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
July 2023

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

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 january-2016, The Government of India approved a Hybrid annuity model to implement the STP project under the Namami Gange program on a PPP basis.

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

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

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

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

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

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

2. Hybrid Annuity Model (HAM)

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

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

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

3. Objectives

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

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

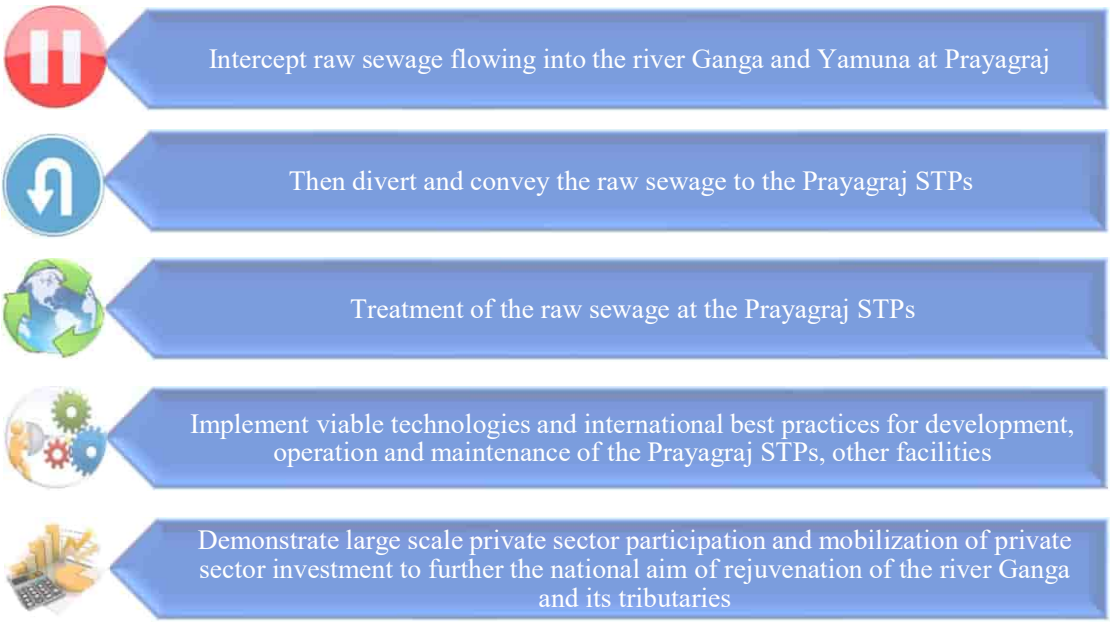


Figure 1 : Objectives of NMCG and UP JAL NIGAM

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

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

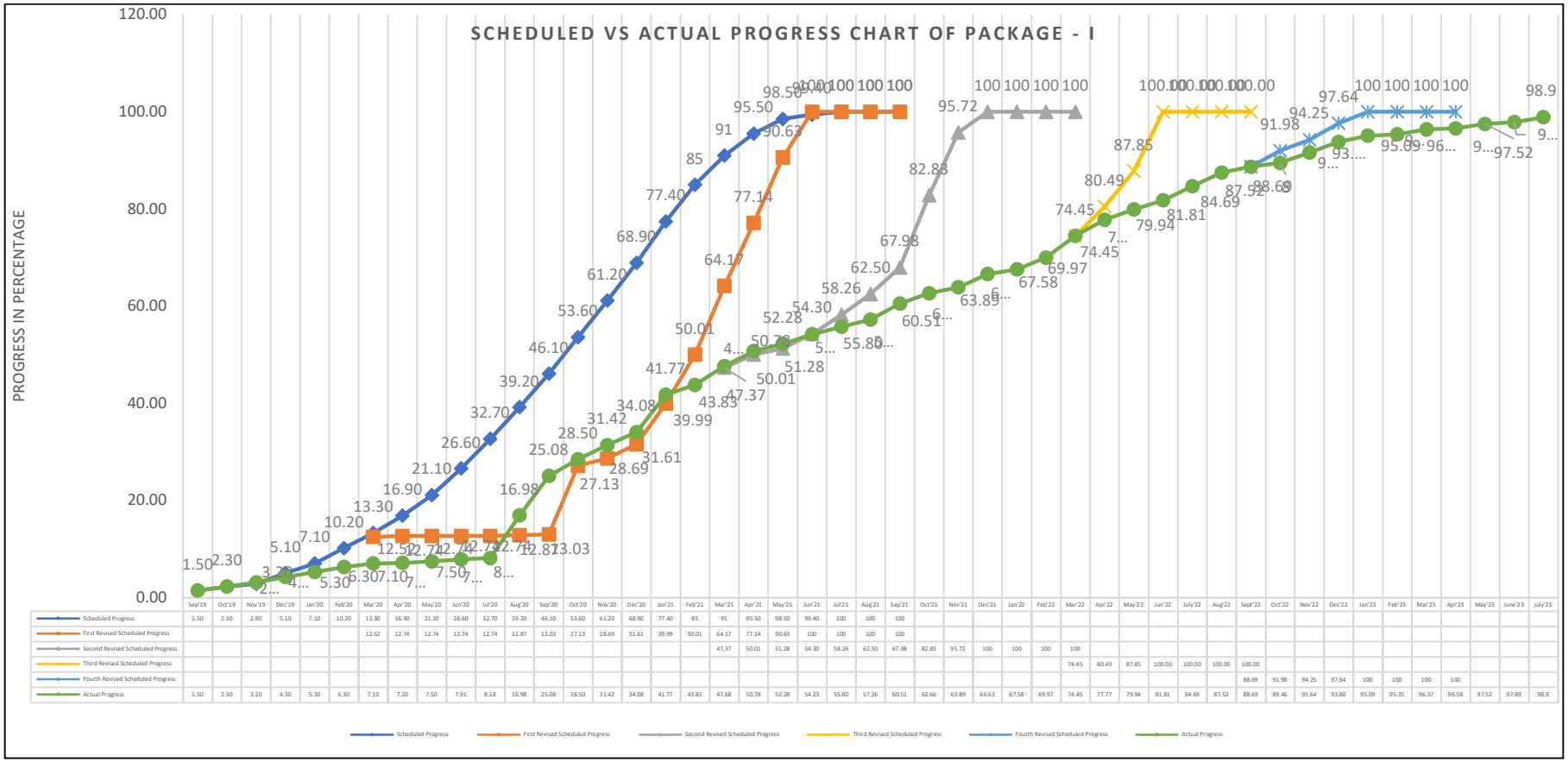
Package Number - I				
Nature of work	**Facilities**			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD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

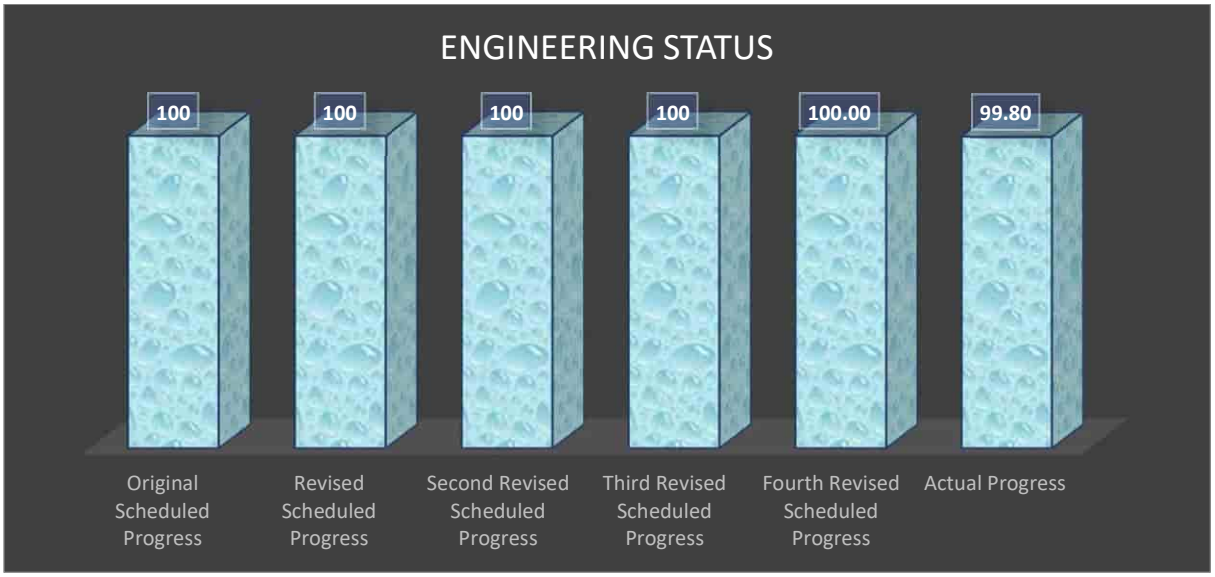
7. Status of project

7.1 Package-I Overall progress status



- **Project Engineer has provided observation on Concessionaire July'23-month MPR vide letter number AIPL/NMCG/PRAYAG/1644 on dated 19.08.2023 Therefore, status may be change after observation incorporated by Concessionaire.**

7.1.1. Engineering status



7.1.2. Engineering status as per construction plan

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

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

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

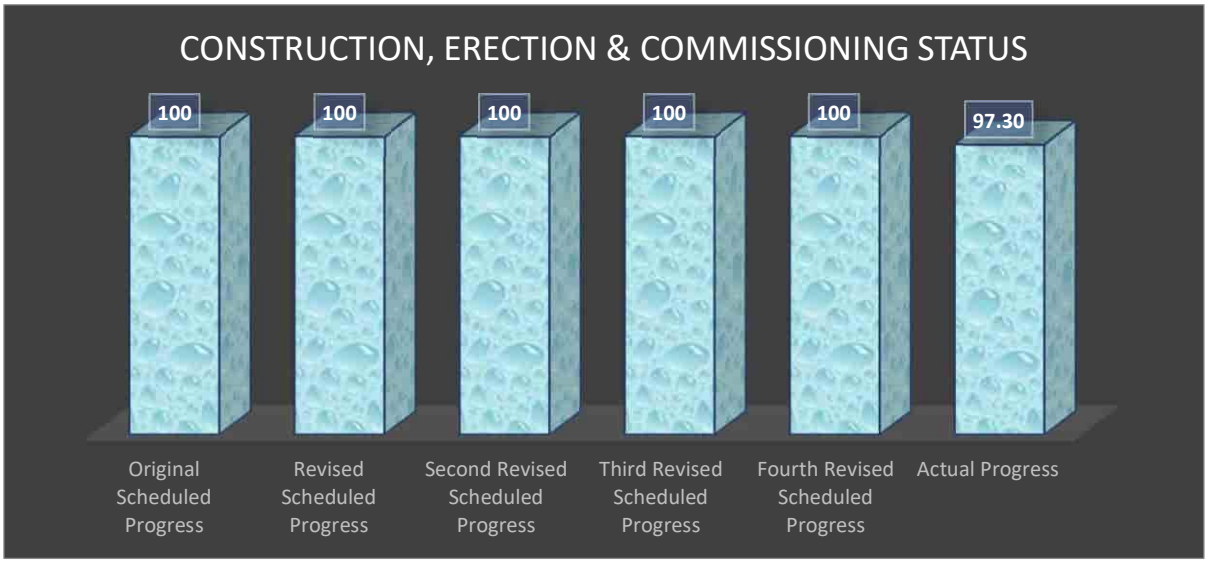
7.1.3 Procurement & Supply status

7.1.4 Procurement & Supply status as per construction plan

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

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

7.1.5 Construction, Erection & Commissioning status



7.1.6 Construction, Erection & Commissioning status as per construction plan

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

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
13.	PCC work	01-10-20	09-10-20	100%	100%	0.00%	100%
14.	RCC upto completion	01-10-20	31-10-21	100%	100%	0.00%	100%
15.	Other Misc Works	01-01-22	15-01-23	100%	100%	0.00%	100%
16.	Hydrotesting	15-01-22	25-04-22	100%	100%	0.00%	100%
17.	**Tube settler, CCT & Sludge storage Tank**	16-01-21	20-01-23				
18.	Earth work & Boulder filling work	16-01-21	28-02-21	100%	100%	0.00%	100%
19.	PCC work	01-02-21	28-02-21	100%	100%	0.00%	100%
20.	RCC upto completion	01-02-21	20-04-22	100%	100%	0.00%	100%
21.	Other Misc Works	16-04-22	20-01-23	100%	100%	0.00%	100%
22.	Hydrotesting	25-07-22	20-08-22	100%	100%	0.00%	100%
23.	**Main Process Building**	01-03-21	20-01-23				
24.	Excavation	01-03-21	10-11-21	100%	100%	0.00%	100%
25.	Rubble soling/ Stone filling work	03-07-21	20-11-21	100%	100%	0.00%	100%
26.	PCC	10-07-21	10-12-21	100%	100%	0.00%	100%
27.	Structure completion (Expect finishing works)	20-07-21	10-11-22	100%	100%	0.00%	100%
28.	Other Misc Works	10-11-22	20-01-23	100%	100%	0.00%	100%
29.	Hydrotesting	10-11-22	20-11-22	100%	100%	0%	100%
30.	**Basana Nala SPS and I&D Works**	05-11-21	20-01-23				
31.	Excavation work	05-11-21	25-11-21	100%	100%	0.00%	100%
32.	PCC	25-11-21	05-12-21	100%	100%	0.00%	100%
33.	RCC upto completion	05-12-21	15-11-22	100%	100%	0.00%	100%
34.	Hydrotesting	15-11-22	25-11-22	100%	100%	0.00%	100%
35.	Boundary wall	01-12-22	20-01-23	100%			
36.	Staff quarter	01-12-22	20-01-23	100%	70%	25%	95%
37.	Other Misc Works	15-06-22	20-01-23	100%	85%	10%	95%
38.	**Shantipuram MPS and I&D Works**	01-09-20	20-01-23				
39.	Excavation work	01-11-20	28-03-21	100%	100%	0.00%	100%
40.	PCC	28-03-21	30-04-21	100%	100%	0.00%	100%
41.	RCC work upto completion	01-04-21	30-07-22	100%	100%	0.00%	100%
42.	Other Misc Works	01-05-22	20-01-23	100%	100%	0.00%	100%
43.	Hydrotesting	10-08-22	20-08-22	100%	100%	0.00%	100%
44.	Staff quarter	01-09-20	15-01-23	100%	100%	0.00%	100%
45.	**Pipe laying (Rising Main & Gravity Main)**	15-11-21	10-11-22				
46.	**Rising main**	01-04-22	09-11-22				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
47.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-04-22	25-10-22	100%	100%	0%	100%
48.	Hydrotesting	25-10-22	09-11-22	100%	100%	0%	100%
49.	**Gravity Main**	15-11-21	10-11-22				
50.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	25-10-22	100%	100%	0%	100%
51.	Hydrotesting	26-10-22	10-11-22	100%	100%	0%	100%
52.	Other works	01-01-20	25-01-23	100%			
53.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
54.	Other misc works (Boundary Wall, Road, rainwater harvesting, Land scaping etc)	01-11-22	25-01-23	100%	90%	10%	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%			
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%	90%	10%	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%	99%	1%	100%
70.	Other misc. work	20-08-22	30-01-23	100%	95%	2%	100%
71.	**Electrical and C&I- STP Unit**	20-08-22	30-01-23				
72.	Transformer Installation	01-11-22	31-12-22	100%	100%	0%	100%
73.	HT/LT Panel erection	01-11-22	31-12-22	100%	100%	0%	100%
74.	Instrumentation works	15-12-22	30-01-23	100%	90%	10%	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%	85%	10%	95%
78.	Solar Panel	01-12-22	30-01-23	100%	70%	0%	70%
79.	DG Installation	20-08-22	31-08-22	100%	100%	0%	100%
80.	Other misc. work	01-12-22	30-01-23	100%	90%	5%	95%
81.	**Electrical and C&I- SPS & MPS**	20-08-22	31-01-23				

