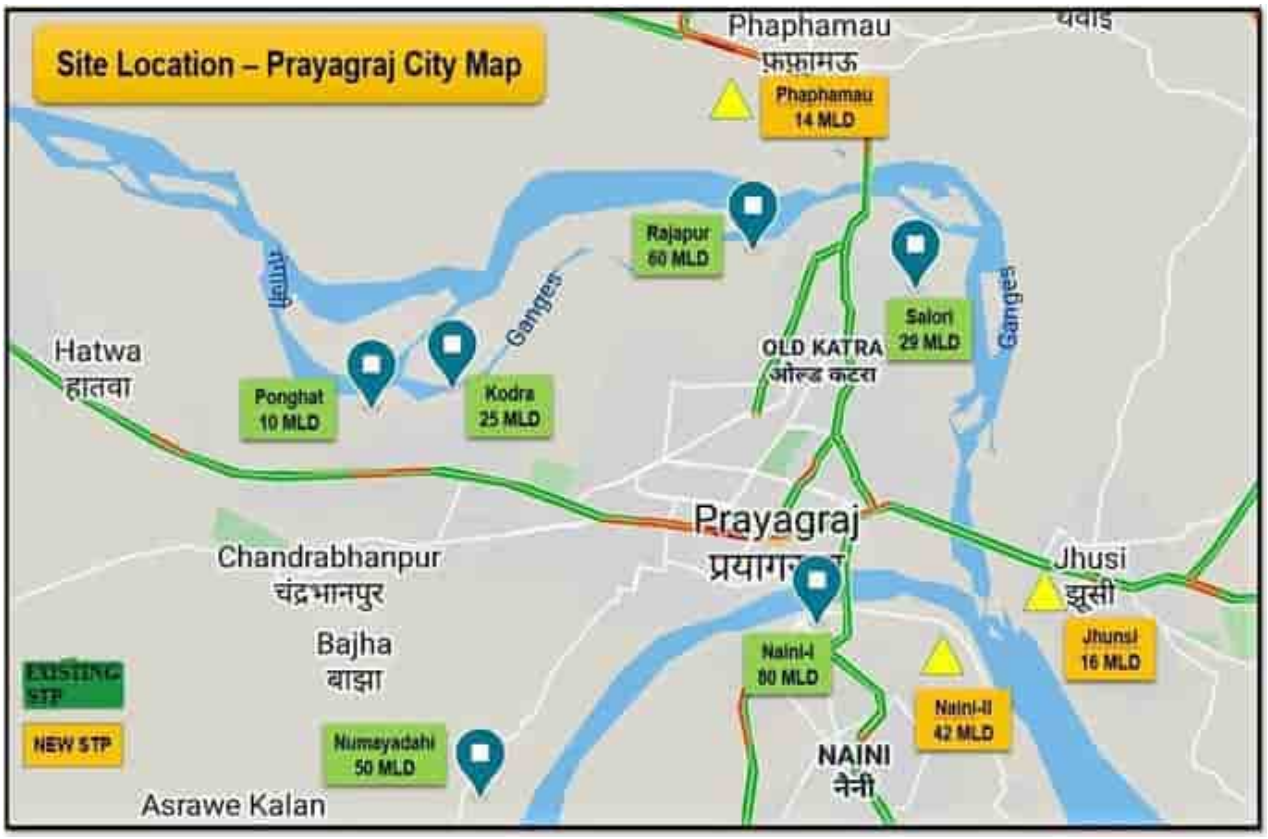
4. Project at Glance

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

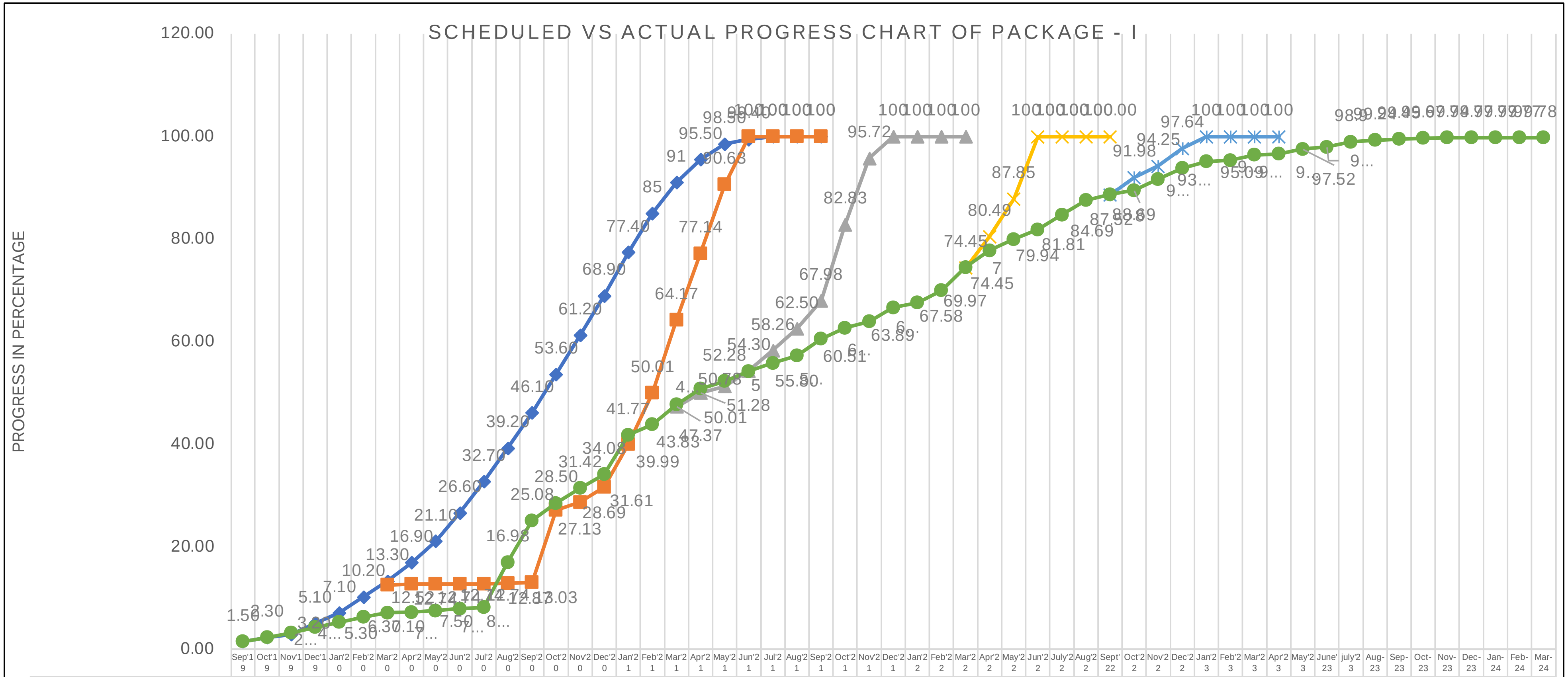
Package Number - I				
Nature of work	Facilities			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD at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

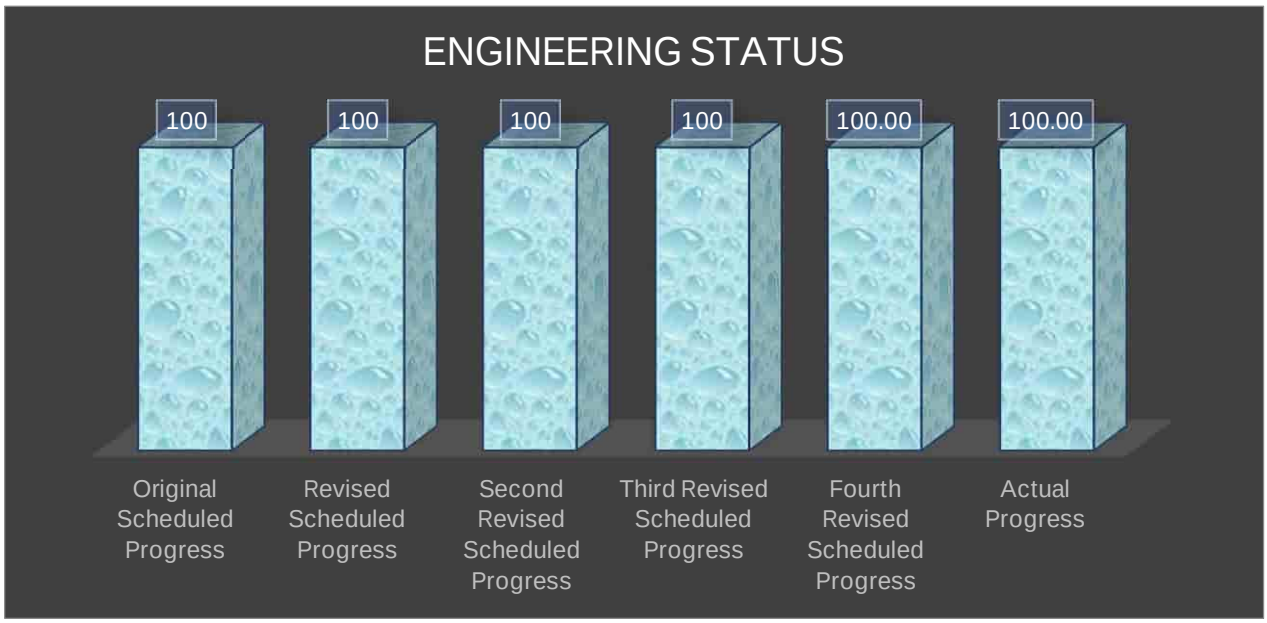


	Sep'19	Oct'19	Nov'19	Dec'19	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20	Jan'21	Feb'21
Scheduled Progress	1.50	2.30	2.90	5.10	7.10	10.20	13.30	16.90	21.10	26.60	32.70	39.20	46.10	53.60	61.20	68.90	77.40	85
First Revised Scheduled Progress							12.52	12.74	12.74	12.74	12.74	12.87	13.03	27.13	28.69	31.61	39.99	50.01
Second Revised Scheduled Progress																		
Third Revised Scheduled Progress																		
Fourth Revised Scheduled Progress																		
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

	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
Scheduled Progress	91	95.50	98.50	99.40	100	100	100											
First Revised Scheduled Progress	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
Fourth Revised Scheduled Progress																		
Actual Progress	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

	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	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
Scheduled Progress																			
First Revised Scheduled Progress																			
Second Revised Scheduled Progress																			
Third Revised Scheduled Progress	100.0																		
Fourth Revised Scheduled Progress	88.69	91.98	94.25	97.64	100	100	100	100											
Actual Progress	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	99.74	99.77	99.77	99.77	99.78

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%	100%	0%	100%
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%	100%	0%	100%

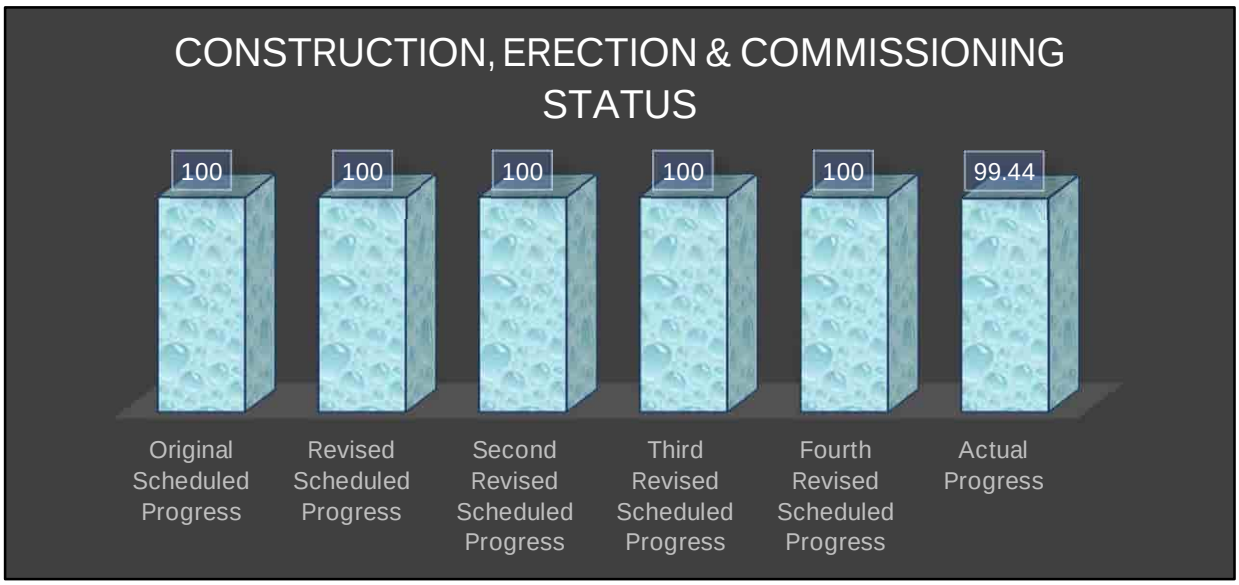
7.1.3 Procurement & Supply status

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%	100%
3.	Electrical and C&I	01-03-20	30-09-22	100%	100%	0%	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%	100%
7.	Tube settler	01-11-20	25-04-22	100%	100%	0%	100%
8.	Screen (Coarse & fine)	01-12-20	25-04-22	100%	100%	0%	100%
9.	Grit removal system	01-12-20	25-04-22	100%	100%	0%	100%
10.	Blowers	01-11-20	15-10-22	100%	100%	0%	100%
11.	Volute press/ STE	15-01-21	31-01-22	100%	100%	0%	100%
12.	Diffuser	15-01-21	30-04-21	100%	100%	0%	100%
13.	Media/ Bio module	01-10-20	25-10-20	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)
14.	Supply of pipes	15-01-21	15-10-22	100%	100%	0%	100%
15.	Chlorination	15-01-21	31-03-22	100%	100%	0%	100%
16.	Valves & Gates	15-01-21	10-11-22	100%	100%	0%	100%
17.	Other misc. Material	01-11-20	31-08-22	100%	100%	0%	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%	100%
3.	Finalization & Mobilization of Civil Contractor (Jhunsi)	01-04-20	30-04-20	100%	100%	0%	100%
4.	Finalization & Mobilization of Mech. Contractor	01-01-21	18-11-21	100%	100%	0%	100%
5.	Finalization & Mobilization of Electrical Contractor	01-01-21	15-04-22	100%	100%	0%	100%
6.	Finalization & Mobilization of C&I Contractor	01-01-21	15-04-22	100%	100%	0%	100%
7.	Arrangement of Construction Power & Water and Site Office	01-06-20	30-06-20	100%	100%	0%	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%	100%
9.	Dismantling of existing structure	01-01-20	31-01-20	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)
10.	FCR tank unit	01-12-19	15-01-23				
11.	Excavation work	01-12-19	15-03-20	100%	100%	0%	100%
12.	Boulder filling work	15-03-20	10-10-20	100%	100%	0%	100%
13.	PCC work	01-10-20	09-10-20	100%	100%	0%	100%
14.	RCC upto completion	01-10-20	31-10-21	100%	100%	0%	100%
15.	Other Misc Works	01-01-22	15-01-23	100%	100%	0%	100%
16.	Hydrotesting	15-01-22	25-04-22	100%	100%	0%	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%	100%
19.	PCC work	01-02-21	28-02-21	100%	100%	0%	100%
20.	RCC upto completion	01-02-21	20-04-22	100%	100%	0%	100%
21.	Other Misc Works	16-04-22	20-01-23	100%	100%	0%	100%
22.	Hydrotesting	25-07-22	20-08-22	100%	100%	0%	100%
23.	Main Process Building	01-03-21	20-01-23			0%	
24.	Excavation	01-03-21	10-11-21	100%	100%	0%	100%
25.	Rubble soling/ Stone filling work	03-07-21	20-11-21	100%	100%	0%	100%
26.	PCC	10-07-21	10-12-21	100%	100%	0%	100%
27.	Structure completion (Expect finishing works)	20-07-21	10-11-22	100%	100%	0%	100%
28.	Other Misc Works	10-11-22	20-01-23	100%	100%	0%	100%
29.	Hydrotesting	10-11-22	20-11-22	100%	100%	0%	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%	100%
32.	PCC	25-11-21	05-12-21	100%	100%	0%	100%
33.	RCC upto completion	05-12-21	15-11-22	100%	100%	0%	100%
34.	Hydrotesting	15-11-22	25-11-22	100%	100%	0%	100%
35.	Boundary wall	01-12-22	20-01-23	100%	100%	0%	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%	100%	0%	100%
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%	100%
40.	PCC	28-03-21	30-04-21	100%	100%	0%	100%
41.	RCC work upto completion	01-04-21	30-07-22	100%	100%	0%	100%
42.	Other Misc Works	01-05-22	20-01-23	100%	100%	0%	100%
43.	Hydrotesting	10-08-22	20-08-22	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)
44.	Staff quarter	01-09-20	15-01-23	100%	100%	0%	100%
45.	Pipe laying (Rising Main & Gravity Main)	15-11-21	10-11-22				
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				
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%

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)
71.	Electrical and C&I- STP Unit	20-08-22	30-01-23				
72.	Transformer Installation	01-11-22	31-12-22	100%	100%	0%	100%
73.	HT/LT Panel erection	01-11-22	31-12-22	100%	100%	0%	100%
74.	Instrumentation works	15-12-22	30-01-23	100%	100%	0%	100%
75.	CCTV	01-01-23	30-01-23	100%	100%	0%	100%
76.	Cable Laying	15-10-22	20-01-23	100%	100%	0%	100%
77.	PLC Panel & Online monitoring system	10-11-22	30-01-23	100%	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%	0%	100%
91.	COD	30-04-23	30-04-23		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				

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)
102.	Earth work & Boulder filling work	16-01-21	22-01-21	100%	100%	0%	100%
103.	PCC work	19-01-21	31-01-21	100%	100%	0%	100%
104.	RCC work upto completion	01-03-21	10-05-22	100%	100%	0%	100%
105.	Other Misc Works	10-06-22	20-01-23	100%	100%	0%	100%
106.	Hydrotesting	20-08-22	30-08-22	100%	100%	0%	100%
107.	Main Process Building	01-02-21	20-01-23				
108.	Excavation	01-02-21	31-05-21	100%	100%	0%	100%
109.	Rubble soling/ Stone filling work	01-07-21	31-07-21	100%	100%	0%	100%
110.	PCC	01-07-21	31-07-21	100%	100%	0%	100%
111.	Structure completion (Expect finishing works)	01-05-21	10-05-22	100%	100%	0%	100%
112.	Other Misc Works	01-06-22	20-01-23	100%	100%	0%	100%
113.	Hydrotesting	10-05-22	30-05-22	100%	100%	0%	100%
114.	Mawaiya SPS and I&D work	01-02-21	15-01-23				
115.	Excavation work	01-02-21	28-02-21	100%	100%	0%	100%
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%

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)
136.	Hydrotesting	01-06-22	15-06-22	100%	100%	0%	100%
137.	Staff quarter	26-10-20	15-12-22	100%	100%	0%	100%
138.	I&D Other misc works	26-04-22	30-01-23	100%	100%	0%	100%
139.	Pipe laying (Rising Main & Gravity Main)	16-01-21	20-09-22				
140.	Rising main	16-01-21	15-09-22	100%			
141.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-21	15-09-22	100%	100%	0%	100%
142.	Hydrotesting	15-07-22	15-09-22	100%	100%	0%	100%
143.	Gravity Main	01-03-21	20-09-22				
144.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-03-21	05-09-22	100%	100%	0%	100%
145.	Hydrotesting	10-09-22	20-09-22	100%	100%	0%	100%
146.	Other works	01-01-20	30-01-23				
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%

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)
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%
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%	0%	100%
184.	COD	30-04-23	30-04-23		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				

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)
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%
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%	80%	5%	85%
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%	100%	0%	100%
214.	Other Misc. works	15-11-22	30-01-23	100%	80%	0%	80%
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				
225.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	15-12-22	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)
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				
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%	25%	0%	25%
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%	100%	0%	100%
243.	Other misc. work	01-12-22	30-01-23	100%	100%	0%	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%	100%	0%	100%
247.	Piping, Valves & Gates	20-10-21	30-01-23	100%	100%	0%	100%
248.	Other misc. work	01-12-22	30-01-23	100%	100%	0%	100%
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%	5%	95%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
253.	Instrumentation works	01-11-22	30-01-23	100%	95%	0%	95%
254.	CCTV	01-11-22	30-01-23	100%	100%	0%	100%
255.	Cable laying	01-11-22	30-01-23	100%	100%	0%	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%
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%	100%	0%	100%
265.	Other misc. work	15-11-22	30-01-23	100%	90%	0%	90%
266.	Commissioning of Mech., Electrical and C&I	31-01-23	31-01-23	100%	90%	0%	90%
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%	0%	100%
269.	COD	30-04-23	30-04-23		100%	0%	100%

