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
JUNE 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.

Table of Contents

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;

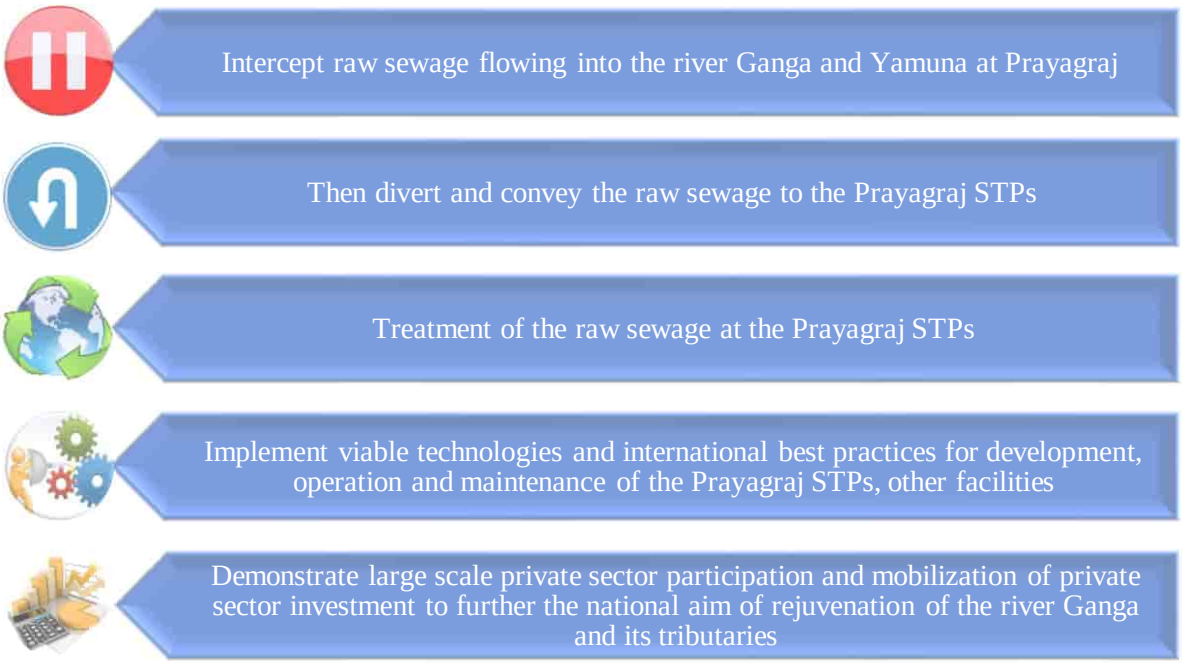


Figure 1 : Objectives of NMCG and UP JAL NIGAM

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.

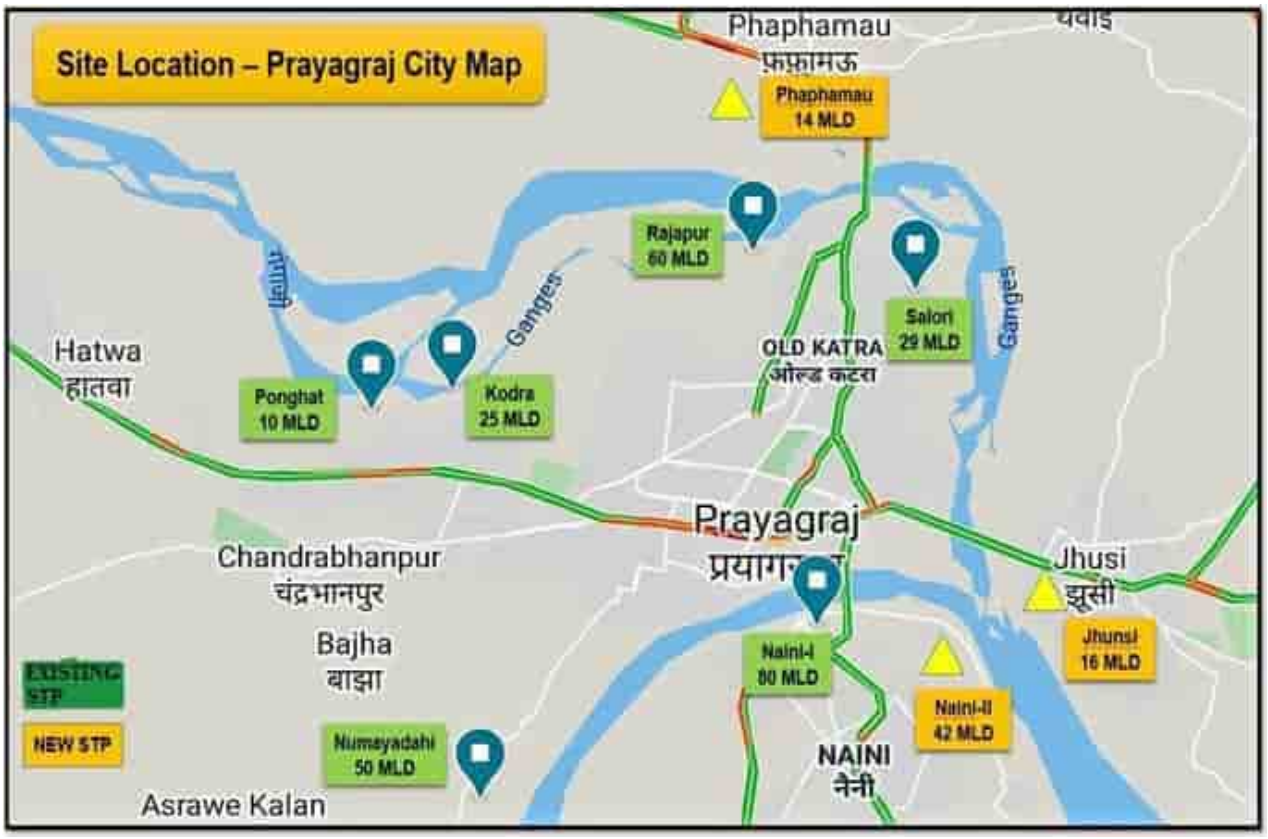
National Mission for Clean Ganga (NMCG) appointed M/s. AECOM India Pvt. Ltd., Gurgaon as Project Engineer for this project through tendering process. Letter of Award is issued dated 4th February 2019 and agreement signed between the parties on 5th April 2019.

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

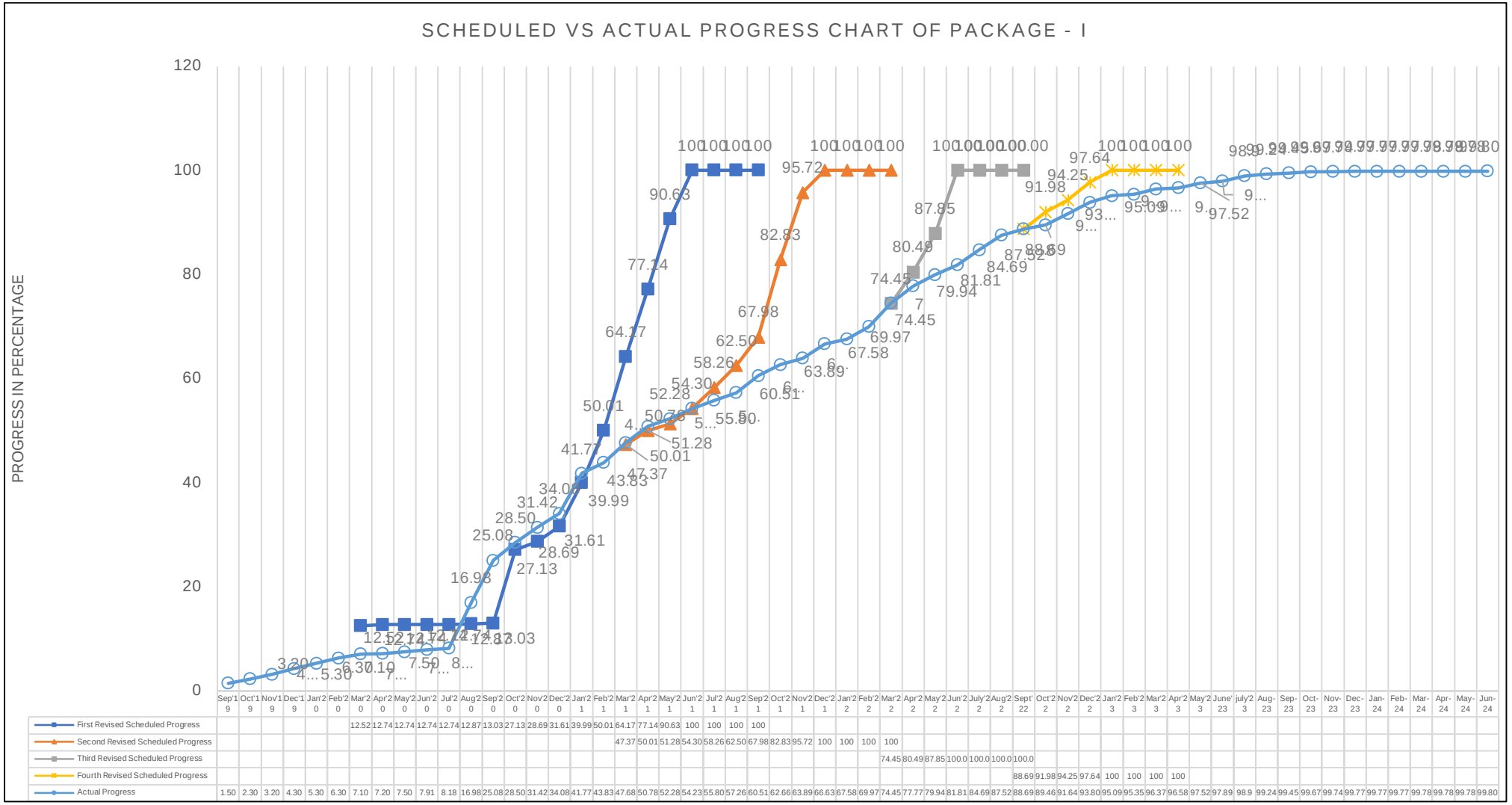
Package Number - I				
Nature of work	Facilities			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD at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

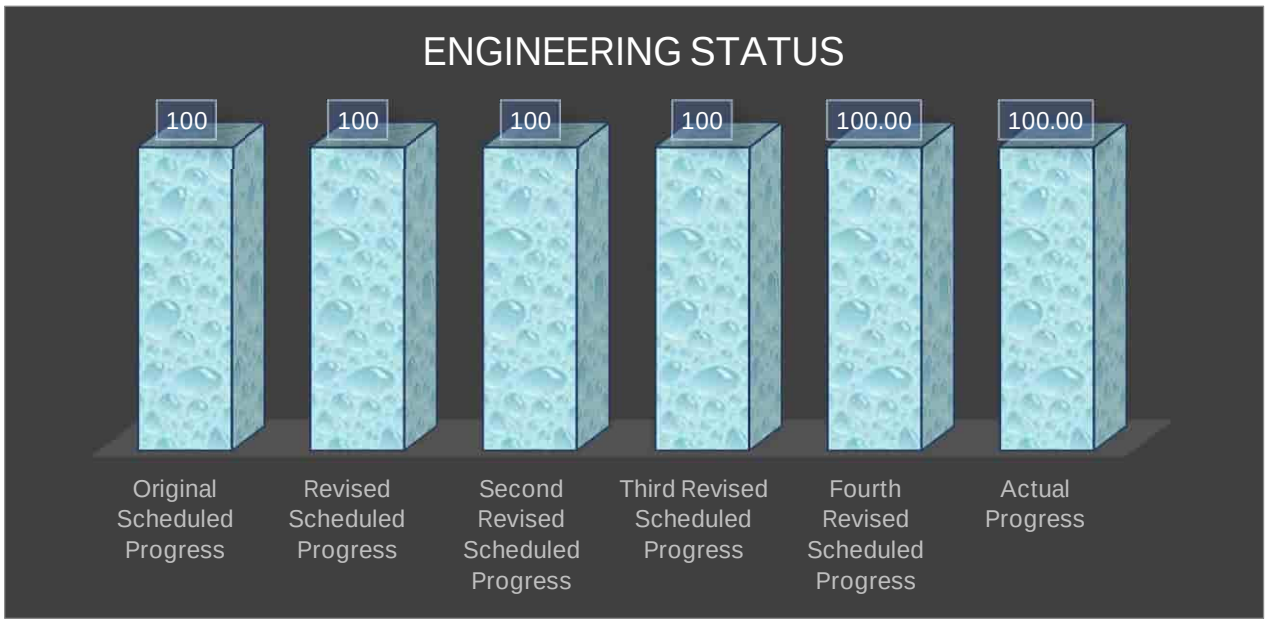
Package Number - III				
Nature of work	Facilities			
Rehabilitation	Design (wherever necessary), rehabilitate, restore, finance, operate and transfer four existing STP Facilities, one of capacity 50 MLD at Numayadahi (District B), one of capacity 29 MLD at Salori (District C), one of capacity 25 MLD 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



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%

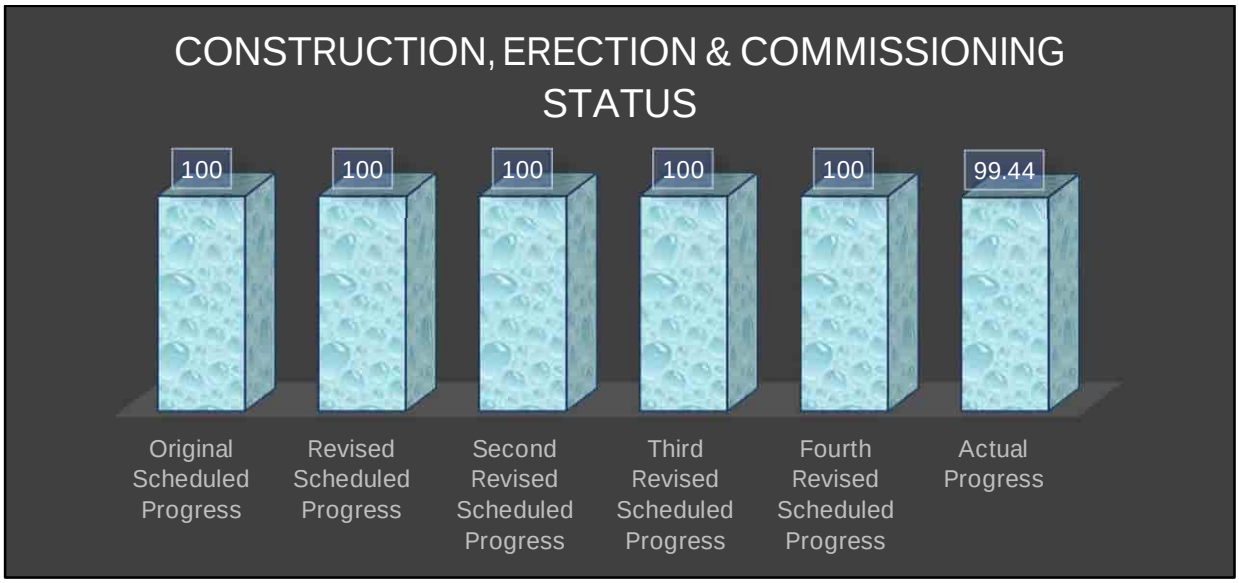
7.1.3 Procurement & Supply status

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%

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)
13.	Media/ Bio module	01-10-20	25-10-20	100%	100%	0%	100%
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%	30%	100%
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%	90%	0%	90%
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%	95%	0%	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

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/PWPL/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 June'2024.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Jhunsi STP	01- June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, O&M activities of plant
2.	Site inspection of Kodra STP	03-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
3.	Site inspection of Ponghat STP	03-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
4.	Site inspection of Salori STP	04-June-2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
5.	Site inspection of Phaphamau STP	05-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
6.	Site inspection of Numayadahi STP	06-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
7.	Site inspection of Naini-II STP	07-June- 2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
8.	Site inspection of Naini-I STP	07-June- 2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
9.	Site inspection of Rajapur STP	08-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
10.	Site inspection of Jhunsi STP	10-June-2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M, O&M activities of plant
11.	Site inspection of Kodra STP	11-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
12.	Site inspection of Ponghat STP	11-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
13.	Site inspection of Salori STP	12-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant

14.	Site inspection of Numayadahi STP	13-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
15.	Site inspection of Naini-II STP	14-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
16.	Site inspection of Rajapur STP	15-June-2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
17.	Site inspection of Phaphamau STP	15-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
18.	Site inspection of Naini-II STP	18-June-2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
19.	Site inspection of Ponghat STP	20-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
20.	Site inspection of Kodra STP	21-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
21.	Site inspection of Ponghat STP	21-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
22.	Site inspection of Salori STP	24-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
23.	Site inspection of Naini-I STP	24-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
24.	Site inspection of Naini-II STP	24-June-2024	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing O&M activities of plant
25.	Site inspection of Rajapur STP	25-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
26.	Site inspection of Phaphamau STP	26-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
27.	Site inspection of Numayadahi STP	26-June-2024	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing O&M activities of plant
28.	Site inspection of Jhunsi STP	27-June-2024	Mr. Gaurav Gupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, 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)