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

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
116.	PCC	01-05-21	15-06-21	100%	100%	0%	100%
117.	RCC WORK upto completion	15-05-21	20-05-22	100%	100%	0%	100%
118.	Hydrotesting	20-05-22	30-05-22	100%	100%	0%	100%
119.	Boundary wall	10-08-22	15-01-23	100%	100%	0%	100%
120.	Staff quarter	01-05-22	15-01-23	100%	100%	0%	100%
121.	I&D Other misc works	01-04-22	31-08-22	100%	100%	0%	100%
122.	**Mahewaghat SPS and I&D work**	01-01-21	30-01-23				
123.	Excavation work	01-01-21	15-04-21	100%	100%	0%	100%
124.	PCC	01-01-21	15-04-21	100%	100%	0%	100%
125.	RCC Work upto completion	30-05-21	10-05-22	100%	100%	0%	100%
126.	Other finishing work	01-06-22	20-01-23	100%	90%	10%	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%	98%	2%	100%
130.	I&D Other misc works	01-05-22	30-01-23	100%	100%	0%	100%
131.	**Naini-II MPS and I&D work**	26-10-20	30-01-23				
132.	Excavation work	16-01-21	25-04-21	100%	100%	0%	100%
133.	PCC	16-01-21	25-04-21	100%	100%	0%	100%
134.	RCC Work upto completion	01-05-21	15-05-22	100%	100%	0%	100%
135.	Other finishing work	26-04-22	30-01-23	100%	100%	0%	100%
136.	Hydrotesting	01-06-22	15-06-22	100%	100%	0%	100%
137.	Staff quarter	26-10-20	15-12-22	100%	100%	0%	100%
138.	I&D Other misc works	26-04-22	30-01-23	100%	90%	10%	100%
139.	**Pipe laying (Rising Main & Gravity Main)**	16-01-21	20-09-22				
140.	Rising main	16-01-21	15-09-22	100%			
141.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-21	15-09-22	100%	100%	0%	100%
142.	Hydrotesting	15-07-22	15-09-22	100%	100%	0%	100%
143.	**Gravity Main**	01-03-21	20-09-22				
144.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-03-21	05-09-22	100%	100%	0%	100%
145.	Hydrotesting	10-09-22	20-09-22	100%	100%	0%	100%
146.	Other works	01-01-20	30-01-23	100%			
147.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
148.	Other misc works (Boundary Wall, Road, rain water harvesting, Land scaping etc)	01-03-21	30-01-23	100%	90%	10%	100%
149.	**Mechanical Erection- STP unit**	01-04-22	30-01-23				

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
150.	Pumps	01-09-22	15-09-22	100%	100%	0%	100%
151.	Lamella clarifier/ Tube settler	01-05-22	15-09-22	100%	100%	0%	100%
152.	Grit removal system	01-06-22	15-09-22	100%	100%	0%	100%
153.	Piping, Valves & Gates	26-04-22	15-10-22	100%	100%	0%	100%
154.	Firefighting System	01-09-22	20-10-22	100%			
155.	Chlorination	01-09-22	30-09-22	100%	100%	0%	100%
156.	Blowers & Diffuser	01-05-22	30-09-22	100%	100%	0%	100%
157.	screens	01-06-22	30-06-22	100%	100%	0%	100%
158.	Media Installation/ Bio module	01-04-22	30-09-22	100%	100%	0%	100%
159.	Other misc. work	01-09-22	30-01-23	100%	100%	0%	100%
160.	**Mechanical Erection- SPS & MPS**	10-06-22	30-01-23				
161.	Pumps	15-07-22	30-09-22	100%	100%	0%	100%
162.	Screens	01-07-22	31-07-22	100%	100%	0%	100%
163.	Piping, Valves & Gates	10-06-22	31-10-22	100%	99%	0%	99%
164.	Other misc. work	01-07-22	30-01-23	100%	98%	2%	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%	90%	5%	95%
169.	Instrumentation works	01-07-22	30-11-22	100%	95%	5%	100%
170.	CCTV	01-12-22	30-01-23	100%		100%	100%
171.	CABLE LAYING	01-05-22	30-10-22	100%	100%	0%	100%
172.	Solar Panel	15-06-22	30-11-22	100%	100%	0%	100%
173.	Other misc. work	01-09-22	30-01-23	100%	95%	0%	95%
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%	90%	5%	95%
180.	Other misc. work	15-07-22	30-01-23	100%	99%	0%	99%
181.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	90%	8%	98%
182.	**Trial Run, Final Inspection and COD**	01-02-23	30-04-23				
183.	Trial Run and Final Inspection	01-02-23	29-04-23			100%	100%
184.	COD	30-04-23	30-04-23			100%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
185.	**Erection Commissioning, Trial Run and COD of Jhunsi STP (16 MLD) & Associated works**						
186.	**FCR tank unit**	01-10-20	30-01-23				
187.	Excavation work	01-10-20	25-10-20	100%	100%	0%	100%
188.	Boulder filling work	26-10-20	29-10-20	100%	100%	0%	100%
189.	PCC work	30-10-20	30-10-20	100%	100%	0%	100%
190.	RCC up to completion	31-10-20	15-10-21	100%	100%	0%	100%
191.	Other finishing work	01-03-22	30-01-23	100%	75%	15%	90%
192.	Hydro testing	01-04-22	30-04-22	100%	100%	0%	100%
193.	**Tube settler, CCT & Sludge storage Tank**	01-01-21	30-01-23				
194.	Earth work & Boulder filling work	01-01-21	15-02-21	100%	100%	0%	100%
195.	PCC work	16-02-21	28-02-21	100%	100%	0%	100%
196.	RCC up to completion	01-03-21	05-04-22	100%	100%	0%	100%
197.	Other finishing work	01-02-22	30-01-23	100%	75%	15%	90%
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%	80%	10%	90%
205.	Hydro testing	01-08-22	10-09-22	100%	85%	15%	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%	90%	10%	100%
210.	Other finishing work	01-11-22	30-01-23	100%		50%	50%
211.	Hydro testing	10-12-22	20-12-22	100%		100%	100%
212.	Boundary wall	15-12-22	30-01-23	100%			
213.	Staff quarter	20-11-22	30-01-23	100%	80%	5%	85%
214.	Other Misc. works	15-11-22	30-01-23	100%		40%	40%
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%	75%	15%	90%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
220.	Hydro testing	01-07-22	15-07-22	100%	100%	0%	100%
221.	Staff quarter	01-09-20	30-11-22	100%	98%	2%	100%
222.	Other Misc. works	01-07-22	30-01-23	100%	70%	20%	90%
223.	**Pipe laying (Rising Main & Gravity Main)**	15-11-21	04-01-23				
224.	Rising main	15-11-21	25-12-22	100%			
225.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	15-12-22	100%	90%	10%	100%
226.	Hydro testing	05-12-22	25-12-22	100%	80%	20%	100%
227.	**Gravity Main**	16-01-22	04-01-23				
228.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-22	20-12-22	100%	90%	10%	100%
229.	Hydro testing	15-12-22	04-01-23	100%	85%	10%	95%
230.	Other works	01-02-20	30-01-23	100%			
231.	Site office (Temporary office)	01-02-20	30-04-20	100%	100%	0%	100%
232.	Other misc. works (Boundary Wall, Road, rain water harvesting, Land scraping etc.)	01-12-22	30-01-23	100%		10%	10%
233.	**Mechanical Erection- STP unit**	01-04-22	30-01-23				
234.	Pumps	20-11-22	20-01-23	100%	70%	25%	95%
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%			
237.	Chlorination	20-11-22	30-01-23	100%	90%	5%	95%
238.	Grit removal system	01-12-22	30-01-23	100%	100%	0%	100%
239.	Blowers & Diffuser	01-07-22	31-12-22	100%	75%	25%	100%
240.	Screens	20-11-22	31-12-22	100%	100%	0%	100%
241.	Piping, Valves & Gates	01-07-22	25-01-23	100%	85%	14%	99%
242.	Media Installation/ Bio module	15-04-22	25-12-22	100%	85%	0%	85%
243.	Other misc. work	01-12-22	30-01-23	100%	60%	30%	90%
244.	**Mechanical Erection- SPS & MPS**	20-10-21	30-01-23				
245.	Pumps	20-11-22	20-01-23	100%	70%	30%	100%
246.	Screens	01-12-22	15-01-23	100%	70%	0%	70%
247.	Piping, Valves & Gates	20-10-21	30-01-23	100%	60%	20%	80%
248.	Other misc. work	01-12-22	30-01-23	100%	50%	25%	75%
249.	**Electrical and C&I- STP Unit**	01-09-22	31-01-23				
250.	Transformer Installation	25-10-22	31-01-23	100%	100%	0%	100%
251.	HT/LT panel erection	01-09-22	20-01-23	100%	100%	0%	100%
252.	PLC Panel & Online monitoring system	01-11-22	30-01-23	100%	20%	60%	80%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
253.	Instrumentation works	01-11-22	30-01-23	100%		80%	80%
254.	CCTV	01-11-22	30-01-23	100%		100%	100%
255.	Cable laying	01-11-22	30-01-23	100%	85%	5%	90%
256.	DG Installation	01-09-22	25-01-23	100%	100%	0%	100%
257.	Solar Panel	15-11-22	30-01-23	100%	100%	0%	100%
258.	Other misc. work	01-12-22	30-01-23	100%	50%	40%	90%
259.	**Electrical and C&I- SPS & MPS**	01-11-22	31-01-23				
260.	Transformer Installation	01-11-22	30-01-23	100%		50%	50%
261.	HT/LT Panel erection	15-11-22	30-01-23	100%	50%	25%	75%
262.	Cable laying	15-11-22	30-01-23	100%	50%	15%	65%
263.	DG Installation	15-11-22	30-01-23	100%		50%	50%
264.	PLC Panel & Online monitoring system	15-11-22	30-01-23	100%			
265.	Other misc. work	15-11-22	30-01-23	100%	50%	0%	50%
266.	Commissioning of Mech., Electrical and C&I	31-01-23	31-01-23	100%		50%	50%
267.	**Trial Run, Final Inspection and COD**	01-02-23	30-04-23				
268.	Trial Run and Final Inspection	01-02-23	30-04-23				
269.	COD	30-04-23	30-04-23				

7.1.7 Physical construction Activities in July'23 month

PHYSICAL CONSTRUCTION ACTIVITIES, ACTION TAKEN REPORT, RECOMMENDATION AND KPI REPORT FOR PACKAGE-I 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. २४८४ /PWPL (Adani) / ४९६ Dated: २०/ ०९ / 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 01.06.2021 vide letter no. 2484/PWPL (Adani)/496

KPI REPORT'S OF PACKAGE - II,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - II

7.3 Package-III status

OFFICE OF THE GENERAL MANAGER,
कार्यालय महाप्रबन्धक,
GANGA POLLUTION CONTROL UNIT,
गंगा प्रदूषण नियंत्रण इकाई,
U.P. JAL NIGAM, PRAYAGRAJ
उ0 प्र0 जल निगम प्रयागराज,
दूरभाष : 0532-2684329, 2684691, फैक्स 0532-2684699

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 REPORT'S OF PACKAGE - III,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - III

8. Meetings, Discussions and Site Visits:

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

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

10. Photos of Meetings / Site Visits and Activities

PACKAGE - I

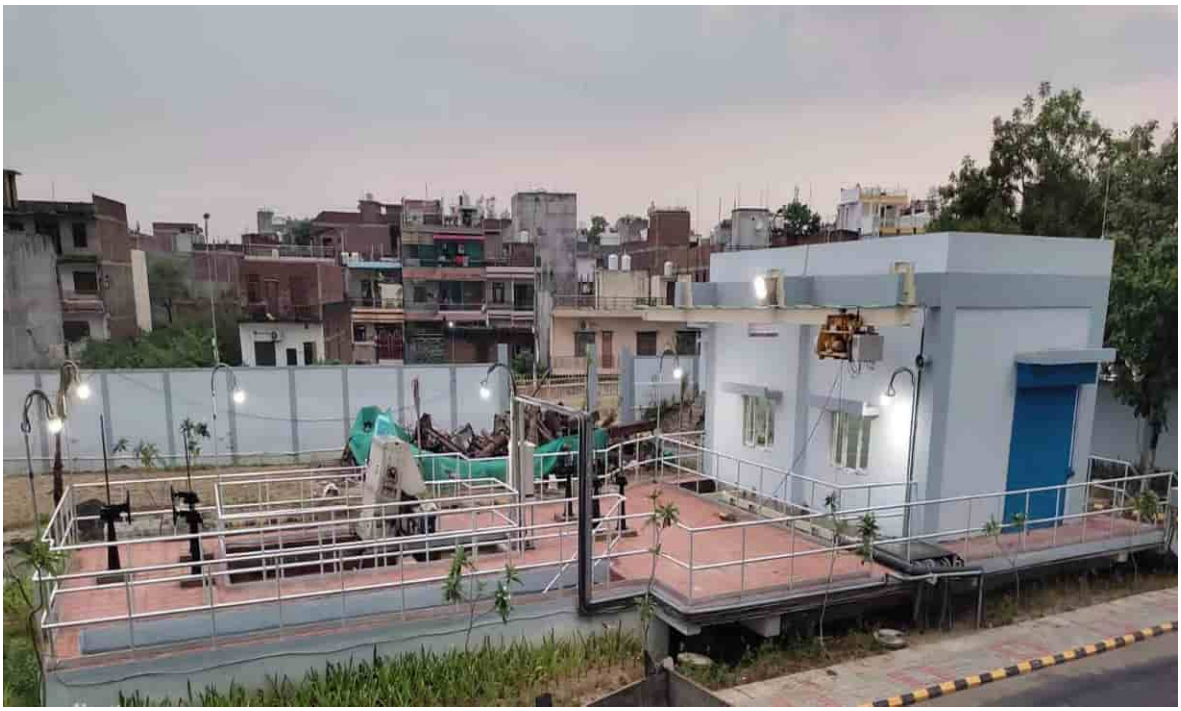
PHAPHAMAU FACILITY

Main Plant view of 14 MLD Phaphamau STP

STP campus – Road and Finishing work status

PHAPHAMAU FACILITY

Process Building: Current status (Functional)



Shantipuram MPS: Current status (Functional)

NAINI-II FACILITY

Naini-II STP Process aera.