7.1.7 Package-I status

Naini-II Facility: COD Certificate

OFFICE OF THE SUPERINTENDING ENGINEER,
CIRCLE OFFICE,
U.P. JAL NIGAM(RURAL), PRAYAGRAJ
Email :-

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 Certificate

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

Email - se_2circle@rediffmail.com

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

To,

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

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

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

Dear Sir,

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

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

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

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

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

Yours Faithfully

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

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Copy Forwarded to Following for information and necessary action:

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

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

Jhunshi Facility: COD Certificate

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 & POWER CONSUMPTION REPORT 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 Mithakhali 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 20.09.2021 vide letter no. 2484/PWPL (Adani)/496

KPI & POWER CONSUMPTION REPORT OF PACKAGE-II,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - II

7.4 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 0532-2684699

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 & POWER CONSUMPTION REPORT OF PACKAGE-III,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - III

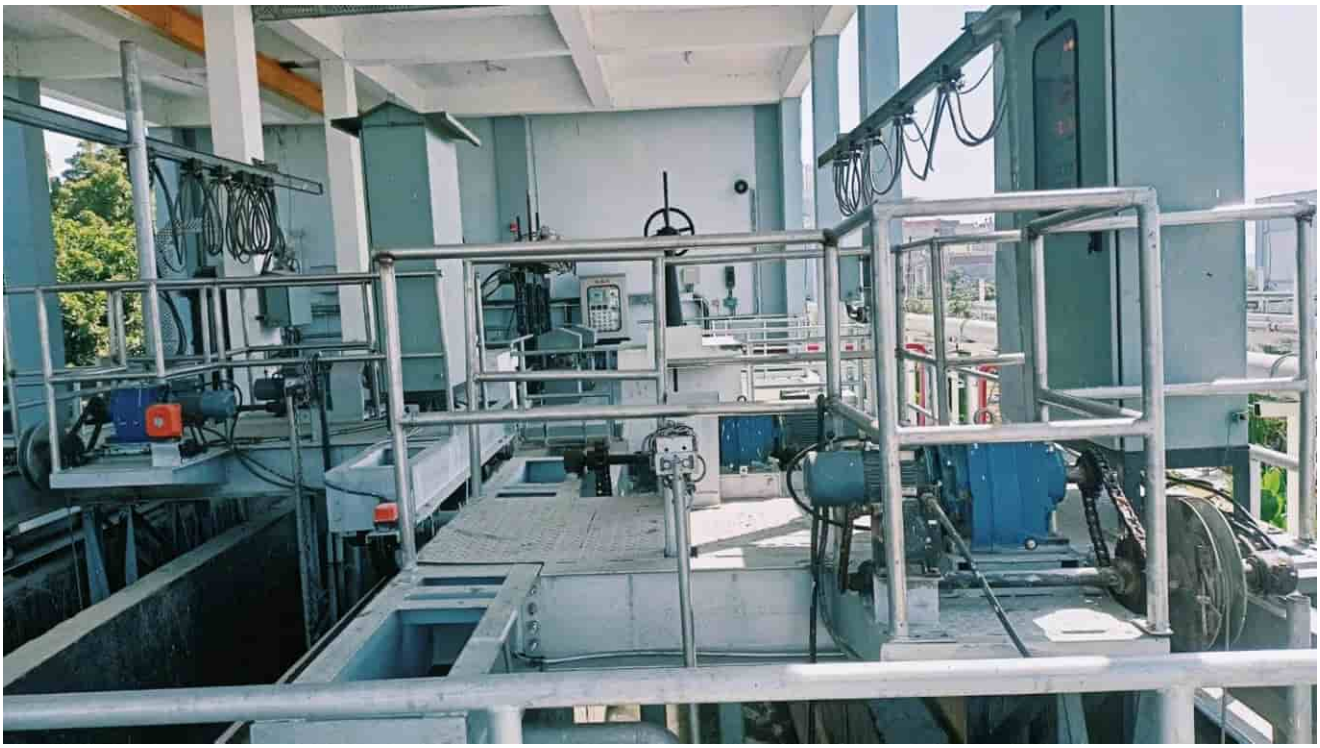
8. Meetings, Discussions and Site Visits:

Regular progress review meetings are being held at UPJN office & sites. Following meetings were held during the month of March'2024.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Kodra STP	2-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
2.	Site inspection of Ponghat STP	2-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
3.	Site inspection of Numayadahi STP	4-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
4.	Site inspection of Rajapur STP	5-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
5.	Site inspection of Phaphamau STP	5-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
6.	Site inspection of Naini-I STP	6-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
7.	Site inspection of Naini-II STP	6-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
8.	Site inspection of Jhunsi STP	7-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, O&M activities of plant
9.	Site inspection of Salori STP	11-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
10.	Site inspection of Numayadahi STP	13-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
11.	Site inspection of Ponghat STP	14-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
12.	Site inspection of Kodra STP	14-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
13.	Site inspection of Jhunsi STP	16-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, O&M activities of plant

14.	Site inspection of Phaphamau STP	18-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
15.	Site inspection of Rajapur STP	18-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
16.	Site inspection of Naini-II STP	19-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
17.	Site inspection of Naini-I STP	19-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
18.	Site inspection of Salori STP	20-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
19.	Site inspection of Numayadahi STP	21-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
20.	Site inspection of Naini-I STP	22-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
21.	Site inspection of Naini-II STP	22-March-24	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
22.	Site inspection of Ponghat STP	23-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
23.	Site inspection of Kodra STP	23-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
24.	Site inspection of Rajapur STP	26-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
25.	Site inspection of Phapahamau STP	26-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
26.	Site inspection of Jhunsi STP	27-March-24	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, O&M activities of plant
27.	Site inspection of Salori STP	30-March-24	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant

10. Photos of Meetings / Site Visits and Activities

PACKAGE - I
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 MPS– Current status (Functional)

NAINI-II MPS– Current status (Functional)

Process Building: Current status (Functional)

FCR Tank – Current status (Functional)

FCR Tank – Current status (Functional)

Sludge Dewatering Unit – 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)

Sludge Dewatering Unit – Current status (Functional)

Blower Unit- Current status (Functional)

Shastri Bridge SPS – OutSide 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/1742	Submission of O & M Tax Invoice of 3rd quarter (19th Sep – 18th Nov 2023) for Naini – II Facility under Package - I	1-Mar-2024	S.E.-2 Circle - UPJN
2.	AIPL/NMCG/PRAYAG/1743	Submission of O & M Monthly Progress report for the month of December , 2023 of Naini – II facility under Package - I	4-Mar-2024	S.E.-2 Circle - UPJN
3.	AIPL/NMCG/PRAYAG/1744	Submission of O&M Monthly Progress report for the month of January 2024 of Package – III facilities	4-Mar-2024	S.E.-2 Circle - UPJN
4.	AIPL/NMCG/PRAYAG/1745	Submission of O & M Monthly Progress report for the month of January 2024 of Naini – II facility under package - I	5-Mar-2024	S.E.-2 Circle - UPJN
5.	AIPL/NMCG/PRAYAG/1746	Submission Reg. variation to scope of work for Jhunsi Facility location change under Package-I as per Clause 21 of Concession Agreement.	11-Mar-2024	S.E.-2 Circle - UPJN
6.	AIPL/NMCG/PRAYAG/1747	Submission of O & M Monthly Progress report for the month of July , 2023 of Phaphamau facility under Package - I	11-Mar-2024	S.E.-2 Circle - UPJN
7.	AIPL/NMCG/PRAYAG/1748	Submission of O & M Monthly Progress report for the month of August , 2023 of Phaphamau facility under Package - I	11-Mar-2024	S.E.-2 Circle - UPJN
8.	AIPL/NMCG/PRAYAG/1749	Submission of O & M Monthly Progress report for the month of September, 2023 of Phaphamau facility under Package - I	11-Mar-2024	S.E.-2 Circle - UPJN
9.	AIPL/NMCG/PRAYAG/1750	Submission of O & M Monthly Progress report for the month of October, 2023 of	12-Mar-2024	S.E.-2 Circle - UPJN

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
		Phaphamau facility under Package - I		
10.	AIPL/NMCG/PRAYAG/1751	Submission of O & M Monthly Progress report for the month of November, 2023 of Phaphamau facility under Package - I	12-Mar-2024	S.E.-2 Circle - UPJN
11.	AIPL/NMCG/PRAYAG/1752	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity based PPP Mode – O&M Bill of Nov 23	12-Mar-2024	NMCG, New Delhi
12.	AIPL/NMCG/PRAYAG/1753	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity based PPP Mode – O&M Bill of Dec 23	12-Mar-2024	NMCG, New Delhi
13.	AIPL/NMCG/PRAYAG/1754	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity based PPP Mode – O&M Bill of Jan 24	12-Mar-2024	NMCG, New Delhi
14.	AIPL/NMCG/PRAYAG/1755	Submission of O & M Tax Invoice of 13th quarter (Nov 2023 – Jan 2024) of Package – III	12-Mar-2024	S.E.-2 Circle - UPJN
15.	AIPL/NMCG/PRAYAG/1756	Submission of O & M Monthly Progress report for the month of Dec, 2023 of Phaphamau Facility under Package – I	12-Mar-2024	S.E.-2 Circle - UPJN
16.	AIPL/NMCG/PRAYAG/1757	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Package – II	14-Mar-2024	S.E.-2 Circle - UPJN
17.	AIPL/NMCG/PRAYAG/1758	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Naini – II Facility under Package – I	15-Mar-2024	S.E.-2 Circle - UPJN
18.	AIPL/NMCG/PRAYAG/1759	Regarding finalization revised Guaranteed Energy Consumption for Phapahmau facility under Package-I.	18-Mar-2024	S.E.-2 Circle - UPJN
19.	AIPL/NMCG/PRAYAG/1760	Project Engineer Services for Prayagraj STP Project on Hybrid Annuity based PPP Mode – O&M Bill of Feb 24	19-Mar-2024	NMCG, New Delhi

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
20.	AIPL/NMCG/PRAYAG/1761	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Package – III	19-Mar-2024	S.E.-2 Circle - UPJN
21.	AIPL/NMCG/PRAYAG/1762	Submission of O & M Monthly Progress report for the month of December 2023 of Package II	20-Mar-2024	S.E.-2 Circle - UPJN
22.	AIPL/NMCG/PRAYAG/1763	Submission of O & M Monthly Progress report for the month of January 2024 of Package II facilities	20-Mar-2024	S.E.-2 Circle - UPJN
23.	AIPL/NMCG/PRAYAG/1764	Inspection Reports of Package-I facilities	30-Mar-2024	S.E.-2 Circle - UPJN
24.	AIPL/NMCG/PRAYAG/1765	Inspection Reports of Package-II facilities	30-Mar-2024	S.E.-2 Circle - UPJN
25.	AIPL/NMCG/PRAYAG/1766	Inspection Reports of Package-III facilities	30-Mar-2024	S.E.-2 Circle - UPJN

12. Inward Register

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

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
1.	PWPL/UPJN/PRAYAGRAJ/O&M/824	Submission of O & M Monthly Progress report for the month of September, 2023 of Phaphamau facility under Package - I	04-Mar-24	Prayagraj water private limited
2.	PWPL/UPJN/PRAYAGRAJ/O&M/825	Submission of O & M Monthly Progress report for the month of October, 2023 of Phaphamau facility under Package - I	04-Mar-24	Prayagraj water private limited
3.	PWPL/UPJN/PRAYAGRAJ/O&M/826	Submission of O & M Monthly Progress report for the month of November, 2023 of Phaphamau facility under Package - I	04-Mar-24	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/O&M/827	Submission of O&M Monthly Progress report for the month of January 2024 of Package – III facilities	04-Mar-24	Prayagraj water private limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/828	Submission of O & M Tax Invoice of 13th quarter (Nov 2023 – Jan 2024) of Package - III	05-Mar-24	Prayagraj water private limited
6.	PWPL/UPJN/PRAYAGRAJ/O&M/830	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Package – II	07-Mar-24	Prayagraj water private limited
7.	PWPL/UPJN/PRAYAGRAJ/O&M/831	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Package – III	07-Mar-24	Prayagraj water private limited
8.	PWPL/UPJN/PRAYAGRAJ/O&M/832	Submission of O&M Safety Monthly Progress Report for the month of February 2024 for Packages - I, II & III	07-Mar-24	Prayagraj water private limited
9.	PWPL/UPJN/PRAYAGRAJ/O&M/833	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Naini – II Facility under Package - I	07-Mar-24	Prayagraj water private limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
10.	93/PWPL/(PRAYAGRAJ)/07	Regarding O&M Payment of 3rd Quarter of Naini-II facility of Package-I	07-Mar-24	S.E.-2 Circle (Rural)-UPJN
11.	PWPL/UPJN/PRAYAGRAJ/O&M/834	Submission of O & M Monthly Progress report for the month of Dec, 2023 of Phaphamau Facility under Package - I	09-Mar-24	Prayagraj water private limited
12.	PWPL/UPJN/PRAYAGRAJ/O&M/835	Submission of O & M Monthly Progress report for the month of Jan, 2024 of Phaphamau Facility under Package - I	09-Mar-24	Prayagraj water private limited
13.	94/PWPL/(PRAYAGRAJ)/08	Regarding Approval on shifting of I&D structure under Jhunsi Facility due to widening of road from Old GT to Chatnaag Cremation Ghat via Kriyayog Ashram for Mahakumbh-2025	14-Mar-24	S.E.-2 Circle (Rural)-UPJN
14.	102/PWPL/(PRAYAGRAJ)/09	Regarding O&M Payment of 13th Quarter of Package-III	16-Mar-24	S.E.-2 Circle (Rural)-UPJN
15.	107/PWPL/(PRAYAGRAJ)/10	Regarding Approval on shifting of I&D structure under Jhunsi Facility due to widening of road from old GT to Chatnaag Cremation Ghat via Kriyayog Ashram for Mahakumbh-2025	16-Mar-24	S.E.-2 Circle (Rural)-UPJN
16.	PWPL/UPJN/PRAYAGRAJ/O&M/837	Submission of O & M Monthly Progress report for the month of December 2023 of Naini I facility under Package II	18-Mar-24	Prayagraj water private limited
17.	PWPL/UPJN/PRAYAGRAJ/O&M/838	Submission of O & M Monthly Progress report for the month of January 2024 of Package II facilities	18-Mar-24	Prayagraj water private limited
18.	PWPL/UPJN/PRAYAGRAJ/O&M/839	Regarding finalization revised Guaranteed Energy Consumption for Phapahmau facility under Package-I.	19-Mar-24	Prayagraj water private limited
19.	PWPL/UPJN/PRAYAGRAJ/O&M/840	Submission of Revised O & M Monthly Progress report for the month of December , 2023 of Naini – II facility under Package - I	21-Mar-24	Prayagraj water private limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
20.	PWPL/UPJN/PRAYAGRAJ/O&M/841	Submission of revised O & M Monthly Progress report for the month of January 2024 of Naini – II facility under package - I	21-Mar-24	Prayagraj water private limited
21.	PWPL/UPJN/PRAYAGRAJ/O&M/842	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping Stations (Flow Record for the month of Feb, 2024)	21-Mar-24	Prayagraj water private limited
22.	PWPL/UPJN/PRAYAGRAJ/O&M/843	Boundary wall collapsed at Naini – I (Solar side) due to road construction being done outside of the boundary.	28-Mar-24	Prayagraj water private limited
23.	PWPL/UPJN/PRAYAGRAJ/O&M/844	Shutdown of Secondary Clarifier No- 2 at Numayadahi STP for preventive maintenance	29-Mar-24	Prayagraj water private limited
24.	PWPL/UPJN/PRAYAGRAJ/O&M/855	Submission of O & M Monthly Progress report for the month of August 2023 of Jhunsi facility under Package I	29-Mar-24	Prayagraj water private limited
25.	PWPL/UPJN/PRAYAGRAJ/O&M/856	Submission of O & M Monthly Progress report for the month of September 2023 of Jhunsi facility under Package I	29-Mar-24	Prayagraj water private limited
26.	PWPL/UPJN/PRAYAGRAJ/O&M/857	Submission of O & M Monthly Progress report for the month of October 2023 of Jhunsi facility under Package I.	29-Mar-24	Prayagraj water private limited