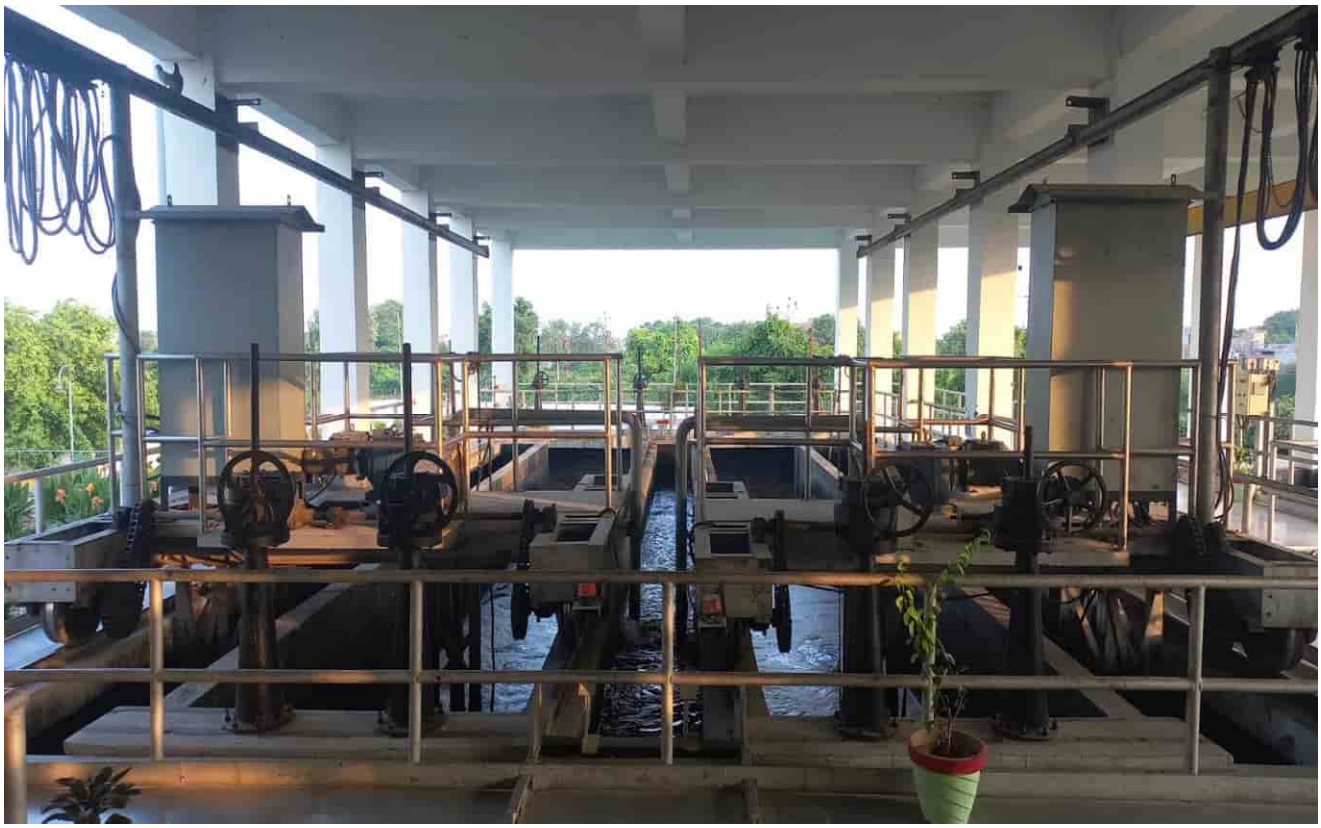
FCR Tank

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/1815	Submission of revised O & M Monthly Progress report for the month of April 2024 for Package III facility	1-Jun-2024	S.E.-2 Circle - UPJN
2.	AIPL/NMCG/PRAYAG/1816	Submission of O & M Monthly Progress report for the month of November 2023 of Jhunsi facility under Package I	1-Jun-2024	S.E.-2 Circle - UPJN
3.	AIPL/NMCG/PRAYAG/1817	Submission of O & M Monthly Progress report for the month of December 2023 of Jhunsi facility under Package I	3-Jun-2024	S.E.-2 Circle - UPJN
4.	AIPL/NMCG/PRAYAG/1818	Submission of O & M Monthly Progress report for the month of January 2024 of Jhunsi facility under Package I	4-Jun-2024	S.E.-2 Circle - UPJN
5.	AIPL/NMCG/PRAYAG/1819	Development of 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.-Regarding Power Consumption of Jhunsi Facility in the month of Mar-24	4-Jun-2024	NMCG -New Delhi
6.	AIPL/NMCG/PRAYAG/1820	Submission of O & M Monthly Progress report for the month of Feb, 2024 of Jhunsi Facility under Package – I	4-Jun-2024	S.E.-2 Circle - UPJN
7.	AIPL/NMCG/PRAYAG/1821	Submission of O & M Monthly Progress report for the month of March 2024 of Jhunsi Facility under Package – I Facility	10-Jun-2024	S.E.-2 Circle - UPJN

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
8.	AIPL/NMCG/PRAYAG/1822	Submission of O & M Monthly Progress report for the month of April 2024 for Jhunsi Facility under Package I	10-Jun-2024	S.E.-2 Circle - UPJN
9.	AIPL/NMCG/PRAYAG/1823	Submission of revised O & M Tax Invoice of 14th quarter (Feb 2024 – April 2024) for Package- III Facility	11-Jun-2024	S.E.-2 Circle - UPJN
10.	AIPL/NMCG/PRAYAG/1824	Submission of O & M Tax Invoice of 4th quarter (28th Dec 2023 – 27th Mar 2024) for Phaphamau Facility under Package I	11-Jun-2024	S.E.-2 Circle - UPJN
11.	AIPL/NMCG/PRAYAG/1825	Submission of O & M Monthly Progress report for the month of May 2024 for Package II facility	13-Jun-2024	S.E.-2 Circle - UPJN
12.	AIPL/NMCG/PRAYAG/1826	Regarding claim for Setup for battery Bank for Solar Power Plant of Pkg-I STP's in lieu of Change in Law.	18-Jun-2024	S.E.-2 Circle - UPJN
13.	AIPL/NMCG/PRAYAG/1827	Submission of O & M Monthly Progress report for the month of May 2024 for Package I facility	19-Jun-2024	S.E.-2 Circle - UPJN
14.	AIPL/NMCG/PRAYAG/1828	Submission of revised O & M Monthly Progress report for the month of August 2023 of Jhunsi facility under Package I	19-Jun-2024	S.E.-2 Circle - UPJN
15.	AIPL/NMCG/PRAYAG/1829	Submission of revised O & M Monthly Progress report for the month of September 2023 of Jhunsi facility under Package I	19-Jun-2024	S.E.-2 Circle - UPJN
16.	AIPL/NMCG/PRAYAG/1830	Submission of revised O & M Monthly Progress report for the month of October 2023 of Jhunsi facility under Package I.	19-Jun-2024	S.E.-2 Circle - UPJN
17.	AIPL/NMCG/PRAYAG/1831	Submission of O & M Monthly Progress report for the month of May 2024 for Package III facility	21-Jun-2024	S.E.-2 Circle - UPJN

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
18.	AIPL/NMCG/PRAYAG/1832	Submission of Invoice raised against Project Engineer services rendered during O&M period for the month of May-24	26-Jun-2024	NMCG -New Delhi
19.	AIPL/NMCG/PRAYAG/1833	Inspection Reports of Package-III facilities	28-Jun-2024	S.E.-2 Circle - UPJN
20.	AIPL/NMCG/PRAYAG/1834	Regarding the effect of flood season on Operation & Maintenance of Jhunsi STP and its associated infrastructure at Prayagraj	28-Jun-2024	S.E.-2 Circle - UPJN
21.	AIPL/NMCG/PRAYAG/1835	Submission of O & M Tax Invoice of 1st quarter (Aug 2023 – Oct 2023) for Jhunsi Facility under Package I	28-Jun-2024	S.E.-2 Circle - UPJN
22.	AIPL/NMCG/PRAYAG/1836	Inspection Reports of Package-II facilities	29-Jun-2024	S.E.-2 Circle - UPJN
23.	AIPL/NMCG/PRAYAG/1837	Inspection Reports of Package-I facilities	29-Jun-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/926	Submission of O & M Tax Invoice of quarter 4th i.e. (28th Dec 2023 – 27th Mar 2024) for Phaphamau Facility under Package I	01-Jun-24	Prayagraj Water Private Limited
2.	PWPL/UPJN/PRAYAGRAJ/O&M/927	Regarding O&M payment of Quarter 4th i.e. (28th Dec 2023 – 27th Mar 2024) for Phaphamau Facility under Package I	01-Jun-24	Prayagraj Water Private Limited
3.	PWPL/UPJN/PRAYAGRAJ/O&M/928	Submission of revised O & M Tax Invoice of 14th quarter (Feb 2024 – April 2024) for Package- III Facility	03-Jun-24	Prayagraj Water Private Limited
4.	PWPL/UPJN/PRAYAGRAJ/O&M/929	Regarding O & M Payment of quarter 14th i.e. (Feb 2024 – April 2024) for Package- III Facility.	03-Jun-24	Prayagraj Water Private Limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/930	Regarding I&D bypass from Dham Nala to Gangoli Shivalaya 1 for trenchless pipe laying work	03-Jun-24	Prayagraj Water Private Limited
6.	PWPL/UPJN/PRAYAGRAJ/O&M/932	Urgent attention required - Reg the rising main pipeline from Shastri Bridge SPS to Jhunsi MPS damaged by irrigation department near Shastri Bridge SPS.	03-Jun-24	Prayagraj Water Private Limited
7.	PWPL/UPJN/PRAYAGRAJ/O&M/933	Excess Flow receiving at Phaphamau STP along with its associated infrastructures for the month of Jan, Feb & Mar 2024	07-Jun-24	Prayagraj Water Private Limited
8.	PWPL/UPJN/PRAYAGRAJ/O&M/934	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping	07-Jun-24	Prayagraj Water Private Limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
		Stations (Flow Record for the month of April, 2024) for Package-II & Package-III facilities		
9.	PWPL/UPJN/PRAYAGRAJ/O&M/935	Submission of O & M Monthly Progress report for the month of May 2024 for Package II facility	07-Jun-24	Prayagraj Water Private Limited
10.	PWPL/UPJN/PRAYAGRAJ/O&M/936	Submission of O & M Monthly Progress report for the month of May 2024 for Package I facility	07-Jun-24	Prayagraj Water Private Limited
11.	PWPL/UPJN/PRAYAGRAJ/O&M/937	Submission of O & M Monthly Progress report for the month of May 2024 for Package III facility	07-Jun-24	Prayagraj Water Private Limited
12.	PWPL/UPJN/PRAYAGRAJ/O&M/938	Submission of O & M Safety Monthly Progress report for the month of May 2024 for Package I, II & III facility	07-Jun-24	Prayagraj Water Private Limited
13.	787/PWPL(PRAYAGRAJ)/34	Regarding the rising main pipeline from Shastri Bridge SPS to Jhunsi MPS damaged by irrigation department near Shastri Bridge SPS	07-Jun-24	PM, GPCU, UPJN (Rural), Prayagraj
14.	PWPL/UPJN/PRAYAGRAJ/O&M/939	Urgent attention required - Reg the rising main pipeline from Shastri Bridge SPS to Jhunsi MPS damaged again by irrigation department near Shastri Bridge SPS.	10-Jun-24	Prayagraj Water Private Limited
15.	799/PWPL(PRAYAGRAJ)/35	Regarding the rising main pipeline from Shastri Bridge SPS to Jhunsi MPS damaged again by irrigation department near Shastri Bridge SPS	10-Jun-24	PM, GPCU, UPJN (Rural), Prayagraj
16.	182/PWPL/19	Regarding O&M payment of 3rd Quarter of Phaphamau Facility under package-I	11-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
17.	PWPL/UPJN/PRAYAGRAJ/O&M/942	Submission of revised O & M Monthly Progress report for the month of March 2024 for Naini II facility under Package I	13-Jun-24	Prayagraj Water Private Limited
18.	PWPL/UPJN/PRAYAGRAJ/O&M/943	Submission of revised O & M Monthly Progress report for the month of April 2024 of Naini II facility under Package – I	13-Jun-24	Prayagraj Water Private Limited
19.	PWPL/UPJN/PRAYAGRAJ/O&M/944	Reg rectification and replacement of Diffusers in aeration tank of Ponghat STP	18-Jun-24	Prayagraj Water Private Limited
20.	PWPL/UPJN/PRAYAGRAJ/O&M/945	Submission of revised O & M Monthly Progress report for the month of August 2023 of Jhunsi facility under Package I	18-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj
21.	PWPL/UPJN/PRAYAGRAJ/O&M/946	Submission of revised O & M Monthly Progress report for the month of September 2023 of Jhunsi facility under Package I	18-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj
22.	PWPL/UPJN/PRAYAGRAJ/O&M/947	Submission of revised O & M Monthly Progress report for the month of October 2023 of Jhunsi facility under Package I.	18-Jun-24	Prayagraj Water Private Limited
23.	185/PWPL/20	Regarding O&M Payment of 14th Quarter of Package-III	19-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj
24.	186/PWPL/21	Regarding O&M Payment of 4th Quarter of Phaphamau facility under Package-I	19-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj
25.	PWPL/UPJN/PRAYAGRAJ/O&M/934	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping Stations (Flow Record for the month of May, 2024) for Package-II & Package-III facilities	20-Jun-24	Prayagraj Water Private Limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
26.	PWPL/UPJN/PRAYAGRAJ/O&M/949	Submission of O & M Tax Invoice of 1st quarter (Aug 2023 – Oct 2023) for Jhunsi Facility under Package I	20-Jun-24	Prayagraj Water Private Limited
27.	PWPL/UPJN/PRAYAGRAJ/O&M/950	Regarding O & M Payment of quarter 1st i.e. (Aug 2023 – Oct 2023) for Jhunsi Facility under Package -I	20-Jun-24	Prayagraj Water Private Limited
28.	PWPL/UPJN/PRAYAGRAJ/O&M/951	Reg Rising and Gravity main line damaged by irrigation department again near railway bridge	22-Jun-24	Prayagraj Water Private Limited
29.	PWPL/UPJN/PRAYAGRAJ/O&M/952	Excess Flow receiving at Jhunsi STP along with its associated Infrastructures for the month of Aug, Sep & Oct 2023.	24-Jun-24	Prayagraj Water Private Limited
30.	PWPL/UPJN/PRAYAGRAJ/O&M/953	Submission of Audit report of Prayagraj Water Pvt Ltd (PWPL) for the FY 2023-24	26-Jun-24	Prayagraj Water Private Limited
31.	PWPL/UPJN/PRAYAGRAJ/O&M/954	Regarding the release of hold amount of Rs. 7.92 Lacs against the bill of Pkg III, Quarter VII	26-Jun-24	Prayagraj Water Private Limited
32.	PWPL/UPJN/PRAYAGRAJ/O&M/955	Regarding the release of Hold amount of 30 Lacs against the balance work of 33 KW solar installation at Phaphamau STP	26-Jun-24	Prayagraj Water Private Limited
33.	190/PWPL/22	Regarding Justification for Phaphamau STP Facility Variation Claim under Package-I	26-Jun-24	SE, Circle Office, UPJN (Rural), Prayagraj
34.	PWPL/UPJN/PRAYAGRAJ/O&M/959	Regarding dismantling of I&Ds at Jhunsi Facility due to road widening work from Old GT to Chatnag Cremation Ghat via Kriyayog ashram for Mahakumbh-2025	27-Jun-24	Prayagraj Water Private Limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
35.	PWPL/UPJN/PRAYAGRAJ/O&M/960	Submission of O & M Monthly Progress report for the month of March 2024 for Package – II Facility	27-Jun-24	Prayagraj Water Private Limited
36.	PWPL/UPJN/PRAYAGRAJ/O&M/961	Submission of O & M Monthly Progress report for the month of April 2024 for Package II facility	27-Jun-24	Prayagraj Water Private Limited
37.	PWPL/UPJN/PRAYAGRAJ/O&M/962	Submission of Revised O & M Monthly Progress report for the month of May 2024 for Package II facility	27-Jun-24	Prayagraj Water Private Limited

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

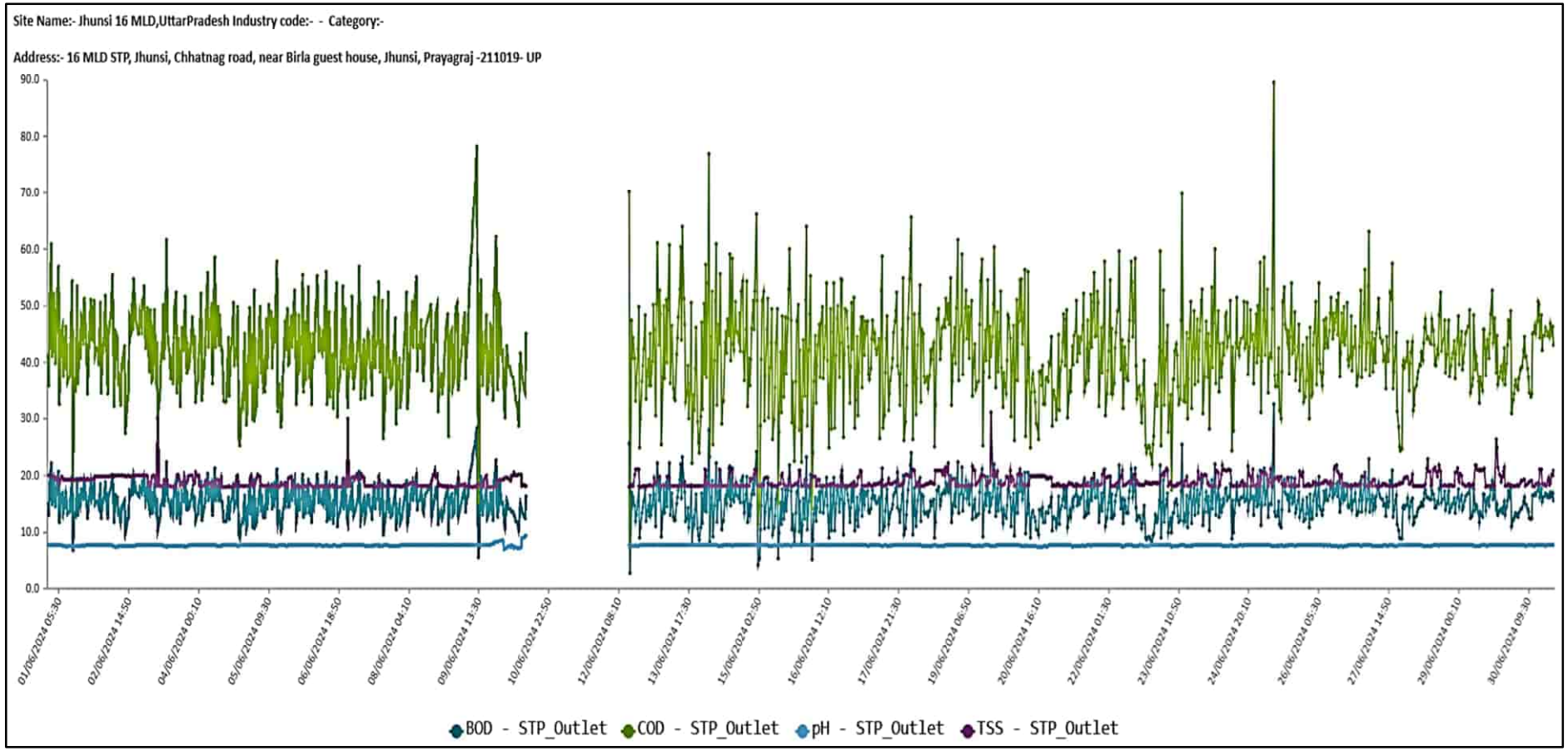
ANNEXURE-I

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 spikes/drops in data is going on as fine tuning of multi parameter analyzer from OEM is in progress.