Naini-II STP Staff quarter and Solar area

NAINI-II FACILITY

Tube settler– Current status (Functional)

Process Building – Current status (Functional)

JHUNSI FACILITY

Jhunsi MPS – Finishing as well as E&M work under progress

Tube settler– Current Status (Functional)

JHUNSI FACILITY

FCR – Finishing & E&M work is under progress

Shastri Bridge SPS – Construction as well as E&M work is in under 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/1631	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – III	15-Jul-23	S.E.-2 Circle - UPJN
2.	AIPL/NMCG/PRAYAG/1632	Regarding change of applicable GST percentage for Package-I, II & III along with O&M.	15-Jul-23	S.E.-2 Circle - UPJN
3.	AIPL/NMCG/PRAYAG/1633	Regarding claim for Setup for battery Bank for Solar Power Plant of Pkg-I STP's in lieu of Change in Law.	15-Jul-23	S.E.-2 Circle - UPJN
4.	AIPL/NMCG/PRAYAG/1634	Regarding the submission of MPR of Jun'23 along with compliance report for Package-I	15-Jul-23	S.E.-2 Circle - UPJN
5.	AIPL/NMCG/PRAYAG/1635	Submission of O & M Monthly Progress report for the month of May, 2023 of Package – III	17-Jul-23	S.E.-2 Circle - UPJN
6.	AIPL/NMCG/PRAYAG/1636	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – II	17-Jul-23	S.E.-2 Circle - UPJN
7.	AIPL/NMCG/PRAYAG/1637	Notice for Construction Completion of Naini-II Facility under Package-I	24-Jul-23	S.E.-2 Circle - UPJN
8.	AIPL/NMCG/PRAYAG/1638	Notice for Construction Completion of Phaphamau Facility under Package-I.	24-Jul-23	S.E.-2 Circle – UPJN
9.	AIPL/NMCG/PRAYAG/1639	Inspection Reports of Package-II facilities	24-Jul-23	S.E.-2 Circle – UPJN
10.	AIPL/NMCG/PRAYAG/1640	Inspection Reports of Package-III facilities	25-Jul-23	S.E.-2 Circle – UPJN
11.	AIPL/NMCG/PRAYAG/1641	Inspection Reports of Package-I facilities	25-Jul-23	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/657	Urgent Reconstruction of approach Road for Ponghat Sewage Treatment Plant	05-Jul-23	Prayagraj water private limited
2.	PWPL/UPJN/PRAYAGRAJ/O&M/658	Notification of I&D Collapse at Basna Nala and Ongoing Restoration Efforts	05-Jul-23	Prayagraj water private limited
3.	PWPL/UPJN/PRAYAGRAJ/SITE /914	Regarding the submission of MPR of Jun'23 along with compliance report for Package-I.	07-Jul-23	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/O&M/659	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – III	08-Jul-23	Prayagraj water private limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/661	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – II	11-Jul-23	Prayagraj water private limited
6.	74/PWPL/(PRAYAGRAJ)/28	Regarding O&M Payment for 8th Quarter of Package-II	11-Jul-23	S.E.-2 Circle (Rural)-UPJN
7.	PWPL/UPJN/PRAYAGRAJ/O&M/662	Regarding Price Index Multiple (PIM) difference for 5th, 6th, 7th and 8th quarter of Package III and 4th and 5th quarter of Package II	12-Jul-23	Prayagraj water private limited
8.	PWPL/UPJN/PRAYAGRAJ/SITE /915	Regarding Trial Operations of Jhunsi facility under Package-I.	13-Jul-23	Prayagraj water private limited
9.	75/PWPL/(PRAYAGRAJ)/29	Regarding Final Payment Milestone completion certificate for Naini-II facility under Package-I	14-Jul-23	S.E.-2 Circle (Rural)-UPJN
10.	76/PWPL/(PRAYAGRAJ)/30	76 Regarding Final Payment Milestone completion certificate for Phaphamau facility under Package-I	14-Jul-23	S.E.-2 Circle (Rural)-UPJN
11.	PWPL/UPJN/PRAYAGRAJ/O&M/664	Reg update of flowmeter procurement for Gaughat MPS	15-Jul-23	Prayagraj water private limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
12.	PWPL/UPJN/PRAYAGRAJ/O&M/665	Submission of O & M Monthly Progress report for the month of May, 2023 of Package – III	15-Jul-23	Prayagraj water private limited
13.	PWPL/UPJN/PRAYAGRAJ/O&M/666	Excess Flow receiving at Sewage Treatment Plants & Sewage Pumping Stations (Flow Record for the month of June ,2023)	15-Jul-23	Prayagraj water private limited
14.	PWPL/UPJN/PRAYAGRAJ/O&M/667	Regarding the information of PT blast at Rajapur STP	18-Jul-23	Prayagraj water private limited
15.	PWPL/UPJN/PRAYAGRAJ/SITE /917	Notice for Construction Completion of Naini-II Facility under Package-I.	18-Jul-23	Prayagraj water private limited
16.	PWPL/UPJN/PRAYAGRAJ/SITE /918	Notice for Construction Completion of Phaphamau Facility under Package-I.	18-Jul-23	Prayagraj water private limited
17.	PWPL/UPJN/PRAYAGRAJ/SITE /921	Regarding Trial Operations of Jhunsi facility under Package-I.	25-Jul-23	Prayagraj water private limited
18.	PWPL/UPJN/PRAYAGRAJ/O&M/670	Regarding Electricity problem at Chacharnala SPS	26-Jul-23	Prayagraj water private limited
19.	PWPL/UPJN/PRAYAGRAJ/O&M/671	Schedule of Outlet Flowmeter changing and its rectification work at Naini 1 STP	26-Jul-23	Prayagraj water private limited
20.	PWPL/UPJN/PRAYAGRAJ/O&M/672	Compliance report of Numayadahi Facility for the month of July.	26-Jul-23	Prayagraj water private limited
21.	PWPL/UPJN/PRAYAGRAJ/O&M/673	Compliance report of Naini 1 Facility for the month of July 2023	28-Jul-23	Prayagraj water private limited

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

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

14. Status of statutory permits:

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

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

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

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

15. Plant & Machinery Status

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

16. ANNEXURE'S

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

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

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

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

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

ANNEXURE-I

ACTION TAKEN REPORT AND KPI REPORT FOR PACKAGE-I

Table of Contents

1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE

1.1 Action taken Report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
Civil Work			
1	At Shastri Bridge SPS, progress of civil construction works is very slow. As per current status, casting work for 18th lift out 19 is in progress. After casting of all lifts, construction works for super structure and other civil works for the SPS will start.	Casting work for slab at 95.0 m is complete. Currently, Slab shuttering is complete and bar binding work is in progress for slab casting at 100.0m level.	Structural work along with all the slabs has been completed and Brick & other finishing work is under progress.
2	For Shastri Bridge SPS, staff quarter, which is to be constructed in campus of Jhunsi STP, is under construction but progress is very slow.	Work is in progress	Work is in progress
3	At Shastri Bridge SPS, construction of boundary wall and approach road is pending.	Not started yet.	Will be started post flood.
4	At all 13 Interception and diversion points, arrangement for conveying sewage from existing nalla to the civil structure is pending.	Tapping of all I&Ds was completed but currently sewage from I&Ds is not taken due to increase in river level.	Will be started post flood.
5	At all 13 Interception and diversion points, repairing work of civil structure which is damaged due to flood is pending.	Repairing work for 12 out of 13 I&Ds is completed till date.	Will be started post flood.
6	At Jhunsi MPS, epoxy coating in wet well is pending.	Not started yet.	We have used SRC cement during the construction, so epoxy has not done.
8	At Jhunsi MPS, installation of door & windows,	Completed	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
	finishing works are pending.		
9	At Jhunsi MPS, landscaping and site development work is pending.	Work is in progress.	Will be completed after approval of COS
10	At Jhunsi MPS, installation of permanent type display/sign boards is pending.	Not started yet.	Will be done after completion of earth filling work.
11	At Jhunsi MPS, permanent arrangement for water supply is pending.	Completed	Completed
12	At Jhunsi MPS, land filling work is pending	Work is pending.	Will be taken care after approval of COS.
13	At Jhunsi MPS, construction of loading and unloading bay is pending.	As informed by Concessionaire, it will be started after land filling work	It will be started after land filling work
14	At Jhunsi STP, painting work of FCR tank is not started yet. It is suggested to start the painting work at the earliest. Painting should be done as per clause no. 1.4.1 in Schedule-10 of Concession Agreement & as per approved Drawing of FCR tank.	Not started yet.	We have used SRC cement during the construction, so epoxy has not done.
15	At Jhunsi STP, construction of boundary wall is pending.	Not started yet.	Will be taken care after approval of COS.
16	At Jhunsi STP, land filling work is pending.	Work is pending.	Will be taken care after approval of COS.
17	At Jhunsi STP, construction works for Road & Drain are pending.	As informed by Concessionaire, it will be started after land filling work	This work will be started after land filling work
18	At Jhunsi STP, landscaping and development	As informed by Concessionaire, it will be started after land filling work	This Work will be started after land filling work

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
	work for complete site is pending.		
20	At Jhunsi STP, finishing works for various units of STP are pending.	Work is in progress	Work is in progress
21	At Jhunsi STP, laying of effluent pipeline is pending.	Work is pending for last stretch near river. It is required to provide permanent arrangement near last point of effluent discharge as per Schedule-1 in CA to avoid cutting of nearby land.	It will be taken up after receding of water level in river Ganga
23	At Jhunsi STP, arrangements for rainwater harvesting are pending.	Not started yet	it will be started after completion of Road & Drain work
24	At Jhunsi STP, painting work for some civil structures is pending.	Work is in progress	Completed
25	At Jhunsi STP, construction of supports for pipeline from MPS to PTU and PTU to CCT is pending	Work is in progress	Work is in progress
26	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.	Not started yet.	Will be taken care after approval of COS
27	At Jhunsi STP, leakage rectification is required in outer wall at grit chamber	Work is in progress	Completed
28	Flow test of gravity main from Aughar Nalla to Shastri Bridge SPS is pending	Completed	Completed
29	Hydro test of rising main for approx. 1800 meter is	Completed	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
	pending.		
30	Construction of 3 manholes from Aughar Nalla to Shastri Bridge SPS are pending.	Completed	Completed
	E&M Work		
1	At Shastri Bridge SPS, all E&M works are pending as civil works are not completed yet.	Installation of mechanical screens are completed but commissioning is pending and 07 no. gates out of 07 no. are installed without spindle, head stock and bracket. Installation of pumps, flowmeter and erection of header line is completed.	Mechanical work is completed except screen alignment and gates spindle work; however Electrical & C&I work is under progress.
2	At all 13 Interception and diversion points, all E&M works are pending.	13 out of 13 is completed.	Completed
3	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.	Not Started yet	This requirement is beyond the scope of work and procumbent for the same is under progress.
4	At Jhunsi MPS, testing & commissioning of submersible pumps are pending.	Completed	Completed
5	At Jhunsi MPS, testing & commissioning of mechanical screens are pending.	Completed	Completed
6	At Jhunsi MPS, installation of chute for screw conveyor of mechanical screens is pending.	Completed	Completed
7	At Jhunsi MPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Gate installation is completed but construction of operating platform is pending.	Work is under progress.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
8	At Jhunsi MPS, installation of pressure transmitter in header line of pumps is pending.	Installation is completed but commissioning is pending.	Commissioning work is under progress.
9	At Jhunsi MPS, installation of differential level transmitter for mechanical screen is pending.	Installation is completed but calibration is pending.	Procurement for the same is under progress.
10	At Jhunsi MPS, installation of level transmitter in raw sewage sump is pending.	Installation is completed but calibration is pending.	Calibration work is under progress
11	At Jhunsi MPS, installation of outlet flowmeter is completed but it is not working.	Installation is completed but calibration is pending.	Calibration work is under progress.
12	At Jhunsi MPS, installation of fire alarm and fire- fighting system is not started yet.	Installation of fire alarm system is completed but commissioning is pending. Installation of firefighting system is pending.	Work is in Progress
13	At Jhunsi MPS, installation of CCTV system is not started yet.	Completed	Completed
14	At Jhunsi MPS, painting for MS structures inside the facility is pending.	Work is in progress	Completed
15	At Jhunsi MPS, cable laying works for both LT, C&I are pending.	Completed	Completed
16	At Jhunsi MPS, power connections for all E&M equipment are pending.	Completed	Completed
17	At Jhunsi MPS, leakage test for sluice gates/valves is pending.	Work is in progress	Completed
18	At Jhunsi STP, installation of chute for screw	Completed but for the final disposal hand trolley is not available at site.	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
	conveyor of mechanical screens is pending.		
19	At Jhunsi STP, installation of electrical actuators for inlet and outlet gates of manual screen are pending.	Installation of 02 no. actuator for upstream side of screens are pending.	Completed
20	At Jhunsi STP, testing & commissioning of grit removal system is pending. Pipeline laying for scum removal is pending.	Completed.	Completed.
21	At Jhunsi STP, pipeline laying for scum removal is pending.	Not Started yet.	Completed
22	At Jhunsi STP, E&M works of screw conveyor and other arrangements for grit removal units is pending.	Completed but operating platform for final disposal is not available.	Completed
23	At Jhunsi STP, completion of discharge piping, testing & commissioning, cable laying, power connections and installation of LPBS of grit blowers is pending.	Completed but installation of instruments is pending.	Pending
24	At Jhunsi STP, discharge piping, cable laying, power connections, erection of air dryer, testing & commissioning of air compressor is pending.	Air compressor installation completed. but commissioning and piping are pending.	Completed
25	At Jhunsi STP, installation, cable laying, power connections and laying of associated pipelines of poly dosing system are pending.	Erection & commissioning is completed for poly dosing system but modification works for agitators in poly tanks is pending.	Completed
26	At Jhunsi STP, laying of all pipelines from PTU to FCR is pending and installation of flowmeters in these pipelines are pending.	Completed but construction of supports is in progress. Also, laying of pipelines for lean flow for FCRs and commissioning of flowmeters is pending.	Erection of flowmeter is completed but commissioning is pending.
27	At Jhunsi STP, installation of I-nuts and diffusers in FCR tanks is pending.	Completed	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
28	At Jhunsi STP, installation of plants for FCR tanks are pending.	Not Started yet	Pending
29	At Jhunsi STP, installation of bio-modules for FCR tanks are pending. Currently, the bio-modules are not available at site as they are sent to OEM's manufacturing unit for some rectification work.	Completed	Completed
30	At Jhunsi STP, installation of chlorination system and laying of related pipelines is pending.	Completed	Completed
31	At Jhunsi STP, E&M works for leak detection system and neutralization tower are pending.	Work is in progress.	Completed
32	At Jhunsi STP, commissioning of sludge dewatering system is pending	Completed	Completed
33	At Jhunsi STP, commissioning of lime dosing system is pending	Completed but not in operation yet	Plant is under shutdown. Same will be taken operation after resuming plant operation.
34	At Jhunsi STP, installation, cable laying, power connections of dewatering feed pumps are pending.	Completed but one pump set is under maintenance due to problem in motor.	Pending
35	At Jhunsi STP, installation of chimney for DG as per CPCB norms is pending.	Work is in progress	Completed
36	At Jhunsi STP, construction of earthing pits is pending.	Work is in progress	Pending
37	At Jhunsi STP, installation of differential level transmitter for mechanical screen is pending.	Installation completed but calibration is pending.	Pending