13. EHS targets, Achievement & compliance report for the month of March- 2024

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. ANNEXURES

Annexure- I: KPI & POWER CONSUMPTION REPORTS OF PACKAGE -I, ACTION TAKEN REPORT AND RECOMMENDATION

Annexure- II: KPI & POWER CONSUMPTION REPORTS OF PACKAGE -II, ACTION TAKEN REPORT AND RECOMMENDATION

Annexure- III: KPI & POWER CONSUMPTION REPORTS OF PACKAGE -III, ACTION TAKEN REPORT AND RECOMMENDATION

Annexure- IV: PROJECT ENGINEER ACTIVITY AS PER TOR

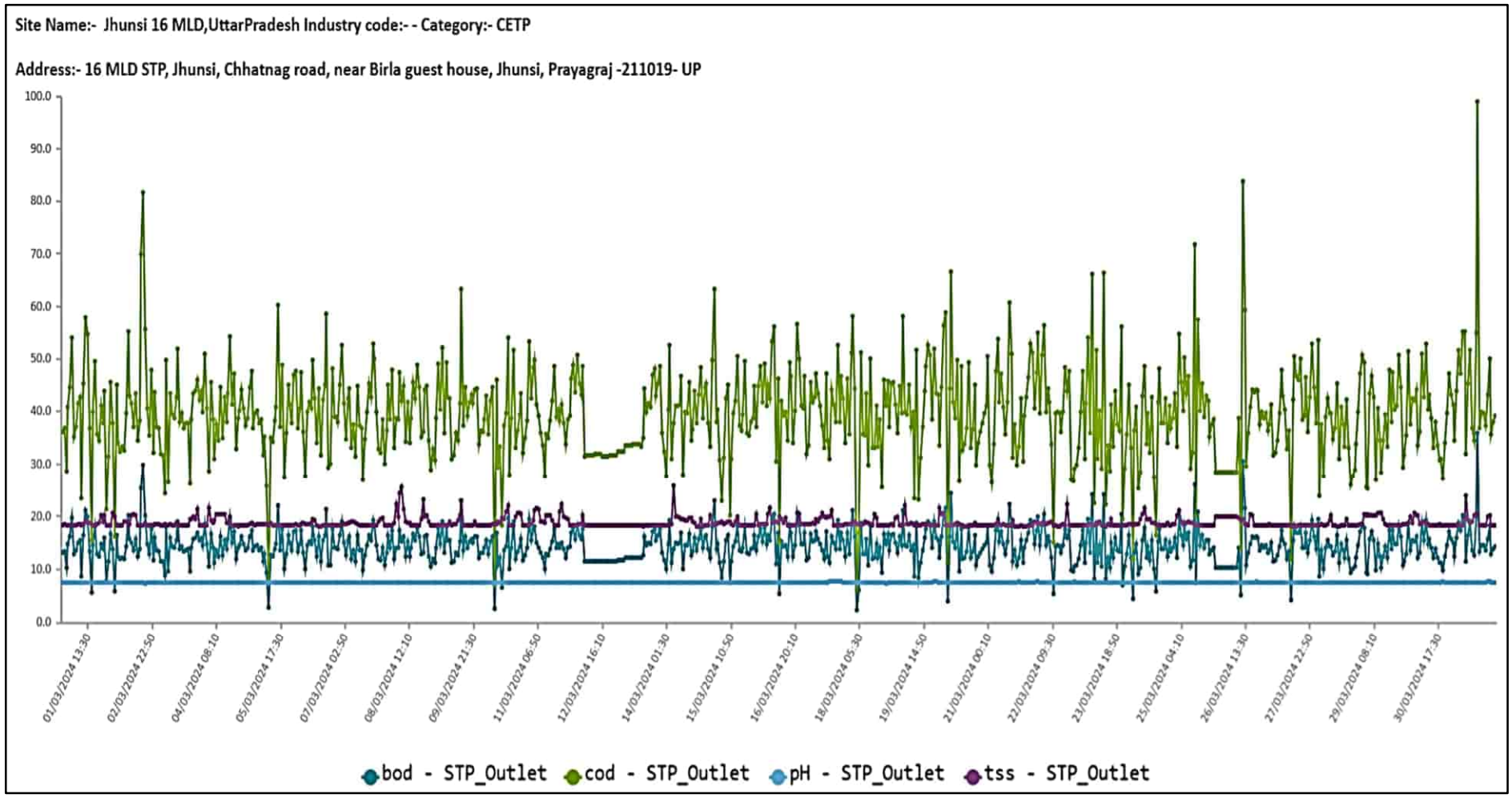
ANNEXURE-I

KPI REPORT, POWER CONSUMPTION REPORT & ACTION TAKEN REPORT FOR PACKAGE-I

Table of Contents

1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report



Source: Online analyzer,

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

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

JHUNSI STP, 16 MLD STP at Prayagraj
INLET FLOW & QUALITY REPORT

Date	Daily Feed Quantity MLD (Design-16 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-Mar-24	13180	13.18	7.77	7.63	160	14	336	40	290	19	NA	400	0.3	24.16	1200000	
02-Mar-24	12750	12.75	7.68	7.59	155	16	324	44	281	18	NA	600	0.2	23.78	1300000	
03-Mar-24	17040	17.04	7.65	7.55	160	15	340	36	296	17	NA	500	0.2	24.27	1100000	
04-Mar-24	13010	13.01	7.50	7.42	165	14	336	40	287	19	NA	400	0.3	23.57	1400000	
05-Mar-24	12970	12.97	7.56	7.45	155	14	344	36	290	17	NA	600	0.3	24.12	1700000	
06-Mar-24	11070	11.07	7.83	7.68	165	15	340	44	310	18	NA	400	0.3	24.55	1300000	
07-Mar-24	12740	12.74	7.78	7.65	175	15	348	40	308	19	NA	500	0.2	23.64	1200000	
08-Mar-24	13320	13.32	7.72	7.59	160	14	336	40	314	20	NA	600	0.3	23.37	1400000	
09-Mar-24	12300	12.30	7.74	7.58	155	15	340	36	290	17	NA	500	0.2	24.17	1300000	
10-Mar-24	13230	13.23	7.60	7.57	160	14	324	40	281	20	NA	600	0.3	23.85	1700000	
11-Mar-24	12190	12.19	7.66	7.57	155	16	320	44	277	19	NA	500	0.2	23.44	1300000	
12-Mar-24	12660	12.66	7.71	7.64	165	16	336	40	320	17	NA	400	0.3	24.03	1400000	
13-Mar-24	11780	11.78	7.27	7.40	155	15	328	36	315	18	NA	600	0.3	24.38	1300000	
14-Mar-24	11090	11.09	7.83	7.63	160	14	340	36	285	19	NA	500	0.3	23.15	1100000	
15-Mar-24	11410	11.41	7.79	7.66	165	15	336	40	307	17	NA	600	0.2	23.77	1200000	
16-Mar-24	11300	11.30	7.77	7.67	160	16	328	44	290	18	NA	400	0.2	24.16	1400000	
17-Mar-24	11640	11.64	7.74	7.63	155	14	340	40	307	20	NA	600	0.3	23.54	1300000	
18-Mar-24	11020	11.02	7.85	7.65	165	15	336	36	310	17	NA	700	0.3	23.15	1400000	
19-Mar-24	11320	11.32	7.88	7.67	160	14	328	44	296	19	NA	500	0.3	23.67	1100000	
20-Mar-24	11810	11.81	7.84	7.66	165	15	332	36	288	18	NA	400	0.2	22.96	1300000	
21-Mar-24	11260	11.26	7.77	7.56	155	14	340	40	278	17	NA	600	0.3	24.16	1700000	
22-Mar-24	11410	11.41	7.79	7.61	160	13	328	36	308	20	NA	500	0.2	23.58	1400000	
23-Mar-24	10520	10.52	7.74	7.58	165	15	312	40	291	18	NA	400	0.3	24.14	1200000	
24-Mar-24	11120	11.12	7.70	7.60	155	13	320	36	280	19	NA	600	0.2	24.12	1700000	
25-Mar-24	12170	12.17	7.69	7.62	160	15	324	40	278	18	NA	500	0.2	23.87	1300000	
26-Mar-24	11700	11.70	7.79	7.66	155	14	328	36	297	17	NA	400	0.3	24.19	1200000	
27-Mar-24	11040	11.04	7.71	7.65	165	15	336	40	290	19	NA	600	0.3	23.67	1400000	
28-Mar-24	11060	11.06	7.56	7.48	160	14	340	32	304	17	NA	500	0.2	24.23	1300000	
29-Mar-24	10760	10.76	7.73	7.69	155	15	328	36	293	20	NA	400	0.3	23.17	1400000	
30-Mar-24	10740	10.74	7.77	7.65	165	14	336	40	287	17	NA	600	0.2	24.08	1300000	
31-Mar-24	10920	10.92	7.69	7.52	160	17	340	44	283	20	NA	500	0.2	24.18	1100000	
Average	**11952.58**	**11.95**	**7.71**	**7.60**	**160.32**	**14.68**	**333.03**	**39.10**	**294.55**	**18.32**		**512.90**	**0.25**	**23.84**	**1335483.87**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

Power Consumation details for the month of March -2024 (Jhunsi Facility)				
STP facilities		**UOM**	**Mar-24**	
Total raw sewage received for the month of March -2024		MLD	371.53	
Average raw sewage received for the month of March-2024		MLD	11.98	
Average BOD		mg/l	160.32	
Guaranteed power KWH / MLD		KWH / MLD	117.73	
Total Power KW - allowed	(a)	KWH	43740.23	
SPS / MPS facilities		**UOM**	**Mar-24**	
Total raw sewaged discharged for the month of March-2024		MLD	744.80	
Average raw sewage discharged for the month of March -2024		MLD	24.03	
Guaranteed power KWH / MLD		KWH / MLD	59.73	
Total Power KWH -Allowed	(b)	KWH	44486.90	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	88227.13	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of March -2024		KWH	125744.30	
Total Actual Power consumed through DG set for the month of March -2024		KWH	6498.00	
Power Consumption in staff quarter at March -2024		KWH	930.00	
Total Actual Power consumption		KWH	131312.30	
Excess Power			43085.17	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Mar-24**	**Avg.**
Shastri Bridge SPS		MLD	371.53	11.98
Jhunsi MPS		MLD	373.27	12.04
Total		MLD	744.80	24.03
Raw Sewage Received/Treated-STP		**UOM**	**Mar-24**	**Avg.**
Raw Sewage Received		MLD	371.53	11.98
Raw Sewage Treated		MLD	374.15	12.07
Power consumption from Grid (UPPCL)		**UOM**	**Mar-24**	
Actual grid power consumption-KWH (UPPCL) of Jhunsi STP Facility for the month of March -2024	(E)= (A)+(B)	KWH	125744.30	
Shastri Bridge SPS		KWH	46439.80	
Jhunsi STP		KWH	79304.50	
DG Power		**UOM**	**Mar-24**	
Total actual power consumed of Jhunsi STP Facility through DG set	(F)=(C)+(D)	KWH	6498.00	
Shastri Bridge SPS	(C)	KWH	140.00	
Jhunsi STP	(D)	KWH	6358.00	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken Report

Month of Site Inspection	March 2024
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. Rahul Kumar Azaad, PWPL 8. Mr. Rahul Chaudhary, PWPL 9. Mr. Satyam, PWPL
Place(s) of Inspection	• 16 MLD Jhunsi STP • 16 MLD Jhunsi MPS • 16 MLD Shastri Bridge SPS

Visit was done on 7th March 2024, 16th March 2024 & 27th March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Jhunsi STP	11.07 to 17.04
2	Jhunsi MPS	11.07 to 17.04
3	Shastri Bridge SPS	11.07 to 17.04

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	14 to 16 mg/l
2	TSS – Effluent	< 50 mg/l	17 to 20 mg/l
3	pH – Effluent	6.5 – 9.0	7.40 to 7.68
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 600 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.78 to 24.55 %
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)
1	Jhunsi Facility	4008 to 5325

Note: 1) Source for above data is site record for power consumption of STP/MPS/SPS.

- Status of tasks related to Construction phase:

A. Civil Works:

A1. Works as per Scope of Works given in Schedule-1 of Concession Agreement:

Sr. No.	Work description	Status
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, flooring work and plaster work is completed. Painting work is in progress.
2	At Shastri Bridge SPS, construction of boundary wall and approach road is pending.	Work is pending.
3	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. Now, after receding of water level in river, maintenance & cleaning for all I&D structures and pipelines was completed by Nov-23 however the problem of choked trunk sewer in between Savitri Nalla and Dham Nalla cannot be rectified, and Concessionaire decided to replace this trunk sewer. Meanwhile, temporary pumping arrangement was provided for transferring sewage, but this arrangement was not sufficient because sewage keeps overflowing from Savitri Nalla & Bhola Mandir Nalla during peak time. Replacement work of trunk sewer in between Savitri Nalla and Dham Nalla was completed on 06th Jan 2024 and sewage started flowing from newly laid trunk sewer. Now, Jhunsi facility was visited for checking the status of I&Ds after completion of replacement work and it was found that sewage from Bhola Mandir nalla is still overflowing during peak time for approx. 4 hours daily. This clarifies that the replacement work of trunk sewer in between Savitri Nalla and Dham Nalla did not rectify the problem completely. Also, casting of one manhole in newly laid trunk sewer was not completed for which work is still pending. Currently, replacement of trunk sewer from common manhole at Shastri Bridge SPS to connecting manhole of Dham Nalla is in progress for rectifying the issue. However, the progress is very slow, and Concessionaire is required to expedite the work for rectifying the issues at the earliest

Sr. No.	Work description	Status
		as Shastri Bridge SPS is not running at 100% availability right now. During recent visit on 27th Mar 2024, sewage from Aughrawa nalla was also found overflowing during peak time.
4	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 which is still pending.
5	At Shastri Bridge SPS, landscaping and site development work is pending.	Work is pending.
6	At Shastri Bridge SPS, installation of permanent type display/sign boards is pending.	Work is pending.
7	At Jhunsi STP, laying of effluent pipeline is pending.	Work is in progress for permanent arrangement.

A2. Works related to or dependent on proposed Variation:

S. No.	Work Description	Status
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.
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.
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.
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.
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.
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.
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 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.
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.

B. E&M Works:

B1 Works as per Scope of Works given in Schedule-1 of Concession Agreement:

Sr. No.	Work description	Status
1	At Shastri Bridge SPS, electrical works are pending.	Outdoor lighting is pending.
2	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 Concession Agreement but must be done as per site requirement at no extra cost to UPJN.
3	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.
4	At Jhunsi STP, installation of inlet and outlet analysers is pending.	Validation and calibration for both analyzers are completed. However, SCADA reports generated for KPIs are not accurate.
8	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 are not accurate and fine tuning of online monitoring system is required. SCADA reports of KPIs are under observation after completion validation for both analyzers. • Data transfer from SCADA system of associated infrastructure to SCADA system of STP is started. However, reports generated regarding flow are not accurate.
9	At Jhunsi STP, installation of asset management system is not started yet.	Work is pending.

Sr. No.	Work description	Status
10	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.

B2 Works related to or dependent on proposed Variation:

S. No.	Work Description	Status
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.
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.

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

1. As per SCADA reports of March-24, variation in between recorded values of inlet TSS in laboratory and in SCADA reports is more than the prescribed limit given in 'Guidelines for Online Continuous Effluent Monitoring Systems (OCEMS)' by Central Pollution Control Board. Concessionaire is required to rectify this problem.
2. 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 for COD, sudden spikes/drops can be seen in the graphs while for pH the graphs is showing same values for complete month which is fundamentally not correct.
3. Flowmeter at inlet of STP is working.
4. Flowmeter at outlet of STP is working. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
5. Online analyzer at inlet of STP is working.
6. Online analyzer at outlet of STP is working.
7. All Grit Removal Units are working.
8. It is being observed that Air blowers are only operated for 2-3 hours daily for Aerated Grit removal units instead of operating them for 24 hours as per design. Since, aeration is as essential part of the process in this unit and without which this unit will not be able to remove grit efficiently. Therefore, it is instructed to operate air blowers 24X7 without which these units will work as mere settling tanks only and grit removal will not be efficient.
9. At PTU, EOT is not working. Electrical Connection is pending.
10. One out of Two Mechanical Screens is working, and one is in maintenance. Currently screens are running in auto mode through timer.
11. All FCR units are working. Shade on top of FCRs is not installed yet for better maintenance of plants during summer season. 1 out of 4 flowmeters in airline are not working.
12. Growth of plants of FCR tanks is not upto the mark hence Concessionaire is required to do the needful for the same and replace the plants wherever required.
13. Minor Seepages from FCR & some other units can be seen, this must be rectified.
14. 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.

15. DO analyzers for all FCR units are working.
16. 3 out of 4 aeration blowers are working and one is in maintenance.
17. All tube settler units are working. Rectification of problem related to operations of drain vales in auto mode through actuators 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.
18. It has been observed that when the STP started after some shutdown, the quality of effluent coming from tubesettlers just after start is very bad which is due to deposition of silt in tubesettlers. Hence, it is suggested to start cleaning of tubesettlers one by one for rectifying the issue. Similarly, it is suggested to clean FCR tanks one by one for cleaning silt deposited in them.
19. Quality of effluent is Satisfactory.
20. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
21. Both dewatering feed pumps are working.
22. Both chlorinators are working. Both booster pumps are working.
23. Chlorine analyzer at outlet is working but not showing correct values as per lab records.
24. Both transformers are working.
25. Leak absorption system is working and must always be kept in auto mode.
26. Both DGs are working.
27. In SCADA system of STP, signals from associated infrastructure are not coming properly from Shastri Bridge SPS as there is variation in flow recorded in SCADA reports and logbooks. Concessionaire is required to rectify this problem for better monitoring.
28. In all I&Ds, cleaning of garbage and its disposal must be done regularly.
29. For I&Ds, following problems must be rectified for ensuring 100% availability of facility:
    - There is leakage in temporary retaining wall of Bhola Mandir Nalla I&D due to which raw sewage is going into the river.
    - There is leakage in the joint between manhole and connecting pipeline of Gangoli Shivalaya-I I&D due to which raw sewage is going into the river.

30. For Jhunsi MPS, following observations were made during visit:
    a) 4 out of 5 submersibles pumps are working and one is in maintenance.
    b) Mechanical screen is under maintenance.

31. For Shastri Bridge SPS, following observations were made during visit:
    a) All submersible pumps are working,
    b) Mechanical screen was working.
    c) Both transformers are OK for operation.
    d) DG set is OK for operation.

32. 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:

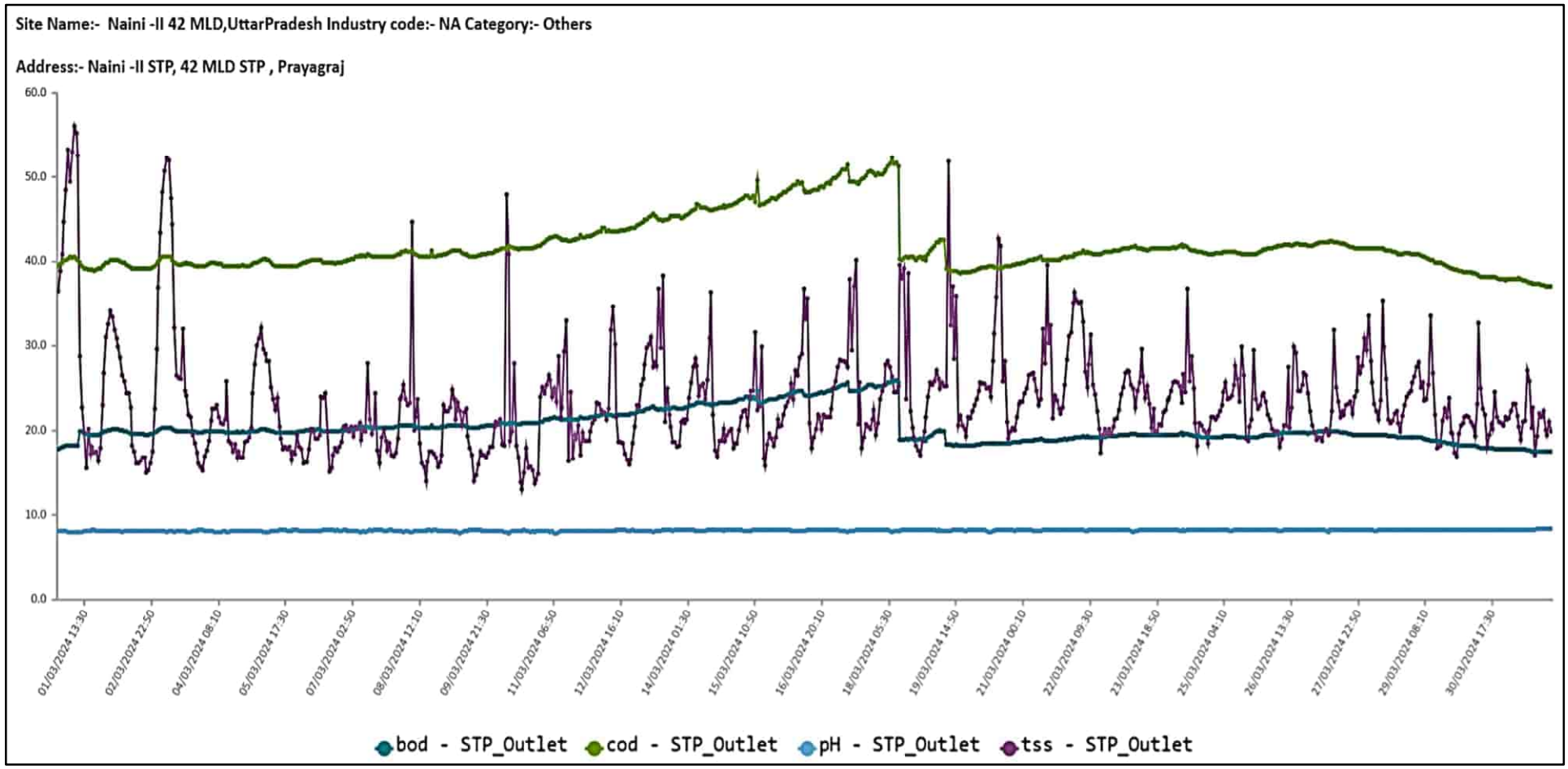
    a) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    b) Testing of TN, NH4-N, TP for composite samples of influent must be performed each day as per Part-G in Schedule-10 of CA.
    c) Site Diary as per Clause no. 1.7.2 of Part-G 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.

1.4 Recommendations

- 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.