2. Concessionaire is also asked to rectify the problem regarding non-transferring of values from analyzer to CPCB server which can be seen as break in graphs.

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)	
1-Jun-24	9530	9.53	7.83	7.68	180	16	364	44	295	19	NA	500	0.3	23.18	1300000	From 01.06.2024 to 06.06.2024: 1.Sewage from 9 I&Ds is coming into SPS, howver from 03.06.2024 to 05.06.2024, Sewage from 6 I&Ds on the side of Dham Nalla is bypassed for connecting newly laid trunk sewer in between Dham Nalla & Shastri Bridge SPS with main trunk sewer. 2. Due to work of Road Widening by Irrigation Department as part of Development works for Mahakumbh-2025, I&D structure of Bhola Mandir Nalla, Gangoli Shivalay - 1 nalla are dismantled on 05.04.2024, 19.05.2024 respectively and sewage is not coming to Shastri Bridge SPS. 3. Due to start of replacement work of trunk sewer after I&D of Bhola Mandir Nalla, sewage from Augharwa nalla is not coming to SPS from 08.05.2024. 4. Due to road widening works, joint between manhole and connecting pipeline from I&D of Dham Nalla is broken, hence sewage from Dham nalla is not coming to SPS from 24.05.2024. 5. Due to road widening works, various issues in I&Ds, Trunk Sewer and overflow from one newly constructed manhole, sewage received from tapped I&Ds is less. 6. Trivenipuram Nalla is not tapped yet as it is part of Variation related to Jhunsi facility.
2-Jun-24	9540	9.54	7.77	7.69	160	14	344	40	290	20	NA	400	0.3	24.46	1400000	
3-Jun-24	9200	9.20	7.86	7.73	165	16	348	44	285	18	NA	600	0.3	23.48	1700000	
4-Jun-24	9230	9.23	7.80	7.76	160	15	340	40	310	17	NA	700	0.3	23.88	1100000	
5-Jun-24	9130	9.13	7.78	7.70	165	16	344	44	289	19	NA	500	0.3	24.63	1400000	
6-Jun-24	10500	10.50	7.79	7.69	155	16	336	40	307	18	NA	400	0.2	24.18	1300000	
7-Jun-24	7600	7.60	7.84	7.70	160	15	340	36	297	17	NA	600	0.2	23.77	1200000	From 07.06.2024 to 12.06.2024: Plant was under shutdown from 7 PM on 07.06.2024 for Reparing of rising main from Shastri Bridge SPS and shifting of Air release valves in this rising main. Plant was started at 12 PM on 12.06.2024.
8-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
9-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
10-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
11-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
12-Jun-24	5480	5.48	7.73	7.65	160	17	344	32	310	18	NA	500	0.2	23.45	1100000	
13-Jun-24	11420	11.42	7.85	7.77	165	16	336	40	290	19	NA	600	0.2	24.66	1400000	From 13.06.2024 to 26.06.2024: 1.Sewage from 7 I&Ds is coming into SPS. 2. Due to work of Road Widening by Irrigation Department as part of Development works for Mahakumbh-2025, I&D structure of Bhola Mandir
14-Jun-24	11050	11.05	7.78	7.71	165	17	340	44	287	20	NA	700	0.3	24.09	1300000	
15-Jun-24	11250	11.25	7.85	7.77	185	14	372	36	285	18	NA	400	0.3	23.73	1200000	

16-Jun-24	11750	11.75	7.78	7.80	160	16	344	40	290	17	NA	600	0.2	24.17	1700000	Nalla, Gangoli Shivalay - 1 & 2 nalla are dismantled and sewage of Ulta Quila-1 nalla is diverted on 05.04.2024, 19.05.2024, 14.06.2024 & 13.06.2024 respectively and sewage is not coming to Shastri Bridge SPS. 3. Due to start of replacement work of trunk sewer after I&D of Bhola Mandir Nalla, sewage from Augharwa nalla is not coming to SPS from 08.05.2024. 4. Due to road widening works, joint between manhole and connecting pipeline from I&D of Dham Nalla is broken, hence sewage from Dham nalla is not coming to SPS from 24.05.2024. 5. Due to road widening works, various issues in I&Ds, Trunk Sewer, sewage received from tapped I&Ds is less. 6. Trivenipuram Nalla is not tapped yet as it is part of Variation related to Jhunsi facility.
17-Jun-24	11680	11.68	7.74	7.78	170	15	360	44	276	19	NA	500	0.2	23.55	1300000	
18-Jun-24	10770	10.77	7.81	7.75	160	16	332	40	283	20	NA	700	0.2	24.12	1100000	
19-Jun-24	10150	10.15	7.76	7.88	155	15	336	44	297	19	NA	500	0.2	23.66	1200000	
20-Jun-24	12630	12.63	7.85	7.69	160	14	340	36	290	17	NA	500	0.3	24.16	1400000	
21-Jun-24	10350	10.35	7.82	7.75	170	15	350	40	296	16	NA	700	0.3	23.56	1400000	
22-Jun-24	12680	12.68	7.82	7.73	165	14	344	36	282	18	NA	600	0.2	23.45	1700000	
23-Jun-24	11250	11.25	7.72	7.63	160	15	348	40	293	17	NA	400	0.3	24.72	1400000	
24-Jun-24	12000	12.00	7.81	7.77	165	16	340	44	280	19	NA	600	0.2	23.37	1200000	
25-Jun-24	11620	11.62	7.80	7.84	160	15	328	40	276	20	NA	400	0.2	24.11	1700000	
26-Jun-24	13980	13.98	7.76	7.71	165	16	340	44	273	19	NA	500	0.2	23.45	1400000	
27-Jun-24	11320	11.32	7.80	7.75	160	15	332	40	284	18	NA	400	0.3	23.11	1700000	From 27.06.2024 to 30.06.2024: 1.Sewage from 6 I&Ds is coming into SPS. 2. Due to work of Road Widening by Irrigation Department as part of Development works for Mahakumbh-2025, I&D structure of Bhola Mandir Nalla, Gangoli Shivalay - 1 & 2 Nalla, Savitri nalla & Dham Nalla are dismantled and sewage of Ulta Quila-1 nalla is diverted on 05.04.2024, 19.05.2024, 14.06.2024, 27.06.2024 & 13.06.2024 respectively and sewage is not coming to Shastri Bridge SPS. 3. Due to start of replacement work of trunk sewer after I&D of Bhola Mandir Nalla, sewage from Augharwa nalla is not coming to SPS from 08.05.2024. 4. Due to road widening works, joint between manhole and connecting pipeline from I&D of Dham Nalla is broken, hence sewage from Dham nalla is not coming to SPS from 24.05.2024. 5. Trivenipuram Nalla is not tapped yet as it is part of Variation related to Jhunsi facility.
28-Jun-24	11740	11.74	7.86	7.78	165	16	348	44	274	19	NA	500	0.2	22.81	1400000	
29-Jun-24	10950	10.95	7.62	7.80	170	15	344	40	279	20	NA	600	0.2	23.44	1100000	
30-Jun-24	10500	10.50	7.88	7.79	160	16	328	44	270	18	NA	500	0.2	23.87	1200000	
Average	**9243.33**	**9.24**	**7.80**	**7.74**	**164.04**	**15.42**	**343.15**	**40.62**	**288.00**	**18.42**		**534.62**	**0.24**	**23.81**	**1357692.31**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

Power Consumation details for the month of June -2024 (Jhunsi Facility)				
STP facilities		UOM	Jun-24	
Total raw sewage received for the month of June -2024		MLD	277.30	
Average raw sewage received for the month of June -2024		MLD	9.24	
Average BOD		mg/l	164.04	
Guaranteed power KWH / MLD		KWH / MLD	108.89	
Total Power KW - allowed	(a)	KWH	30194.56	
SPS / MPS facilities		UOM	Jun-24	
Total raw sewaged discharged for the month of June -2024		MLD	553.52	
Average raw sewage discharged for the month of June -2024		MLD	18.45	
Guaranteed power KWH / MLD		KWH / MLD	59.73	
Total Power KWH -Allowed	(b)	KWH	33061.75	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	63256.31	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of June -2024		KWH	88193.30	
Total Actual Power consumed through DG set for the month of June -2024		KWH	8860.00	
Power Consumption in staff quarter at June -2024		KWH	2667.00	
Total Actual Power consumption		KWH	94386.30	
Excess Power			31129.99	
Raw Sewage Discharged-MPS/ SPS		UOM	Jun-24	Avg.
Shastri Bridge SPS		MLD	276.22	9.21
Jhunsi MPS		MLD	277.30	9.24
Total		MLD	553.52	18.45
Raw Sewage Received/Treated-STP		UOM	Jun-24	Avg.
Raw Sewage Received		MLD	277.30	9.24
Raw Sewage Treated		MLD	269.94	9.00
Power consumption from Grid (UPPCL)		UOM	Jun-24	
Actual grid power consumption-KWH (UPPCL) of Jhunsi STP Facility for the month of June -2024	(E)= (A)+(B)	KWH	88193.30	
Shastri Bridge SPS		KWH	34210.30	
Jhunsi STP		KWH	53983.00	
DG Power		UOM	Jun-24	
Total actual power consumed of Jhunsi STP Facility through DG set	(F)=(C)+(D)	KWH	8860.00	
Shastri Bridge SPS	(C)	KWH	182.00	
Jhunsi STP	(D)	KWH	8678.00	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken Report

Month of Site Inspection	June 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R), Prayagraj 2. Mr. Karunakar Singh, AE, UPJN(R), Prayagraj 3. Mr. Satwant, 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 1st June 2024, 10th June 2024 & 27th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Jhunsi STP	0.00 (Shutdown from 7th to 12th June 2024) to 12.63
2	Jhunsi MPS	0.00 (Shutdown from 7th to 12th June 2024) to 12.63
3	Shastri Bridge SPS	0.00 (Shutdown from 7th to 12th June 2024) to 12.45

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 17 mg/l
2	TSS – Effluent	< 50 mg/l	17 to 20 mg/l
3	pH – Effluent	6.5 – 9.0	7.65 to 7.88
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.18 to 24.63 %
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	802 (Shutdown from 7th to 12th June 2024) to 4100

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, construction of boundary wall and approach road is pending.	Work is pending.
2	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. After that Jhunsi facility was visited for checking the status of I&Ds. The replacement work of trunk sewer in between Bhola mandir and Gagoli Nalla is in progress. Also, In between Savitri Nalla & Dham Nalla casting of one manhole in newly laid trunk sewer was not completed for which work is still pending. Dham Nalla I&D connecting pipeline was also damaged due to this sewer is not coming to Shastri Bridge SPS. 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. Also, since the road widening work from irrigation department is in progress as part of development works for Mahakumbh-2025 and as a result shifting of 10 out of 13 I&Ds of Jhunsi facility is to be done. Concessionaire have informed that,

Sr. No.	Work description	Status
		rectification of issues in main Trunk Sewer from Bhola Mandir Nalla to Dham Nalla will also be done simultaneously with this road widening work for rectifying all the issues. During recent visit it was found that: 1. Replacement of trunk sewer in between Bhola Mandir Nalla & Savitri Nalla is under progress. 2. I&Ds of Aughrawa Nalla, Bhola Mandir Nalla, Gangoli Shivalaya-1&2 Nalla, Dham Nalla & Savitri Nalla are demolished due to road widening work and as a result raw sewage from these I&Ds is not coming to Shastri Bridge SPS. 3. In addition to above sewage from Ulta Quila-1 is also not coming to the SPS. Also, casting work for two manholes and leakage rectification works in trunk sewer in between Savitri Nalla and Shastri Bridge SPS is pending.
4	At all 13 Interception and diversion points, repairing work of civil structure which is damaged due to flood is pending.	Work will be done simultaneously with construction of new structures for I&Ds which will be shifted because of road widening work done by Irrigation Department.
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. <u>Works related to or dependent on proposed Variation:</u>

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 were to be received at site by the end of Dec-23 as per PO, but they are not received yet. 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. SCADA reports generated for KPIs are almost stabilized however they are under observation.

Sr. No.	Work description	Status
5	At Jhunsi STP, installation of chlorine analyser at the outlet of STP is pending	Completed. Reports are under observation.
6	At Jhunsi STP, erection & commissioning works of SCADA system are pending.	Concessionaire is required to do the needful for observations given regrading run hour and flow reports.
7	At Jhunsi STP, installation of asset management system is not started yet.	Work is pending.
8	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. Latest SCADA reports regarding KPIs for Jhunsi 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 parameters for Jhunsi 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 12:00 PM on 10th June 2024 to 1:00 PM on 12th June 2024 date is not available on online portal. 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. Online analyzer at inlet of STP is working.
7. Online analyzer at outlet of STP is working.
8. All Grit Removal Units are working.
9. At PTU, EOT is not working. Electrical Connection is pending.
10. At PTU, one mechanical screen is working, and one is under 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. During visit, it was found that air is coming vigorously from 2-3 points which may be due to problem in diffusers. Due to aeration is not proper in FCR tank no. 1. Concessionaire is required to

rectify the issue.

13. Growth of plants of FCR tanks at MPS Side is not upto the mark hence Concessionaire is required to do the needful for the same and replace the plants wherever required.
14. Minor Seepages from FCR & some other units can be seen, this must be rectified.
15. 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.
16. DO analyzers for all FCR units are working.
17. All aeration blowers are working.
18. 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.
19. 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.
20. Quality of effluent is Satisfactory.
21. There is foam formation in effluent which should not be happening in summer season. This may be happening due to improper aeration in FCRs. It was also found that only one air blower is operated during peak hours which could be the main reason of improper aeration in FCR tank because at least two blowers must be operated during peak hours. Concessionaire is required to rectify this issue.
22. Sludge dewatering unit was in operation. Poly preparation unit was in operation.
23. Both dewatering feed pumps are working.
24. Both chlorinators are working. Both booster pumps are working.
25. Chlorine analyzer at outlet is working but not showing correct values as per lab records.
26. Both transformers are working.
27. Leak absorption system is working and must always be kept in auto mode.
28. Both DGs are working.
29. In all I&Ds, cleaning of garbage and its disposal must be done regularly.
30. For I&Ds, following points were observed during recent visit:
    a) Joint between manhole and connecting pipeline of Dham Nalla was broken on 23.05.2024 due to which sewage from Dham nalla was not coming to SPS. Concessionaire is required to rectify the issue for ensuring 100% availability.
    b) Casting of one manhole in between Dham Nalla and Savitri Nagar Nalla is pending due to which Sewage was overflowing during peak hours when all I&Ds were in operation.
    c) I&D of Bhola Mandir Nalla is demolished due to road widening works done by Irrigation department.
    d) I&D of Gangoli Shivalaya – 1 & 2 Nalla is demolished due to road widening works done by Irrigation department.
    e) I&D of Augharwa Nalla is demolished due to road widening works done by Irrigation department.
    f) I&D of Shavitri Nalla is demolished due to road widening works done by Irrigation department.
    g) I&D of Dham Nalla is demolished due to road widening works done by Irrigation department.
    h) Replacement of trunk sewer in between Dham Nalla & main manhole before Shastri Bridge SPS is in is completed, however casting of manhole is pending. Concessionaire is required to complete the work at the earliest for ensuring 100% availability.
    i) Currently, sewage from only 6 out of 13 I&Ds is coming to Shastri Bridge SPS.

31. For Jhunsi MPS, following observations were made during visit:
    a) All submersible pumps are working.
    b) Mechanical screen is under maintenance. It is long time pending issue. Concessionaire is required to rectify this problem.