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
38	At Jhunsi STP, installation of inlet and outlet analysers is pending.	Work is in progress	Inlet is pending and outlet commissioning is pending.
39	At Jhunsi STP, installation of DO analysers for FCR tanks is pending.	Installation completed but commissioning is pending.	Commissioning is under progress.
40	At Jhunsi STP, installation of chlorine analyser at the outlet of STP is pending	Installation completed but calibration is pending.	Commissioning is under progress.
41	At Jhunsi STP, installation of outlet flowmeter is pending.	Installation completed but calibration is pending.	Commissioning is under progress.
42	At Jhunsi STP, installation of various instruments related to equipment are pending.	Work is in progress	Work is under progress.
43	At Jhunsi STP, C&I cable laying for complete site is pending.	Work is in progress	80% is completed and balance work is under progress.
44	At Jhunsi STP, erection & commissioning works of PLC systems are pending.	Work is in progress	PLC commissioning is completed
45	At Jhunsi STP, erection & commissioning works of SCADA system are pending.	Work is in progress	Pending
46	At Jhunsi STP, work for service water pipe at all points is pending.	Completed	Completed
47	At Jhunsi STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending.	Not Started yet.	Completed
	At Jhunsi STP, work for providing potable		

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th June 2023.		Concessionaire action taken as on date 07th August 2023
48	water reservoir and related pipeline is pending for all units.	Completed	Completed
49	At Jhunsi STP, installation of Close Circuit Television (CCTV) System which includes cameras, installation accessories, hardware, and software to store data as per the Schedule 10 of Concession Agreement is pending.	Completed	Completed

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

2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 Action taken report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th July 2023	Concessionaire action taken as on date 07th August 2023
	Civil Works	
1	At Naini-II STP, landscaping work for the site is pending	Completed
2	At Naini-II STP, Outfall pipeline work as per the site condition	The pipeline was laid as pe the approved drawing However modification suggested by UPJN & AECOM will be executed after receding the water level in the concern area.
3	At Naini-II facility, any left out work mentioned in the concession agreement	All the works has been completed as per the concession agreement
	E&M Work	
1	At all Interception and diversion points, provide the gate at the inlet of I&D after manual screen for avoiding of silt collection in manhole and rising main at the time of flood	Since the work has been executed as per the approved drawing and as this is extra work same will be completed post monsoon season as pe the availability of shutdown
2	At Mawaiya SPS, commissioning of differential level transmitter for mechanical screens is pending	Will be completed by 31.08.2023
3	At Mawaiya SPS, commissioning of harmonic filter panel is pending	Will be completed by 10.08.2023
4	At Mawaiya SPS, VFD for pump no. 4 is not working	The VFD for Pump no. 04 was in operation during Trial Operation period. Further it is standby pump

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th July 2023	Concessionaire action taken as on date 07th August 2023
		which will be rectified during O&M period as per schedule maintenance program.
5	At Mahewaghat SPS, commissioning of harmonic filter panel is pending	Will be completed by 10.08.2023
6	At Naini-II MPS, installation of partition gate in wet well is pending	Material is available at site, However the same was not installed by the mutual consent from all the stakeholder to take sewerage intake in the MPS. However the same will be installed during O&M period as per the availability of shutdown.
7	At Naini-II STP, commissioning of harmonic filter panel is pending	Will be completed by 10.08.2023
8	At Naini-II STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters	Completed.
9	At Naini-II STP, calibration of DO analyzers for FCR tanks is completed but it is not showing correct values of parameters	Completed
10	At Naini-II STP, installation of EOT for PTU is pending	Earlier the EOT was procured as per the approved drawing, However, the same could not be installed due to site condition. Whereas, the concessionaire has already made suitable modification and placed the order for new lifting arrangement. same will be installed during O&M period i.e 31.08.2023.
11	At Naini-II STP, commissioning of solar power plant for 800 KW is completed as per CA however work for solar power plant of extra capacity is in progress	PO is already placed, same will be completed by 16.08.2023.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th July 2023	Concessionaire action taken as on date 07th August 2023
12	At Naini-II STP, rectifications of observations regarding SCADA system are required which were given during visit. Concessionaire is required to provide report generation regarding KPIs, flow and running hours as per the method discussed at site	Will be completed by 16.08.2023
13	At Naini-II STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending	Completed
14	At Naini-II STP, installation of asset management system is pending.	Asset management has been installed at site and under operation. However, the suggestion given by Project Engineer & UPJN will be incorporated 10.08.2023.
15	At Naini-II STP, installation of automatic portable samplers at inlet and outlet of STP is pending	Completed.
16	At Naini-II facility, any left out work mentioned in the concession agreement	All the works has been completed as per the concession agreement

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

2.2 KPI Report

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

Date	Daily Feed Quantity MLD (Design-25 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (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-Jul-23	36860	36.86	7.34	7.54	160	22	320	44	269	27	NA	600	0.2	24.5	1700000	Plant availability is 100%
02-Jul-23	39020	39.02	7.3	7.78	155	20	312	32	271	23	NA	500	0.3	25.8	1200000	Plant availability is 100%
03-Jul-23	44030	44.03	7.33	7.59	160	15	316	40	267	21	NA	400	0.3	24.6	1300000	Plant availability is 100%
04-Jul-23	41270	41.27	7.41	7.62	170	21	348	36	307	26	NA	800	0.3	25.3	1400000	Plant availability is 100%
05-Jul-23	41230	41.23	7.36	7.7	175	14	332	48	288	21	NA	600	0.2	24.8	1200000	Plant availability is 100%
06-Jul-23	47280	47.22	7.42	7.58	155	19	312	40	295	22	NA	700	0.3	25.1	1700000	Plant availability is 100%
07-Jul-23	45300	45.3	7.38	7.64	165	21	304	36	301	24	NA	500	0.3	24.3	1400000	Plant availability is 100%
08-Jul-23	41590	41.59	7.32	7.66	155	19	308	32	298	23	NA	400	0.2	25.4	1700000	Plant availability is 100%
09-Jul-23	46390	46.39	7.29	7.65	175	21	328	36	284	25	NA	600	0.3	25.9	1200000	Plant availability is 100%
10-Jul-23	66580	66.58	7.27	7.58	170	24	320	44	276	30	NA	800	0.3	25.1	1300000	Plant availability is 100%
11-Jul-23	44440	44.44	7.24	7.7	155	20	316	40	280	25	NA	700	0.3	24.7	1400000	Plant availability is 100%
12-Jul-23	41330	41.33	7.37	7.72	165	22	304	44	278	26	NA	500	0.2	25.4	1700000	Plant availability is 100%
13-Jul-23	42680	42.68	7.31	7.69	155	21	324	48	289	24	NA	400	0.3	25.8	1200000	Plant availability is 100%
14-Jul-23	40590	40.59	7.36	7.72	175	20	328	44	293	22	NA	600	0.3	24.2	1100000	Plant availability is 100%
15-Jul-23	41760	41.76	7.3	7.7	170	22	340	44	277	23	NA	700	0.2	24.4	1300000	Plant availability is 100%
16-Jul-23	43620	43.62	7.31	7.71	175	24	348	48	281	24	NA	500	0.2	25.4	1400000	Plant availability is 100%
17-Jul-23	42730	42.73	7.35	7.68	160	22	320	44	279	26	NA	400	0.3	24.5	1700000	Plant availability is 100%
18-Jul-23	42230	42.23	7.47	7.74	155	21	312	48	302	20	NA	600	0.3	26	1200000	Plant availability is 100%
19-Jul-23	42970	42.97	7.69	7.84	170	24	324	40	288	21	NA	700	0.2	25.9	1300000	Plant availability is 100%
20-Jul-23	40890	40.89	7.84	7.76	175	23	316	48	297	18	NA	500	0.3	24.2	1100000	Plant availability is 100%
21-Jul-23	41040	41.04	7.76	7.71	160	21	320	40	305	20	NA	600	0.3	25.8	1700000	Plant availability is 100%
22-Jul-23	41700	41.7	7.74	7.68	155	20	308	44	288	15	NA	400	0.3	24.1	1400000	Plant availability is 100%
23-Jul-23	44950	44.95	7.58	7.7	165	23	300	48	293	24	NA	700	0.2	24.7	1200000	Plant availability is 100%
24-Jul-23	42910	42.91	7.43	7.72	155	25	324	44	298	22	NA	500	0.2	25.9	1300000	Plant availability is 100%
25-Jul-23	40790	40.79	7.68	7.74	150	23	312	40	274	20	NA	400	0.3	24.5	1100000	Plant availability is 100%
26-Jul-23	43830	43.83	7.54	7.77	160	27	296	44	267	19	NA	600	0.2	25.1	1400000	Plant availability is 100%
27-Jul-23	41260	41.26	7.63	7.75	150	26	292	40	277	17	NA	500	0.3	25.7	1200000	Plant availability is 100%
28-Jul-23	41020	41.02	7.68	7.72	160	27	320	36	261	18	NA	700	0.2	24.9	1700000	Plant availability is 100%
29-Jul-23	52800	52.8	7.53	7.69	170	26	312	40	258	22	NA	400	0.3	26	1300000	Plant availability is 100%
30-Jul-23	44970	44.37	7.59	7.78	160	25	300	48	270	21	NA	600	0.3	25.8	1400000	Plant availability is 100%
31-Jul-23	62880	62.88	7.64	7.58	165	23	312	44	281	28	NA	700	0.3	25.9	1700000	Plant availability is 100%
Average	**44223.87**	**44.20**	**7.47**	**7.69**	**162.74**	**21.97**	**317.03**	**42.06**	**283.61**	**22.48**	**NA**	**567.74**	**0.26**	**25.15**	**1383870.97**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3. PHAPHAMAU STP AND ASSOCIATE INFRASTRUCTURE

3.1 Action taken report

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th Jun 2023	Concessionaire action taken as on date 07th August 2023
	Civil Works	
1	At Basna Nalla SPS, construction of boundary wall and approach road is pending.	Approach Road – 15.08.2023 Boundary wall cannot be constructed as per the site condition; However, we will complete the wire fencing post monsoon season for the possible plot area by 31.03.2024.
2	At Basna Nalla SPS, epoxy coating in wet well is pending.	We have used the SRC cement in concrete because of that epoxy coating was not done.
3	At Basna Nalla SPS, staff quarter, which is to be constructed in campus of Phaphamau STP, is under construction shuttering work for casting of slab for Second floor is in progress.	Completed
4	At Basna Nalla SPS, it is required to provide strength to temporary bund required for diverting sewage to tapping point. Breakage of this bund is very frequent due to which raw water goes to the river without any treatment.	It will be taken as per site condition basis as situation arrived in O&M
5	At Basna Nalla SPS, construction of loading and unloading bay is pending.	Completed
6	At Basna Nalla SPS, landscaping and site development work is pending.	No place is available for landscaping as pe the site condition.
7	At Phaphamau facility, any left out work mentioned in the concession agreement	All the works has been completed as per the concession agreement.

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th Jun 2023	Concessionaire action taken as on date 07th August 2023
	E&M Works	
1	At Shantipuram and Basna Nalla Interception and diversion points, provide the gate at the inlet of I&D after manual screen for the avoiding of silt collection in manhole and rising main at the time of flood.	Since the work has been executed as per the approved drawing and as this is extra work same will be completed post monsoon season as pe the availability of shutdown
2	At Basna Nalla SPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Material is available at site, However same cannot be installed in current situation.
3	At Basna Nalla SPS and Phaphamau STP, commissioning of harmonic filter panel is pending.	Will be completed by 10.08.2023
4	At Phaphamau STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Will be completed by 16.08.2023
5	At Phaphamau STP, calibration of DO analyzers for FCR tanks is completed but it is not showing correct values of parameters.	Completed
6	At Phaphamau STP, installation of solar plant of 77.1 KW capacity but solar plant of 110 KW is to be installed at STP as per CA.	Work has been completed as per the PWPL Letter No. PWPL/UPJN/PRAYAGRAJ/SITE/806 dated 23rd June 022.
7	At Phaphamau STP, it is required to use more colors and animation in SCADA system for making it more distinguished and user-friendly. Also, report generation regarding KPIs, running hours of equipment and flow is pending in SCADA system as per requirement.	Will be completed by 16.08.2023
8	At Phaphamau STP, installation of EOT for PTU area is pending.	Material has been already procured if any situation arrived same will be installed during the O&M period

Sr. No	Observation Raised by Project Engineer vide Letter no AIPL/NMCG/PRAYAG/1641 as on 25th Jun 2023	Concessionaire action taken as on date 07th August 2023
9	At Phaphamau STP, installation of fire fighting system with fire water pipe network and fire fighting arrangements within the key structures/buildings including fire alarm System is pending.	Completed
10	At Phaphamau STP, installation of asset management system is not started yet.	Will be completed by 31.08.2023
11	At Phaphamau STP, sluice valve of 600 mm is installed in place of approved size of 500mm in bypass line of STP which is not as per approved valve schedule.	It will not affect the operation same has been completed as per the site situation basis.
12	At Phaphamau STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Material is received at site and same will be installed by 10.08.2023.
13	At Phaphamau facility, any left out work mentioned in the concession agreement	All the works has been completed as per the concession agreement.

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

3.2 KPI Report

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

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	15050	15.05	7.44	7.94	160	16	364	32	315	13	NA	400	0.2	22.83	1700000	Plant availability is 100%
02-Jul-23	13720	13.72	7.37	7.91	165	18	356	28	318	10	NA	600	0.3	23.51	1300000	Plant availability is 100%
03-Jul-23	15230	15.23	7.43	7.87	170	17	368	32	316	11	NA	700	0.2	23.46	1400000	Plant availability is 100%
04-Jul-23	16070	16.07	7.4	7.85	160	20	360	36	315	10	NA	400	0.3	23.68	1700000	Plant availability is 100%
05-Jul-23	14170	14.17	7.38	7.95	165	18	364	32	310	11	NA	700	0.2	24.58	1300000	Plant availability is 100%
06-Jul-23	11210	11.21	7.46	7.8	170	16	368	40	314	12	NA	600	0.3	23.25	1400000	Plant availability is 100%
07-Jul-23	14820	14.82	7.4	7.93	160	20	360	36	312	10	NA	700	0.2	24.37	1700000	Plant availability is 100%
08-Jul-23	15040	15.04	7.37	7.86	165	17	364	32	310	12	NA	400	0.3	23.23	1300000	Plant availability is 100%
09-Jul-23	12740	12.74	7.35	7.89	155	16	368	28	305	11	NA	700	0.2	24.91	1700000	Plant availability is 100%
10-Jul-23	15280	15.28	7.4	7.94	160	18	360	36	312	13	NA	500	0.3	24.09	1400000	Plant availability is 100%
11-Jul-23	12210	12.21	7.42	7.82	170	15	364	32	310	12	NA	400	0.2	22.34	1700000	Plant availability is 100%
12-Jul-23	12160	12.16	7.37	7.87	165	16	368	44	312	13	NA	700	0.3	23.97	1300000	Plant availability is 100%
13-Jul-23	11810	11.81	7.43	7.9	160	20	364	36	309	10	NA	500	0.2	23.43	1700000	Plant availability is 100%
14-Jul-23	12750	12.75	7.4	7.91	170	14	360	40	314	11	NA	400	0.3	23.48	1400000	Plant availability is 100%
15-Jul-23	12020	12.02	7.37	7.84	160	18	364	32	312	13	NA	500	0.2	22.97	1700000	Plant availability is 100%
16-Jul-23	12720	12.72	7.41	7.91	165	16	368	36	316	10	NA	700	0.3	23	1300000	Plant availability is 100%
17-Jul-23	12860	12.86	7.39	7.88	160	15	360	28	314	12	NA	600	0.2	23.79	1700000	Plant availability is 100%
18-Jul-23	12170	12.17	7.4	7.94	170	18	364	36	310	14	NA	400	0.3	22.53	1300000	Plant availability is 100%
19-Jul-23	12190	12.19	7.45	7.97	165	16	368	28	313	15	NA	500	0.2	23.47	1400000	Plant availability is 100%
20-Jul-23	11250	11.25	7.4	7.94	160	14	364	36	316	16	NA	600	0.3	23.03	1300000	Plant availability is 100%
21-Jul-23	13060	13.06	7.42	7.93	170	18	354	32	312	13	NA	700	0.2	23.22	1700000	Plant availability is 100%
22-Jul-23	11900	11.9	7.37	7.87	165	17	368	40	314	10	NA	400	0.3	23.74	1400000	Plant availability is 100%
23-Jul-23	14520	14.52	7.4	7.93	160	16	372	44	312	16	NA	600	0.2	24.18	1300000	Plant availability is 100%
24-Jul-23	11550	11.55	7.42	7.9	170	18	360	32	315	14	NA	500	0.3	23.58	1400000	Plant availability is 100%
25-Jul-23	11350	11.35	7.37	7.85	165	20	364	36	313	12	NA	700	0.2	24.53	1700000	Plant availability is 100%
26-Jul-23	12350	12.35	7.45	7.82	160	16	368	40	317	16	NA	400	0.3	23.95	1300000	Plant availability is 100%
27-Jul-23	12920	12.92	7.35	8.75	170	20	360	36	314	13	NA	600	0.2	23.74	1700000	Plant availability is 100%
28-Jul-23	13410	13.41	7.37	7.77	165	22	364	32	318	15	NA	500	0.3	22.73	1400000	Plant availability is 100%
29-Jul-23	12000	12	7.4	7.78	170	24	368	28	317	12	NA	700	0.2	23.75	1300000	Plant availability is 100%
30-Jul-23	13620	13.62	7.45	7.83	165	23	360	36	318	16	NA	400	0.3	24.53	1700000	Plant availability is 100%
31-Jul-23	15470	15.47	7.37	7.79	170	24	364	40	322	18	NA	500	0.2	23.71	1300000	Plant availability is 100%
Average	**13149.03**	**13.15**	**7.40**	**7.91**	**164.68**	**17.94**	**363.81**	**34.71**	**313.71**	**12.71**	**NA**	**548.39**	**0.25**	**23.60**	**1480645.16**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