2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

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

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

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-Mar-24	37800	37.80	7.48	7.87	170	20	332	40	278	31	NA	500	0.2	25.60	1300000	
02-Mar-24	37230	37.23	7.40	7.90	180	21	344	36	270	25	NA	400	0.3	24.20	1100000	
03-Mar-24	44360	44.36	7.36	7.87	175	20	368	40	278	30	NA	600	0.2	23.41	1400000	
04-Mar-24	37470	37.47	7.45	7.88	170	20	408	32	249	26	NA	400	0.2	23.45	1700000	
05-Mar-24	36870	36.87	7.41	7.91	165	21	364	40	270	22	NA	500	0.3	22.81	1200000	
06-Mar-24	37570	37.57	7.40	7.93	170	20	348	40	286	19	NA	400	0.3	23.01	1300000	
07-Mar-24	35840	35.84	7.43	7.92	165	21	332	44	290	20	NA	600	0.2	24.15	1700000	
08-Mar-24	37200	37.20	7.45	7.90	175	20	340	40	274	21	NA	400	0.3	23.80	1300000	
09-Mar-24	34660	34.66	7.53	7.91	170	21	324	44	264	20	NA	500	0.3	24.13	1100000	
10-Mar-24	35400	35.40	7.48	7.90	165	20	320	40	273	21	NA	600	0.2	23.92	1400000	
11-Mar-24	35310	35.31	7.50	7.89	175	21	340	44	268	22	NA	700	0.3	24.08	1700000	
12-Mar-24	36460	36.46	7.52	7.80	170	20	324	40	277	20	NA	600	0.3	24.17	1700000	
13-Mar-24	37100	37.10	7.49	7.93	175	22	360	44	283	24	NA	400	0.2	24.10	1200000	
14-Mar-24	36370	36.37	7.52	7.90	170	23	344	44	273	23	NA	500	0.2	23.81	1100000	
15-Mar-24	36670	36.67	7.50	7.89	175	22	328	48	264	20	NA	400	0.3	24.22	1400000	
16-Mar-24	36270	36.27	7.53	7.91	180	23	332	44	273	23	NA	700	0.3	24.31	1200000	
17-Mar-24	37610	37.61	7.46	7.90	175	24	320	48	280	24	NA	600	0.2	23.97	1700000	
18-Mar-24	37870	37.87	7.45	7.94	170	22	328	44	275	25	NA	700	0.3	24.71	1100000	
19-Mar-24	37300	37.30	7.42	7.95	180	20	368	40	279	26	NA	400	0.2	24.50	1400000	
20-Mar-24	37700	37.70	7.40	7.94	170	18	340	40	273	25	NA	600	0.3	24.35	1200000	
21-Mar-24	34440	34.44	7.39	7.96	165	19	332	44	281	24	NA	500	0.3	24.15	1400000	
22-Mar-24	38190	38.19	7.38	7.97	160	20	336	40	290	25	NA	700	0.3	23.78	1100000	
23-Mar-24	38200	38.20	7.48	7.96	155	19	320	44	262	24	NA	600	0.2	23.91	1400000	
24-Mar-24	37660	37.66	7.70	7.98	160	20	312	40	276	23	NA	400	0.3	24.03	1300000	
25-Mar-24	41530	41.53	7.71	7.97	165	19	348	44	269	22	NA	700	0.2	23.98	1700000	
26-Mar-24	41430	41.43	7.67	7.96	160	20	360	40	274	23	NA	500	0.3	24.10	1200000	
27-Mar-24	40100	40.10	7.60	7.95	165	19	340	44	270	22	NA	400	0.3	24.78	1700000	
28-Mar-24	37560	37.56	7.52	7.98	170	20	348	40	282	24	NA	600	0.3	23.41	1100000	
29-Mar-24	35970	35.97	7.50	7.99	165	19	332	40	268	23	NA	700	0.3	24.00	1400000	
30-Mar-24	37950	37.95	7.48	7.99	160	18	324	36	277	21	NA	500	0.3	24.05	1200000	
31-Mar-24	36440	36.44	7.55	8.00	165	17	320	40	283	22	NA	400	0.3	25.30	1700000	
Average	**37500.97**	**37.50**	**7.49**	**7.93**	**168.87**	**20.29**	**339.87**	**41.42**	**274.48**	**23.23**		**532.26**	**0.26**	**24.07**	**1367741.94**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Power Consumption Report

Power Consumption details for the month of MARCH-2024 (Naini-II Facility)			
STP facilities	**UOM**	**Mar-24**	
Total raw sewage received for the month of MARCH-2024	MLD	**1162.53**	
Average raw sewage received for the month of MARCH-2024	MLD	37.50	
Average BOD	mg/l	**168.87**	
Guaranteed power KWH / MLD	KWH / MLD	30.00	
Total Power KWH - Allowed **(a)**	KWH	**34875.90**	
SPS / MPS facilities	**UOM**	**Mar-24**	
Total raw sewaged discharged for the month of MARCH-2024	MLD	**2147.38**	
Average raw sewage discharged for the month of MARCH-2024	MLD	69.27	
Guaranteed power KWH / MLD	KWH / MLD	51.69	
Total Power KWH -Allowed **(b)**	KWH	**110998.07**	
Total Guaranteed Power - Allowed ***(c)=(a)+(b)***	***KWH***	**145873.97**	
Actual Power consumption			
Actual grid Power consumption (UPPCL) for the month of MARCH-2024	KWH	132703.20	
Total Actual Power consumed through DG set for the month of MARCH-2024	KWH	897.00	
Power Consumption in staff quarter at Naini-II STP	KWH	2032.00	
Power Consumption in staff quarter at Mawaiya SPS	KWH	796.00	
	KWH	**130772.20**	
Saved Power		**-15101.77**	
Raw Sewage Discharged-MPS/ SPS	**UOM**	**Mar-24**	**Avg.**
Mawaiya- SPS	MLD	960.16	30.97
Mahewaghat-SPS	MLD	24.69	0.80
Naini 2 MPS	MLD	1162.53	37.50
Total	MLD	2147.38	69.27
Raw Sewage Received/Treated-STP	**UOM**	**Mar-24**	**Avg.**
Raw Sewage Received	MLD	1162.53	37.50
Raw Sewage Treated	MLD	1137.23	36.68
Power consumption from Grid (UPPCL)	**UOM**	**Mar-24**	
Actual grid power consumption-KWH (UPPCL) of Naini-II Facility for the month of MARCH-2024 (E)=(A)+(B)+(C)	KWH	**132703.20**	
Mawaiya-SPS **(A)**	KWH	42390.00	
Mahewaghat-SPS **(B)**	KWH	3813.20	
Naini-II STP **(C)**	KWH	86500.00	
DG Power	**UOM**	**Mar-24**	
Total actual power consumed of Naini Facility through DG set (G)=(D)+(E)+(F)	KWH	**897.00**	
Mawaiya-SPS **(D)**	KWH	560.00	
Mahewaghat-SPS **(E)**	KWH	0.00	
Naini-II STP **(F)**	KWH	337.00	

Source: Site Records and Bills issued by UPPCL

2.3 Action taken Report

Month of Site Inspection	March 2024
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. Rahul Kumar Azaad, PWPL 8. Mr. Rahul Chaudhary, 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 6th March 2024, 19th March 2024 & 22nd March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-II STP	34.66 to 44.36
2	Naini-II MPS	34.66 to 44.36
3	Mawaiya SPS	28.78 to 37.12
4	Mahewagaht SPS	0.66 to 1.07

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 21 mg/l
2	TSS – Effluent	< 50 mg/l	19 to 31 mg/l
3	pH – Effluent	6.5 – 9.0	7.80 to 7.93
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.81 to 25.60 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH)
1	Naini II Facility	3778 to 5662

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

- Status of tasks related to Construction phase:

  - Civil Works:

Sr. No.	Work description	Status
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 which is under progress.
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.

  - E&M Works:

Sr. No.	Work description	Status
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.
2.	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 submitted along with Monthly Progress Reports which is not started yet.

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

1. As per SCADA reports of March-24, variation in between recorded values of inlet TSS in laboratory and in SCADA reports is more than the prescribed limit given in 'Guidelines for Online Continuous Effluent Monitoring Systems (OCEMS)' by Central Pollution Control Board. Concessionaire is required to rectify this problem.
2. Run hour report for equipment in SCADA system is not complete as run hours for some critical equipment is still not being recorded in the report.
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 for TSS, sudden spikes/drops can be seen in the graphs while for pH, BOD, COD, the graphs are showing same values for complete month which is fundamentally not correct.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working. There is variation in between recorded values of inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
6. Online analyzer at inlet of STP is working except for TSS sensor.
7. Online analyzer at outlet of STP is working.

8. All Aerated Grit Removal Units are working.
9. It is being observed that Air blowers are only operated for 2-3 hours daily for Aerated Grit removal units instead of operating them for 24 hours as per design. Since, aeration is as essential part of the process in this unit and without which this unit will not be able to remove grit efficiently. Therefore, it is instructed to operate air blowers 24X7 without which these units will work as mere settling tanks only and grit removal will not be efficient.
10. Both Mechanical Screens are working. Currently screens are running in auto mode through timer.
11. All FCR tanks are working. Shade on top of FCRs is not installed yet for better maintenance of plants during summer season.
12. In FCR tank 1 some plants are damaged. Concessionaire is required changed the damaged plants as soon as possible.
13. Minor Seepages from FCR & some other units can be seen, this must be rectified.
14. 5 out of 6 DO analyzers for FCR units are working. Sensor for one DO analyzer is not correct values.
15. 5 out of 6 aeration blowers are working. One air blower is in maintenance.
16. All tube settler units are working. Since the problem of filling sewage in valve pits is rectified, it is required to rectify the problem related to operations of drain vales in auto mode through actuators must be completed at the earliest.
17. Quality of effluent is Good.
18. All volute presses in dewatering unit are OK for operation.
19. 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.
20. Both chlorinators are working. Both booster pumps are working.
21. Chlorine analyzer at outlet is working but not showing correct values as per lab records.
22. Installation of Safety shower and eyewash near chlorination unit is pending.
23. One out of two transformers is in maintenance hence there is currently no standby for the STP.
24. Leak absorption system is working. It must always be kept in auto mode.
25. Both DGs are working.
26. In SCADA system of STP, signals from associated infrastructure are not coming properly from both SPSs as there is variation in flow recorded in SCADA reports and logbooks. Concessionaire is required to rectify this problem for better monitoring.
27. In all I&Ds, cleaning of garbage and its disposal must be done regularly.
28. 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.
    c) During a recent incident it was found that dismantling joints in discharge line of submersible pumps got displaced from their position due to water hammering when submersible pumps were stopped. Due to this leakage occurred from these dismantling joints. Therefore, to reduce the effect of water hammering, it is suggested to provide NRV in common discharge line and provide strengthening and supports below dismantling joints.

29. 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 SPS.
    d) Both DG sets are OK for operation.

30. 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. Currently screens are running in auto mode through timer.
c) Both transformers are OK for operation.
d) DG set is OK for operation.

31. 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:

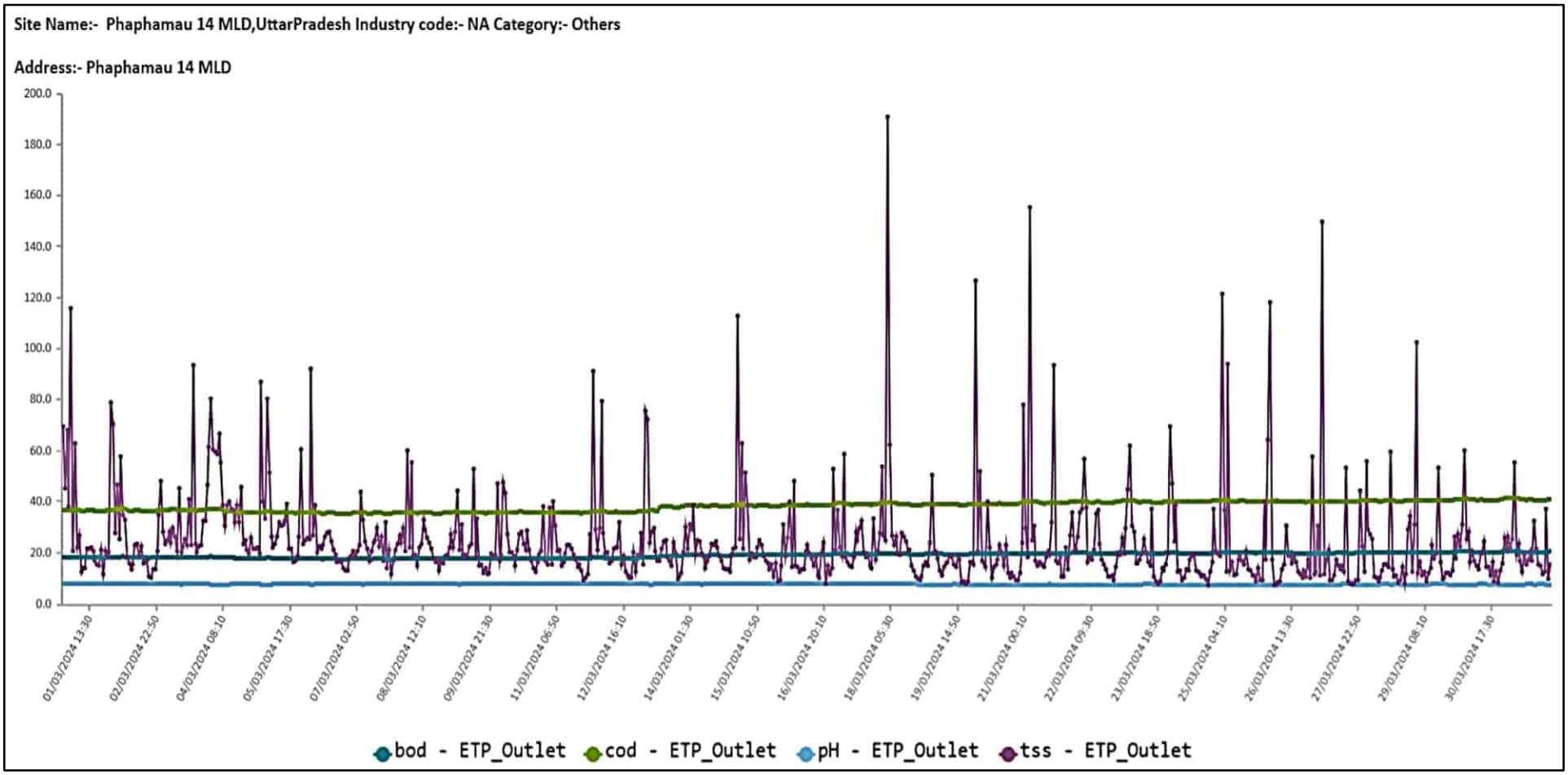
    a) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    b) Testing of TN, NH4-N, TP for composite samples of influent must be performed each day as per Part-G in Schedule-10 of CA.
    c) Site Diary as per Clause no. 1.7.2 of Part-G 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.

2.4 Recommendations

- 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



Source: Online analyzer,

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

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

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-Mar-24	16620	16.62	7.45	7.87	160	19	304	40	300	26	NA	600	0.2	22.50	1700000	
02-Mar-24	18870	18.87	7.45	7.88	160	17	308	36	305	23	NA	500	0.2	23.53	1400000	
03-Mar-24	20470	20.47	7.50	7.81	165	17	324	40	340	30	NA	400	0.2	22.54	1300000	
04-Mar-24	16740	16.74	7.42	7.75	170	19	328	36	380	42	NA	500	0.3	22.14	1400000	
05-Mar-24	18150	18.15	7.55	7.82	165	18	304	36	300	30	NA	400	0.3	23.22	1300000	
06-Mar-24	19340	19.34	7.53	7.85	160	16	316	32	265	25	NA	600	0.2	23.53	1700000	
07-Mar-24	17160	17.16	7.45	7.86	165	17	328	36	252	23	NA	600	0.2	22.81	1700000	
08-Mar-24	18630	18.63	7.40	7.83	160	18	324	36	270	24	NA	500	0.3	23.49	1400000	
09-Mar-24	17760	17.76	7.46	7.84	160	17	336	36	275	23	NA	600	0.2	23.29	1700000	
10-Mar-24	19240	19.24	7.44	7.83	165	17	332	36	271	24	NA	400	0.3	24.03	1400000	
11-Mar-24	18610	18.61	7.45	7.86	160	18	312	36	250	22	NA	500	0.3	23.02	1700000	
12-Mar-24	18770	18.77	7.43	7.85	155	17	304	36	245	23	NA	600	0.2	22.63	1400000	
13-Mar-24	17020	17.02	7.50	7.83	160	18	308	40	260	23	NA	400	0.2	23.55	1700000	
14-Mar-24	19240	19.24	7.54	7.83	165	19	304	36	242	24	NA	600	0.2	24.20	1700000	
15-Mar-24	19690	19.69	7.51	7.86	160	18	320	40	245	22	NA	500	0.2	23.29	1400000	
16-Mar-24	15880	15.88	7.50	7.87	165	18	328	40	270	21	NA	400	0.3	23.55	1300000	
17-Mar-24	15850	15.85	7.60	7.90	170	19	336	36	270	25	NA	400	0.3	23.22	1300000	
18-Mar-24	19920	19.92	7.62	7.80	165	20	340	40	272	26	NA	600	0.2	23.45	1700000	
19-Mar-24	22100	22.10	7.55	7.70	160	20	316	40	275	16	NA	400	0.3	23.29	1300000	
20-Mar-24	18640	18.64	7.49	7.66	165	19	312	36	240	21	NA	500	0.3	22.23	1400000	
21-Mar-24	15460	15.46	7.42	7.63	160	18	336	40	251	22	NA	600	0.2	24.20	1700000	
22-Mar-24	17270	17.27	7.46	7.67	165	19	320	40	260	23	NA	500	0.2	23.09	1400000	
23-Mar-24	17730	17.73	7.45	7.70	165	18	324	36	275	20	NA	400	0.3	23.58	1300000	
24-Mar-24	18280	18.28	7.53	7.68	165	19	328	36	253	17	NA	600	0.2	23.45	1700000	
25-Mar-24	18530	18.53	7.55	7.65	160	20	316	40	232	19	NA	400	0.3	23.23	1300000	
26-Mar-24	20040	20.04	7.60	7.66	155	18	308	36	222	15	NA	400	0.3	24.29	1700000	
27-Mar-24	15750	15.75	7.52	7.70	160	19	316	40	251	18	NA	600	0.2	21.23	1700000	
28-Mar-24	15160	15.16	7.56	7.72	165	20	320	40	270	17	NA	500	0.3	24.29	1400000	
29-Mar-24	15500	15.50	7.56	7.75	175	20	332	40	280	21	NA	400	0.3	24.29	1400000	
30-Mar-24	15420	15.42	7.52	7.71	180	21	344	44	290	24	NA	600	0.2	23.29	1700000	
31-Mar-24	15980	15.98	7.59	7.74	175	19	348	40	300	22	NA	400	0.3	23.22	1300000	
Average	**17865.16**	**17.87**	**7.50**	**7.78**	**163.87**	**18.45**	**321.81**	**37.94**	**271.32**	**22.94**		**496.77**	**0.25**	**23.28**	**1500000.00**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

3.2 Power Consumption Report

Power Consumption details for the month of MARCH-2024 (Phaphamau Facility)				
STP facilities		**UOM**	**Mar-24**	
Total raw sewage received for the month of MARCH-2024		MLD	553.82	
Average raw sewage received for the month of MARCH-2024		MLD	17.87	
Average BOD		mg/l	163.87	
Guaranteed power KWH / MLD		KWH / MLD	107.00	
Total Power KW - allowed	(a)	KWH	59258.74	
SPS / MPS facilities		**UOM**	**Mar-24**	
Total raw sewaged discharged for the month of MARCH-2024		MLD	723.47	
Average raw sewage discharged for the month of MARCH-2024		MLD	23.34	
Guaranteed power KWH / MLD		KWH / MLD	67.24	
Total Power KWH -Allowed	(b)	KWH	48646.12	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	107904.86	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of MARCH-2024		KWH	105656.71	
Total Actual Power consumed through DG set for the month of MARCH-2024		KWH	1960.00	
Power Consumption in staff quarter at Phaphamau STP		KWH	6396.00	
Total Actual Power consumption		KWH	101220.71	
Saved Power			-6684.15	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Mar-24**	**Avg.**
Basna Nalla SPS		MLD	169.65	5.47
Phaphamau MPS		MLD	553.82	17.87
Total		MLD	723.47	23.34
Raw Sewage Received/Treated-STP		**UOM**	**Mar-24**	**Avg.**
Raw Sewage Received		MLD	553.82	17.87
Raw Sewage Treated		MLD	507.99	16.39
Power consumption from Grid (UPPCL)		**UOM**	**Mar-24**	
Actual grid power consumption-KWH (UPPCL) of Phaphamau STP Facility for the month of MARCH-2024 (E)= (A)+(B)		KWH	105656.71	
Basna Nala SPS		KWH	14058.98	
Phaphanau STP		KWH	91597.73	
DG Power		**UOM**	**Mar-24**	
Total actual power consumed of Phaphamau STP Facility through DG set	(F)=(C)+(D)	KWH	1960.00	
basna Nalla SPS	(C)	KWH	875.00	
Phaphanau STP	(D)	KWH	1085.00	

Source: Site Records and Bills issued by UPPCL

3.3 Action taken Report.

Month of Site Inspection	March 2024
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. Rahul Kumar Azaad, PWPL 8. Mr. Rahul Chaudhary, 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 5th March 2024, 18th March 2024 & 26th March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped/Received at Facility (MLD)
1	Phaphamu STP	15.85 to 20.47
2	Shantipuram MPS	15.85 to 20.47
3	Basna nalla SPS	3.77 to 7.64

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	16 to 19 mg/l
2	TSS – Effluent	< 50 mg/l	21 to 42 mg/l
3	pH – Effluent	6.5 – 9.0	7.75 to 7.88
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 600 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.14 to 24.20 %
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)
1	Phaphamu Facility	3068 to 3860

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
1.	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 It was informed by the Concessionaire that the same will be completed in dry weather season, but work is not started yet. It must be done to ensure 100% availability of Basna Nalla SPS.
2.	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.

B. E&M Works:

Sr. No.	Work description	Status
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.
2.	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.
3.	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.