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

33. 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

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)	
1-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	From 01.06.2024 to 06.06.2024: Plant was under shutdown for Reparing work at CCT, Installation of submersible pump in sludge sump and rectification of leakage in header line of MPS. Plant was started at 7 AM on 07.06.2024.
2-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
3-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
4-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
5-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
6-Jun-24	0	0.00	-	-	-	-	-	-	-	-	NA	-	-	-	-	
7-Jun-24	30880	30.88	7.93	7.99	160	22	344	40	299	25	NA	400	0.2	-	-	From 07.06.2024 to 09.06.2024: Due to installation of submersible pumps in sludge sump, sludge withdrawal is zero. Therefore, testing of sludge parameters was not performed on these days.
8-Jun-24	37700	37.70	7.98	7.97	165	21	360	40	279	28	NA	600	0.3	-	-	
9-Jun-24	38190	38.19	7.72	7.91	155	22	368	36	288	26	NA	500	0.3	-	-	
10-Jun-24	37460	37.46	7.64	7.88	165	20	360	40	297	25	NA	800	0.2	24.50	1700000	
11-Jun-24	37200	37.20	7.50	7.86	170	21	364	44	285	24	NA	700	0.3	23.77	1100000	
12-Jun-24	36890	36.89	7.44	7.85	180	23	380	40	291	25	NA	400	0.3	24.81	1400000	
13-Jun-24	39320	39.32	7.35	7.96	170	22	360	40	287	22	NA	700	0.3	23.06	1100000	
14-Jun-24	36970	36.97	7.31	7.84	160	23	324	44	280	24	NA	500	0.2	23.17	1700000	
15-Jun-24	38070	38.07	7.28	7.82	155	24	328	48	298	25	NA	600	0.3	24.11	1300000	
16-Jun-24	37120	37.12	7.23	7.90	160	25	320	48	290	24	NA	400	0.3	23.74	1100000	
17-Jun-24	38890	38.89	7.25	7.92	155	24	340	44	288	25	NA	600	0.2	24.16	1200000	
18-Jun-24	37460	37.46	7.21	7.94	165	22	348	40	291	26	NA	400	0.2	23.88	1700000	
19-Jun-24	38900	38.90	7.28	7.95	170	21	352	44	289	28	NA	500	0.3	24.13	1300000	
20-Jun-24	42700	42.70	7.22	7.97	185	22	376	40	300	30	NA	600	0.3	23.41	1400000	
21-Jun-24	40780	40.78	7.20	7.96	175	21	348	36	294	28	NA	400	0.2	24.11	1100000	
22-Jun-24	44610	44.61	7.18	7.90	180	22	360	40	302	36	NA	700	0.3	23.88	1300000	
23-Jun-24	41380	41.38	7.19	7.92	185	24	392	44	304	31	NA	500	0.3	24.35	1700000	
24-Jun-24	41430	41.43	7.21	7.95	175	22	368	40	291	30	NA	600	0.2	23.91	1400000	
25-Jun-24	41430	41.43	7.28	7.92	170	21	352	40	283	28	NA	400	0.3	23.56	1300000	
26-Jun-24	45750	45.75	7.28	7.89	165	22	356	40	288	33	NA	700	0.3	24.15	1100000	
27-Jun-24	41620	41.62	7.30	7.88	175	21	372	36	286	32	NA	500	0.2	23.97	1300000	
28-Jun-24	44800	44.80	7.31	7.90	170	20	360	40	309	35	NA	600	0.3	24.05	1200000	
29-Jun-24	40900	40.90	7.28	7.92	175	21	376	36	301	36	NA	700	0.3	23.85	1700000	
30-Jun-24	51490	51.49	7.30	7.94	180	20	380	36	309	42	NA	800	0.3	24.10	1400000	
Average	**32064.67**	**32.06**	**7.37**	**7.91**	**169.38**	**21.92**	**357.83**	**40.67**	**292.88**	**28.67**		**566.67**	**0.27**	**23.94**	**1357142.86**	

Source: Logbook of Laboratory at Sewage Treatment Plant

Note: Online graphs obtained from data transfer to CPCB servers are not provided as the Login ID and password for online portal are expired. Concessionaire is asked to rectify this issue.

2.2 Power Consumption Report

Power Consumption details for the month of JUNE-2024 (Naini-II Facility)			
STP facilities	**UOM**	**Jun-24**	
Total raw sewage received for the month of JUNE-2024	MLD	**961.94**	
Average raw sewage received for the month of JUNE-2024	MLD	32.06	
Average BOD	mg/l	**169.38**	
Guaranteed power KWH / MLD	KWH / MLD	28.77	
Total Power KWH - Allowed **(a)**	KWH	**27675.01**	
SPS / MPS facilities	**UOM**	**Jun-24**	
Total raw sewaged discharged for the month of JUNE-2024	MLD	**1879.50**	
Average raw sewage discharged for the month of JUNE-2024	MLD	62.65	
Guaranteed power KWH / MLD	KWH / MLD	51.69	
Total Power KWH -Allowed **(b)**	KWH	**97151.36**	
Total Guaranteed Power - Allowed ***(c)=(a)+(b)***	***KWH***	**124826.37**	
Actual Power consumption			
Actual grid Power consumption (UPPCL) for the month of June-2024	KWH	129499.50	
Total Actual Power consumed through DG set for the month of June-2024	KWH	1580.00	
Power Consumption in staff quarter at Naini-II STP	KWH	2401.00	
Power Consumption in staff quarter at Mawaiya SPS	KWH	788.00	
Total Actual Power consumption	KWH	**127890.50**	
Excess Power		**3064.13**	
Raw Sewage Discharged-MPS/ SPS	**UOM**	**Jun-24**	**Avg.**
Mawaiya- SPS	MLD	892.86	29.76
Mahewaghat-SPS	MLD	24.70	0.82
Naini 2 MPS	MLD	961.94	32.06
Total	MLD	1879.50	62.65
Raw Sewage Received/Treated-STP	**UOM**	**Jun-24**	**Avg.**
Raw Sewage Received	MLD	961.94	32.06
Raw Sewage Treated	MLD	949.24	31.64
Power consumption from Grid (UPPCL)	**UOM**	**Jun-24**	
Actual grid power consumption-KWH (UPPCL) of Naini-II Facility for the month of MAY-2024 (E)=(A)+(B)+(C)	KWH	**129499.50**	
Mawaiya-SPS **(A)**	KWH	38966.00	
Mahewaghat-SPS **(B)**	KWH	5383.50	
Naini-II STP **(C)**	KWH	85150.00	
DG Power	**UOM**	**Jun-24**	
Total actual power consumed of Naini Facility through DG set (G)=(D)+(E)+(F)	KWH	**1580.00**	
Mawaiya-SPS **(D)**	KWH	654.00	
Mahewaghat-SPS **(E)**	KWH	70.00	
Naini-II STP **(F)**	KWH	856.00	

Source: Site Records and Bills issued by UPPCL

2.3 Action taken Report

Month of Site Inspection	June 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 7th June 2024, 18th June 2024 & 24th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-II STP	0.00 (Shutdown from 1st to 6th June 2024) to 42.70
2	Naini-II MPS	0.00 (Shutdown from 1st to 6th June 2024) to 42.70
3	Mawaiya SPS	0.00 (Shutdown from 1st to 6th June 2024) to 38.99
4	Mahewagaht SPS	0.65 to 0.91

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 24 mg/l
2	TSS – Effluent	< 50 mg/l	22 to 30 mg/l
3	pH – Effluent	6.5 – 9.0	7.82 to 7.99
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.06 to 24.81 %
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	846 (Shutdown from 1st to 6th June 2024) to 5850

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 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 were to be received at site by the end of Dec-23 as per PO, but they are not received yet. 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, rectifications of observations regarding SCADA system are required which were given during visit. Concessionaire is required to provide report generation regarding KPIs, flow and running hours as per the method discussed at site.	Run hour report for equipment in SCADA system is not complete. Observations for rectification of some issues are given and Concessionaire is required to incorporate them for completing the work.
3.	At Naini-II STP, installation of asset management system is pending.	Concessionaire have started submitting reports from Jan-24 which are generated from Asset Management System. Observations for rectification of some issues are given and Concessionaire is required to incorporate them for completing the work.

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

1. As per latest SCADA reports, 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.
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. Both Mechanical Screens are working. Currently screens are running in auto mode through timer.
10. All FCR tanks are working.
11. Shade on top of FCRs must be installed for better maintenance of plants during summer season.
12. During recent shutdown in the month of June-24, it was observed that several plants on FCR have become dead on FCR as proper water was available for plants to grow and the days in which shutdown was taken were very hot. Therefore, it is suggested to avoid taking shutdowns in summer season until it is extremely required. Also, installation of shades on top of FCRs must be done on priority basis for protecting plants from excessive heat of summer season.
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 OK for operation. One is under 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. One out of two transformers is under maintenance hence there is currently no standby transformer for the STP.
23. Leak absorption system is working. It must always be kept in auto mode.
24. Both DGs are OK for operation.
25. In all I&Ds, cleaning of garbage and its disposal must be done regularly.
26. For Naini-II MPS, following observations were made during visit:
    a) All submersible pumps are OK for operation. One pump cannot be operated due to problem in its discharge line.
    b) Both mechanical screens are working. Currently screens are running in auto mode through timer.
    c) In past, 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.

27. 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 under maintenance hence there is currently no standby transformer for the STP.
    d) Both DG sets are OK for operation.

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

    a) All 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.

29. 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

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-Jun-24	16720	16.72	7.49	7.91	170	20	308	44	306	28	NA	400	0.3	24.16	1300000	
02-Jun-24	16800	16.80	7.56	7.92	160	19	320	40	320	25	NA	500	0.3	23.92	1400000	
03-Jun-24	16320	16.32	7.52	7.94	155	20	316	44	333	23	NA	400	0.3	23.12	1300000	
04-Jun-24	16450	16.45	7.60	7.93	160	20	308	40	332	20	NA	500	0.3	24.12	1300000	
05-Jun-24	16520	16.52	7.53	7.91	165	19	308	44	303	19	NA	400	0.3	23.92	1400000	
06-Jun-24	15650	15.65	7.65	7.94	155	21	304	44	300	21	NA	600	0.2	23.27	1700000	
07-Jun-24	17310	17.31	7.71	7.94	165	20	320	40	280	17	NA	400	0.3	24.32	1300000	
08-Jun-24	14830	14.83	7.72	7.92	160	21	312	44	252	19	NA	500	0.3	23.92	1400000	
09-Jun-24	16880	16.88	7.71	7.69	170	22	328	40	271	27	NA	600	0.2	22.73	1700000	
10-Jun-24	16920	16.92	7.65	7.94	155	20	304	44	210	20	NA	500	0.3	24.32	1400000	
11-Jun-24	15860	15.86	7.65	7.96	160	20	316	40	220	20	NA	400	0.3	23.25	1300000	
12-Jun-24	17870	17.87	7.64	7.95	165	20	320	44	290	21	NA	600	0.2	24.32	1700000	
13-Jun-24	17630	17.63	7.62	7.96	170	21	336	40	316	20	NA	500	0.2	24.00	1400000	
14-Jun-24	17990	17.99	7.63	7.96	160	20	320	44	300	16	NA	400	0.2	23.91	1700000	
15-Jun-24	17920	17.92	7.50	7.96	165	21	320	40	300	17	NA	600	0.2	23.91	1700000	
16-Jun-24	17490	17.49	7.54	7.97	160	20	328	40	332	16	NA	400	0.2	24.08	1300000	
17-Jun-24	18840	18.84	7.66	7.99	160	21	304	44	340	15	NA	500	0.2	23.52	1400000	
18-Jun-24	17320	17.32	7.61	7.89	180	20	332	44	310	16	NA	400	0.2	23.23	1300000	
19-Jun-24	17650	17.65	7.41	7.90	170	21	320	40	310	17	NA	500	0.2	23.52	1300000	
20-Jun-24	17260	17.26	7.30	7.89	170	19	336	44	330	16	NA	600	0.2	24.13	1700000	
21-Jun-24	18070	18.07	7.33	7.86	175	20	344	40	360	14	NA	500	0.2	23.62	1400000	
22-Jun-24	22610	22.61	7.32	7.79	180	19	400	44	372	24	NA	600	0.2	24.32	1700000	
23-Jun-24	17540	17.54	7.56	7.81	175	20	344	40	430	23	NA	500	0.3	24.13	1400000	
24-Jun-24	17360	17.36	7.67	7.86	165	19	340	40	390	17	NA	400	0.3	22.32	1300000	
25-Jun-24	19860	19.86	7.72	7.87	165	21	316	44	330	18	NA	500	0.3	24.32	1400000	
26-Jun-24	24410	24.41	7.67	7.80	175	20	360	44	310	23	NA	400	0.2	23.91	1300000	
27-Jun-24	18640	18.64	7.59	7.84	175	21	348	40	301	17	NA	600	0.3	24.21	1400000	
28-Jun-24	18240	18.24	7.37	7.85	165	20	324	40	360	15	NA	400	0.3	24.12	1300000	
29-Jun-24	14550	14.55	7.41	7.83	170	20	336	40	310	16	NA	500	0.3	23.92	1400000	
30-Jun-24	19650	19.65	7.30	7.87	175	21	320	44	340	20	NA	400	0.3	24.13	1700000	
Average	**17705.33**	**17.71**	**7.55**	**7.90**	**166.50**	**20.20**	**326.40**	**42.00**	**315.27**	**19.33**		**483.33**	**0.25**	**23.82**	**1443333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

Note: Online graphs obtained from data transfer to CPCB servers are not provided as the Login ID and password for online portal are expired. Concessionaire is asked to rectify this issue.

3.2 Power Consumption Report

Power Consumption details for the month of JUNE-2024 (Phaphamau Facility)				
STP facilities		**UOM**	**Jun-24**	
Total raw sewage received for the month of JUNE-2024		MLD	531.16	
Average raw sewage received for the month of JUNE-2024		MLD	17.71	
Average BOD		mg/l	166.50	
Guaranteed power KWH / MLD		KWH / MLD	107.00	
Total Power KW - allowed	(a)	KWH	56834.12	
SPS / MPS facilities		**UOM**	**Jun-24**	
Total raw sewaged discharged for the month of JUNE-2024		MLD	626.33	
Average raw sewage discharged for the month of JUNE-2024		MLD	20.88	
Guaranteed power KWH / MLD		KWH / MLD	67.24	
Total Power KWH -Allowed	(b)	KWH	42114.43	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	98948.55	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of JUNE-2024		KWH	108117.50	
Total Actual Power consumed through DG set for the month of JUNE-2024		KWH	3555.00	
Power Consumption in staff quarter at Phaphamau STP		KWH	5703.00	
Total Actual Power consumption		KWH	105969.50	
Excess Power			7020.95	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Jun-24**	**Avg.**
Basna Nalla SPS		MLD	95.17	3.17
Phaphamau MPS		MLD	531.16	17.71
Total		MLD	626.33	20.88
Raw Sewage Received/Treated-STP		**UOM**	**Jun-24**	**Avg.**
Raw Sewage Received		MLD	531.16	17.71
Raw Sewage Treated		MLD	507.72	16.92
Power consumption from Grid (UPPCL)		**UOM**	**Jun-24**	
Actual grid power consumption-KWH (UPPCL) of Phaphamau STP Facility for the month of JUNE-2024 (E)= (A)+(B)		KWH	108117.50	
Basna Nala SPS		KWH	10575.00	
Phaphanau STP		KWH	97542.50	
DG Power		**UOM**	**Jun-24**	
Total actual power consumed of Phaphamau STP Facility through DG set	(F)=(C)+(D)	KWH	3555.00	
basna Nalla SPS	(C)	KWH	474.00	
Phaphanau STP	(D)	KWH	3081.00	

Source: Site Records and Bills issued by UPPCL

3.3 Action taken Report.

Month of Site Inspection	June 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 June 2024, 15th June 2024 & 26th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped/Received at Facility (MLD)
1	Phaphamu STP	14.83 to 18.84
2	Shantipuram MPS	14.83 to 18.84
3	Basna nalla SPS	2.20 to 3.26

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 22 mg/l
2	TSS – Effluent	< 50 mg/l	15 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.69 to 7.99
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 600 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.73 to 24.32 %
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	2964 to 4005

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 and will be completed in dry weather season as per information given by Concessionaire but no work is started till date. 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 were to be received at site by the end of Dec-23 as per PO, but they are not received yet. 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.	Completed
3.	At Phaphamau STP, it is required to use more colors and animation in SCADA system for making it more distinguished and user-friendly. Also, report generation regarding KPIs, running hours of equipment and flow is pending in SCADA system as per requirement.	Run hour report for equipment in SCADA system is not complete. Observations for rectification of some issues are given and Concessionaire is required to incorporate them for completing the work.
4.	At Phaphamau STP, installation of asset management system is not started yet.	Reports which are generated from Asset Management System are still not submitted from Concessionaire's end.

- Status of various units & records at site:

1. Latest SCADA reports 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 regarding parameters 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 & pH, sudden spikes/drops can be seen in the graphs while for BOD & COD, the graphs are showing almost 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 Aerated Grit Removal Units are working.
10. There are some leakages in chamber of screw conveyor and organic return pump for Grit Removal Units. Concessionaires is required to rectify the same.
11. Both Mechanical Screens are working. Currently screens are running in auto mode through timer.
12. All FCR units are working.
13. Shade on top of FCRs is not installed yet. This must be done on priority basis for protecting plants from excessive heat of 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 Concessionaire is required to provide permanent solution for the same.
15. DO analyzers for all FCR units 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. At Phaphamau STP, it is observed that energy generation from solar power plant of 77 KW is very low. Currently, 130 KWH energy is generated which is very low. Normally, 350 KWH approx. of energy must be generated from solar power plant of 77 KW capacity. Therefore, Concessionaire is required to resolve this issue as soon as possible because this is resulting in financial losses to the UPJN.
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 not working.
    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.

34. 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.