ANNEXURE-II

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

Table of Contents

1. NAINI-I STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report

Source: Online analyzer,

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

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

2. FRC sensor calibration is pending.

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

Date	Daily Feed Quantity MLD (Design-80 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design -<50 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	104560	104.56	7.19	7.38	120	24	320	42	320	32	NA	500	0.3	24.1	1400000	Plant availability is 100%
02-Jul-23	99950	99.95	7.23	7.39	130	26	296	40	274	30	NA	600	0.2	25.0	1300000	Plant availability is 100%
03-Jul-23	104620	104.62	7.16	7.28	125	25	316	38	280	32	NA	800	0.3	25.0	1700000	Plant availability is 100%
04-Jul-23	113920	113.92	7.11	7.31	120	23	324	40	310	31	NA	400	0.2	24.4	1100000	Plant availability is 100%
05-Jul-23	110670	110.67	7.15	7.55	130	25	316	39	315	33	NA	800	0.3	25.1	1300000	Plant availability is 100%
06-Jul-23	99930	99.93	7.29	7.43	125	26	318	36	290	30	NA	600	0.2	24.7	1400000	Plant availability is 100%
07-Jul-23	97330	97.33	7.36	7.75	135	24	328	39	286	32	NA	700	0.3	24.8	1200000	Plant availability is 100%
08-Jul-23	95370	95.37	7.25	7.61	120	23	312	38	280	30	NA	500	0.3	25.1	1300000	Plant availability is 100%
09-Jul-23	99460	99.46	7.49	7.98	130	25	324	41	292	32	NA	400	0.2	24.9	1700000	Plant availability is 100%
10-Jul-23	105390	105.39	7.33	7.41	120	22	320	38	304	31	NA	800	0.2	24.8	1100000	Plant availability is 100%
11-Jul-23	95890	95.89	7.19	7.58	140	23	318	37	290	32	NA	600	0.3	25.0	1400000	Plant availability is 100%
12-Jul-23	98790	98.79	7.23	7.76	135	25	332	40	296	30	NA	500	0.2	23.5	1300000	Plant availability is 100%
13-Jul-23	101280	101.28	7.33	7.44	140	24	344	36	303	28	NA	700	0.3	24.9	1700000	Plant availability is 100%
14-Jul-23	108470	108.47	7.16	7.75	130	23	324	40	294	29	NA	800	0.3	25.3	1400000	Plant availability is 100%
15-Jul-23	106040	106.04	7.18	7.67	135	25	312	36	281	30	NA	400	0.2	24.4	1200000	Plant availability is 100%
16-Jul-23	109120	109.12	7.29	7.27	120	23	318	37	296	28	NA	600	0.3	24.7	1300000	Plant availability is 100%
17-Jul-23	105440	105.44	7.18	7.33	125	24	324	39	301	32	NA	500	0.2	24.9	1400000	Plant availability is 100%
18-Jul-23	99960	99.96	7.16	7.27	130	28	310	38	290	31	NA	700	0.2	23.8	1700000	Plant availability is 100%
19-Jul-23	99350	99.35	7.15	7.26	140	25	316	40	284	33	NA	800	0.3	24.3	1100000	Plant availability is 100%
20-Jul-23	105210	105.21	7.13	7.33	130	21	320	38	305	32	NA	400	0.2	24.7	1300000	Plant availability is 100%
21-Jul-23	101890	101.89	7.16	7.29	140	23	328	39	301	30	NA	700	0.3	25.1	1200000	Plant availability is 100%
22-Jul-23	103080	103.08	7.19	7.31	120	22	312	38	276	29	NA	500	0.3	24.2	1400000	Plant availability is 100%
23-Jul-23	109020	109.02	7.18	7.29	140	25	341	40	303	31	NA	600	0.2	24.9	1700000	Plant availability is 100%
24-Jul-23	101930	101.93	7.21	7.35	120	26	312	42	298	30	NA	800	0.3	24.9	1200000	Plant availability is 100%
25-Jul-23	106290	106.29	7.28	7.39	125	25	296	40	284	32	NA	700	0.2	24.7	1700000	Plant availability is 100%
26-Jul-23	103810	103.81	7.24	7.34	120	22	304	38	303	31	NA	400	0.3	24.8	1100000	Plant availability is 100%
27-Jul-23	107160	107.16	7.25	7.36	130	25	292	40	296	30	NA	600	0.2	24.7	1400000	Plant availability is 100%
28-Jul-23	98540	98.54	7.24	7.35	125	28	308	41	302	29	NA	500	0.2	24.8	1300000	Plant availability is 100%
29-Jul-23	113970	113.97	7.27	7.31	130	25	312	40	280	30	NA	800	0.3	24.5	1200000	Plant availability is 100%
30-Jul-23	91510	91.51	7.29	7.41	120	23	294	38	283	29	NA	600	0.2	21.0	1100000	Plant availability is 100%
31-Jul-23	103760	103.76	7.27	7.45	125	22	316	36	281	28	NA	500	0.3	24.7	1300000	Plant availability is 100%
Average	**103280.97**	**103.28**	**7.23**	**7.44**	**128.23**	**24.19**	**316.35**	**38.84**	**293.48**	**30.55**	**NA**	**606.45**	**0.25**	**24.56**	**1351612.90**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

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

Visit was done on 27th June 2023, 4th July 2023, 12th July 2023 & 17th July 2023 and following observations were made after action taken by Concessionaire on June 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	95.37 to 113.92
2	Gaughat MPS	97.26 to 116.07
3	Chacharnalla SPS	37.41 to 49.67

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	22 to 26 mg/l
2	TSS – Effluent	< 50 mg/l	28 to 33 mg/l
3	pH – Effluent	6.5 – 9.0	7.27 to 7.98
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.51 to 25.30 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Naini I STP	36.28 to 51.49
2	Naini I Associated Infrastructure	70.79 to 81.32

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

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

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

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed by site team however, validation of calibration in presence of UPJN/Project Engineer is pending. Currently, the variation in between value of parameters recorded by online analyzers in SCADA reports and value of parameters in laboratory is more than the permissible limit given in 'Guidelines for OCEMS' by CPCB.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. For associated infrastructure of Naini-I STP, reports are being generated for both Chacharnalla SPS and Gaughat MPS except for one out of two streams in Gaughat MPS due to problem in flowmeter of one stream. Concessionaire is required to rectify the problem.
   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.

5. Flowmeters at inlet of STP is working.
6. Outlet flowmeter is not working. This is a long-term pending issue hence Concessionaire to please rectify the problem at the earliest. Also, RCC chamber for the flowmeter is not constructed.
7. SCADA reports regarding flow for Naini-I facilities were checked and it was found that flow records generated from SCADA for both inlet flowmeters of Naini-I STP are matching with manual site records but not matching for outlet flowmeter of Naini-I STP.
8. In Naini-I STP, main MCC panel doesn't have provision for taking power from secondary sources like DG, Solar power generation system and Biogas power generation system simultaneously. Also, it is observed that Biogas engine is operated in daytime due to which power generated from solar system is wasted during daytime. Therefore, it is suggested to operate Biogas engine in nighttime so that solar power generation system can be operated at full efficiency and full power generated from the same can be used to run equipment.
   It is true that Guaranteed Power Consumption of the facility is within limit as per CA but since increase in operation of gas engine will increase the power generation from renewable resources and decrease the power requirement from grid resulting in lowering of electricity bill of the facility which is borne by UPJN.
9. Gas engine is working. Currently, Biogas engine is operated for 9 hours only during the day but as per clause no. 1.1. of Part-G in Schedule-10, the facilities shall run 24 hours every day. Hence, Concessionaire is requested to do the needful as the biogas generated from digesters is wasted by flaring due to improper operation of gas engine. Also, NMCG has also instructed to operate Gas Engine for 24 hrs each day in meeting dated 26th April 2023 hence Concessionaire is required to do the needful at the earliest.
   Also, reply for Concessionaire's letter PWPL/UPJN/PRAYAGRAJ/O&M/352 dated 5th Feb 2022 is given vide our letter no. AIPL/NMCG/PRAYAG/1367 dated 04th March 2022 for which their response is awaited.
10. All three mechanical screens of 60 MLD part are working. Maintenance for the same is required. Currently screens are running in auto mode through timer however differential level sensors are not working.
11. In mechanical screens of 60 MLD, rectification of problem for misplaced bars was completed but during recent visit it was found that bars have got loose again due to which waste material is passing through. Concessionaire is required to rectify the problem and provide a permanent solution.
12. All two mechanical screens of 20 MLD part are working. Cleaning brush is not working properly, and replacement of brush is required. Currently screens are running in auto mode through timer however differential level sensors are not working.
13. For 60 MLD, all grit removal units are working.

14. For 20 MLD, all grit removal units are working. Rake classifier is making abnormal noise and maintenance of the same is required.
15. All Primary Settling Tanks are working. Scum removal is done manually but it is not efficient as good amount of scum can be seen floating on the surface. Since, Scum removing arrangement is installed, modification is required for the same so that scum collection and removal can be done automatically.
16. In all PSTs, it is observed that lumps of sludge are coming to the top in some parts due to which outlet quality of PSTs is deteriorating. Concessionaire is required to increase sludge withdrawal time, sludge feeding time of Digester.
17. Telescopic valves of Primary Settling Tanks are not working.
18. Installation of actuators is pending for drain valves of Primary Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done. Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
19. In Aeration Unit of 60 MLD, all surface aerators are in working condition. It is recommended to install DO analyzer in this tank also for better monitoring.
20. Aeration tank of 20 MLD is in operation. Air distribution is not proper in this tank as excess air is coming from some points due to problem in diffusers. Commissioning of DO analyzer is not completed yet.
21. All Aeration blowers are working.
22. All Final Settling Tanks are working.
23. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
24. Installation of actuators is pending for drain valves of Final Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
25. In RSPH unit of 60 MLD, 2 out of 4 pumps are working, two pumps are under maintenance. Hence, no pump is in stand-by. This is a long-term pending issue and hence rectification of the problem must be done at the earliest.
26. In RSPH unit of 20 MLD, both Pumps are working.
27. Both chlorinators are in working condition. Both booster pumps are working.
28. Leak absorption system is working.
29. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
30. Since the chlorine tonner storage in Naini-I STP goes beyond 4 tonners at one time hence Concessionaire is required to obtain license regarding chlorine storage as per Gas Cylinder Rules (2016).
31. Both thickeners are in working condition. Installation of actuators for drain valves is pending. Installation of flowmeter in lines from blending tank to thickener is completed but calibration for one flowmeter is pending.
32. All thickened sludge transfer pumps are working.
33. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
34. For TEPH panel, modification of room is completed but panel erection is not started yet as per the electrical norms.
35. Both DGs are in operation. Installation work of chimney for DGs as per CPCB norms is pending.
36. Sludge dewatering unit is in operation. Poly preparation unit is in operation.
37. All filtrate pumps are working.
38. There is variation in recorded values of flow from inlet flowmeter at Naini-I STP and outlet flowmeters of Gaughat MPS, please rectify the problem.
39. SCADA report regarding flow of Gaughat MPS is incomplete.
40. Both dewatering feed pumps are under maintenance. Currently, submersible pump is being used for transferring sludge from digesters to dewatering building.
41. For sludge drying beds, it is required to check filter media and gravels as water is not percolating from SDBs. Excavation was done in one SDB and it was found that there is no media in it, pipe beneath the gravel is completely choked, gravel is completely choked with sludge and smaller size of gravel is required to be filled in SDBs. All these problems need to be rectified so that SDB can operate for more number of days as currently SDBs are filled in 3-4 days only. Similarly, other SDBs must also be checked.

42. All Digesters are working.
43. Heat exchangers, sludge recirculation pumps for all digesters are working.
44. In compressor room, all six compressors are working.
45. Both Gas holders are working.
46. Gas flare is working.
47. H2S scrubber unit is working. Analyzers fitted at inlet & outlet unit are working.
48. Installation of service water pumps is pending. It is observed that ground water is being used as service water in whole STP which is a violation of environmental norms. Hence, to stop this installation of service water pumps and laying of required pipeline must be completed at the earliest.
49. 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.
50. As already decided, repairing/construction of retaining wall is not completed yet. In 2022 also, river water has come inside the STP during flood and various equipment in different units of STP are required to be dismantled and hence when river water has gone down, restarting of STP took 5-6 days which could have been avoided if retaining wall of the STP was repaired/constructed correctly.
51. Rehabilitation works for tube well unit are pending.
52. Landscaping work of the plant must be improved.
53. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, data from Computer Maintenance Management system (CMMS) must be provided in MPR as supporting documents for maintenance data. Currently, CMMS system is installed at Naini-I STP is installed but not working as per requirements of day-to-day maintenance activities. Concessionaire is required to do the modifications as discussed.
54. Painting of all units from inside is in progress.
55. All CCTV cameras are working.
56. 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.
57. For Gaughat MPS, following observations were made during visit:

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

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

    a) Currently all VNC pumps are working.
    b) One out of two mechanical screens are working. One mechanical screen and belt conveyor are under maintenance.
    c) Both DG set is OK for operation.
    d) Old DG set is working.
    e) Installation of pressure transmitter on header line of VNC pumps is pending.
    f) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.

g) Power factor maintained in this facility is very low and must be maintained around 0.99, rectification of this problem is required.