- Status of various units & records at site:

1. Latest SCADA reports of March-24 regarding KPIs for Phaphamau STP 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 of March -24 regarding KPIs for Phaphamau STP 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. Run hour report for equipment in SCADA system is not complete as run hours for some critical equipment is still not being recorded in the report.
4. 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 for TSS, sudden spikes/drops can be seen in the graphs while for pH, BOD, COD, the graphs are showing same values for complete month which is fundamentally not correct.
5. Flowmeter at inlet of STP is working.
6. Flowmeter at outlet of STP is working. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.

7. Online analyzer at inlet of STP is working.
8. Online analyzer at outlet of STP is working.
9. All Grit Removal Units are working.
10. It is being observed that Air blowers are only operated for 2-3 hours daily for Aerated Grit removal units instead of operating them for 24 hours as per design. Since, aeration is as essential part of the process in this unit and without which this unit will not be able to remove grit efficiently. Therefore, it is instructed to operate air blowers 24X7 without which these units will work as mere settling tanks only and grit removal will not be efficient.
11. There are some leakages in chamber of screw conveyor and organic return pump for Grit Removal Units. Concessionaires is required to rectify the same.
12. Both Mechanical Screens are working. Currently screens are running in auto mode through timer.
13. All FCR units are working. Shade on top of FCRs is not installed yet for better maintenance of plants during summer season.
14. 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.
15. DO analyzers for all FCR unit are working.
16. All aeration blowers are working.
17. All tube settler units are working. Rectification of problem related to operations of drain vales in auto mode through actuators 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.
18. Quality of effluent is Good.
19. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
20. Both dewatering feed pumps are working.
21. Both chlorinators are working. Both booster pumps are working.
22. Chlorine analyzer at outlet is working but not showing correct values as per lab records.
23. Both transformers are working.
24. Leak absorption system is working and must always be kept in auto mode.
25. Both DGs are working.
26. In SCADA system of STP, signals from associated infrastructure are not coming properly from Basna Nalla SPS as there is variation in flow recorded in SCADA reports and logbooks. Concessionaire is required to rectify this problem for better monitoring.
27. In all I&Ds, cleaning of garbage and its disposal must be done regularly.
28. For Shantipuram MPS, following observations were made during visit:
    a) 4 out of 5 submersible pumps are working. Remaining 1 pump is OK for operation but maintenance of dismantling joint in discharge line is pending, due to which it is not possible to operate this pump.
    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.

29. 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) Both transformers are OK for operation.
    d) DG set is OK for operation.
    e) SCADA reports regarding flow are not accurate.

30. 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.

3.4 Recommendations

- 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.

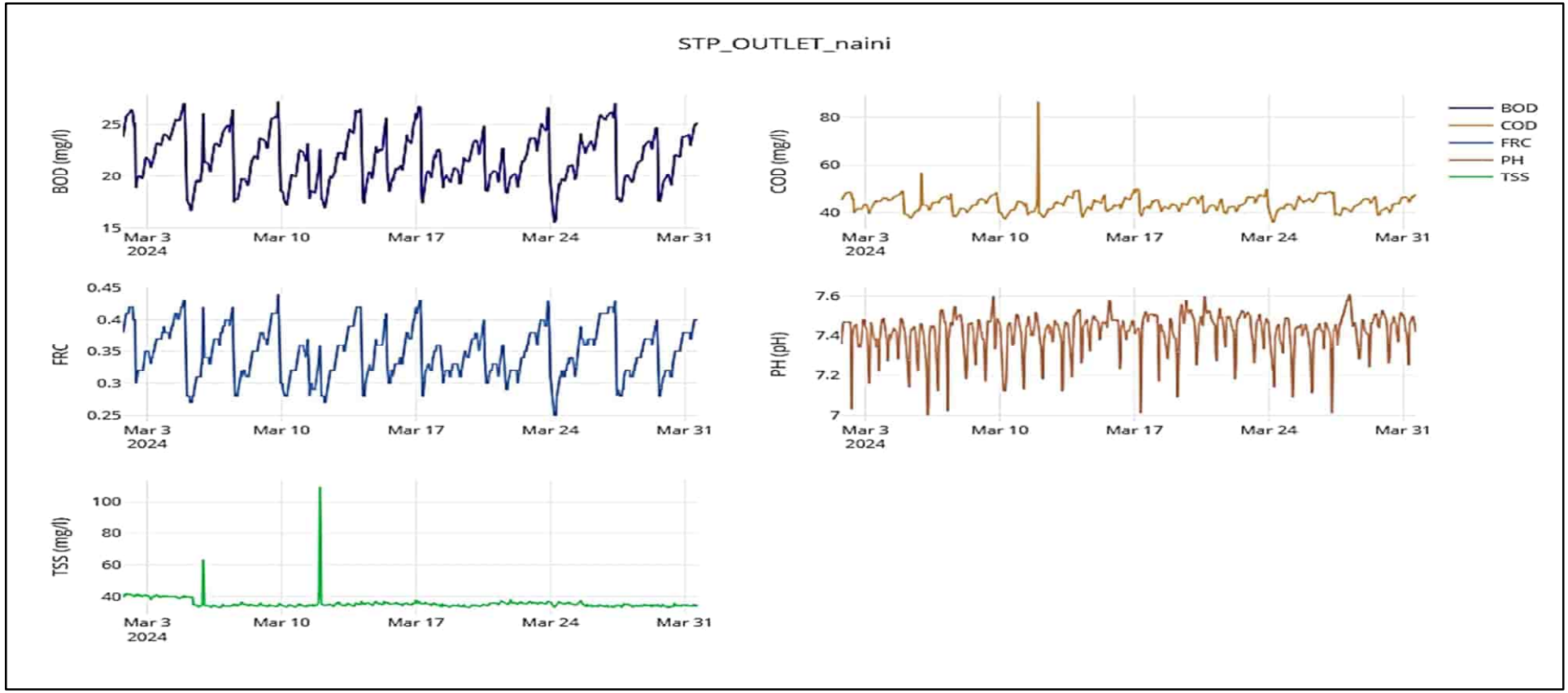
ANNEXURE-II

KPI REPORT, POWER CONSUMPTION REPORT & ACTION TAKEN REPORT FOR PACKAGE-II

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. FRC sensor calibration is completed but it is showing variation as per Lab records.

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

Date	Daily Feed Quantity MLD (Design-80 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design -<50 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-24	115720	115.72	7.23	7.34	140	24	292	48	276	42	NA	500	0.2	23.72	1700000	
2-Mar-24	104850	104.85	7.23	7.37	140	23	312	44	268	41	NA	700	0.3	22.47	1400000	
3-Mar-24	105030	105.03	7.17	7.35	135	22	316	40	275	38	NA	400	0.2	22.77	1700000	
4-Mar-24	117850	117.85	7.21	7.37	140	24	308	48	266	38	NA	600	0.3	22.60	1300000	
5-Mar-24	106970	106.97	7.23	7.35	130	21	296	40	273	36	NA	400	0.2	22.65	1400000	
6-Mar-24	102420	102.42	7.17	7.33	140	22	304	44	260	33	NA	500	0.3	23.82	1700000	
7-Mar-24	100400	100.40	7.22	7.37	135	23	308	42	265	37	NA	700	0.2	23.54	1300000	
8-Mar-24	109730	109.73	7.28	7.35	130	21	298	44	284	38	NA	500	0.3	24.36	1200000	
9-Mar-24	109940	109.94	7.24	7.31	125	24	312	46	260	36	NA	700	0.3	20.94	1700000	
10-Mar-24	113850	113.85	7.14	7.32	125	20	296	42	272	37	NA	800	0.2	22.06	1100000	
11-Mar-24	114370	114.37	7.20	7.36	135	21	312	44	263	35	NA	400	0.3	21.43	1400000	
12-Mar-24	121680	121.68	7.24	7.37	130	19	312	40	271	36	NA	500	0.2	22.60	1100000	
13-Mar-24	113900	113.90	7.17	7.35	135	23	300	44	282	33	NA	700	0.2	23.50	1200000	
14-Mar-24	113390	113.39	7.15	7.38	140	22	308	40	268	35	NA	700	0.3	23.70	1300000	
15-Mar-24	111510	111.51	7.09	7.33	135	21	312	44	273	37	NA	400	0.2	23.02	1700000	
16-Mar-24	112240	112.24	7.05	7.38	130	22	316	48	276	33	NA	500	0.3	22.65	1400000	
17-Mar-24	114160	114.16	7.03	7.41	135	21	304	44	266	37	NA	400	0.2	22.72	1200000	
18-Mar-24	110900	110.90	7.17	7.35	130	19	300	40	277	34	NA	700	0.3	22.44	1400000	
19-Mar-24	106910	106.91	7.20	7.40	125	20	304	44	268	34	NA	500	0.2	22.24	1700000	
20-Mar-24	105920	105.92	7.15	7.38	130	22	300	40	266	33	NA	400	0.3	22.28	1400000	
21-Mar-24	100890	100.89	7.21	7.42	140	20	308	40	260	34	NA	700	0.3	22.87	1300000	
22-Mar-24	106180	106.18	7.20	7.45	130	22	296	44	255	35	NA	600	0.2	22.97	1700000	
23-Mar-24	104680	104.68	7.23	7.43	125	24	292	44	250	33	NA	400	0.2	22.92	1400000	
24-Mar-24	115700	115.70	7.19	7.40	140	20	280	40	253	34	NA	500	0.3	23.04	1200000	
25-Mar-24	127290	127.29	7.22	7.43	135	23	288	40	265	34	NA	700	0.2	22.36	1400000	
26-Mar-24	118640	118.64	7.25	7.36	130	25	292	48	266	32	NA	500	0.3	23.07	1200000	
27-Mar-24	107040	107.04	7.23	7.41	120	22	304	44	272	33	NA	600	0.2	23.32	1700000	
28-Mar-24	106150	106.15	7.26	7.43	135	20	300	40	268	36	NA	500	0.3	23.62	1400000	
29-Mar-24	105890	105.89	7.19	7.45	140	22	292	44	282	37	NA	400	0.2	22.86	1700000	
30-Mar-24	104000	104.00	7.25	7.47	130	21	308	40	276	35	NA	700	0.3	22.54	1300000	
31-Mar-24	103470	103.47	7.31	7.44	135	24	300	48	268	33	NA	500	0.3	23.06	1400000	
Average	**110053.87**	**110.05**	**7.20**	**7.38**	**133.06**	**21.84**	**302.26**	**43.16**	**268.52**	**35.45**		**551.61**	**0.25**	**22.84**	**1419354.84**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

Power Consumption details for the month of March 2024 (Naini Facility)			
STP facilities	**UOM**	**Mar-24**	
Total raw sewage received for the month of March 2024	MLD	3411.67	
Average raw sewage received for the month of March 2024	MLD	110.05	
Average BOD	mg/l	133.06	
Guaranteed power KWH / MLD	KWH / MLD	78.84	
Total Power KWH - Allowed (a)	KWH	268976.06	
SPS / MPS facilities	**UOM**	**Mar-24**	
Total raw sewaged discharged for the month of March 2024	MLD	4631.14	
Average raw sewage discharged for the month of March 2024	MLD	149.39	
Guaranteed power KWH / MLD	KWH / MLD	65.02	
Total Power KWH -Allowed (b)	KWH	301116.72	
Total Guaranteed Power - Allowed (c)=(a)+(b)	*KWH*	570092.79	
Actual Power consumption			
Actual grid Power consumption (UPPCL) for the month of March 2024	KWH	426650.30	
Total Actual Power consumed through DG set for the month of March 2024	KWH	7188.00	
Power Consumption in staff quarter at Naini-I STP	KWH	7708.00	
Total Actual Power consumption	KWH	426130.30	
Saved Power		-143962.49	
Raw Sewage Discharged-MPS/ SPS	**UOM**	**Mar-24**	**Avg.**
Gaughat MPS	MLD	3425.48	110.50
SPS-Charcharnalla	MLD	1205.66	38.89
Total	MLD	4631.14	149.39
Raw Sewage Received/Treated-STP	**UOM**	**Mar-24**	**Avg.**
Raw Sewage Received	MLD	3411.67	110.05
Raw Sewage Treated	MLD	–	–
Power consumption from Grid (UPPCL)	**UOM**	**Mar-24**	
Actual grid power consumption-KWH (UPPCL) of Naini-I Facility for the month of March 2024 (E)=(A)+(B)+(C)	KWH	426650.30	
MPS- Gaughat (A)	KWH	270255.00	
SPS-Chacharnalla (B)	KWH	71499.80	
STP -Naini (C)	KWH	84895.50	
DG Power	**UOM**	**Mar-24**	
Total actual power consumed of Naini Facility through DG set (G)=(D)+(E)+(F)	KWH	7188.00	
MPS- Gaughat (D)	KWH	929.00	
SPS-Chacharnalla (E)	KWH	1764.00	
STP -Naini (F)	KWH	4495.00	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Satwant, JE, UPJN(R). 4. Mr. Jitender, JE, UPJN(R). 5. Mr. Gaurav Gupta, AECOM. 6. Mr. Sudhir Kumar Tomar, AECOM. 7. Mr. Rahul Azaad, PWPL. 8. 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 6th March 2024, 19th March 2024 & 22nd March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	100.40 to 121.68
2	Gaughat MPS	101.85 to 121.77
3	Chacharnalla SPS	34.66 to 48.74

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	19 to 24 mg/l
2	TSS – Effluent	< 50 mg/l	33 to 42 mg/l
3	pH – Effluent	6.5 – 9.0	7.31 to 7.41
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	20.94 to 24.36%
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)
1	Naini I Facility	12712 to 15652

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 Naini-I STP 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 Naini-I STP 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, 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.
   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 for Chacharnalla SPS.
   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 for both Chacharnalla SPS and Gaughat MPS, 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. Modification work regarding rectification of the problem is completed however flowmeter didn't start working as some modification was required again in outlet line of STP. Same has been completed on 26.02.2024 and it has been informed by the Concessionaire that Service Engineer from OEM will come in first week of April for starting the flowmeter.
7. 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.
8. 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.
9. 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.
10. All two mechanical screens of 20 MLD part are working. Cleaning brushes are replaced but they require some adjustment to start working properly. Currently screens are running in auto mode through timer however differential level sensors are not working.
11. For 60 MLD, all grit removal units are working.
12. For 20 MLD, all grit removal units are working.
13. 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.
14. In Primary Settling Tanks, sludge can be seen coming to the top of the clarifier due to which outlet quality of the same is deteriorating. Rectification of this issue is required.
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. DO analyzer is working.
19. All Aeration blowers are working.

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 which must be maintained between 15 – 20 %.
27. Since the chlorine tonner storage in Naini-1 STP goes beyond 4 tonners at once hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
28. New chlorine analyzer at outlet is working however it is showing major variations in between recorded values in laboratory and in SCADA reports. Concessionaire is required to resolve the same.
29. Both thickeners are in working condition. Installation of actuators for drain valves is pending.
30. In thickeners, it has been observed that the scum removed from the top layer is being dumped in outlet launder which comes back in the main process via filtrate pumps. Since, this scum is septic in nature, it is deteriorating the quality of Primary clarifiers due to which sludge is coming to the top of the clarifier. It is required rectify this issue and dispose this scum directly into sludge drying beds.
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 as per the electrical norms is not started yet.
34. Both DGs are OK for operation.
35. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
36. All filtrate pumps are working.
37. Both Dewatering feed pumps are in operation.
38. 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.
39. All Digesters are working.
40. Heat exchangers, sludge recirculation pumps for all digesters are working.
41. In compressor room, all six compressors are working.
42. Both Gas holders are working.
43. Gas flare is working.
44. H2S scrubber unit is working. Analyzers fitted at inlet & outlet of unit are working.
45. 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.
46. 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.
47. Rehabilitation works for tube well unit are pending.
48. 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. Concessionaire is required

to submit reports generated from the same for verification from UPJN/PE and after verification, same data must be provided in MPR as supporting documents for maintenance activities.

49. All CCTV cameras are working.
50. 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.
51. Concessionaire is required to perform testing of earthing pits externally at least once in a year in addition to internal testing of the same. This activity must be done on priority basis as per safety norms.
52. For Gaughat MPS, following observations were made during visit:

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

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

    a) Currently all VNC pumps are working.
    b) Both mechanical screens are working.
    c) Both DG sets are OK for operation.
    d) Old DG set is OK for operation.
    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.
    h) Flowmeter in header line big VNC pumps is showing major fluctuations in flow values hence the flow recorded by it cannot be deemed as accurate.
    i) Housekeeping near VNC pumps must be improved as sludge, sewage is deposited around them which in turn will provide favorable breeding environment for mosquitos.
    j) Installation of supports in header lines for both big and small VNC pumps is required for minimizing the vibration which in turn is affecting other equipment fitted in the header line.

54. 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 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.

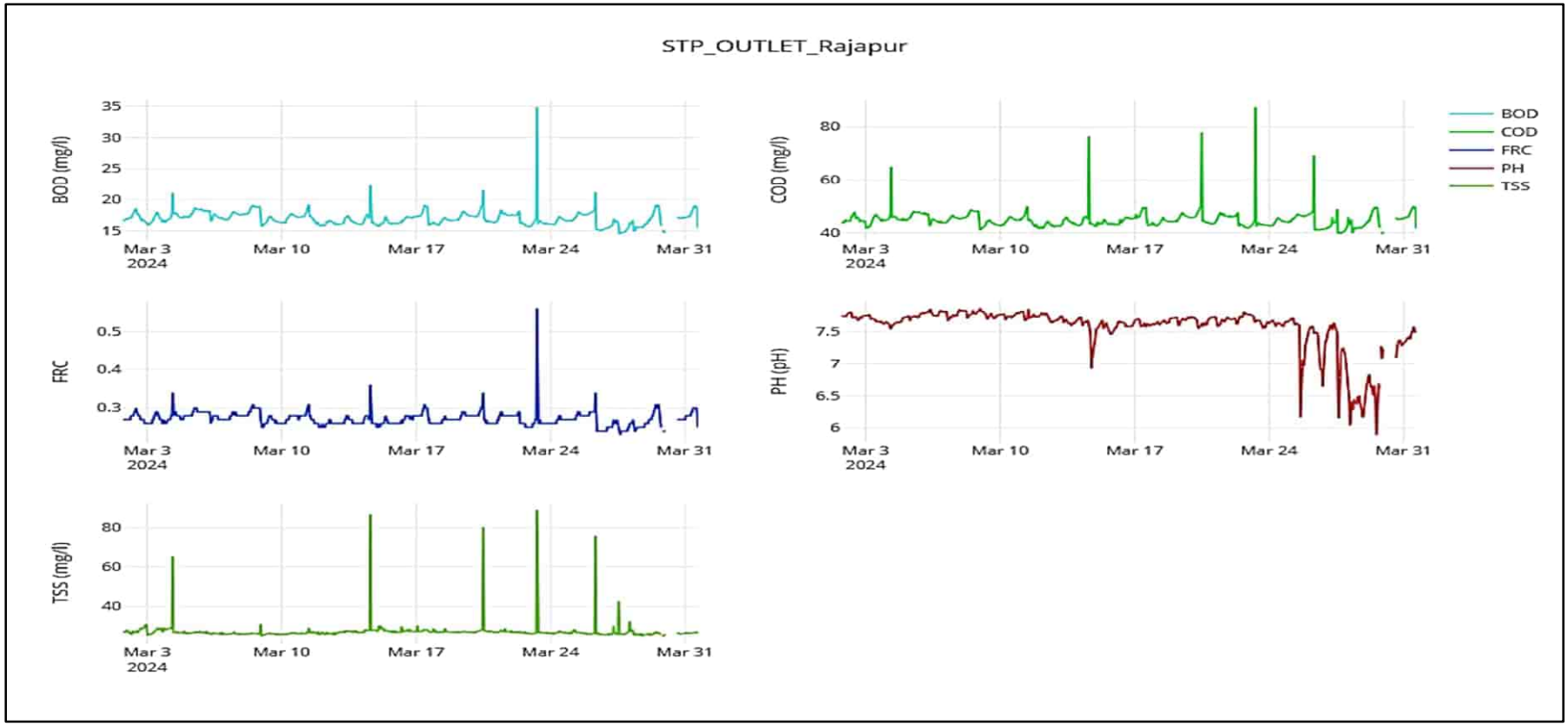
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
e) Quarterly report as per Part-G in Schedule-10 of CA.
f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. 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.

1.4 Recommendations

- 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/breakage in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is completed but it is showing variation as per Lab records.