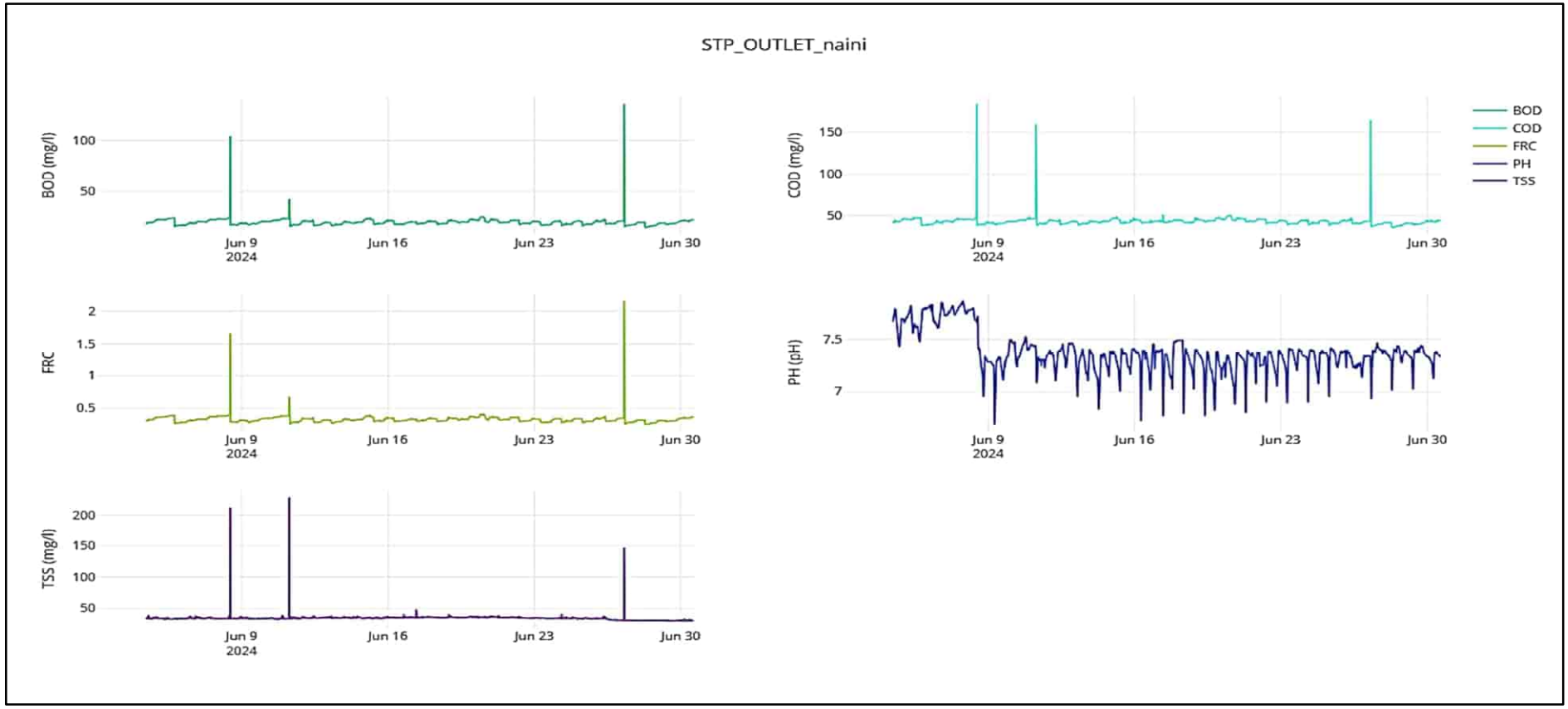
ANNEXURE-II

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 analyzers and chlorine analyzer from OEM is in progress.

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-Jun-24	105950	105.95	7.19	7.48	140	20	308	44	273	36	NA	500	0.3	23.31	1300000	
2-Jun-24	102260	102.26	7.28	7.56	135	22	296	48	265	38	NA	700	0.3	23.03	1700000	
3-Jun-24	101010	101.01	7.25	7.53	130	19	304	44	268	33	NA	600	0.3	23.25	1400000	
4-Jun-24	100250	100.25	7.19	7.55	135	21	308	40	260	35	NA	400	0.3	23.17	1200000	
5-Jun-24	99350	99.35	7.23	7.57	130	23	292	48	275	32	NA	500	0.3	23.65	1700000	
6-Jun-24	106900	106.90	7.24	7.62	125	18	308	40	269	34	NA	600	0.3	23.16	1100000	
7-Jun-24	108070	108.07	7.27	7.66	135	22	304	48	273	33	NA	700	0.3	23.15	1300000	
8-Jun-24	108610	108.61	7.23	7.44	140	20	300	44	265	35	NA	400	0.3	22.91	1700000	
9-Jun-24	108310	108.31	7.25	7.43	130	19	296	40	273	32	NA	500	0.3	23.14	1200000	
10-Jun-24	108380	108.38	7.15	7.38	125	23	312	48	277	36	NA	600	0.3	22.28	1400000	
11-Jun-24	106900	106.90	7.11	7.33	140	21	316	44	267	34	NA	700	0.3	23.05	1100000	
12-Jun-24	104430	104.43	7.17	7.35	135	19	308	40	270	35	NA	400	0.3	22.54	1300000	
13-Jun-24	102170	102.17	7.19	7.36	130	18	304	44	277	37	NA	500	0.3	23.09	1200000	
14-Jun-24	105170	105.17	7.17	7.25	135	20	300	40	278	34	NA	600	0.3	23.12	1700000	
15-Jun-24	100310	100.31	7.15	7.28	140	22	308	44	275	36	NA	700	0.3	23.74	1400000	
16-Jun-24	92420	92.42	7.19	7.24	130	20	308	40	282	38	NA	400	0.3	23.10	1200000	
17-Jun-24	100110	100.11	7.18	7.32	125	21	296	44	273	35	NA	500	0.3	23.04	1100000	
18-Jun-24	90180	90.18	7.21	7.38	135	22	312	48	265	38	NA	700	0.3	23.51	1300000	
19-Jun-24	90310	90.31	7.16	7.24	130	23	312	44	277	34	NA	600	0.3	23.08	1700000	
20-Jun-24	101190	101.19	7.21	7.28	140	24	316	48	282	37	NA	400	0.3	23.44	1200000	
21-Jun-24	99510	99.51	7.19	7.27	130	20	300	44	274	35	NA	500	0.3	23.4	1300000	
22-Jun-24	92710	92.71	7.16	7.29	135	21	296	40	271	34	NA	700	0.3	23.08	1400000	
23-Jun-24	95780	95.78	7.22	7.34	130	20	304	44	265	37	NA	600	0.3	22.18	1100000	
24-Jun-24	98180	98.18	7.23	7.36	125	19	292	40	275	33	NA	400	0.3	23.26	1700000	
25-Jun-24	98070	98.07	7.18	7.32	135	21	308	44	268	32	NA	500	0.3	23.12	1200000	
26-Jun-24	105940	105.94	7.16	7.28	140	22	312	40	281	31	NA	700	0.3	23.14	1100000	
27-Jun-24	89860	89.86	7.21	7.36	130	20	300	44	276	33	NA	700	0.3	23.08	1400000	
28-Jun-24	92910	92.91	7.15	7.33	135	19	308	40	272	28	NA	600	0.3	23.31	1700000	
29-Jun-24	98220	98.22	7.14	7.35	130	20	296	44	265	32	NA	500	0.3	23.22	1300000	
30-Jun-24	96210	96.21	7.13	7.29	140	22	304	40	265	31	NA	400	0.3	23.10	1200000	
Average	**100322.33**	**100.32**	**7.19**	**7.38**	**133.17**	**20.70**	**304.27**	**43.33**	**271.87**	**34.27**		**553.33**	**0.30**	**23.12**	**1353333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

Power Consumption details for the month ofJune-2024 (Naini Facility)				
STP facilities		UOM	Jun-24	
Total raw sewage received for the month of June-2024		MLD	3009.67	
Average raw sewage received for the month of June-2024		MLD	100.32	
Average BOD		mg/l	133.17	
Guaranteed power KWH / MLD		KWH / MLD	78.84	
Total Power KWH - Allowed	(a)	KWH	237282.38	
SPS / MPS facilities		UOM	Jun-24	
Total raw sewaged discharged for the month of June-2024		MLD	4118.55	
Average raw sewage discharged for the month of June-2024		MLD	137.29	
Guaranteed power KWH / MLD		KWH / MLD	65.02	
Total Power KWH -Allowed	(b)	KWH	267788.12	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	505070.50	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of June-2024		KWH	469146.50	
Total Actual Power consumed through DG set for the month of June-2024		KWH	4572.00	
Power Consumption in staff quarter at Naini-I STP		KWH	11062.00	
Total Actual Power consumption		KWH	462656.50	
Saved Power			-42414.00	
Raw Sewage Discharged-MPS/ SPS		UOM	Jun-24	Avg.
Gaughat MPS		MLD	3056.03	101.87
SPS-Charcharnalla		MLD	1062.52	35.42
Total		MLD	4118.55	137.29
Raw Sewage Received/Treated-STP		UOM	Jun-24	Avg.
Raw Sewage Received		MLD	3009.67	100.32
Raw Sewage Treated		MLD	3008.63	100.29
Power consumption from Grid (UPPCL)		UOM	Jun-24	
Actual grid power consumption-KWH (UPPCL) of Naini-I Facility for the month ofJune-2024	(E)=(A)+(B)+(C)	KWH	469146.50	
MPS- Gaughat	(A)	KWH	258420.00	
SPS-Chacharnalla	(B)	KWH	63348.20	
STP -Naini	(C)	KWH	147378.30	
DG Power		UOM	Jun-24	
Total actual power consumed of Naini Facility through DG set	(G)=(D)+(E)+(F)	KWH	4572.00	
MPS- Gaughat	(D)	KWH	906.00	
SPS-Chacharnalla	(E)	KWH	130.00	
STP -Naini	(F)	KWH	3536.00	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken report

Month of Site Inspection	June 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 7th June 2024, 14th June 2024, & 24th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	90.18 to 108.61
2	Gaughat MPS	91.54 to 110.35
3	Chacharnalla SPS	29.53 to 42.80

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	18 to 23 mg/l
2	TSS – Effluent	< 50 mg/l	32 to 38 mg/l
3	pH – Effluent	6.5 – 9.0	7.24 to 7.66
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.28 to 23.74%
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	13490 to 19066

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 parameters 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, it was found that data from 12:00 AM on 1st June 2024 to 10:15 AM on 4th June 2024 date is not available on online portal. Also, sudden spikes/drops can be seen in the graph 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. Flowmeters at outlet of STP is working. There is variation in between inlet and outlet flow which is more than water loss recorded for the STP. Concessionaire is required to resolve this problem.
7. SCADA reports regarding flow for Naini-I facility were checked and it was found that flow records generated from SCADA for both inlet flowmeters of Naini-I STP are matching with manual site records.
8. In Naini-I STP, main MCC panel doesn't have provision for taking power from secondary sources like DG, Solar power generation system and Biogas power generation system simultaneously. Concessionaire is required to do the needful for running biogas engine even without power from grid.
9. Gas engine is working. Currently, Biogas engine is operated for 16 hours from 3 PM to 7 AM as per availability of Biogas and for remaining time i.e., 7 AM to 3 PM, the STP is being operated on Solar energy as per availability.
10. All three mechanical screens of 60 MLD part are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
11. All two mechanical screens of 20 MLD part are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
12. For 60 MLD, all grit removal units are working.
13. For 20 MLD, all grit removal units are working.
14. All Primary Settling Tanks are working. Scum removal is done manually but it is not efficient as good amount of scum can be seen floating on the surface. Since, Scum removing arrangement is installed, modification is required for the same so that scum collection and removal can be done automatically.
15. Telescopic valves of Primary Settling Tanks are not working.
16. Installation of actuators is pending for drain valves of Primary Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
17. In Aeration Unit of 60 MLD, all surface aerators are in working condition. It is recommended to install DO analyzer in this tank also for better monitoring.
18. Aeration tank of 20 MLD is in operation. DO analyzer is working.
19. Two out of Three Aeration blowers are working. One is under maintenance.
20. All Final Settling Tanks are working.
21. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.

22. Installation of actuators is pending for drain valves of Final Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
23. In RSPH unit of 60 MLD, all pumps are working.
24. In RSPH unit of 20 MLD, all pumps are working.
25. Both chlorinators are in working condition. Both booster pumps are working.
26. Leak absorption system is working. Checking of concentration for caustic solution filled in leak absorption system must be done every month which must be maintained between 15 – 20 %.
27. Since the chlorine tonner storage in Naini-1 STP goes beyond 4 tonners at one time hence Concessionaire is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
28. New chlorine analyzer at outlet is working.
29. Both thickeners are in working condition. Cleaning of scum from top is required. Installation of actuators for drain valves are pending.
30. All thickened sludge transfer pumps are working.
31. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
32. For TEPH panel, modification of room is completed but panel erection as per the electrical norms is not started yet.
33. Housekeeping and cleaning must be improved for all units from inside.
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 a greater 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 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. As already decided, repairing/construction of retaining wall is not completed yet. In 2022, 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 incorporate the suggestions provided after checking of records generated from the same.
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 in working condition.
    c) 2 out of 3 submersible pumps are in working condition. Maintenance of one submersible pump is pending since long time hence maintenance work for the same must be completed at the earliest.
    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 of Submersible pumps are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    f) DG set of 1000 KVA and DG sets of submersible pumps are working. Repairing work of 11 KV DG synchronization panel is pending. Repairing work of 500 KVA/11KV DG set is pending. Concessionaire to please complete all pending works.
    g) It is suggested to install manual screen in receiving chamber of SPS for reducing load on mechanical screens. 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) 1 out of 2 DG sets is 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 sampler 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 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.

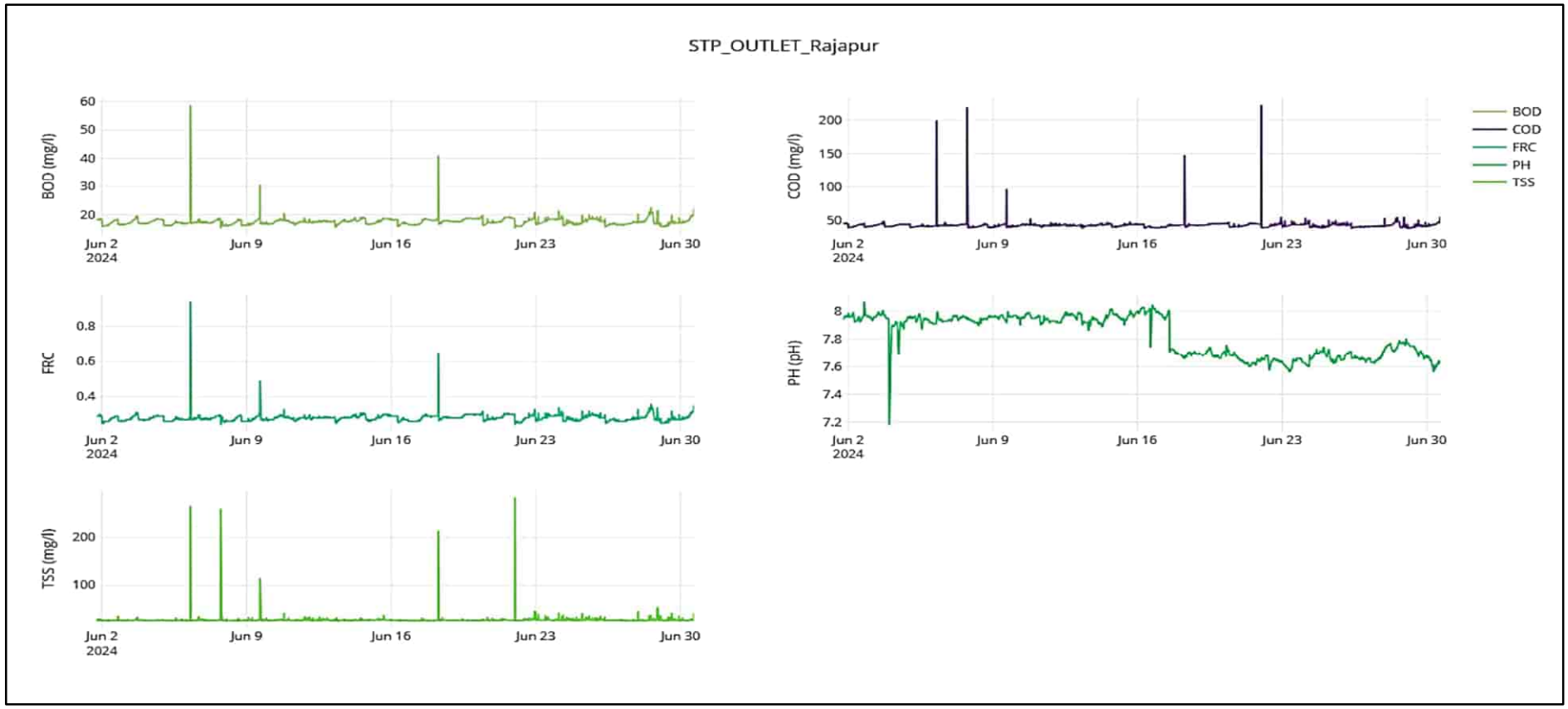
f) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. Incident reports must also be submitted along with action plan.
i) Periodic reports from all facilities must be uploaded on Central Pollution 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 in data is going on as fine tuning of multi parameter analyzers and chlorine analyzer from OEM is in progress.