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

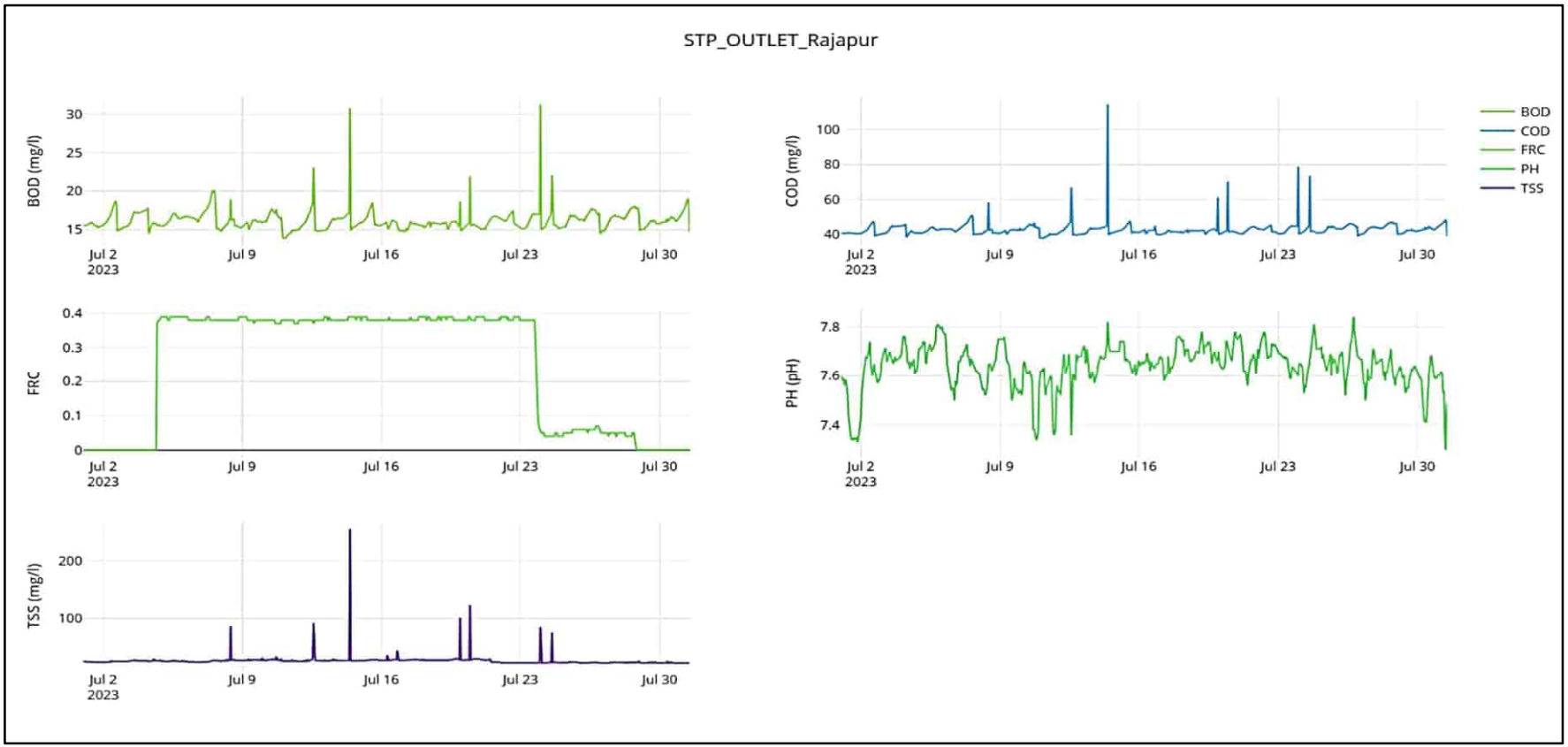
a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.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

1.3 Recommendation's

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

2. RAJAPUR STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

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

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

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

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

Date	Daily Feed Quantity MLD (Design-60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<30 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	FinalTSS (Design -<50 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	83750	83.75	7.22	7.46	125	16	316	40	279	25	NA	700	0.3	22.26	1300000	Plant availability is 100%
02-Jul-23	81350	81.35	7.35	7.63	135	17	304	40	272	26	NA	600	0.2	22.71	1200000	Plant availability is 100%
03-Jul-23	76210	76.21	7.36	7.68	120	16	312	44	268	27	NA	500	0.3	23.65	1400000	Plant availability is 100%
04-Jul-23	84410	84.41	7.17	7.69	130	17	304	40	261	26	NA	400	0.2	24.92	1300000	Plant availability is 100%
05-Jul-23	83380	83.38	7.28	7.59	125	16	312	42	271	25	NA	600	0.3	23.75	1700000	Plant availability is 100%
06-Jul-23	76560	76.65	7.15	7.61	130	17	308	44	257	26	NA	500	0.3	22.83	1300000	Plant availability is 100%
07-Jul-23	79670	79.67	7.18	7.67	135	18	316	44	268	27	NA	400	0.2	23.42	1400000	Plant availability is 100%
08-Jul-23	76250	76.25	7.16	7.64	125	16	320	40	265	28	NA	700	0.3	23.71	1700000	Plant availability is 100%
09-Jul-23	82050	82.05	7.18	7.65	130	17	304	44	257	27	NA	600	0.3	23.75	1300000	Plant availability is 100%
10-Jul-23	85030	85.03	7.11	7.54	135	18	296	40	247	28	NA	500	0.2	22.8	1400000	Plant availability is 100%
11-Jul-23	83040	83.04	7.17	7.55	120	15	292	36	243	26	NA	400	0.3	23.18	1200000	Plant availability is 100%
12-Jul-23	81170	81.17	7.14	7.63	125	16	304	40	257	27	NA	600	0.2	24.56	1700000	Plant availability is 100%
13-Jul-23	78120	78.12	7.06	7.65	130	15	308	44	249	26	NA	500	0.3	23.03	1300000	Plant availability is 100%
14-Jul-23	81940	81.94	7.05	7.69	135	17	292	40	259	27	NA	600	0.3	23.18	1400000	Plant availability is 100%
15-Jul-23	78020	78.02	7.03	7.68	125	16	304	44	261	28	NA	400	0.2	23.54	1700000	Plant availability is 100%
16-Jul-23	82760	81.12	7.09	7.67	130	17	324	40	295	27	NA	500	0.3	23.11	1300000	Plant availability is 100%
17-Jul-23	79520	79.52	7.03	7.62	125	16	340	40	273	27	NA	600	0.3	24.8	1700000	Plant availability is 100%
18-Jul-23	79230	79.23	7.08	7.69	120	15	336	44	285	28	NA	400	0.2	24.9	1200000	Plant availability is 100%
19-Jul-23	80830	80.83	7.09	7.7	130	16	328	40	289	27	NA	600	0.3	24.56	1400000	Plant availability is 100%
20-Jul-23	78840	78.84	7.12	7.69	125	15	324	40	292	28	NA	500	0.3	23.22	1700000	Plant availability is 100%
21-Jul-23	79340	79.34	7.03	7.65	135	17	320	44	278	25	NA	700	0.3	23.37	1400000	Plant availability is 100%
22-Jul-23	71270	71.27	7.06	7.71	130	16	328	40	276	24	NA	400	0.2	23.33	1300000	Plant availability is 100%
23-Jul-23	84950	84.95	7.11	7.64	125	17	316	44	272	25	NA	600	0.3	22.85	1700000	Plant availability is 100%
24-Jul-23	77530	77.53	7.18	7.67	130	16	304	40	269	24	NA	500	0.3	24.79	1200000	Plant availability is 100%
25-Jul-23	78210	78.21	7.21	7.69	120	17	316	44	284	25	NA	700	0.2	24.97	1400000	Plant availability is 100%
26-Jul-23	79690	79.69	7.17	7.71	135	18	336	48	295	26	NA	600	0.3	24.64	1300000	Plant availability is 100%
27-Jul-23	75100	75.1	7.28	7.72	125	16	292	44	266	24	NA	700	0.2	23.25	1400000	Plant availability is 100%
28-Jul-23	79130	79.13	7.31	7.62	135	18	324	45	298	25	NA	500	0.3	24.3	1700000	Plant availability is 100%
29-Jul-23	83650	83.65	7.33	7.61	120	16	308	40	279	26	NA	400	0.2	22.39	1300000	Plant availability is 100%
30-Jul-23	79150	79.15	7.34	7.59	125	17	312	44	282	25	NA	600	0.2	23.33	1400000	Plant availability is 100%
31-Jul-23	82510	82.51	7.32	7.6	120	16	304	40	274	24	NA	500	0.3	23.55	1300000	Plant availability is 100%
Average	**80085.81**	**80.04**	**7.17**	**7.64**	**127.58**	**16.45**	**313.03**	**41.90**	**271.65**	**26.10**	**NA**	**541.94**	**0.26**	**23.63**	**1419354.84**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	July 2023
Site Inspectors	8. Mr. Surendra Singh Parmar, PM-I, UPJN. 9. Mr. Tauseef, AE, UPJN. 10. Mr. Manish Srivastava, JE, UPJN 11. Mr. Gaurav Gupta, AECOM. 12. Mr. Sudhir Kumar Tomar, AECOM. 13. Mr. Rahul Azaad, PWPL. 14. Mr. Girijesh, PWPL. 1. Mr. Saurabh, PWPL
Place(s) of Inspection	• 60 MLD STP at Rajapur, Prayagraj • 25 MLD SPS at Rajapur, Prayagraj • 55 MLD MPS at Mumfodganj Prayagraj

Visit was done on 26th June 2023, 3rd July 2023, 10th July 2023, 14th July 2023 & 21st July 2023 and following observations were made after action taken by Concessionaire on June 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	76.21 to 85.03
2	Rajapur SPS	6.40 to 10.40
3	Mumfodganj MPS	66.95 to 88.54

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	15 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	25 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.46 to 7.69
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.26 to 24.92 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Rajapur STP	4.97 to 30.61
2	Rajapur Associated Infrastructure	54.09 to 63.33

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

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

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

Mumfordganj SPS, please rectify the problem.

26. There is variation in recorded values of flow from inlet flowmeters at Rajapur STP and outlet flowmeter of Rajapur STP, please rectify the problem.
27. 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.
28. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement 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.
29. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, data from Computer Maintenance Management system (CMMS) must be provided in MPR as supporting documents for maintenance data. Currently, CMMS system is installed at Rajapur STP is installed but not working as per requirements of day-to-day maintenance activities. Concessionaire is required to do the modifications as discussed.
30. At Rajapur SPS following observations were made:

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

31. At Mumfodganj MPS following observations were made:

    a) At tapping point of SPS, manual screen is broken from bottom side, maintenance for the same is required as lot of waste is going inside SPS which can in turn will choke the pumps.
    b) Civil maintenance is required for the floor below bypass gate at tapping point for stopping the leakage from bypass gate.
    c) Both Mechanical coarse screens at MPS are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
    d) At Mumfodganj MPS, 5 pumps are OK for operation. Remaining 1 pump is ok but there is some issue in soft starter due to which it is not possible to operate. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that pump can start & stop on the basis of level in the sump.
    e) Dismantling joint must be provided along with flowmeter for ease in maintenance.
    f) NRV must be provided in common header to reduce the effect of water hammering.
    g) Site house Keeping & landscaping must be improved. Concessionaire is suggested to keep the Old material Properly.
    h) Internal Painting work is in progress.

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

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

Schedule-10 of CA.