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

Date	Daily Feed Quantity MLD (Design- 60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <30 mg/l)	Inlet COD (Design- <500 mg/l)	Final COD (Design - <50 mg/l)	Inlet TSS (Design- <500 mg/l)	FinalTSS (Design - <50 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-24	80280	80.28	7.05	7.75	130	17	276	44	258	26	NA	600	0.3	24.00	1400000	
2-Mar-24	75270	75.27	7.07	7.76	135	18	292	48	268	27	NA	500	0.3	23.73	1700000	
3-Mar-24	90190	90.19	6.98	7.71	130	16	288	44	263	28	NA	400	0.3	24.31	1200000	
4-Mar-24	77790	77.79	7.02	7.67	135	18	284	44	256	25	NA	700	0.2	23.73	1400000	
5-Mar-24	75820	75.82	7.06	7.75	125	17	280	48	268	26	NA	600	0.3	22.70	1700000	
6-Mar-24	73120	73.12	7.12	7.81	140	18	288	44	270	25	NA	500	0.3	22.40	1300000	
7-Mar-24	74180	74.18	7.09	7.78	130	16	292	48	261	27	NA	400	0.3	23.33	1400000	
8-Mar-24	77900	77.90	7.13	7.82	135	17	296	48	265	26	NA	600	0.2	23.31	1300000	
9-Mar-24	73620	73.62	7.10	7.77	125	16	284	40	269	28	NA	700	0.3	22.53	1700000	
10-Mar-24	76370	76.37	7.06	7.74	135	18	288	44	271	27	NA	600	0.3	23.58	1300000	
11-Mar-24	74930	74.93	7.02	7.76	130	17	300	44	265	26	NA	500	0.3	23.20	1400000	
12-Mar-24	77960	77.96	7.05	7.74	135	16	276	40	268	26	NA	400	0.3	22.39	1200000	
13-Mar-24	77120	77.12	7.02	7.65	125	17	260	40	265	28	NA	600	0.2	23.57	1700000	
14-Mar-24	76570	76.57	6.89	7.55	130	16	284	44	257	26	NA	500	0.3	23.95	1300000	
15-Mar-24	77400	77.40	6.93	7.58	125	16	288	40	262	28	NA	700	0.3	24.23	1400000	
16-Mar-24	77660	77.66	6.95	7.64	130	17	296	48	273	27	NA	600	0.2	22.83	1200000	
17-Mar-24	77820	77.82	7.05	7.61	135	18	292	44	259	28	NA	400	0.3	23.83	1700000	
18-Mar-24	76100	76.10	7.04	7.67	125	16	280	40	271	27	NA	500	0.3	23.40	1400000	
19-Mar-24	72930	72.93	7.03	7.72	135	18	288	44	263	28	NA	600	0.3	22.87	1200000	
20-Mar-24	76970	76.97	7.06	7.63	130	17	296	48	274	27	NA	700	0.3	23.75	1700000	
21-Mar-24	76510	76.51	7.07	7.69	135	18	292	44	261	26	NA	600	0.2	22.85	1400000	
22-Mar-24	73800	73.80	7.14	7.73	130	17	304	44	274	25	NA	500	0.3	23.51	1300000	
23-Mar-24	75310	75.31	7.06	7.68	125	16	284	40	263	26	NA	400	0.3	24.21	1200000	
24-Mar-24	76460	76.46	7.05	7.66	130	17	280	44	259	25	NA	700	0.2	23.66	1700000	
25-Mar-24	80400	80.40	7.03	7.47	135	18	276	48	257	26	NA	500	0.3	22.86	1400000	
26-Mar-24	82150	82.15	7.01	7.42	125	15	260	44	271	25	NA	600	0.3	23.51	1300000	
27-Mar-24	76720	76.72	7.09	7.31	130	16	284	44	264	26	NA	400	0.3	23.58	1400000	
28-Mar-24	72430	72.43	6.98	7.05	125	15	272	40	263	25	NA	700	0.2	22.66	1700000	
29-Mar-24	68520	68.52	7.02	7.08	130	17	288	44	265	27	NA	600	0.3	24.02	1400000	
30-Mar-24	75500	75.50	7.14	7.49	135	18	292	40	273	26	NA	500	0.3	23.79	1300000	
31-Mar-24	73610	73.61	7.10	7.46	130	16	304	48	276	28	NA	600	0.3	24.19	1700000	
Average	**76497.10**	**76.50**	**7.05**	**7.62**	**130.65**	**16.84**	**285.94**	**44.00**	**265.55**	**26.48**		**554.84**	**0.28**	**23.43**	**1432258.06**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Power Consumption Report

Power Consumption details for the month of March-2024 (Rajapur Facility)				
STP facilities		**UOM**	**Mar-24**	
Total raw sewage received for the month of Mar-2024		MLD	2371.41	
Average raw sewage received for the month of Mar-2024		MLD	76.50	
Average BOD		mg/l	130.65	
Guaranteed power KWH / MLD		KWH / MLD	26.45	
Total Power KW - allowed	(a)	KWH	62723.79	
SPS / MPS facilities		**UOM**	**Mar-24**	
Total raw sewaged discharged for the month of Mar-2024		MLD	2392.94	
Average raw sewage discharged for the month of Mar-2024		MLD	77.19	
Guaranteed power KWH / MLD		KWH / MLD	53.78	
Total Power KWH -Allowed	(b)	KWH	128692.31	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	191416.11	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of Mar-2024		KWH	175464.00	
Total Actual Power consumed through DG set for the month of Mar-2024		KWH	5513.00	
Power Consumption in staff quarter at Rajapur STP		KWH	2140.00	
Total Actual Power consumption		KWH	178837.00	
Saved Power			-12579.11	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Mar-24**	**Avg.**
Mumfordganj MPS		MLD	2187.66	70.57
SPS-Rajapur		MLD	205.28	6.62
Total		MLD	2392.94	77.19
Raw Sewage Received/Treated-STP		**UOM**	**Mar-24**	**Avg.**
Raw Sewage Received		MLD	2371.41	76.50
Raw Sewage Treated		MLD	2399.27	77.40
Power consumption from Grid (UPPCL)		**UOM**	**Mar-24**	
Actual grid power consumption-KWH (UPPCL) of Rajapur Facility for the month of Mar-2024	(E)=(A)+(B)	KWH	175464.00	
MSP- Mumfordganj	(A)	KWH	113124.00	
STP - Rajapur	(B)	KWH	62340.00	
DG Power		**UOM**	**Mar-24**	
Total actual power consumed of Rajapur Facility through DG set	(F)=(C)+(D)	KWH	5513.00	
MSP- Mumfordganj	(C)	KWH	1810.00	
SPS+STP-Rajapur	(D)	KWH	3703.00	

Source: Site Records and Bills issued by UPPCL

2.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	9. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 10. Mr. Karunakar Singh AE, UPJN(R). 11. Mr. Manish Srivastava, JE, UPJN(R). 12. Mr. Jitender, JE, UPJN(R). 13. Mr. Gaurav Gupta, AECOM. 14. Mr. Sudhir Kumar Tomar, AECOM. 15. Mr. Rahul Azaad, PWPL. 1. 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 5th March 2024, 18th March 2024 & 26th March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	73.12 to 90.19
2	Rajapur SPS	5.27 to 8.65
3	Mumfodganj MPS	68.96 to 83.02

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	16 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	25 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.55 to 7.82
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.39 to 24.31 %
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)
1	Rajapur Facility	5574 to 6458

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 Rajapur STP 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 Rajapur STP 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 data 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. Both Grit removal units are working.
8. Both Mechanical Fine screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
9. Both UASBs were working. 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. All surface aerators were found OK for operation. It is recommended to install DO analyzer in this tank also for better monitoring.
12. It is also suggested to clean the Aeration tank for removing dead sludge which in turn will increase the efficiency of Aeration.
13. 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.
14. Now the winter season is over, it is observed that foaming is still present in effluent. Main reason for this can be improper aeration due to operation of surface aerators for less no. of hours. Hence, it is required to operate 12 surface aerators at least for 24 hour a day for doing proper aeration of raw sewage.
15. Both DG sets are working.
16. All sludge transfer pumps are in working condition.
17. All CCTV cameras are working.
18. Sludge dewatering unit is working. Poly dosing unit is working.
19. For chlorination system, temporary arrangement is provided for using effluent water at the inlet of booster pumps. Concessionaire is suggested to make this arrangement permanent.
20. New chlorine analyzer at outlet is working however it is showing variations in between recorded values in laboratory and recorded values in SCADA reports. Concessionaire is required to resolve the same.
21. At flood pumping station, all pumps are in working condition.
22. Since the chlorine tonner storage in Rajapur STP goes beyond 4 tonners at once hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).

23. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
24. There is variation in recorded values of flow from inlet flowmeter of Mumfordganj SPS at Rajapur STP and outlet flowmeter of Mumfordganj SPS at Mumfordganj SPS, please rectify the problem.
25. There is variation in recorded values of flow from inlet flowmeter at Rajapur STP and outlet flowmeter of Rajapur STP, please rectify the problem.
26. Gas holder and gas flare are not in operation. It is part of STP facility hence must be made operational. Also, amount of Gas generation also indicates the performance level of UASBs. Concessionaire is requested to complete the maintenance works and take both into operation as follow-up for the same is being done since rehab period.
27. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement or it must be properly stacked at one place after taking proper consent from UPJN. Concessionaire have told that this is out of their jurisdiction for which Concessionaire is required to go through the mentioned clause and plan for the same accordingly.
28. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, new Computer Maintenance Management system (CMMS) is installed which is under observation. Concessionaire is required to submit reports generated from the same for verification from UPJN/PE and after verification, same data must be provided in MPR as supporting documents for maintenance activities.
29. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
30. At Rajapur SPS following observations were made:

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

31. At Mumfodganj MPS following observations were made:

    a) Civil maintenance is required for the floor below bypass gate at tapping point for stopping the leakage from bypass gate.
    b) One Mechanical coarse screens at MPS is working. One mechanical coarse screen is under maintenance. Currently screens are running in auto mode through timer however differential level sensors are not working.
    c) At Mumfodganj MPS, 5 pumps are OK for operation. Remaining 1 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.
    d) Dismantling joint must be provided along with flowmeter for ease in maintenance.
    e) NRV must be provided in common header to reduce the effect of water hammering.
    f) Site house Keeping & landscaping must be improved.
    g) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.

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

    a) Portable samplers must be provided to collect composite samples for monitoring from 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.

2.4 Recommendations

- 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.

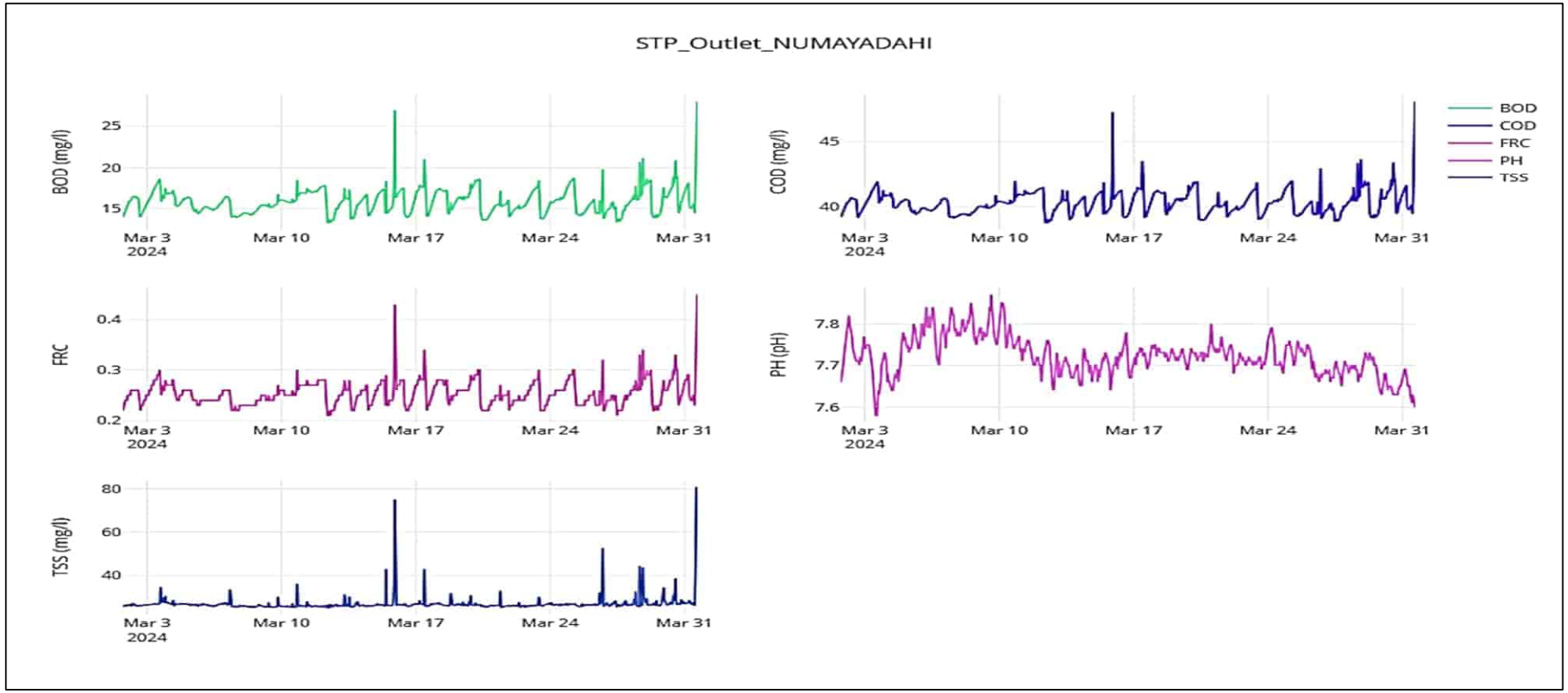
ANNEXURE-III

KPI REPORT, POWER CONSUMPTION REPORT & ACTION TAKEN REPORT FOR PACKAGE-III

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 completed but it is showing variation as per Lab records.

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-Mar-24	57350	57.35	7.25	7.70	135	13	300	36	285	24	NA	500	0.3	24.01	1400000	
02-Mar-24	55900	55.90	7.25	7.85	140	16	308	44	269	26	NA	500	0.2	23.68	1300000	
03-Mar-24	59110	59.11	7.18	7.78	140	18	332	40	286	29	NA	600	0.3	23.78	1700000	
04-Mar-24	58850	58.85	7.22	7.77	145	16	320	44	298	26	NA	400	0.3	24.02	1100000	
05-Mar-24	53630	53.63	7.24	7.75	140	14	312	40	302	24	NA	500	0.2	23.67	1400000	
06-Mar-24	48900	48.90	7.25	7.58	130	16	308	40	296	26	NA	600	0.2	22.69	1400000	
07-Mar-24	53040	53.04	7.32	7.71	140	16	308	40	281	27	NA	400	0.3	23.67	1200000	
08-Mar-24	57880	57.88	7.12	7.81	145	14	328	44	281	26	NA	400	0.3	21.59	1400000	
09-Mar-24	56280	56.28	7.26	7.78	135	15	316	44	268	27	NA	500	0.2	24.01	1300000	
10-Mar-24	56150	56.15	7.35	7.69	140	17	308	40	302	26	NA	400	0.3	21.59	1400000	
11-Mar-24	55970	55.97	7.22	7.74	130	16	328	40	290	27	NA	500	0.3	23.01	1200000	
12-Mar-24	59270	59.27	7.28	7.68	140	14	328	40	281	25	NA	600	0.2	22.87	1700000	
13-Mar-24	58940	58.94	7.24	7.73	130	15	320	40	287	26	NA	700	0.2	21.16	1400000	
14-Mar-24	59520	59.52	7.22	7.80	145	15	324	44	280	27	NA	600	0.3	23.01	1300000	
15-Mar-24	57700	57.70	7.32	7.55	140	17	340	40	283	28	NA	500	0.3	22.76	1400000	
16-Mar-24	59130	59.13	7.36	7.65	145	16	300	44	264	25	NA	700	0.3	23.69	1400000	
17-Mar-24	56890	56.89	7.18	7.76	135	17	320	40	270	26	NA	500	0.2	24.01	1300000	
18-Mar-24	60010	60.01	7.30	7.82	130	16	308	44	281	27	NA	400	0.2	21.70	1200000	
19-Mar-24	58540	58.54	7.17	7.68	140	18	300	40	265	25	NA	600	0.3	23.50	1700000	
20-Mar-24	57950	57.95	7.20	7.71	150	15	316	40	295	26	NA	500	0.3	24.06	1100000	
21-Mar-24	57050	57.05	7.35	7.8	145	14	308	36	278	25	NA	700	0.2	23.50	1400000	
22-Mar-24	59550	59.55	7.26	7.86	130	16	312	44	280	27	NA	500	0.2	24.55	1300000	
23-Mar-24	59850	59.85	7.25	7.78	145	17	300	40	270	25	NA	400	0.3	22.35	1700000	
24-Mar-24	60100	60.10	7.35	7.75	130	16	320	44	282	28	NA	500	0.3	23.70	1100000	
25-Mar-24	63070	63.07	7.25	7.8	140	17	300	40	275	27	NA	700	0.2	23.98	1300000	
26-Mar-24	63650	63.65	7.32	7.68	135	14	340	36	289	25	NA	400	0.3	24.56	1200000	
27-Mar-24	59850	59.85	7.25	7.7	140	15	336	44	278	24	NA	500	0.2	22.35	1400000	
28-Mar-24	59730	59.73	7.20	7.78	150	18	320	40	272	26	NA	400	0.3	24.00	1100000	
29-Mar-24	61430	61.43	7.22	7.82	130	16	304	44	280	27	NA	700	0.3	23.13	1300000	
30-Mar-24	59950	59.95	7.85	7.83	135	17	300	40	298	28	NA	500	0.3	23.68	1400000	
31-Mar-24	60000	60.00	7.30	7.84	140	18	320	44	274	30	NA	600	0.2	22.34	1700000	
Average	**58233.55**	**58.23**	**7.28**	**7.75**	**138.55**	**15.87**	**315.61**	**41.16**	**281.94**	**26.29**		**525.81**	**0.26**	**23.25**	**1361290.32**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