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

Date	Daily Feed Quantity MLD (Design-60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design -<50 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jun-24	73320	73.32	7.04	7.97	145	18	280	44	269	27	NA	600	0.3	24.46	1400000	
02-Jun-24	72340	72.34	6.97	7.94	135	17	292	40	272	25	NA	500	0.3	23.33	1200000	
03-Jun-24	70620	70.62	6.89	7.95	130	18	300	44	263	26	NA	400	0.3	24.55	1300000	
04-Jun-24	72420	72.42	6.97	7.85	125	16	284	40	271	27	NA	600	0.3	23.25	1700000	
05-Jun-24	73520	73.52	6.98	7.97	130	17	276	40	268	26	NA	700	0.3	22.79	1400000	
06-Jun-24	73620	73.62	6.99	7.95	135	18	296	48	267	28	NA	500	0.3	22.72	1300000	
07-Jun-24	74540	74.54	6.97	7.93	140	16	292	44	271	25	NA	600	0.3	23.51	1400000	
08-Jun-24	71230	71.23	6.98	7.92	135	18	284	40	259	27	NA	700	0.3	22.90	1700000	
09-Jun-24	72740	72.74	7.02	7.95	130	17	288	44	265	26	NA	400	0.3	23.74	1200000	
10-Jun-24	70010	70.01	7.01	7.98	135	18	276	40	266	28	NA	600	0.3	24.46	1300000	
11-Jun-24	70880	70.88	6.97	7.92	130	17	292	44	273	25	NA	600	0.3	23.40	1400000	
12-Jun-24	67330	67.33	7.02	7.94	145	18	296	40	296	27	NA	600	0.3	23.56	1400000	
13-Jun-24	71480	71.48	6.98	7.93	140	18	268	44	280	26	NA	500	0.3	23.32	1400000	
14-Jun-24	70860	70.86	7.02	7.95	135	17	276	48	265	26	NA	600	0.3	23.32	1700000	
15-Jun-24	66220	66.22	7.05	7.95	130	18	292	44	275	27	NA	400	0.3	23.13	1300000	
16-Jun-24	70110	70.11	7.08	7.99	125	17	284	40	265	26	NA	500	0.3	24.64	1400000	
17-Jun-24	69900	69.90	7.06	7.84	130	17	220	40	112	13	NA	600	0.3	23.76	1200000	
18-Jun-24	69350	69.35	7.05	7.68	145	19	276	44	259	25	NA	400	0.3	22.87	1700000	
19-Jun-24	69900	69.90	7.07	7.71	130	18	272	44	253	26	NA	500	0.3	23.72	1300000	
20-Jun-24	71100	71.10	7.03	7.66	135	17	296	40	251	25	NA	600	0.3	24.24	1400000	
21-Jun-24	71360	71.36	7.09	7.65	130	18	292	44	265	28	NA	700	0.3	23.62	1700000	
22-Jun-24	75160	75.16	7.07	7.62	125	16	276	40	259	27	NA	500	0.3	23.63	1300000	
23-Jun-24	72220	72.22	7.23	7.64	130	17	284	44	255	26	NA	600	0.3	24.76	1200000	
24-Jun-24	74220	74.22	7.18	7.57	135	18	288	40	262	25	NA	400	0.3	23.85	1400000	
25-Jun-24	74720	74.72	7.36	7.67	125	17	296	44	263	26	NA	800	0.3	24.46	1100000	
26-Jun-24	75480	75.48	7.08	7.69	130	16	284	40	258	25	NA	400	0.3	24.68	1200000	
27-Jun-24	73980	73.98	7.02	7.64	140	18	272	40	265	24	NA	600	0.3	23.26	1400000	
28-Jun-24	76060	76.06	6.98	7.73	135	17	292	44	271	28	NA	700	0.3	22.75	1300000	
29-Jun-24	73680	73.68	7.09	7.74	125	16	276	40	264	26	NA	500	0.3	24.64	1700000	
30-Jun-24	73530	73.53	7.06	7.65	130	18	288	44	257	27	NA	400	0.3	23.58	1400000	
Average	**72063.33**	**72.06**	**7.04**	**7.82**	**133.00**	**17.33**	**282.93**	**42.40**	**260.63**	**25.77**		**550.00**	**0.30**	**23.70**	**1393333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Power Consumption Report

Power Consumption details for the month of June-2024 (Rajapur Facility)				
STP facilities		**UOM**	**Jun-24**	
Total raw sewage received for the month of June-2024		MLD	2161.90	
Average raw sewage received for the month of June-2024		MLD	72.06	
Average BOD		mg/l	133.00	
Guaranteed power KWH / MLD		KWH / MLD	26.45	
Total Power KW - allowed	(a)	KWH	57182.26	
SPS / MPS facilities		**UOM**	**Jun-24**	
Total raw sewaged discharged for the month of June-2024		MLD	2179.16	
Average raw sewage discharged for the month of June-2024		MLD	72.64	
Guaranteed power KWH / MLD		KWH / MLD	53.78	
Total Power KWH -Allowed	(b)	KWH	117195.22	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	174377.48	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of June-2024		KWH	166160.00	
Total Actual Power consumed through DG set for the month of June-2024		KWH	6076.00	
Power Consumption in staff quarter at Rajapur STP		KWH	2121.00	
Total Actual Power consumption		KWH	170115.00	
Saved Power			-4262.48	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Jun-24**	**Avg.**
Mumfordganj MPS		MLD	2038.18	67.94
SPS-Rajapur		MLD	140.98	4.70
Total		MLD	2179.16	72.64
Raw Sewage Received/Treated-STP		**UOM**	**Jun-24**	**Avg.**
Raw Sewage Received		MLD	2161.90	72.06
Raw Sewage Treated		MLD	2107.43	70.25
Power consumption from Grid (UPPCL)		**UOM**	**Jun-24**	
Actual grid power consumption-KWH (UPPCL) of Rajapur Facility for the month of June-2024 (E)=(A)+(B)		KWH	166160.00	
MSP- Mumfordganj	(A)	KWH	106512.00	
STP - Rajapur	(B)	KWH	59648.00	
DG Power		**UOM**	**Jun-24**	
Total actual power consumed of Rajapur Facility through DG set	(F)=(C)+(D)	KWH	6076.00	
MSP- Mumfordganj	(C)	KWH	1310.00	
SPS+STP-Rajapur	(D)	KWH	4766.00	

Source: Site Records and Bills issued by UPPCL

2.3 Action taken report

Month of Site Inspection	June 2024
Site Inspectors	1. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 2. Mr. Karunakar Singh AE, UPJN(R). 3. Mr. Manish Srivastava, 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. 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 8th June 2024, 15th June 2024, & 25th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	66.22 to 74.54
2	Rajapur SPS	4.28 to 5.58
3	Mumfodganj MPS	62.79 to 69.73

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	13 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.66 to 7.99
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.72 to 24.64 %
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	5268 to 5826

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 parameters 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. In the graph available at the online portal, sudden spikes/drops can be seen 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. There is variation in between inlet and outlet flow which is more than water loss recorded for the STP. Concessionaire is required to resolve this problem.
7. Both Grit removal units are working.
8. One Mechanical Fine screens at PTU is working but it is not able to lift screenings efficiently. One Mechanical fine screen is under maintenance. 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 removal of scum from top must be done regularly. Also, some 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. During the site visit we found that only 9 surface aerators were operational which is 3 units less than what is actually required during peak time of the day.
13. Now the winter season is over, it is observed that foaming is still present in effluent. Main reason for this is improper aeration which is due to operation of surface aerators for less no. of hours. It was evident from running hour reports also.
    Hence, it is required to operate 12 surface aerators at least for 24 hours a day for doing proper aeration of raw sewage. This thing is being highlighted for last 3-4 months and Concessionaire is being regularly asked to change its operational strategy but no action is taken from Concessionaire's end.
14. It is also suggested to clean the Aeration tank for removing dead sludge which in turn will increase the efficiency of Aeration.
15. For Quiescent zone, it is suggested to plan for cleaning of the same for removing dead sludge which in turn will increase the efficiency of Quiescent zone. Currently, dead sludge which is deposited in quiescent zone is coming along with effluent which is deteriorating the quality of effluent.
16. Both DG sets are working.
17. All sludge transfer pumps are in working condition.
18. All CCTV cameras are working.
19. Sludge dewatering unit is working. Poly dosing unit is working.
20. New chlorine analyzer at outlet is working.
21. At flood pumping station, all pumps are in working condition.
22. Site house Keeping & landscaping must be improved.
23. Since the chlorine tonner storage in Rajapur STP goes beyond 4 tonners at one time hence

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

24. 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.
25. There is variation in recorded values of flow from inlet flowmeter of Mumfordganj SPS at Rajapur STP and outlet flowmeter of Mumfordganj SPS, 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 incorporate the suggestions provided after checking of records generated from the same.
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 as per safety norms.
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) 5 out of 6 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, All 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 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 sampler 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 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.

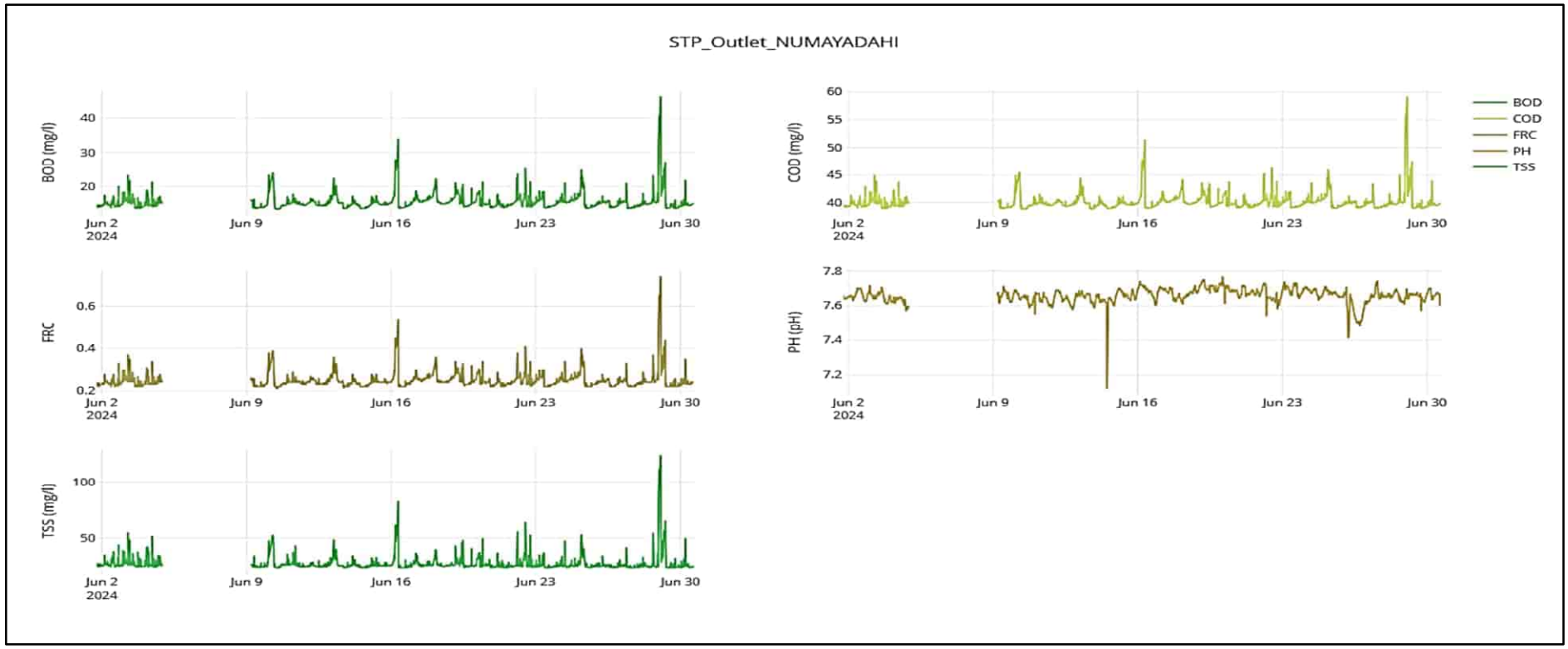
ANNEXURE-III

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 analyzers and chlorine analyzer from OEM is in progress.

2. Concessionaire is also asked to rectify the problem regarding non-transferring of values from analyzer to CPCB server which can be seen as break in graphs.

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-Jun-24	58500	58.50	7.22	7.80	145	15	324	36	215	24	NA	600	0.2	22.03	1100000	
02-Jun-24	58850	58.85	7.21	7.78	150	16	316	40	217	26	NA	400	0.3	21.82	1400000	
03-Jun-24	58000	58.00	7.22	7.74	145	15	312	44	216	25	NA	500	0.2	21.77	1300000	
04-Jun-24	57700	57.70	7.20	7.79	140	16	324	36	218	24	NA	700	0.3	21.67	1700000	
05-Jun-24	58950	58.95	7.21	7.73	145	15	320	40	217	27	NA	400	0.2	21.71	1300000	
06-Jun-24	57520	57.52	7.16	7.70	140	14	300	44	214	26	NA	500	0.3	22.93	1200000	
07-Jun-24	59700	59.70	7.17	7.74	150	16	312	40	217	24	NA	600	0.2	22.84	1100000	
08-Jun-24	58100	58.10	7.20	7.76	145	15	312	44	245	25	NA	400	0.3	22.81	1400000	
09-Jun-24	59600	59.60	7.16	7.71	150	14	316	36	218	26	NA	500	0.2	22.95	1100000	
10-Jun-24	55770	55.77	7.18	7.74	145	16	320	40	248	26	NA	600	0.3	21.91	1100000	
11-Jun-24	59750	59.75	7.21	7.80	140	15	324	44	218	25	NA	700	0.2	22.20	1700000	
12-Jun-24	59680	59.68	7.16	7.77	145	17	308	40	216	26	NA	500	0.3	22.98	1400000	
13-Jun-24	56150	56.15	7.19	7.78	145	16	312	44	254	27	NA	700	0.2	23.15	1300000	
14-Jun-24	59200	59.20	7.30	7.70	150	15	324	36	244	24	NA	400	0.2	22.71	1100000	
15-Jun-24	57600	57.60	7.28	7.80	145	16	332	40	264	25	NA	600	0.3	22.93	1200000	
16-Jun-24	58320	58.32	7.17	7.72	150	15	328	44	273	28	NA	500	0.3	22.72	1300000	
17-Jun-24	60160	60.16	7.26	7.73	145	16	340	40	280	26	NA	700	0.3	22.95	1400000	
18-Jun-24	58400	58.4	7.30	7.76	150	15	332	44	260	25	NA	600	0.2	22.59	1700000	
19-Jun-24	60020	60.02	7.28	7.74	145	16	336	40	266	24	NA	400	0.3	22.80	1200000	
20-Jun-24	57050	57.05	7.24	7.78	150	15	328	40	261	25	NA	500	0.3	22.77	1100000	
21-Jun-24	60150	60.15	7.26	7.8	135	14	344	36	259	24	NA	700	0.2	23.22	1700000	
22-Jun-24	52330	52.33	7.22	7.72	145	16	328	44	262	25	NA	600	0.3	23.03	1100000	
23-Jun-24	59430	59.43	7.24	7.78	150	15	332	40	260	26	NA	400	0.2	22.63	1200000	
24-Jun-24	59120	59.12	7.26	7.73	145	16	324	40	268	24	NA	500	0.3	23.10	1700000	
25-Jun-24	57990	57.99	7.21	7.76	135	15	328	44	279	25	NA	700	0.2	23.03	1400000	
26-Jun-24	54460	54.46	7.22	7.77	130	14	300	36	294	24	NA	600	0.3	22.96	1200000	
27-Jun-24	57700	57.70	7.24	7.79	140	15	308	40	281	28	NA	500	0.2	22.91	1100000	
28-Jun-24	61000	61.00	7.21	7.81	150	18	304	44	278	27	NA	600	0.3	22.69	1700000	
29-Jun-24	57840	57.84	7.18	7.72	135	16	320	40	288	26	NA	400	0.2	22.82	1400000	
30-Jun-24	57450	57.45	7.23	7.76	130	17	300	40	260	25	NA	500	0.2	23.56	1200000	
Average	**58216.33**	**58.22**	**7.22**	**7.76**	**143.83**	**15.47**	**320.27**	**40.53**	**249.67**	**25.40**		**543.33**	**0.25**	**22.67**	**1326666.67**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Power Consumption Report

Power Consumation details for the month of June 2024 (Numayadahi Facility)				
STP facilities		**UOM**	**Jun-24**	
Total raw sewage received for the month of June 2024		MLD	1746.49	
Average raw sewage received for the month of June 2024		MLD	58.22	
Average BOD		mg/l	143.83	
Guaranteed power KWH / MLD		KWH / MLD	93.37	
Total Power KW - allowed	(a)	KWH	163069.77	
SPS / MPS facilities		**UOM**	**Jun-24**	
Total raw sewaged discharged for the month of June 2024		MLD	2943.33	
Average raw sewage discharged for the month of June 2024		MLD	98.11	
Guaranteed power KWH / MLD		KWH / MLD	88.92	
Total Power KWH -Allowed	(b)	KWH	261720.90	
Total Guaranteed Power - Allowed	*(c)=(a)+(b)*	*KWH*	424790.67	
Actual Power consumption				
Actual grid Power consumption (UPPCL) for the month of June 2024		KWH	412121.80	
Total Actual Power consumed through DG set for the month of June 2024		KWH	4672.00	
Power consumption in staff quatter at Numayadahi STP		KWH	2040.00	
Total Actual Power consumption		KWH	414753.80	
Saved Power			-10036.87	
Raw Sewage Discharged-MPS/ SPS		**UOM**	**Jun-24**	**Avg.**
Ghagharnalla MPS		MLD	1815.93	60.53
SPS-SasurKhaderi		MLD	997.96	33.27
SPS -Lukarganj		MLD	129.44	4.31
Total		MLD	2943.33	98.11
Raw Sewage Received/Treated-STP		**UOM**	**Jun-24**	**Avg.**
Raw Sewage Received		MLD	1746.49	58.22
Raw Sewage Treated		MLD	1741.91	58.06
Power consumption from Grid(UPPCL)		**UOM**	**Jun-24**	
Actual grid power consumption-KWH (UPPCL) of Numayadahi Facility for the month of June 2024 (E)=(A)+(B)+(C)+(D)		KWH	412121.80	
MSP- Gagarnalla	(A)	KWH	213047.00	
SPS-Sasur Khaderi	(B)	KWH	71368.60	
SPS-Lukarganj	(C)	KWH	7056.20	
STP - Numayadhi	(D)	KWH	120650.00	
DG Power		**UOM**	**Jun-24**	
Total actual power consumed of Numayadahi Facility through DG set *(J)=(F)+(G)+(H)+(I)*		KWH	4672.00	
MSP- Gagarnalla	(F)	KWH	1640.00	
SPS-Sasur Khaderi	(G)	KWH	421.00	
SPS-Lukarganj	(H)	KWH	0.00	
STP - Numayadhi	(I)	KWH	2611.00	

Source: Site Records and Bills issued by UPPCL

1.3 Action taken report

Month of Site Inspection	June 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 6th June 2024, 13th June 2024, & 26th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	55.77 to 60.16
2	Ghagharnalla MPS	58.35 to 63.05
3	Sasur Kadheri SPS	31.30 to 35.26
4	Lukerganj SPS	3.96 to 4.64

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	< 20 mg/l	14 to 17 mg/l
2	TSS – Effluent	< 30 mg/l	24 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.70 to 7.80
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.67 to 23.15 %
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	13383 to 14483

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 parameters 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 data from 9:45 PM on 4th June 2024 to 4:45 AM on 9th June 2024 date is not available on online portal. Also, sudden spikes/drops can be seen in the graph 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 & 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 minimizing problem of plastic waste reaching biotower, it is instructed to minimize the gap of manual screen by installing additional screen on top of it. Also, it 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 screening waste through screw conveyor.
12. All Aeration tanks are working. Air is coming out vigorously from 3 to 4 points due to problem in diffusers in all tanks.
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. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
18. All Sludge Recirculation Pumps are in working condition.
19. Both Secondary clarifiers were found in operation.
20. Thickener was found in operation.
21. Both booster pumps & both chlorinators are in working condition. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
22. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
23. 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.

24. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
25. Both DGs are working.
26. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
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. Make a proper store for storage for flammable and hazardous materials including spare parts.
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. Housekeeping and cleaning must be improved for all units.
31. All CCTV cameras are working.
32. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis to comply with safety norms.
33. 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.

34. 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.

35. 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.

36. 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:

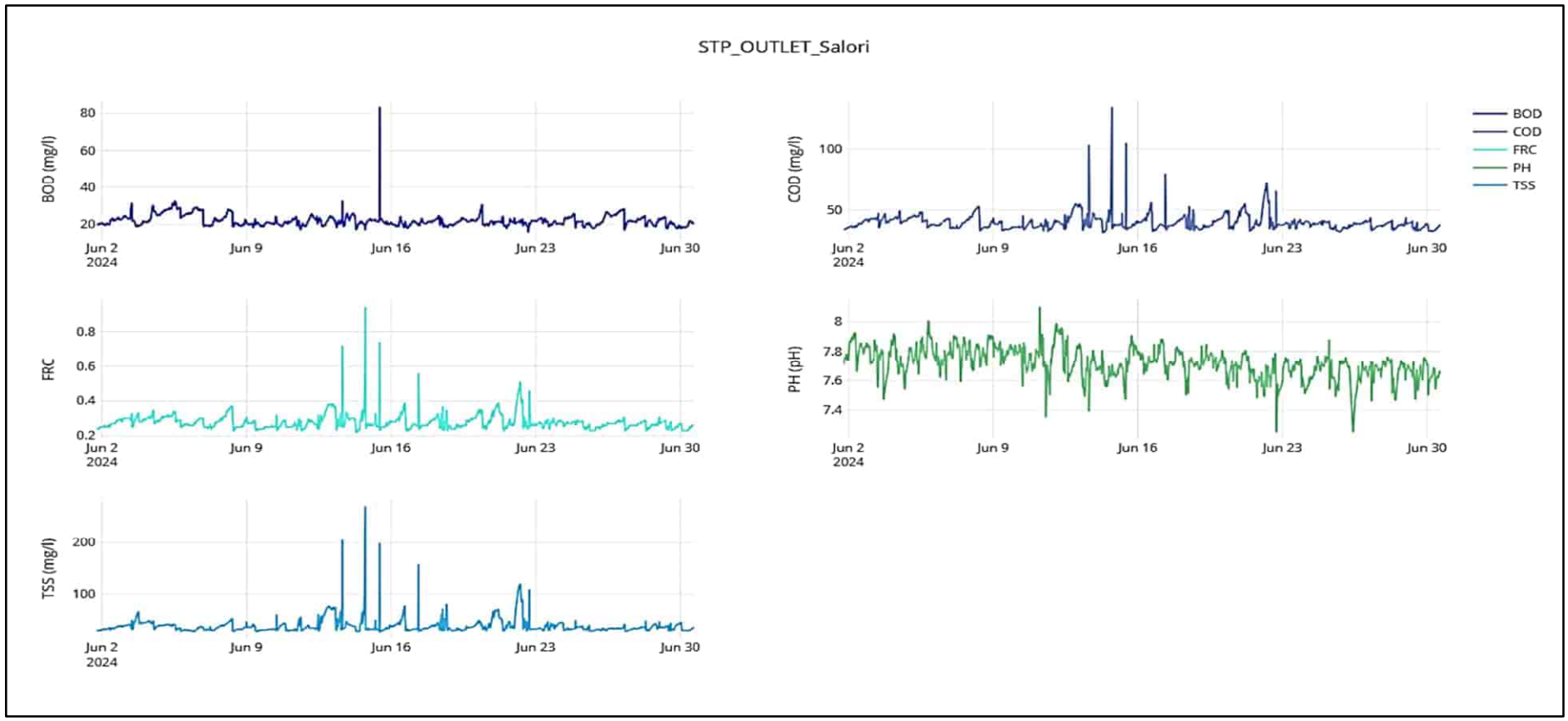
a) Portable samplers must be provided to collect composite samples for monitoring from inlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.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

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-Jun-24	37940	37.94	7.21	7.75	160	25	360	44	326	38	NA	700	0.3	23.97	1700000	
2-Jun-24	37180	37.18	7.27	7.74	165	23	372	40	336	36	NA	600	0.3	24.38	1400000	
3-Jun-24	33520	33.52	7.38	7.70	155	24	364	44	321	42	NA	400	0.3	23.49	1300000	
4-Jun-24	35410	35.41	7.64	7.79	150	26	368	40	344	39	NA	700	0.3	24.48	1400000	
5-Jun-24	34900	34.90	7.87	7.94	160	27	340	40	323	34	NA	600	0.3	23.02	1100000	
6-Jun-24	35750	35.75	8.22	7.80	155	26	352	36	367	33	NA	500	0.3	25.03	1400000	
7-Jun-24	35280	35.28	8.31	7.86	165	23	356	40	362	35	NA	700	0.3	23.48	1700000	
8-Jun-24	34460	34.46	7.99	7.82	160	24	344	44	331	38	NA	600	0.3	23.02	1400000	
9-Jun-24	35100	35.10	7.97	7.81	155	22	360	40	367	35	NA	400	0.3	24.41	1300000	
10-Jun-24	35860	35.86	7.83	7.90	150	22	364	36	323	34	NA	500	0.3	25.68	1700000	
11-Jun-24	33170	33.17	7.51	7.69	155	23	352	40	365	33	NA	700	0.3	25.42	1300000	
12-Jun-24	36190	36.19	7.39	7.74	165	24	360	44	344	44	NA	600	0.3	24.02	1200000	
13-Jun-24	36780	36.78	7.48	7.64	165	23	356	40	319	45	NA	400	0.3	23.76	1100000	
14-Jun-24	36050	36.05	7.39	7.56	155	23	344	44	337	40	NA	500	0.3	22.59	1400000	
15-Jun-24	33520	33.52	7.40	7.67	160	21	360	36	357	34	NA	700	0.3	23.97	1400000	
16-Jun-24	33310	33.31	7.36	7.62	165	22	368	40	362	40	NA	500	0.3	23.70	1100000	
17-Jun-24	35620	35.62	7.29	7.60	160	23	364	36	359	35	NA	400	0.3	22.87	1300000	
18-Jun-24	37200	37.20	7.26	7.76	155	21	352	40	321	39	NA	700	0.3	24.73	1700000	
19-Jun-24	37130	37.13	7.41	7.65	160	22	360	36	315	34	NA	500	0.3	25.14	1400000	
20-Jun-24	39340	39.34	7.32	7.58	160	23	356	40	333	39	NA	700	0.3	22.73	1300000	
21-Jun-24	38720	38.72	7.39	7.71	155	22	352	44	354	44	NA	600	0.3	24.75	1700000	
22-Jun-24	36100	36.10	7.26	7.51	165	23	336	48	303	43	NA	400	0.3	23.97	1100000	
23-Jun-24	36680	36.68	7.42	7.58	160	21	344	40	336	36	NA	500	0.3	23.00	1400000	
24-Jun-24	37320	37.32	7.61	7.65	160	22	312	44	340	38	NA	500	0.3	23.30	1400000	
25-Jun-24	35270	35.27	6.95	7.68	155	19	324	36	289	31	NA	600	0.3	23.61	1300000	
26-Jun-24	37470	37.47	7.23	7.62	160	23	332	40	315	33	NA	700	0.3	23.66	1700000	
27-Jun-24	37550	37.55	7.16	7.69	145	22	336	40	329	32	NA	400	0.3	24.66	1200000	
28-Jun-24	36240	36.24	7.05	7.64	150	22	344	36	338	35	NA	500	0.3	24.52	1400000	
29-Jun-24	37670	37.67	7.09	7.68	155	21	328	40	305	36	NA	600	0.3	23.71	1300000	
30-Jun-24	37980	37.98	7.26	7.64	150	22	340	36	323	33	NA	400	0.3	24.88	1100000	
Average	**36157.00**	**36.16**	**7.46**	**7.70**	**157.67**	**22.80**	**350.00**	**40.13**	**334.80**	**36.93**		**553.33**	**0.30**	**24.00**	**1373333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Power Consumption Report

Power Consumation details for the month of June - 2024 (Salori Facility)		
STP facaility	UOM	Total /Avg.
Total raw sewage received for the month of June - 2024	MLD	1084.71
Average raw sewage received for the month of June - 2024	MLD	36.16
Average BOD	mg/l	157.67
Guarnateed power KWH / MLD	KWH / MLD	102.35
Total Power KWH - Allowed	KWH	111020.07
SPS / MPS facilites		
Total raw sewage discharge for the month of June - 2024	MLD	1084.71
Average raw sewage discharge for the month of June - 2024	MLD	36.16
Gauranteed power KWH / MLD	KWH / MLD	54.26
Total Power KWH -Allowed	KWH	58856.36
Total Gurateed Power - Allowed	KWH	169876.43
Actual Power consumption		
Actual grid power consumption-KWH (UPPCL) for the month of June - 2024	KWH	163425.00
Total actual power consumed through DG set	KWH	2308.00
Total power consumed in staff quarters for the month of June - 2024	KWH	2114.52
Total Actual Power consumption	KWH	163618.48
Saved Power		-6257.95

Source: Site Records and Bills issued by UPPCL

2.3 Action taken report

Month of Site Inspection	June 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. Vijay Dwivedi, 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 4th June 2024, 12th June 2024, & 24th June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	33.17 to 39.34
2	Salori MPS	33.17 to 39.34

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	21 to 27 mg/l
2	TSS – Effluent	< 50 mg/l	33 to 45 mg/l
3	pH – Effluent	6.5 – 9.0	7.56 to 7.94
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.59 to 25.68 %
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	5040 to 5880

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 parameters 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. In the graph available at the online portal, sudden spikes/drops can be seen 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.
7. Both Mechanical Screens are working but 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 working, but it is under observation.
9. All aeration blowers are OK for operation.
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 launders & this can affect the quality of effluent. Concessionaire to please look into the matter & rectify the problem at the earliest.
11. 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.
12. Quality of effluent was satisfactory during visit. More sludge withdrawal from system is required for improving the quality.
13. Both Sludge feed pumps for sludge dewatering unit are working.
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 must be cleaned regularly.
16. For disposal of sludge, currently dumper truck is being used. As per current sludge generation, this truck is required dispose sludge tree times a day when fully filled. However, due to lack of certain arrangements, this truck cannot go on road during daytime due to traffic restrictions. Concessionaire is required to make arrangements so that truck can be allowed to move in daytime also so that proper sludge withdrawal can be ensured during all the times in the plant.
17. Due to lack of movement of dumper truck in daytime, sludge generated during daytime is disposed in sludge drying beds. Currently, only one sludge drying bed is empty. Therefore, Concessionaire is required to make arrangements for emptying more sludge drying beds for ensuring proper sludge withdrawal from the STP.
18. Both Sludge transfer pumps for Clarisettlers are working.
19. Both Filtrate pumps are working.
20. One out of two chlorinators is working and one is in maintenance hence there is no standby. Both booster pumps are working.
21. Vacuum gauges for both chlorinators are not working, replacement for the same is required.
22. 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.
23. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
24. Thickener unit is working. Cleaning of scum from top and launder is required.
25. Both DGs are working.
26. 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.
27. 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.
28. 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.

29. 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.
30. 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.
31. Commissioning of Public Address System is not completed yet.
32. Housekeeping near FeCl3 dosing system needs to be improved.
33. All CCTV cameras are working.
34. Make a proper store for storage of flammable and hazardous materials including spare parts.
35. 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.
36. 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:

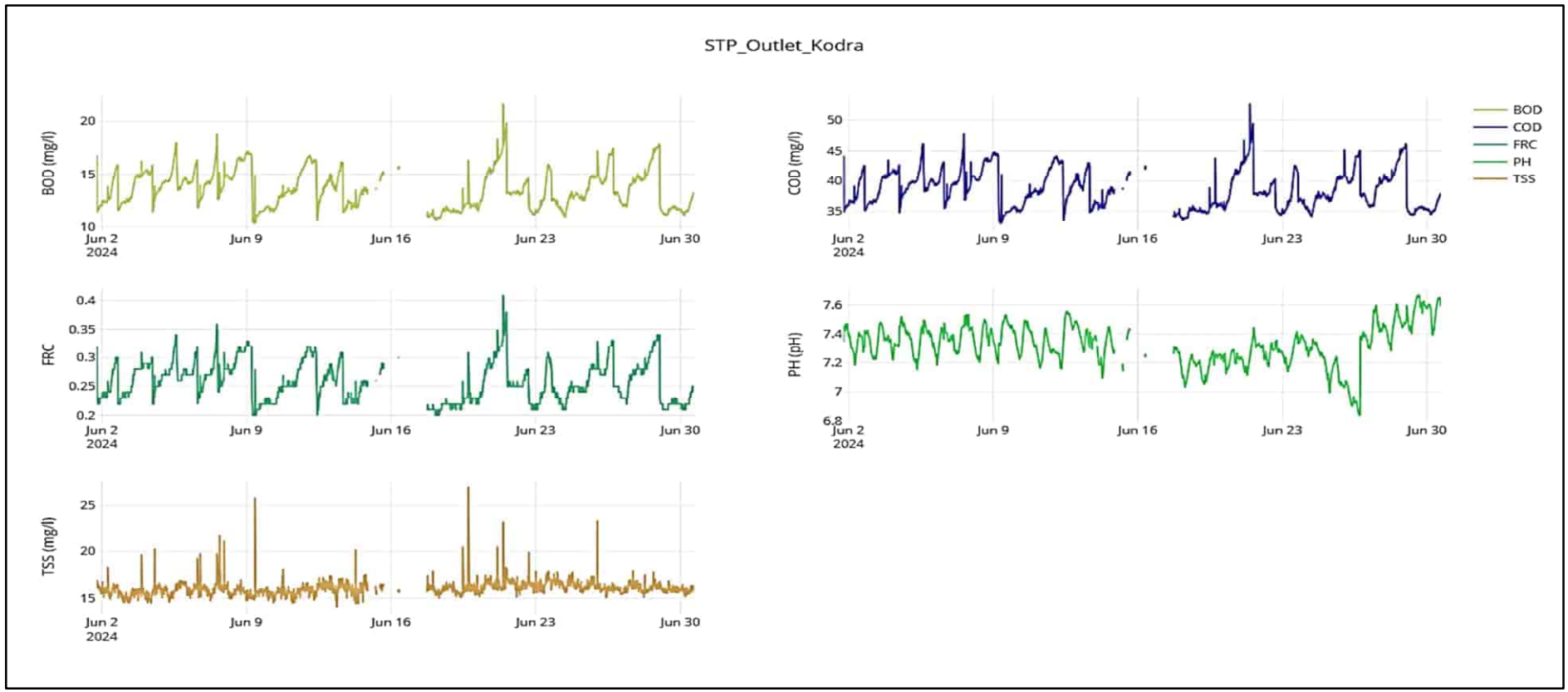
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.
    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 analyzers and chlorine analyzer from OEM is in progress.
2. Concessionaire is also asked to rectify the problem regarding non-transferring of values from analyzer to CPCB server which can be seen as break in graphs.