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

2.3 Recommendation's

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

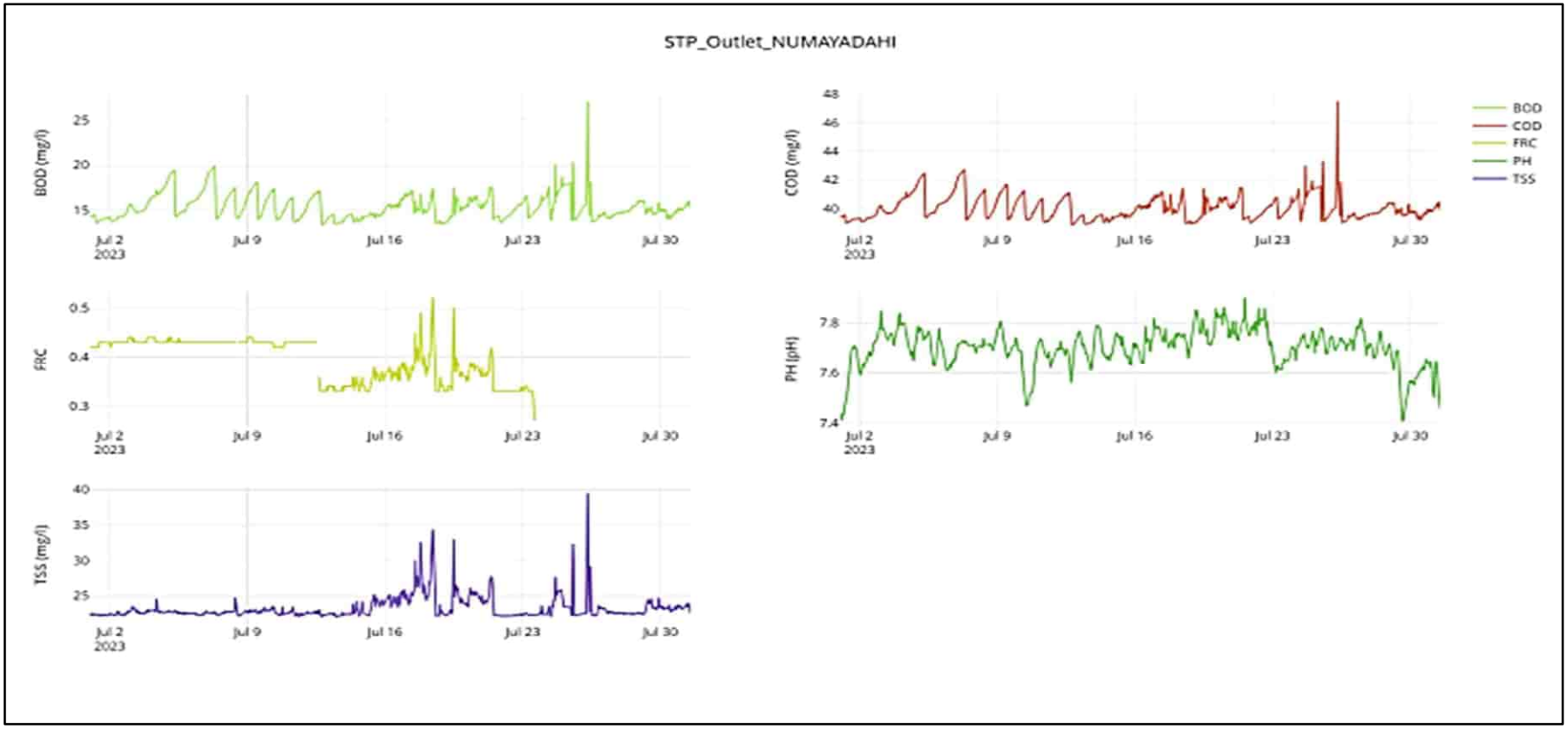
ANNEXURE-III

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

Table of Contents

1. NUMAYADAHI STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report



Source: Online analyzer,

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

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

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

Numayadahi STP, 50 MLD STP at Prayagra
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-Jul-23	59860	59.86	7.4	7.68	145	15	312	36	226	24	NA	600	0.2	23.69	1400000	Plant availability is 100%
02-Jul-23	60630	60.63	7.38	7.72	135	14	324	44	263	23	NA	500	0.3	23.39	1700000	Plant availability is 100%
03-Jul-23	58400	58.4	7.36	7.78	145	16	312	40	248	24	NA	700	0.2	24.43	1300000	Plant availability is 100%
04-Jul-23	60150	60.15	7.44	7.76	150	18	328	44	252	23	NA	400	0.3	23.5	1400000	Plant availability is 100%
05-Jul-23	62750	62.75	7.28	7.67	130	17	316	40	256	25	NA	600	0.2	24.37	1700000	Plant availability is 100%
06-Jul-23	60820	60.82	7.36	7.74	140	17	304	40	248	24	NA	400	0.2	24.82	1300000	Plant availability is 100%
07-Jul-23	61390	61.39	7.48	7.76	135	16	324	44	258	25	NA	700	0.3	23.57	1400000	Plant availability is 100%
08-Jul-23	58750	58.75	7.31	7.66	125	16	332	44	266	23	NA	500	0.2	23.64	1700000	Plant availability is 100%
09-Jul-23	61600	61.6	7.26	7.71	130	15	304	40	257	25	NA	400	0.3	24.79	1100000	Plant availability is 100%
10-Jul-23	57350	57.35	7.34	7.67	140	17	316	44	246	24	NA	600	0.3	24.23	1400000	Plant availability is 100%
11-Jul-23	56870	56.87	7.28	7.71	130	16	320	40	253	22	NA	500	0.2	23.44	1100000	Plant availability is 100%
12-Jul-23	51530	51.53	7.36	7.78	145	17	304	44	244	24	NA	400	0.3	24.04	1400000	Plant availability is 100%
13-Jul-23	57950	57.95	7.38	7.74	140	15	308	36	256	23	NA	700	0.2	23.22	1300000	Plant availability is 100%
14-Jul-23	62850	62.85	7.32	7.67	150	13	324	40	266	22	NA	400	0.2	23.11	1300000	Plant availability is 100%
15-Jul-23	60140	60.14	7.41	7.76	135	16	300	36	268	25	NA	500	0.3	24.16	1700000	Plant availability is 100%
16-Jul-23	60580	60.58	7.32	7.69	145	17	328	44	224	28	NA	600	0.3	23.54	1400000	Plant availability is 100%
17-Jul-23	60920	60.92	7.27	7.72	135	16	280	40	246	26	NA	700	0.3	24.23	1300000	Plant availability is 100%
18-Jul-23	61630	61.63	7.38	7.68	125	15	288	44	278	24	NA	400	0.3	24.62	1700000	Plant availability is 100%
19-Jul-23	61350	61.35	7.27	7.76	140	16	320	40	296	27	NA	600	0.3	24.37	1300000	Plant availability is 100%
20-Jul-23	59470	59.47	7.41	7.74	130	15	332	44	272	25	NA	400	0.2	23.22	1400000	Plant availability is 100%
21-Jul-23	58630	58.63	7.36	7.64	145	17	304	40	266	23	NA	700	0.3	23.64	1700000	Plant availability is 100%
22-Jul-23	53400	53.4	7.32	7.72	125	15	324	40	268	24	NA	500	0.2	23.54	1300000	Plant availability is 100%
23-Jul-23	62900	62.9	7.41	7.78	140	17	328	44	272	22	NA	400	0.3	24.25	1100000	Plant availability is 100%
24-Jul-23	62660	60.66	7.38	7.71	150	16	316	44	278	26	NA	600	0.3	23.98	1400000	Plant availability is 100%
25-Jul-23	59380	59.38	7.44	7.78	130	17	324	40	268	25	NA	500	0.2	24.23	1700000	Plant availability is 100%
26-Jul-23	60220	60.22	7.38	7.75	135	15	332	44	278	27	NA	700	0.3	23.75	1300000	Plant availability is 100%
27-Jul-23	60320	60.32	7.42	7.76	125	16	304	36	271	24	NA	400	0.2	23.08	1400000	Plant availability is 100%
28-Jul-23	60950	60.95	7.28	7.66	130	14	300	40	256	23	NA	600	0.3	24.5	1700000	Plant availability is 100%
29-Jul-23	62460	62.46	7.36	7.75	150	16	308	40	267	24	NA	500	0.3	23.28	1400000	Plant availability is 100%
30-Jul-23	56100	56.1	7.42	7.67	125	14	304	36	274	22	NA	700	0.2	23.64	1300000	Plant availability is 100%
31-Jul-23	59020	59.02	7.28	7.71	140	15	320	44	273	25	NA	600	0.3	24.68	1700000	Plant availability is 100%
Average	**59710.65**	**59.65**	**7.36**	**7.72**	**136.94**	**15.77**	**314.19**	**41.03**	**261.10**	**24.23**	**NA**	**541.94**	**0.26**	**23.90**	**1429032.26**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

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

Visit was done on 30th June 2023, 7th July 2023, 15th July 2023, 22nd July 2023 and following observations were made after action taken by Concessionaire on May 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	51.53 to 62.85
2	Ghagharnalla MPS	53.40 to 64.61
3	Sasur Kadheri SPS	31.72 to 37.14
4	Lukerganj SPS	4.92 to 9.47

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	14 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.66 to 7.78
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.11 to 24.82 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Numayadahi STP	64.54 to 72.09
2	Numayadahi Associated Infrastructure	92.36 to 101.43

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

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

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

   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeter at inlet of STP is working.
6. Flowmeter at outlet of STP is working. Calibration of flowmeter is completed but it is not giving accurate values as compared to inlet flowmeter as there is variation between inlet and outlet flow which is more than water loss shown for the STP. Concessionaire is required to resolve the problem.
7. Both grit removal units are in operation. Replacement of screw conveyors for both grit removal units is required as they are not scrap grit properly.
8. Both Mechanical Screens are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode. Repairing of electrical panel for screens is required.
9. All Biotowers were in operation. Arms of biotower mechanism for all biotowers are completely rusted and must be replaced at the earliest. Replacement of net is also required for all biotowers.
10. Though overhauling of mechanical screens is completed in rehabilitation period but still considerable amount of plastic waste is reaching the biotowers hence the gap must be checked around mechanical screens or otherwise this plastic waste can choke up the media which will ultimately lower the efficiency of Biotowers.
11. All Aeration tanks are working. Air is coming out vigorously from 7-8 points due to problem in diffusers. This must be rectified at the earliest.
12. All aeration blowers are in working condition & two blowers were found running. Abnormal noise was coming from blower no.5, please check & rectify.
13. DO analyzer at the outlet of all aeration tanks are not working properly, please check & rectify the problem.
14. Pressure transmitter & temperature transmitter are not installed yet on header line of Aeration blowers.
15. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 9-10 trolleys per day.
16. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
17. All Sludge Recirculation Pumps are in working condition.
18. Both Secondary clarifiers were found in operation.
19. Both booster pumps & both chlorinators are in working condition. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
20. Leak detection and leak absorption system are working. It must be ensured that the system must work in auto mode all the time.
21. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
22. Storage of Empty and filled chlorine cylinders are not done properly as per safety norms. Concessionaire is required to do the needful for the same.
23. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at one time hence Concessionaire is required to obtain license regarding chlorine storage as per Gas Cylinder Rules (2016).
24. Both DGs are working.
25. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
26. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed

for making it useful regarding daily maintenance works performed at site. Concessionaire to pleasedo the needful.

27. Make a proper store for storage of flammable and hazardous materials including spare parts.
28. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
29. All CCTV cameras are working.
30. There is variation in recorded values of flow from inlet flowmeter at Numayadahi STP and outlet flowmeter of Ghagharnalla MPS, please rectify the problem.
31. For Ghagharnalla MPS, following issues are required to be resolved:

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

32. 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 operations.
    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.

33. At Lukerganj SPS,

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

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

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

3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.

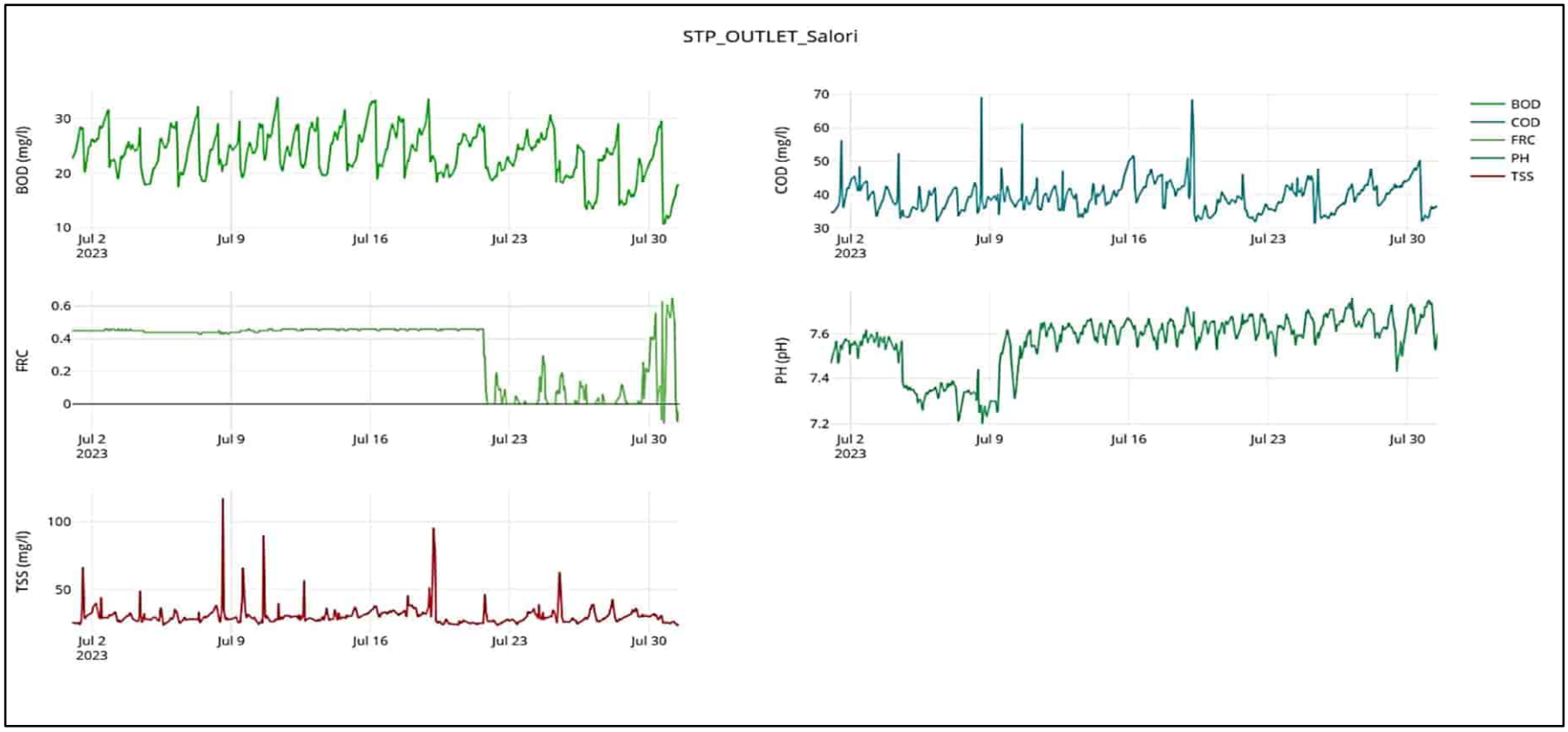
b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.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

1.3 Recommendation's

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

2. SALORI STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

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

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

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

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

Date	Daily Feed Quantity MLD (Design-29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design <50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design <30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	38580	38.58	7.46	7.54	155	26	360	40	320	33	NA	800	0.3	24.8	1400000	Plant availability is 100%
02-Jul-23	36730	36.73	7.51	7.57	160	26	356	44	336	35	NA	600	0.3	23.7	1700000	Plant availability is 100%
03-Jul-23	40630	40.63	7.42	7.53	165	24	348	40	342	31	NA	700	0.2	24.6	1400000	Plant availability is 100%
04-Jul-23	40320	40.32	7.35	7.47	160	23	344	40	338	32	NA	600	0.3	25.3	1200000	Plant availability is 100%
05-Jul-23	35930	35.93	7.42	7.48	155	26	360	36	329	30	NA	500	0.2	24.7	1300000	Plant availability is 100%
06-Jul-23	36840	36.84	7.33	7.44	160	25	356	40	336	31	NA	400	0.3	23.8	1400000	Plant availability is 100%
07-Jul-23	38430	38.43	7.42	7.51	155	26	360	40	322	32	NA	700	0.3	25.6	1700000	Plant availability is 100%
08-Jul-23	37770	37.77	7.37	7.46	145	24	344	36	332	34	NA	500	0.2	24.6	1400000	Plant availability is 100%
09-Jul-23	39670	39.67	7.43	7.56	155	25	352	40	341	35	NA	800	0.3	25.3	1700000	Plant availability is 100%
10-Jul-23	42940	42.94	7.46	7.57	160	27	356	40	331	30	NA	600	0.2	23.8	1300000	Plant availability is 100%
11-Jul-23	36920	36.92	7.56	7.62	155	24	352	36	327	31	NA	500	0.3	24.6	1200000	Plant availability is 100%
12-Jul-23	36760	36.76	7.63	7.67	150	25	360	40	319	33	NA	700	0.3	25.4	1400000	Plant availability is 100%
13-Jul-23	39370	39.37	7.65	7.71	160	24	352	40	308	31	NA	800	0.2	24.3	1700000	Plant availability is 100%
14-Jul-23	39990	39.99	7.58	7.64	155	27	360	36	313	32	NA	600	0.3	23.8	1400000	Plant availability is 100%
15-Jul-23	36920	36.92	7.56	7.67	160	26	348	40	320	35	NA	400	0.3	25.5	1200000	Plant availability is 100%
16-Jul-23	38040	38.04	7.59	7.62	165	25	356	44	297	34	NA	700	0.2	23.6	1400000	Plant availability is 100%
17-Jul-23	37630	37.63	7.63	7.68	155	27	360	44	308	36	NA	600	0.3	24.5	1300000	Plant availability is 100%
18-Jul-23	36610	36.61	7.61	7.66	160	28	352	40	312	38	NA	500	0.3	24.8	1100000	Plant availability is 100%
19-Jul-23	40810	40.81	7.58	7.63	155	22	356	40	293	36	NA	700	0.2	23.7	1400000	Plant availability is 100%
20-Jul-23	36560	36.56	7.61	7.64	160	25	348	36	289	28	NA	500	0.3	25.6	1300000	Plant availability is 100%
21-Jul-23	38520	38.52	7.57	7.62	165	27	356	40	296	28	NA	800	0.2	24.6	1700000	Plant availability is 100%
22-Jul-23	35830	35.83	7.62	7.65	155	22	360	36	314	29	NA	500	0.3	25.3	1200000	Plant availability is 100%
23-Jul-23	37710	37.71	7.65	7.69	160	25	356	40	296	31	NA	700	0.2	23.8	1400000	Plant availability is 100%
24-Jul-23	34790	34.79	7.58	7.64	150	26	360	40	310	33	NA	600	0.3	24.7	1200000	Plant availability is 100%
25-Jul-23	36210	36.21	7.65	7.68	160	24	352	36	306	34	NA	400	0.3	23.5	1300000	Plant availability is 100%
26-Jul-23	38340	38.34	7.63	7.66	165	21	360	36	313	29	NA	500	0.2	25.6	1400000	Plant availability is 100%
27-Jul-23	36910	36.91	7.62	7.64	160	20	364	40	298	32	NA	400	0.3	25.2	1100000	Plant availability is 100%
28-Jul-23	36780	36.78	7.65	7.68	155	22	356	44	311	34	NA	600	0.3	23.7	1400000	Plant availability is 100%
29-Jul-23	35790	35.79	7.59	7.63	145	20	352	40	296	33	NA	800	0.2	24.6	1700000	Plant availability is 100%
30-Jul-23	35880	35.88	7.63	7.65	155	21	360	44	319	31	NA	500	0.3	24.9	1300000	Plant availability is 100%
31-Jul-23	42110	42.11	7.65	7.67	160	19	356	40	320	28	NA	700	0.3	25.4	1200000	Plant availability is 100%
Average	**37945.81**	**37.95**	**7.55**	**7.61**	**157.26**	**24.26**	**355.23**	**39.61**	**315.87**	**32.23**	**NA**	**603.23**	**0.26**	**24.62**	**1380645.16**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	July 2023
Site Inspectors	8. Mr. Surendra Singh Parmar, PM-I, UPJN. 9. Mr. Abhishek Shrivastava, AE, UPJN. 10. Mr. Rahul Paswan, JE, UPJN. 11. Mr. Gaurav Gupta, AECOM. 12. Mr. Sudhir Kumar Tomar, AECOM. 13. Mr. Rahul Kumar Azaad, PWPL. 1. Mr. Vaibhav, PWPL
Place(s) of Inspection	• 29 MLD STP at Salori, Prayagraj. • 29 MLD MPS at Salori, Prayagraj.