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

Date	Daily Feed Quantity MLD (Design- 50 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <20 mg/l)	Inlet COD (Design- <500 mg/l)	Final COD (Design - <50 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design - <30 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-24	57350	57.35	7.25	7.70	135	13	300	36	285	24	NA	500	0.3	24.01	1400000	
2-Mar-24	55900	55.90	7.25	7.85	140	16	308	44	269	26	NA	500	0.2	23.68	1300000	
3-Mar-24	59110	59.11	7.18	7.78	140	18	332	40	286	29	NA	600	0.3	23.78	1700000	
4-Mar-24	58850	58.85	7.22	7.77	145	16	320	44	298	26	NA	400	0.3	24.02	1100000	
5-Mar-24	53630	53.63	7.24	7.75	140	14	312	40	302	24	NA	500	0.2	23.67	1400000	
6-Mar-24	48900	48.90	7.25	7.58	130	16	308	40	296	26	NA	600	0.2	22.69	1400000	Due to power cut in local area of Ghagharnalla area for 7-8 hour, raw sewage received in Ghagarnalla MPS from local area is less. Hence, raw sewage received at Numayadahi STP is less than normal
7-Mar-24	53040	53.04	7.32	7.71	140	16	308	40	281	27	NA	400	0.3	23.67	1200000	
8-Mar-24	57880	57.88	7.12	7.81	145	14	328	44	281	26	NA	400	0.3	21.59	1400000	
9-Mar-24	56280	56.28	7.26	7.78	135	15	316	44	268	27	NA	500	0.2	24.01	1300000	
10-Mar-24	56150	56.15	7.35	7.69	140	17	308	40	302	26	NA	400	0.3	21.59	1400000	
11-Mar-24	55970	55.97	7.22	7.74	130	16	328	40	290	27	NA	500	0.3	23.01	1200000	
12-Mar-24	59270	59.27	7.28	7.68	140	14	328	40	281	25	NA	600	0.2	22.87	1700000	
13-Mar-24	58940	58.94	7.24	7.73	130	15	320	40	287	26	NA	700	0.2	21.16	1400000	
14-Mar-24	59520	59.52	7.22	7.80	145	15	324	44	280	27	NA	600	0.3	23.01	1300000	
15-Mar-24	57700	57.70	7.32	7.55	140	17	340	40	283	28	NA	500	0.3	22.76	1400000	
16-Mar-24	59130	59.13	7.36	7.65	145	16	300	44	264	25	NA	700	0.3	23.69	1400000	
17-Mar-24	56890	56.89	7.18	7.76	135	17	320	40	270	26	NA	500	0.2	24.01	1300000	
18-Mar-24	60010	60.01	7.30	7.82	130	16	308	44	281	27	NA	400	0.2	21.70	1200000	
19-Mar-24	58540	58.54	7.17	7.68	140	18	300	40	265	25	NA	600	0.3	23.50	1700000	
20-Mar-24	57950	57.95	7.20	7.71	150	15	316	40	295	26	NA	500	0.3	24.06	1100000	
21-Mar-24	57050	57.05	7.35	7.8	145	14	308	36	278	25	NA	700	0.2	23.50	1400000	
22-Mar-24	59550	59.55	7.26	7.86	130	16	312	44	280	27	NA	500	0.2	24.55	1300000	
23-Mar-24	59850	59.85	7.25	7.78	145	17	300	40	270	25	NA	400	0.3	22.35	1700000	
24-Mar-24	60100	60.10	7.35	7.75	130	16	320	44	282	28	NA	500	0.3	23.70	1100000	
25-Mar-24	63070	63.07	7.25	7.8	140	17	300	40	275	27	NA	700	0.2	23.98	1300000	
26-Mar-24	63650	63.65	7.32	7.68	135	14	340	36	289	25	NA	400	0.3	24.56	1200000	
27-Mar-24	59850	59.85	7.25	7.7	140	15	336	44	278	24	NA	500	0.2	22.35	1400000	
28-Mar-24	59730	59.73	7.20	7.78	150	18	320	40	272	26	NA	400	0.3	24.00	1100000	
29-Mar-24	61430	61.43	7.22	7.82	130	16	304	44	280	27	NA	700	0.3	23.13	1300000	
30-Mar-24	59950	59.95	7.85	7.83	135	17	300	40	298	28	NA	500	0.3	23.68	1400000	
31-Mar-24	60000	60.00	7.30	7.84	140	18	320	44	274	30	NA	600	0.2	22.34	1700000	
Average	**58233.55**	**58.23**	**7.28**	**7.75**	**138.55**	**15.87**	**315.61**	**41.16**	**281.94**	**26.29**		**525.81**	**0.26**	**23.25**	**1361290.32**	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Rahul Paswan, JE, UPJN(R). 4. Mr. Jitender, JE, UPJN(R). 5. Mr. Gaurav Gupta, AECOM. 6. Mr. Sudhir Kumar Tomar, AECOM. 7. Mr. Rahul Kumar Azaad, PWPL. 8. Mr. Vijay, PWPL. 9. 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 4th March 2024, 13th March 2024 & 21st March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	48.90 to 59.52
2	Ghagharnalla MPS	51.40 to 62.30
3	Sasur Kadheri SPS	23.81 to 35.56
4	Lukerganj SPS	3.12 to 6.68

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	13 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	24 to 29 mg/l
3	pH – Effluent	6.5 – 9.0	7.18 to 7.85
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.16 to 24.02 %
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)
1	Numayadahi Facility	11441 to 14395

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 Numayadahi STP 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 Numayadahi STP 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. There is variation in between inlet flowmeter of STP and outlet flowmeter of Ghagharnalla MPS. Concessionaire is required to resolve this problem.
6. Flowmeter at outlet of STP is working. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
7. Both grit removal units are in operation.
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. Replacement of net for all biotowers & maintenance for media of Biotower no. 2 is pending.
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. For reducing problem of plastic waste reaching biotower, it is instructed to minimize the gap of manual screen but additional screen on top of it. Also, it is instructed to modify the waste collection tray of mechanical screens as discussed because at higher flows sewage goes into this tray which in turn causes problem in separation of screening waste through screw conveyor.
12. All Aeration tanks are working. There is some stagnant portion in Aeration tank no. 3 as air is not going there, this must be rectified.
13. All aeration blowers are in working condition & two blowers were found running.
14. DO analyzer at the outlet of all aeration tanks are working as new ones are installed. Calibration of the same are pending.
15. Pressure transmitter & temperature transmitter are not installed yet on header line of Aeration blowers.
16. All Centrifuges are working. All sludge feed pumps and poly dosing pumps are working.
17. Housekeeping near dewatering area is very shabby and must be improved.
18. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation. Also, PCC road must be constructed near dewatering area for efficient cleaning of the same.
19. All Sludge Recirculation Pumps are in working condition.
20. Sludge is found accumulated in area between Recirculation sludge sump and Secondary clarifiers which is mainly due to overflow of Recirculation sludge sump. It is required to do the modifications as suggested at site.
21. Both Secondary clarifiers were found in operation. In secondary clarifier no. 2, sludge was found coming to the top hence it is suggested to clean the same and check alignment/gap of scrapper.

22. Thickener was found in operation.
23. Both booster pumps & both chlorinators are in working condition. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
24. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
25. New chlorine analyzer at outlet is working however it is showing variations in between recorded values in laboratory and in SCADA reports. Concessionaire is required to resolve the same.
26. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at once hence Concessionaire is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
27. Both DGs are working.
28. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
29. 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. Concessionaire is required to incorporate the suggestions provided after checking of records generated from the same.
30. Make a proper store for storage for flammable and hazardous materials including spare parts.
31. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
32. Housekeeping and cleaning must be improved for all units.
33. All CCTV cameras installed at site are not working except for the inlet, outlet and DG room of STP.
34. 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 to comply with safety norms.
35. 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) All HNC pumps are in working condition.
    d) Currently, there is 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.
    i) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming. Also, signals from pump no. 4 are not going to PLC panel.

36. 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 except for pump no. 1.
    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.
f) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.

37. At Lukerganj SPS,

a) All 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) Both mechanical screens are working.
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.
e) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.

38. 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:

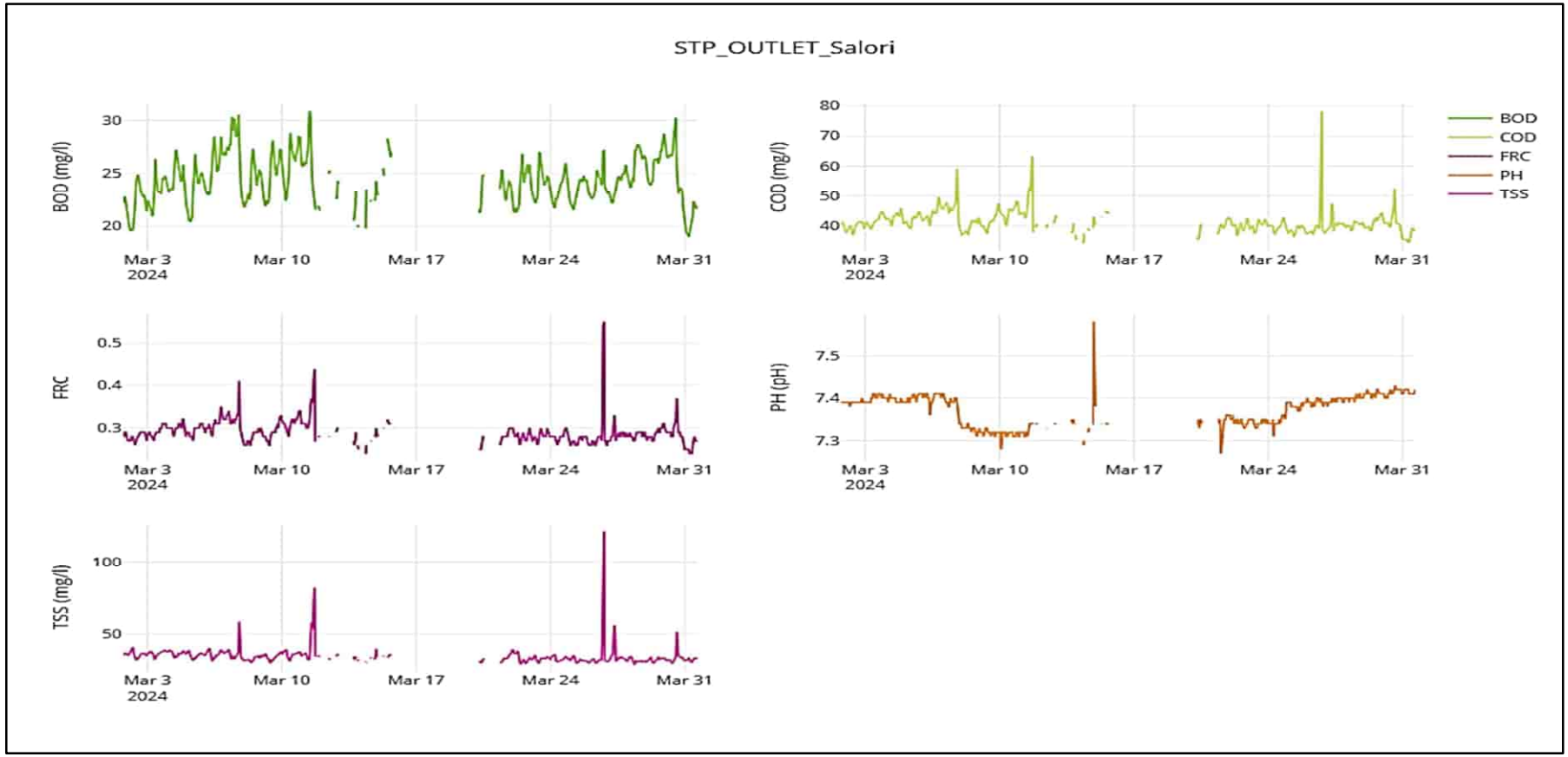
a) Portable samplers must be provided to collect composite samples for monitoring from inlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
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.

1.4 Recommendations

- 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/breakage in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.
2. FRC sensor calibration is completed but it is showing variation as per Lab records.

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

Date	Daily Feed Quantity MLD (Design-29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-24	36870	36.87	7.34	7.46	160	22	356	36	330	34	NA	600	0.3	24.20	1700000	
2-Mar-24	35920	35.92	7.30	7.41	155	23	340	40	326	36	NA	700	0.3	23.07	1400000	
3-Mar-24	40100	40.10	7.32	7.44	145	22	336	44	357	39	NA	500	0.2	24.49	1200000	
4-Mar-24	39170	39.17	7.34	7.42	155	25	344	40	346	37	NA	400	0.3	22.23	1100000	
5-Mar-24	37810	37.81	7.37	7.46	160	24	356	44	339	34	NA	600	0.3	24.18	1400000	
6-Mar-24	39020	39.02	7.38	7.43	165	27	364	44	336	35	NA	700	0.3	23.92	1300000	
7-Mar-24	38770	38.77	7.41	7.46	160	28	364	48	341	36	NA	400	0.2	24.79	1700000	
8-Mar-24	38640	38.64	7.36	7.40	155	26	356	40	353	34	NA	500	0.3	24.94	1100000	
9-Mar-24	39520	39.52	7.37	7.42	150	25	360	44	332	33	NA	600	0.3	24.51	1400000	
10-Mar-24	37650	37.65	7.38	7.34	160	27	364	48	344	35	NA	500	0.2	23.77	1200000	
11-Mar-24	36980	36.98	7.36	7.29	155	26	356	44	336	37	NA	700	0.3	24.20	1300000	
12-Mar-24	39030	39.03	7.32	7.37	155	23	344	40	340	35	NA	600	0.3	23.83	1100000	
13-Mar-24	39450	39.45	7.35	7.40	160	25	356	44	339	33	NA	400	0.3	23.00	1400000	
14-Mar-24	38960	38.96	7.33	7.37	150	22	352	40	342	29	NA	500	0.3	23.84	1700000	
15-Mar-24	37720	37.72	7.36	7.42	155	24	360	44	351	32	NA	700	0.2	23.65	1200000	
16-Mar-24	37530	37.53	7.34	7.40	160	27	364	48	348	34	NA	600	0.3	24.85	1300000	
17-Mar-24	37730	37.73	7.33	7.42	155	25	368	44	332	36	NA	700	0.3	22.84	1700000	
18-Mar-24	37480	37.48	7.31	7.41	150	22	360	40	337	35	NA	400	0.2	22.36	1100000	
19-Mar-24	38830	38.83	7.34	7.42	160	23	356	36	347	33	NA	500	0.3	24.22	1200000	
20-Mar-24	37510	37.51	7.28	7.36	155	24	344	40	340	34	NA	600	0.3	22.66	1400000	
21-Mar-24	37120	37.12	7.32	7.38	160	25	352	40	355	35	NA	500	0.3	23.58	1700000	
22-Mar-24	37560	37.56	7.28	7.37	165	26	360	44	345	32	NA	500	0.2	24.23	1700000	
23-Mar-24	36430	36.43	7.26	7.35	160	24	356	40	338	33	NA	700	0.3	23.92	1200000	
24-Mar-24	34580	34.58	7.24	7.34	155	22	360	36	343	35	NA	400	0.3	23.21	1100000	
25-Mar-24	39160	39.16	7.28	7.43	150	23	364	40	336	32	NA	500	0.2	23.37	1700000	
26-Mar-24	37340	37.34	7.17	7.46	155	24	352	44	335	38	NA	600	0.3	23.21	1300000	
27-Mar-24	35660	35.66	7.21	7.43	160	25	356	40	344	35	NA	700	0.2	23.37	1300000	
28-Mar-24	35080	35.08	7.22	7.45	165	27	364	44	346	32	NA	600	0.3	22.80	1700000	
29-Mar-24	37110	37.11	7.16	7.38	155	25	360	44	334	33	NA	500	0.3	23.57	1400000	
30-Mar-24	36780	36.78	7.20	7.48	160	26	356	40	349	36	NA	700	0.2	22.35	1200000	
31-Mar-24	36520	36.52	7.21	7.46	155	23	352	36	362	35	NA	700	0.3	23.19	1100000	
Average	**37678.39**	**37.68**	**7.30**	**7.41**	**156.77**	**24.52**	**355.87**	**41.81**	**342.03**	**34.42**		**567.74**	**0.27**	**23.62**	**1364516.13**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Power Consumption Report

Power Consumation details for the month of March - 2024 (Salori Facility)		
STP facaility	UOM	Total /Avg.
Total raw sewage received for the month of March - 2024	MLD	1168.03
Average raw sewage received for the month of March - 2024	MLD	37.68
Average BOD	mg/l	156.77
Guarnateed power KWH / MLD	KWH / MLD	102.49
Total Power KWH - Allowed	KWH	119711.39
SPS / MPS facilites		
Total raw sewage discharge for the month of March - 2024	MLD	1168.03
Average raw sewage discharge for the month of March - 2024	MLD	37.68
Gauranteed power KWH / MLD	KWH / MLD	54.26
Total Power KWH -Allowed	KWH	63377.31
Total Gurateed Power - Allowed	KWH	183088.70
Actual Power consumption		
Actual grid power consumption-KWH (UPPCL) for the month of March - 2024	KWH	173505.00
Total actual power consumed through DG set	KWH	1938.98
Total power consumed in staff quarters for the month of March - 2024	KWH	1752.58
Total Actual Power consumption	KWH	173691.40
Saved Power		-9397.30

Source: Site Records and Bills issued by UPPCL

2.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Rahul Paswan, JE, UPJN(R). 4. Mr. Jitender, JE, UPJN(R). 5. Mr. Gaurav Gupta, AECOM. 6. Mr. Sudhir Kumar Tomar, AECOM. 7. Mr. Rahul Azaad, PWPL. 8. Mr. Vaibhav, PWPL. 9. Mr. Pradeep Maurya, PWPL.
Place(s) of Inspection	• 29 MLD STP at Salori, Prayagraj. • 29 MLD MPS at Salori, Prayagraj.

Visit was done on 11th March 2024, 20th March 2024 & 30th March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	35.92 to 40.10
2	Salori MPS	35.92 to 40.10

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	22 to 28 mg/l
2	TSS – Effluent	< 50 mg/l	29 to 39 mg/l
3	pH – Effluent	6.5 – 9.0	7.29 to 7.46
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.23 to 24.94 %
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)
1	Salori Facility	5454 to 6210

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 of regarding KPIs for Salori STP 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 of regarding KPIs for Salori STP 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 data from 2:45 PM on 11th March 2024 to 9:45 AM on 21st March 2024 is not available on online portal. Also, 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. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
6. All Grit Removal Units are working. One organic return pump is under maintenance.
7. One Mechanical Screens is working & One Mechanical screen is under maintenance. Also, when in operation, both mechanical screens are not able to lift 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. Two out of Three aeration blowers are working. Hence there is no standby available currently.
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 clarifiers was way beyond normal and due to which outlet quality was not that good. This is not acceptable as BOD load & 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 below average during visit. More sludge withdrawal from system is required for improving the quality.
14. Sludge dewatering unit is in operation, poly dosing unit is in operation.
15. Housekeeping of the plant must be improved, sludge is scattered in plant premises due to transfer which must be cleaned regularly.
16. Both Sludge transfer pumps for Clarisettler are working.
17. Both Filtrate pumps are working.
18. One out of two chlorinators is working and one is in maintenance hence there is no standby. Both booster pumps are working.
19. Vacuum gauges for both chlorinators are not working, replacement for the same is required.
20. New chlorine analyzer at outlet is working however it is showing variations in between recorded values in laboratory and recorded values in SCADA reports. Concessionaire is required to resolve the same.
21. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
22. Thickener unit is working. Cleaning of scum from top and lunder is required.
23. Both DGs are working.
24. 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.
25. 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.
26. 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.

27. 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.
28. 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.
29. 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. Concessionaire is required to incorporate the suggestions provided after checking of records generated from the same.
30. Commissioning of Public Address System is not completed yet.
31. Housekeeping near FeCl3 dosing system needs to be improved.
32. All CCTV cameras are working.
33. Make a proper store for storage of flammable and hazardous materials including spare parts.
34. 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 to comply with safety norms.
35. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Portable samplers must be provided to collect composite samples for monitoring from inlet 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.

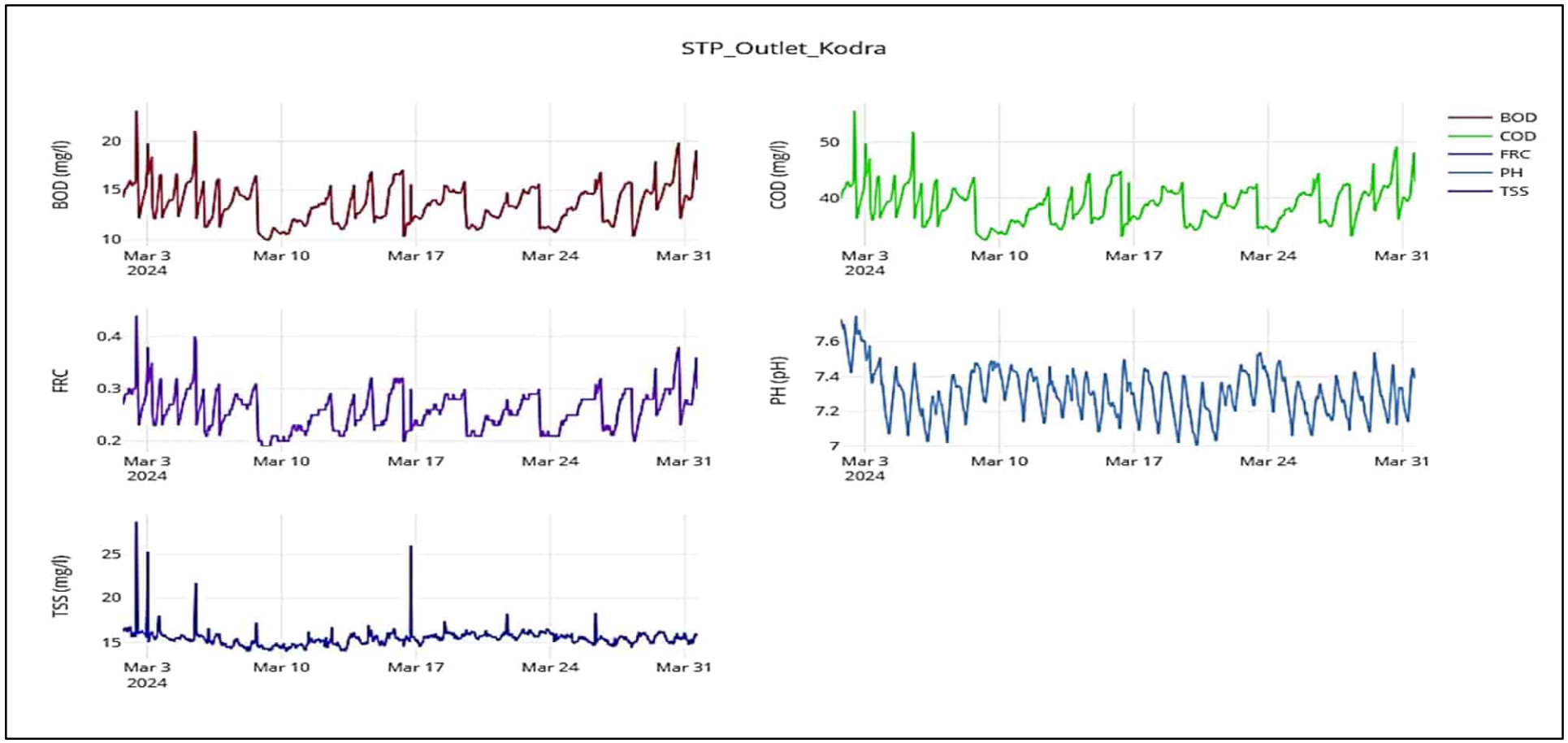
2.4 Recommendations

- 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 completed but it is showing variation as per Lab records.