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-Jun-24	30460	30.46	7.16	7.38	140	13	332	40	304	15	NA	500	0.3	23.68	1200000	
02-Jun-24	29930	29.93	7.19	7.36	135	14	328	36	294	16	NA	800	0.3	22.74	1300000	
03-Jun-24	30180	30.18	7.16	7.37	130	13	320	40	288	16	NA	500	0.3	24.8	1100000	
04-Jun-24	30340	30.34	7.03	7.39	145	14	324	40	291	17	NA	400	0.3	22.88	1400000	
05-Jun-24	28640	28.64	6.93	7.40	130	15	332	44	274	16	NA	600	0.3	22.97	1200000	
06-Jun-24	28270	28.27	6.92	7.34	145	14	344	40	287	17	NA	700	0.3	21.72	1300000	
07-Jun-24	31190	31.19	7.02	7.42	140	15	336	44	290	16	NA	500	0.3	23.16	1200000	
08-Jun-24	29650	29.65	7.11	7.35	130	16	312	40	276	15	NA	400	0.3	22.37	1400000	
09-Jun-24	30780	30.78	7.05	7.43	135	12	324	36	282	16	NA	700	0.2	22.04	1100000	
10-Jun-24	29360	29.36	7.03	7.39	140	13	332	40	294	17	NA	600	0.2	21.75	1300000	
11-Jun-24	30250	30.25	6.92	7.34	135	15	316	44	287	16	NA	500	0.3	23.60	1400000	
12-Jun-24	30790	30.79	7.10	7.48	140	14	328	40	301	17	NA	600	0.3	22.38	1700000	
13-Jun-24	30290	30.29	7.23	7.42	135	14	316	36	279	18	NA	400	0.3	24.36	1200000	
14-Jun-24	29130	29.13	7.21	7.32	130	13	304	40	275	17	NA	500	0.3	24.69	1100000	
15-Jun-24	29900	29.90	7.19	7.28	145	15	324	40	298	16	NA	700	0.3	23.31	1300000	
16-Jun-24	30760	30.76	7.31	7.40	135	16	316	44	286	17	NA	600	0.3	23.60	1400000	
17-Jun-24	30630	30.63	7.26	7.42	130	11	308	32	282	16	NA	400	0.2	22.76	1700000	
18-Jun-24	28770	28.77	7.32	7.27	140	12	316	36	294	15	NA	500	0.2	23.48	1200000	
19-Jun-24	30090	30.09	7.13	7.28	135	13	312	36	284	17	NA	800	0.2	24.06	1400000	
20-Jun-24	31660	31.66	7.12	7.26	140	14	328	40	289	16	NA	700	0.3	22.10	1700000	
21-Jun-24	29760	29.76	7.27	7.31	130	16	336	44	297	17	NA	400	0.3	23.58	1300000	
22-Jun-24	32310	32.31	7.24	7.30	135	12	324	36	290	16	NA	600	0.2	21.91	1200000	
23-Jun-24	31350	31.35	7.19	7.34	150	13	340	40	308	18	NA	700	0.3	23.15	1400000	
24-Jun-24	32280	32.28	7.39	7.36	135	12	332	36	296	17	NA	400	0.2	24.29	1700000	
25-Jun-24	31450	31.45	7.22	7.16	140	13	348	40	305	16	NA	500	0.3	24.54	1300000	
26-Jun-24	27120	27.12	6.92	7.13	140	14	324	44	296	17	NA	700	0.3	23.96	1100000	
27-Jun-24	29890	29.89	6.93	7.41	145	13	332	36	287	16	NA	500	0.3	23.96	1400000	
28-Jun-24	28110	28.11	7.02	7.34	150	16	348	44	315	17	NA	600	0.3	25.05	1700000	
29-Jun-24	28400	28.40	6.83	7.54	140	12	328	36	290	16	NA	800	0.2	24.76	1400000	
30-Jun-24	30480	30.48	6.81	7.60	150	13	340	40	306	15	NA	400	0.2	23.63	1300000	
Average	**30074.00**	**30.07**	**7.11**	**7.36**	**138.33**	**13.67**	**326.80**	**39.47**	**291.50**	**16.37**		**566.67**	**0.27**	**23.38**	**1346666.67**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Power Consumption Report

Power Consumation details for the month of June 2024 (Kodra Facility)			
STP facaility		UOM	Total /Avg.
Total raw sewage received for the month of June 2024		MLD	902.22
Average raw sewage received for the month of June 2024		MLD	30.07
Average BOD		mg/l	138.33
Gunateeed power KWH / MLD		KWH / MLD	99.46
Total Power KWH - Allowed		KWH	89734.80
SPS / MPS facilities			
Total raw sewage discharge for the month of June 2024		MLD	902.22
Average raw sewage discharge for the month of June 2024		MLD	30.07
Guaranteed power KWH / MLD		KWH / MLD	102.55
Total Power KWH -Allowed		KWH	92522.66
Total Guaranteed Power - Allowed		KWH	182257.46
Actual Power consumption			
Actual grid power consumption-KWH (UPPCL) for the month of June 2024	(A)	KWH	172790.00
Total actual power consumed through DG set		KWH	3303.00
Total power consumed in staff quarters for the month of June 2024	(C)	KWH	559.00
Total Actual Power consumption	(D)=(A)	KWH	175534.00
Saved Power			-6723.46

Source: Site Records and Bills issued by UPPCL

3.3 Action taken report

Month of Site Inspection	June 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 3rd June 2024, 11th June 2024, & 21st June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	28.27 to 31.66
2	Kodra MPS	28.27 to 31.66

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	12 to 16 mg/l
2	TSS – Effluent	< 30 mg/l	15 to 18 mg/l
3	pH – Effluent	6.5 – 9.0	7.26 to 7.48
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.72 to 24.80%
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	5580 to 6167

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 parameters 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 data from 10:15 PM on 14th June 2024 to 5:30 PM on 17th June 2024 date is not available on online portal. Also, sudden spikes/drops can be seen in the graph 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 Grit Removal Units are working.
7. Both Mechanical Fine Screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. All Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working. Air is coming out vigorously from 5-6 points due to problem in diffusers. This must be rectified at the earliest.
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. 4 out of 6 CCTV cameras are working. Outlet CCTV camera is not 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:

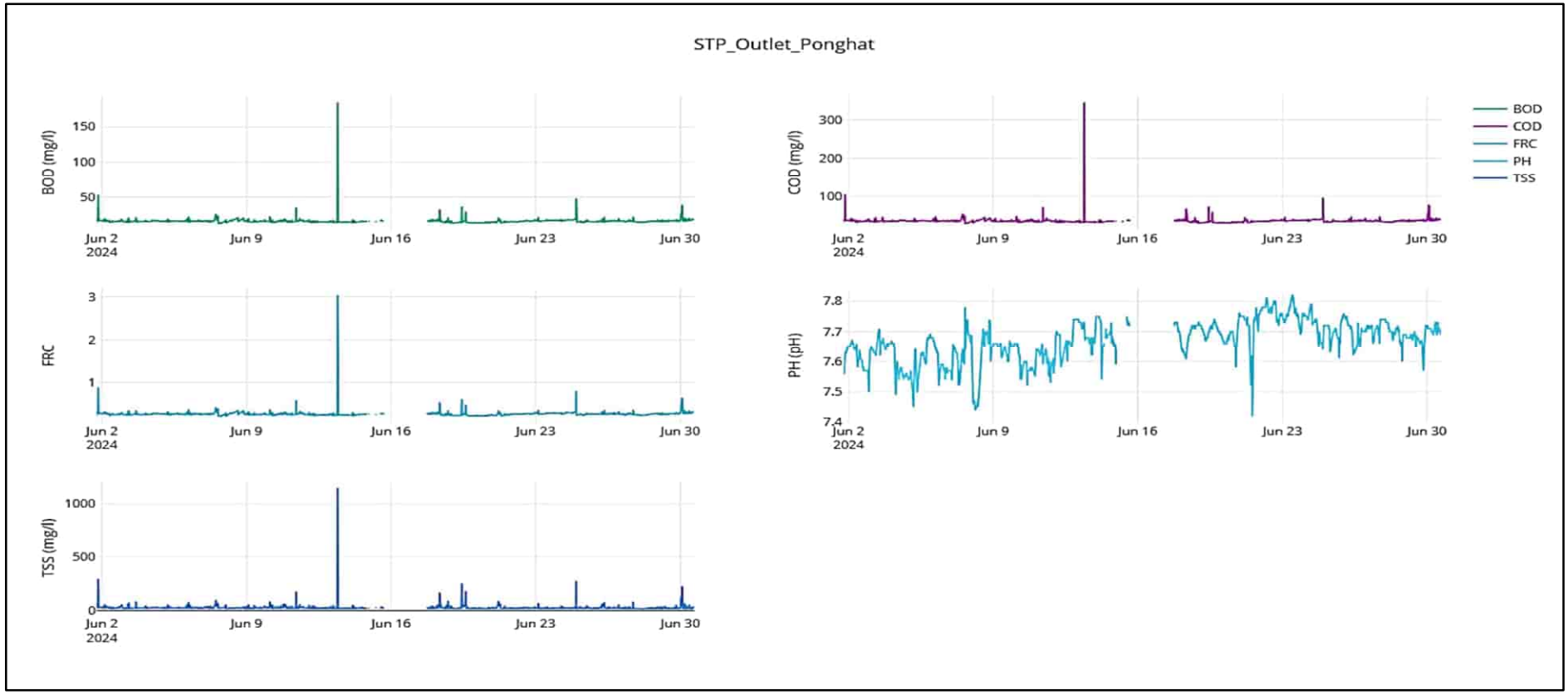
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.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

4.1 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 analyzers and chlorine analyzer from OEM is in progress.
2. Concessionaire is also asked to rectify the problem regarding non-transferring of values from analyzer to CPCB server which can be seen as break in graphs.

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-Jun-24	13530	13.53	7.52	7.69	140	15	308	40	238	27	NA	600	0.3	23.52	1400000	
2-Jun-24	12250	12.25	7.46	7.66	135	17	300	36	224	26	NA	500	0.2	21.80	1200000	
3-Jun-24	13350	13.35	7.42	7.69	130	16	296	36	232	27	NA	700	0.3	22.76	1300000	
4-Jun-24	13720	13.72	7.34	7.64	155	17	304	40	256	25	NA	800	0.3	23.02	1700000	
5-Jun-24	14020	14.02	7.59	7.72	125	15	300	36	241	26	NA	600	0.3	21.95	1100000	
6-Jun-24	13590	13.59	7.66	7.65	140	16	292	40	240	28	NA	400	0.2	22.69	1300000	
7-Jun-24	13010	13.01	7.70	7.63	135	17	284	36	233	29	NA	500	0.3	23.38	1200000	
8-Jun-24	13620	13.62	7.58	7.66	130	16	296	40	242	26	NA	700	0.2	23.06	1700000	
9-Jun-24	14030	14.03	7.46	7.70	140	15	304	36	249	24	NA	600	0.3	23.82	1200000	
10-Jun-24	13130	13.13	7.58	7.67	145	16	312	36	244	27	NA	500	0.2	22.57	1300000	
11-Jun-24	13200	13.20	7.63	7.69	150	17	300	40	256	28	NA	400	0.3	22.01	1400000	
12-Jun-24	14200	14.20	7.67	7.73	140	15	308	32	259	24	NA	700	0.2	23.16	1100000	
13-Jun-24	13450	13.45	7.54	7.68	150	16	296	40	228	28	NA	600	0.2	23.40	1700000	
14-Jun-24	13170	13.17	7.58	7.75	135	15	288	32	223	25	NA	500	0.3	22.60	1200000	
15-Jun-24	13310	13.31	7.67	7.78	145	17	312	36	247	26	NA	400	0.2	24.13	1300000	
16-Jun-24	12120	12.12	7.63	7.76	150	18	304	44	253	27	NA	700	0.3	22.33	1100000	
17-Jun-24	12310	12.31	7.56	7.73	145	16	308	40	256	28	NA	600	0.2	23.18	1700000	
18-Jun-24	6730	6.73	7.67	7.77	140	17	300	36	242	28	NA	500	0.3	22.03	1300000	From 18.06.2024 to 20.06.2024: Aeration Tank no. 1 is under shut down for maintenance of diffusers
19-Jun-24	6760	6.76	7.66	7.79	135	15	312	32	262	27	NA	400	0.2	23.78	1200000	
20-Jun-24	10940	10.94	7.64	7.78	145	14	308	32	268	23	NA	700	0.2	21.72	1400000	
21-Jun-24	11990	11.99	7.63	7.76	140	16	304	36	247	28	NA	800	0.2	23.61	1200000	From 21.06.2024 to 23.06.2024: Aeration Tank no. 2 is under shut down for maintenance of diffusers
22-Jun-24	14570	14.57	7.54	7.78	135	17	288	40	224	25	NA	500	0.3	22.19	1700000	
23-Jun-24	12630	12.63	7.59	7.75	150	15	300	36	241	23	NA	600	0.3	22.46	1400000	
24-Jun-24	12290	12.29	7.67	7.72	145	18	292	44	228	27	NA	700	0.3	23.63	1200000	
25-Jun-24	13220	13.22	7.66	7.74	130	16	268	32	205	24	NA	400	0.2	24.32	1300000	
26-Jun-24	13130	13.13	7.64	7.76	135	17	284	40	216	26	NA	500	0.3	22.86	1100000	
27-Jun-24	13180	13.18	7.62	7.73	125	16	296	36	246	24	NA	600	0.3	23.18	1700000	
28-Jun-24	13070	13.07	7.59	7.77	130	15	288	32	214	23	NA	700	0.2	22.84	1400000	
29-Jun-24	13010	13.01	7.57	7.72	125	16	300	40	232	24	NA	400	0.2	21.52	1200000	
30-Jun-24	14180	14.18	7.52	7.75	130	17	304	44	244	28	NA	800	0.3	23.09	1100000	
Average	**12723.67**	**12.72**	**7.59**	**7.72**	**138.50**	**16.10**	**298.53**	**37.33**	**239.67**	**26.03**		**580.00**	**0.25**	**22.89**	**1336666.67**	

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Power Consumption Report

Power Consumation details for the month of June 2024 (Ponghat Facility)		
STP facaility	**UOM**	**Total /Avg.**
Total raw sewage received for the month of June 2024	MLD	381.71
Average raw sewage received for the month of June 2024	MLD	12.72
Average BOD	mg/l	138.50
Guarnateed power KWH / MLD	KWH / MLD	125.03
Total Power KWH - Allowed	KWH	47725.20
SPS / MPS facilites		
Total raw sewage discharge for the month of June 2024	MLD	381.71
Average raw sewage discharge for the month of June 2024	MLD	12.72
Gauranteed power KWH / MLD	KWH / MLD	108.27
Total Power KWH -Allowed	KWH	41327.74
Total Gurateed Power - Allowed	KWH	**89052.94**
Actual Power consumption		
Actual grid power consumption-KWH (UPPCL) for the month of June 2024 (A)	KWH	76810.00
Total actual power consumed through DG set	KWH	805.00
Total power consumed in staff quarters for the month of June 2024 (C)	KWH	2273.00
Total Actual Power consumption (	KWH	**75342.00**
Saved Power		**-13710.94**

Source: Site Records and Bills issued by UPPCL

4.3 Action taken report

Month of Site Inspection	June 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 3rd June 2024, 11th June 2024, 20th June 2024 & 21st June 2024 and following observations were made after action taken by Concessionaire on inspection report provided by Project Engineer for May-24:

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	6.73 to 14.20
2	Ponghat MPS	6.73 to 14.20

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	15 to 17 mg/l
2	TSS – Effluent	< 30 mg/l	21 to 29 mg/l
3	pH – Effluent	6.5 – 9.0	7.63 to 7.79
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100ml
5	Consistency – Sludge	> 20 %	21.72 to 24.13%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Ponghat Facility	1740 to 2847

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

- Status of various units & records at site.

1. During visit on 20th June 2024 at around 6:00 PM, it was found that sewage was overflowing from tapping point of Ponghat MPS that too during lean time. Though maintenance work of diffusers in one Aeration tank was in progress but other Aeration tank was enough to take sewage during the period of lean flow.

Also, in Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/O&M/944 dated 18th June 2024 by which intimation regarding maintenance work was given, assurance was given that treatment of the STP will not be compromised during maintenance works. However, sewage was found overflowing and no arrangements for alternate treatment were found in place for overflowing sewage and same was the case during visit on 21st June 2024 also.

Therefore, it is evident that Availability of the STP was compromised on 18th & 19th June 2024 when sewage received inside STP was only 6.73 MLD & 6.76 MLD respectively. However, when the instructions were given, sewage received inside STP was 10.94 MLD on 20th June 2024. This shows serious lack of planning and commitment on the part of Concessionaire.

2. Latest SCADA reports 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.
3. Latest SCADA reports regarding parameters 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.
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 data from 8:00 PM on 14th June 2024 to 6.00 PM on 17th June 2024 date is not available on online portal. Also, sudden spikes/drops can be seen in the graph which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
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. 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. Both Grit Removal Units are working.
9. 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.
10. Both Aeration tanks are working.
11. 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.
12. All Aeration Blowers are working.
13. Both Centrifuges are working.
14. All Sludge Feed pumps, and Poly dosing pumps are working.
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 was not good during the visit. More sludge withdrawal from the system must be ensured for improving the quality of effluent.
18. At outlet, Automatic sampler is not working. Samples are collected manually regarding Composite sample.
19. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be 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. Housekeeping of the plant must be improved.
23. At Ponghat MPS, all pumps are OK for operation. Pressure transmitter is not installed at pump discharge common header.
24. 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.

25. 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.
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. Installation of Public Address System is done but its commissioning is not completed yet.
29. Make a proper store for storage of flammable and hazardous materials including spare parts.
30. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
31. 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.
32. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:
    a) Portable samplers must be provided to collect composite samples for monitoring from 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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	NA	NA
	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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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	NA	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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st June 2024 to 30th June 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	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st June 2024 to 30th June 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	NA	NA
6.14	If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion 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 June 2024 to 30th June 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	NA	NA
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	NA	NA
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	NA	NA
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	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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 June 2024 to 30th June 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	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st June 2024 to 30th June 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