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-Mar-24	27740	27.74	7.29	7.59	135	14	312	40	282	15	NA	500	0.3	24.32	1200000	
02-Mar-24	28680	28.68	7.23	7.52	140	15	304	44	263	16	NA	700	0.3	22.64	1700000	
03-Mar-24	33960	33.96	7.15	7.47	135	14	324	40	278	18	NA	500	0.2	23.29	1300000	
04-Mar-24	28860	28.86	7.35	7.26	130	15	336	36	287	16	NA	400	0.3	22.27	1400000	
05-Mar-24	27800	27.80	7.32	7.28	135	16	312	44	274	17	NA	500	0.3	24.14	1100000	
06-Mar-24	26670	26.67	7.20	7.27	140	13	300	36	266	15	NA	400	0.3	22.65	1200000	
07-Mar-24	28240	28.24	7.13	7.29	130	14	316	40	278	14	NA	500	0.2	23.50	1400000	
08-Mar-24	28600	28.60	7.15	7.33	135	13	308	36	272	16	NA	600	0.2	23.02	1300000	
09-Mar-24	26980	26.98	7.20	7.35	130	11	300	32	280	15	NA	500	0.3	23.95	1700000	
10-Mar-24	28520	28.52	7.08	7.39	140	12	316	36	269	16	NA	700	0.2	22.70	1200000	
11-Mar-24	28720	28.72	6.95	7.33	130	13	304	40	274	15	NA	400	0.3	23.62	1700000	
12-Mar-24	27500	27.50	7.16	7.31	135	14	312	40	279	16	NA	600	0.3	23.71	1300000	
13-Mar-24	27540	27.54	7.25	7.32	140	13	300	36	262	15	NA	500	0.2	22.33	1100000	
14-Mar-24	27210	27.21	7.23	7.29	145	14	320	40	280	17	NA	400	0.2	21.82	1400000	
15-Mar-24	27990	27.99	7.35	7.26	140	13	332	36	272	16	NA	500	0.2	22.63	1700000	
16-Mar-24	28290	28.29	7.30	7.35	130	14	300	40	260	15	NA	600	0.3	23.75	1300000	
17-Mar-24	29070	29.07	7.10	7.32	135	12	316	36	275	16	NA	400	0.2	22.47	1200000	
18-Mar-24	28320	28.32	7.12	7.38	140	14	312	44	268	17	NA	600	0.2	22.73	1400000	
19-Mar-24	27740	27.74	7.22	7.29	130	13	304	40	258	16	NA	700	0.3	23.42	1100000	
20-Mar-24	28570	28.57	7.34	7.19	135	12	308	36	265	15	NA	500	0.3	21.84	1300000	
21-Mar-24	28290	28.29	7.51	7.23	140	13	296	40	260	17	NA	400	0.3	23.70	1400000	
22-Mar-24	29900	29.90	7.67	7.41	135	15	312	44	278	16	NA	600	0.2	24.67	1100000	
23-Mar-24	28930	28.93	7.43	7.38	130	13	304	40	281	17	NA	700	0.3	23.05	1300000	
24-Mar-24	28370	28.37	7.12	7.42	135	12	308	36	260	15	NA	400	0.2	23.54	1400000	
25-Mar-24	29550	29.55	7.13	7.20	145	13	300	40	272	16	NA	700	0.3	24.43	1200000	
26-Mar-24	30920	30.92	7.18	7.26	140	15	320	44	287	15	NA	500	0.3	22.15	1700000	
27-Mar-24	29260	29.26	7.10	7.31	145	14	336	36	307	14	NA	400	0.2	24.40	1300000	
28-Mar-24	27230	27.23	6.80	7.29	135	13	312	40	271	16	NA	700	0.2	22.11	1200000	
29-Mar-24	28610	28.61	6.93	7.27	140	14	320	44	287	15	NA	400	0.3	23.67	1100000	
30-Mar-24	24780	24.78	7.03	7.29	130	15	328	40	278	17	NA	600	0.2	21.58	1300000	
31-Mar-24	29900	29.90	7.06	7.32	135	14	316	44	269	15	NA	500	0.3	22.25	1400000	
Average	**28475.48**	**28.48**	**7.20**	**7.33**	**136.13**	**13.55**	**312.52**	**39.35**	**273.94**	**15.77**		**529.03**	**0.25**	**23.11**	**1335483.87**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Power Consumption Report

Power Consumation details for the month of March 2024 (Kodra Facility)		
STP facaility	UOM	Total /Avg.
Total raw sewage received for the month of March 2024	MLD	882.74
Average raw sewage received for the month of March 2024	MLD	28.48
Average BOD	mg/l	136.13
Gunateeed power KWH / MLD	KWH / MLD	99.46
Total Power KWH - Allowed	KWH	87797.32
SPS / MPS facilities		
Total raw sewage discharge for the month of March 2024	MLD	882.74
Average raw sewage discharge for the month of March 2024	MLD	28.48
Guaranteed power KWH / MLD	KWH / MLD	102.55
Total Power KWH -Allowed	KWH	90524.99
Total Guaranteed Power - Allowed	KWH	178322.31
Actual Power consumption		
Actual grid power consumption-KWH (UPPCL) for the month of March 2024 (A)	KWH	171640.00
Total actual power consumed through DG set	KWH	2357.00
Total power consumed in staff quarters for the month of March 2024 (C)	KWH	568.00
Total Actual Power consumption (D)=(A)	KWH	173429.00
Saved Power		-4893.31

Source: Site Records and Bills issued by UPPCL

3.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Narendra, JE, UPJN(R). 4. Mr. Jitender, JE, UPJN(R) 5. Mr. Gaurav Gupta, AECOM. 6. Mr. Sudhir Kumar Tomar, AECOM. 7. Mr. Rahul Azaad, PWPL. 8. Mr. Rajan, PWPL.
Place(s) of Inspection	• 25 MLD STP at Kodra, Prayagraj • 25 MLD MPS at Kodra, Prayagraj

Visit was done on 2nd March 2024, 14th March 2024, 23rd March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	26.67 to 33.96
2	Kodra MPS	26.67 to 33.96

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	11 to 16 mg/l
2	TSS – Effluent	< 30 mg/l	14 to 18 mg/l
3	pH – Effluent	6.5 – 9.0	7.26 to 7.59
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.82 to 24.32%
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)
1	Kodra Facility	5530 to 6210

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 of regarding KPIs for Kodra STP 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 of regarding KPIs for Kodra STP 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. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
6. One Grit Removal Units is working. One Grit Removal unit is under maintenance.
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.
10. Installation of new DO Analyzer at outlet of aeration tanks is completed. Calibration for the same is pending.
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. 3 out of 6 CCTV camera are working.
19. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be around 0.2 to 0.3 mg/l.
20. New chlorine analyzer at outlet is working however it is showing variations in between recorded values in laboratory and recorded values in SCADA reports. Concessionaire is required to resolve the same.
21. 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.
22. Both Mechanical coarse Screens at MPS are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
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. Landscaping of site must be improved; it needs to be made better.
25. Make a proper store for storage of flammable and hazardous materials including spare parts.
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 Part – G in concession agreement, new Computer Maintenance Management system (CMMS) is installed which is under observation. Concessionaire is required to incorporate the suggestions provided after checking of records generated from the same.
28. Commissioning of Public Address System is not completed yet.
29. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
30. 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 to comply with safety norms.

31. 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:

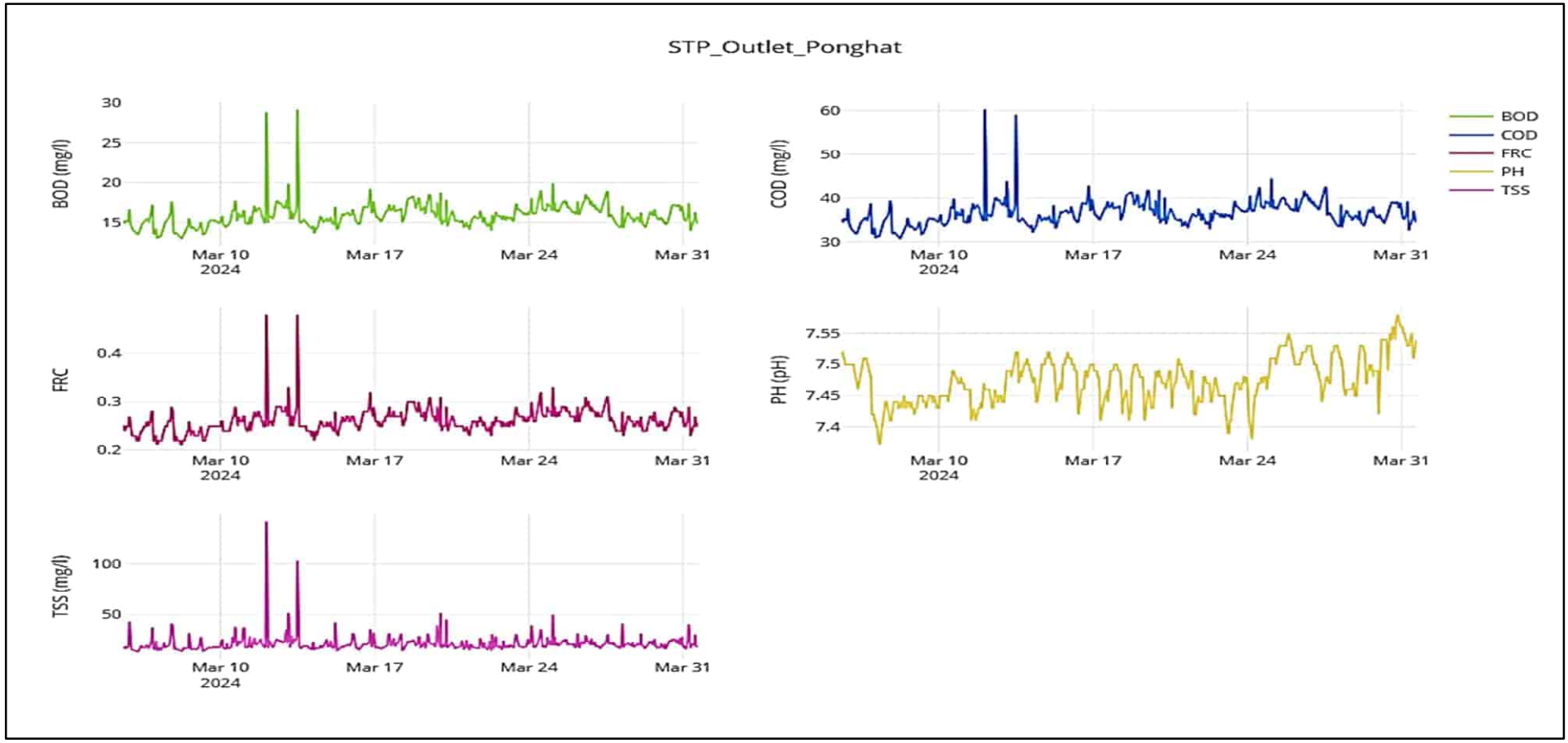
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    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.

3.4 Recommendations

- 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

4.1KPI 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 completed but it is showing variation as per Lab records.

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

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-24	10940	10.94	6.92	7.48	135	16	276	36	223	22	NA	400	0.2	25.35	1700000	
2-Mar-24	10010	10.01	7.08	7.50	125	14	308	32	265	18	NA	600	0.2	24.25	1400000	
3-Mar-24	13850	13.85	7.21	7.49	135	15	280	36	226	20	NA	700	0.3	23.67	1200000	
4-Mar-24	13740	13.74	7.13	7.46	145	14	296	32	242	19	NA	500	0.2	23.15	1400000	
5-Mar-24	12890	12.89	7.24	7.50	150	15	304	36	229	17	NA	600	0.3	22.64	1300000	
6-Mar-24	13710	13.71	7.19	7.47	140	16	276	32	211	18	NA	700	0.2	23.15	1200000	
7-Mar-24	12810	12.81	7.11	7.40	130	15	292	36	232	21	NA	500	0.2	24.15	1700000	
8-Mar-24	13120	13.12	7.13	7.45	140	14	284	32	224	17	NA	400	0.3	23.17	1400000	
9 Mar 24	12630	12.63	7.19	7.40	135	15	280	36	208	20	NA	600	0.2	23.44	1300000	
10-Mar-24	11830	11.83	7.13	7.45	140	17	272	36	213	23	NA	400	0.3	24.44	1400000	
11-Mar-24	12450	12.45	7.04	7.42	150	16	292	40	249	22	NA	700	0.2	24.14	1200000	
12-Mar-24	13080	13.08	7.03	7.46	120	18	308	40	265	28	NA	500	0.3	23.13	1700000	
13-Mar-24	12170	12.17	6.91	7.48	125	17	284	36	233	26	NA	400	0.2	24.14	1300000	
14-Mar-24	12840	12.84	7.01	7.51	135	16	296	32	229	19	NA	500	0.3	23.12	1700000	
15-Mar-24	13970	13.97	6.96	7.48	140	17	292	36	238	21	NA	700	0.2	22.40	1300000	
16-Mar-24	12240	12.24	6.99	7.40	165	15	300	40	240	23	NA	600	0.3	23.05	1400000	
17-Mar-24	13580	13.58	7.02	7.43	160	17	308	36	232	22	NA	500	0.2	22.81	1200000	
18-Mar-24	12690	12.69	7.05	7.56	130	16	320	40	246	24	NA	400	0.3	23.04	1700000	
19-Mar-24	12340	12.34	7.08	7.57	155	17	316	36	249	25	NA	700	0.2	22.96	1300000	
20-Mar-24	12110	12.11	7.12	7.59	160	16	312	36	242	22	NA	600	0.3	23.04	1400000	
21-Mar-24	13080	13.08	7.19	7.62	135	17	304	32	239	21	NA	500	0.2	24.12	1200000	
22-Mar-24	13190	13.19	7.16	7.58	140	16	288	36	224	22	NA	400	0.3	22.37	1700000	
23-Mar-24	13210	13.21	7.24	7.56	130	17	296	40	229	21	NA	700	0.2	22.88	1300000	
24-Mar-24	12190	12.19	7.14	7.54	125	16	300	36	232	24	NA	600	0.3	23.11	1200000	
25-Mar-24	12340	12.34	7.17	7.63	130	17	296	40	238	25	NA	500	0.2	23.42	1400000	
26-Mar-24	13050	13.05	7.22	7.61	135	16	300	36	223	23	NA	400	0.3	22.98	1700000	
27-Mar-24	12110	12.11	7.18	7.60	125	15	292	40	229	22	NA	700	0.2	23.17	1200000	
28-Mar-24	13240	13.24	7.18	7.56	135	16	288	36	224	23	NA	600	0.3	22.36	1300000	
29-Mar-24	13010	13.01	7.26	7.54	140	17	308	36	242	22	NA	500	0.2	22.81	1400000	
30-Mar-24	12950	12.95	7.23	7.63	135	15	312	40	234	24	NA	700	0.3	23.62	1200000	
31-Mar-24	12610	12.61	7.25	7.66	145	16	304	32	241	23	NA	600	0.2	22.17	1700000	
Average	**12709.03**	**12.71**	**7.12**	**7.52**	**138.39**	**15.94**	**296.26**	**36.13**	**233.90**	**21.84**		**554.84**	**0.25**	**23.30**	**1403225.81**	

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Power Consumption Report

Power Consumation details for the month of March 2024 (Ponghat Facility)		
STP facaility	**UOM**	**Total /Avg.**
Total raw sewage received for the month of March 2024	MLD	393.98
Average raw sewage received for the month of March 2024	MLD	12.71
Average BOD	mg/l	138.39
Guarnateed power KWH / MLD	KWH / MLD	124.40
Total Power KWH - Allowed	KWH	49011.11
SPS / MPS facilites		
Total raw sewage discharge for the month of March 2024	MLD	393.98
Average raw sewage discharge for the month of March 2024	MLD	12.71
Gauranteed power KWH / MLD	KWH / MLD	108.27
Total Power KWH -Allowed	KWH	42656.21
Total Gurateed Power - Allowed	KWH	**91667.33**
Actual Power consumption		
Actual grid power consumption-KWH (UPPCL) for the month of March 2024 (A)	KWH	81470.00
Total actual power consumed through DG set	KWH	845.00
Total power consumed in staff quarters for the month of March 2024 (C)	KWH	2215.00
Total Actual Power consumption	KWH	**80100.00**
Saved Power		**-11567.33**

Source: Site Records and Bills issued by UPPCL

4.3 Action taken report

Month of Site Inspection	March 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Narendra, JE, UPJN(R). 4. Mr. Jitender, JE, UPJN(R) 5. Mr. Gaurav Gupta, AECOM. 6. Mr. Sudhir Kumar Tomar, AECOM. 7. Mr. Rahul Azaad, PWPL. 8. Mr. Rajan, PWPL.
Place(s) of Inspection	• 10 MLD STP at Ponghat, Prayagraj • 10 MLD MPS at Ponghat, Prayagraj

Visit was done on 2nd March 2024, 14th March 2024, 23rd March 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for February-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	10.01 to 13.97
2	Ponghat MPS	10.01 to 13.97

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 17 mg/l
2	TSS – Effluent	< 30 mg/l	17 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.40 to 7.51
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100ml
5	Consistency – Sludge	> 20 %	22.40 to 25.35%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Ponghat Facility	2240 to 2830

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 of regarding KPIs for Ponghat STP 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 of regarding KPIs for Ponghat STP 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 not 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. There is variation in between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve this problem.
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. Concessionaire is required to rectify the problem before start of Magh Mela for further improving the quality of effluent.
10. Installation of one new DO Analyzer at outlet of aeration tank is completed for which calibration is pending. Remaining one DO analyzer is 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. Outlet water quality is satisfactory. More sludge withdrawal from the system must be ensured for improving the quality of effluent.
18. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be 0.2 to 0.3 mg/l.
19. New chlorine analyzer at outlet is working however it is showing variations in between recorded values in laboratory and recorded values in SCADA reports. Concessionaire is required to resolve the same.
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. At Ponghat MPS, all 6 pumps are OK for operation. Pressure transmitter is not installed at pump discharge common header.
22. One out of two mechanical coarse screen at MPS are working and one is in maintenance. Currently screens are running in auto mode through timer however differential level sensors are not working.
23. 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.
24. 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.
25. 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. Concessionaire is required to incorporate the suggestions provided after checking of records generated from the same.
26. Installation of Public Address System is done but its commissioning is not completed yet.
27. Make a proper store for storage of flammable and hazardous materials including spare parts.
28. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.

29. 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 to comply with safety norms.
30. 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 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.

4.4 Recommendations

- 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 Mar 2024 to 31st Mar 2024		
		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 Mar 2024 to 31st Mar 2024		
		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 services and/or their reasonableness;	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 NMCG, in respect of its duties	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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, Applicable Laws, Applicable	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 Laws and Applicable Permits; and			

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	(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 send its comments/observations to	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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; (c) List of design codes and standards;	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	(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 comments within 10 (ten) days of receipt thereof.	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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	NA	NA
6.1	In respect of the Designs Drawing and Documents received by the Project Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall also apply, mutatis mutandis.	Yes	NA	NA
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 8.3, 8.4 and 8.5 of the Concession Agreement including Phase 1 and Phase II Design & Drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 8.6 of the Concession Agreement.	Yes	Yes	NA
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments on effectiveness or otherwise of the Work plan submitted for meeting the specified payment	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 sources, and conformity of Construction Works with the	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 that the tests are conducted in a fair and efficient manner and	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 Milestones, the Project Engineer shall undertake a	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 should be suspended for	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st Mar 2024 to 31st Mar 2024		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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