Visit was done on 22nd June 2023, 6th July 2023, 13th July 2023 & 20th July 2023 and following observations were made after action taken by Concessionaire on June 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	35.93 to 42.94
2	Salori MPS	35.93 to 42.94

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	23 to 27 mg/l
2	TSS – Effluent	< 50 mg/l	30 to 36 mg/l
3	pH – Effluent	6.5 – 9.0	7.44 to 7.71
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.60 to 25.60 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Salori STP	88.53 to 108.44
2	Salori Associated Infrastructure	48.41 to 53.99

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

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

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

2. Online analyzer at inlet is replaced with new one. Calibration for the same is pending.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. All Grit Removal Units are working.
7. Both Mechanical Screens are working but both mechanical screens are not lifting screenings efficiently. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. Both FAB units are working.
9. DO analyzers for both FAB units are not working, please rectify the problem.
10. All three aeration blowers are working.
11. Both clarisettlers are working. In Clarisettler no. 1, levelling of outlet launders must be checked as supernatant is not coming equally in all outlet lauders & this can affect the quality of effluent. Concessionaire to please look into the matter & rectify the problem at the earliest.
12. In clarisettlers it is observed that when agitators are operated, sludge starts coming to the top due to which quality deteriorates. Hence, it is suggested to do necessary modifications in agitators so that the problem can be rectified.
13. In clarisettler no. 2, it was found that sludge accumulation inside the clarisettler was more than normal and due to which outlet quality was very bad. Therefore, sludge withdrawal from both clarisettlers must be done properly.
14. Quality of effluent needs to be improved during peak hours.
15. Sludge dewatering building is in operation, poly preparation unit is in operation.
16. Both Sludge transfer pumps for Clarisettlers are working.
17. Both Filtrate pumps are working.
18. Both chlorinators are working. Both booster pumps are working.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
21. Thickener unit is working.
22. Both DGs are working.
23. It was found that sludge is being dumped within the STP. Concessionaire to please look into the matter and dump sludge only in the land which is being allotted by UPJN for sludge disposal.
24. 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.
25. 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.
26. 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.
27. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
28. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
29. Installation & commissioning of Public Address System is not completed yet.
30. Housekeeping near FeCl3 dosing system needs to be improved.
31. Housekeeping in dewatering area must be improved, lot of sludge can be seen scattered in this area.
32. All CCTV cameras are working.
33. Make a proper store for storage of flammable and hazardous materials including spare parts.
34. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

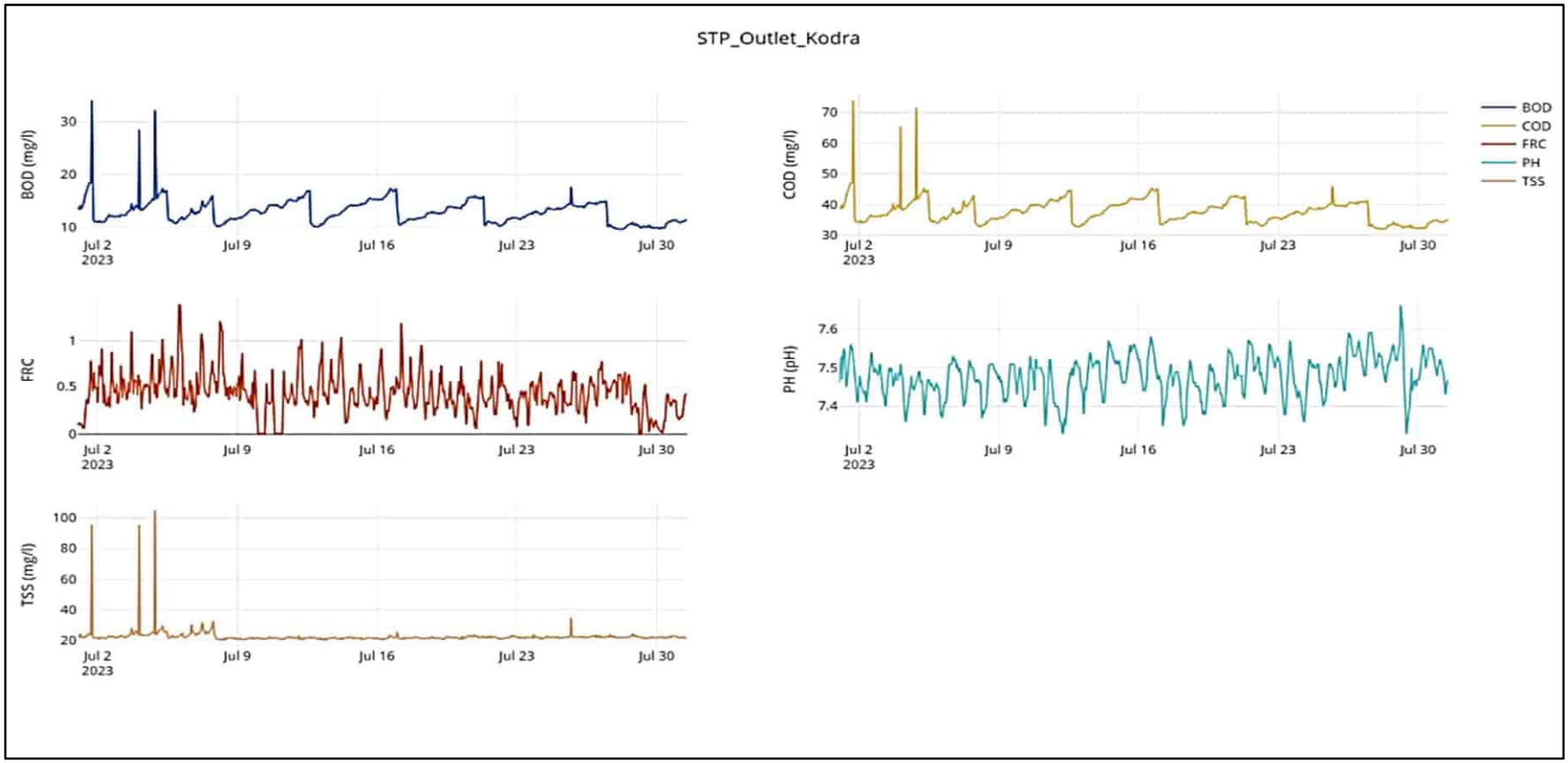
a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.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

2.3 Recommendation's

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

3. KODRA STP AND ASSOCIATE INFRASTRUCTURE

3.1 KPI Report



Source: Online analyzer,

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

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

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

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

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design <50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design <30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	36870	36.87	7.28	7.48	140	15	328	40	271	21	NA	400	0.3	24.11	1200000	Plant availability is 100%
02-Jul-23	31850	31.85	7.23	7.46	130	11	292	36	282	22	NA	600	0.2	24.06	1400000	Plant availability is 100%
03-Jul-23	30210	30.21	7.19	7.52	140	13	304	40	268	24	NA	500	0.2	23.56	1300000	Plant availability is 100%
04-Jul-23	35970	35.97	7.26	7.47	135	15	316	44	276	26	NA	600	0.3	24.26	1200000	Plant availability is 100%
05-Jul-23	31320	31.32	7.29	7.44	145	13	304	40	263	24	NA	400	0.3	23.51	1400000	Plant availability is 100%
06-Jul-23	28520	28.52	7.24	7.45	150	12	308	36	268	25	NA	700	0.3	23.77	1200000	Plant availability is 100%
07-Jul-23	30290	30.29	7.31	7.48	135	14	316	40	274	26	NA	600	0.2	23.56	1300000	Plant availability is 100%
08-Jul-23	29620	29.62	7.32	7.47	145	11	300	36	263	21	NA	700	0.3	23.08	1700000	Plant availability is 100%
09-Jul-23	32390	32.39	7.27	7.49	130	13	324	40	282	22	NA	500	0.2	23.62	1400000	Plant availability is 100%
10-Jul-23	33320	33.32	7.3	7.52	140	14	312	36	267	21	NA	600	0.2	24.53	1700000	Plant availability is 100%
11-Jul-23	29970	29.97	7.29	7.44	135	15	332	40	260	20	NA	500	0.3	23.51	1200000	Plant availability is 100%
12-Jul-23	30540	30.54	7.24	7.48	130	14	320	44	279	22	NA	400	0.2	23.7	1300000	Plant availability is 100%
13-Jul-23	27850	27.85	7.26	7.5	135	12	304	36	268	20	NA	700	0.2	24.4	1200000	Plant availability is 100%
14-Jul-23	29170	29.17	7.34	7.53	140	13	312	40	275	22	NA	500	0.3	24.96	1300000	Plant availability is 100%
15-Jul-23	30750	30.75	7.32	7.55	150	15	308	44	266	20	NA	700	0.2	23.61	1400000	Plant availability is 100%
16-Jul-23	30790	30.79	7.3	7.52	145	16	296	40	269	21	NA	400	0.2	23.08	1200000	Plant availability is 100%
17-Jul-23	30110	30.11	7.32	7.48	135	11	312	36	270	22	NA	700	0.3	23.64	1300000	Plant availability is 100%
18-Jul-23	28530	28.53	7.22	7.51	130	12	304	40	265	20	NA	600	0.3	24.11	1400000	Plant availability is 100%
19-Jul-23	31450	31.45	7.28	7.49	140	13	320	36	272	21	NA	400	0.2	24.47	1100000	Plant availability is 100%
20-Jul-23	30320	30.32	7.26	7.5	150	15	328	40	287	23	NA	500	0.3	24.18	1200000	Plant availability is 100%
21-Jul-23	33100	33.1	7.29	7.53	140	12	316	36	282	22	NA	400	0.2	24.32	1400000	Plant availability is 100%
22-Jul-23	33740	33.74	7.16	7.54	135	11	324	32	296	23	NA	600	0.2	23.64	1300000	Plant availability is 100%
23-Jul-23	35900	35.9	7.21	7.46	145	13	300	36	264	22	NA	500	0.3	23.52	1100000	Plant availability is 100%
24-Jul-23	30870	30.87	7.24	7.48	135	12	316	40	269	21	NA	700	0.3	23.32	1700000	Plant availability is 100%
25-Jul-23	32950	32.95	7.19	7.44	130	14	312	36	283	22	NA	600	0.3	24.11	1300000	Plant availability is 100%
26-Jul-23	32640	32.64	7.26	7.54	135	13	328	40	278	23	NA	700	0.2	24.87	1400000	Plant availability is 100%
27-Jul-23	27700	27.7	7.16	7.55	140	12	308	36	271	21	NA	400	0.2	24.94	1200000	Plant availability is 100%
28-Jul-23	28440	28.44	7.22	7.53	130	10	316	32	283	24	NA	500	0.2	22.6	1400000	Plant availability is 100%
29-Jul-23	28310	28.31	7.3	7.5	145	11	320	36	276	23	NA	700	0.2	22.72	1300000	Plant availability is 100%
30-Jul-23	29850	29.85	7.27	7.54	140	10	296	32	267	21	NA	400	0.3	24.43	1100000	Plant availability is 100%
31-Jul-23	29030	29.03	7.19	7.48	150	12	316	36	278	22	NA	600	0.3	24.42	1700000	Plant availability is 100%
Average	**31044.19**	**31.04**	**7.26**	**7.50**	**138.87**	**12.81**	**312.65**	**37.94**	**273.29**	**22.16**	**NA**	**551.61**	**0.25**	**23.89**	**1332258.06**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Action taken report

Month of Site Inspection	July 2023
Site Inspectors	14. Mr. Surendra Singh Parmar, PM-I, UPJN. 15. Ms. Shilpa, AE, UPJN. 16. Mr. Narendra, JE, UPJN. 17. Mr. Gaurav Gupta, AECOM. 18. Mr. Sudhir Kumar Tomar, AECOM. 19. Mr. Rahul Azaad, PWPL. 1. Mr. Rajan, PWPL.
Place(s) of Inspection	• 25 MLD STP at Kodra, Prayagraj • 25 MLD MPS at Kodra, Prayagraj

Visit was done on 27th June 2023, 5th July 2023, 11th July 2023, 18th July 2023 and following observations were made after action taken by Concessionaire on June 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	27.87 to 36.87
2	Kodra MPS	27.87 to 36.87

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	11 to 15 mg/l
2	TSS – Effluent	< 30 mg/l	20 to 26 mg/l
3	pH – Effluent	6.5 – 9.0	7.44 to 7.55
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.08 to 24.96%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Kodra STP	83.83 to 96.07
2	Kodra Associated Infrastructure	98.80 to 102.86

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

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

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized.
2. Online analyzer at inlet is replaced with new one. Calibration for the same is pending.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is

fundamentally not correct. In addition to this, value of residual chlorine is not shown correctly for complete month. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.

4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. Both grit removal units are working. Repairing/replacment of discharge chute for units is required.
7. Both Mechanical Fine Screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. All Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working. Excess air is coming out from 5-6 points in all aeration tanks due to problem in diffusers. Because of air distribution in not uniform in aeration tanks hence this problem must be rectified at the earliest.
10. Both DO Analyzer are not working at outlet of aeration tank.
11. All Aeration blowers are working.
12. All Centrifuges are in working condition. Discharge chute repairing is required.
13. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
14. All Sludge Recirculation Pumps are working.
15. Both Centrifuge Feed Pumps are working.
16. Both Secondary Clarifiers are working.
17. Thickener unit is working.
18. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be around 0.2 to 0.3 mg/l.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
21. There is variation in recorded values of flow from inlet flowmeter at Kodra STP and outlet flowmeter of Kodra STP, please rectify the problem.
22. One Mechanical coarse Screens at MPS is working. One Mechanical coarse Screens is under maintenance Though the screens are running in auto mode through timer, differential level sensors must also be made operational for running mechanical screens more efficiently through level difference during peak and lean period.
23. At Kodra MPS, all 6 pumps are OK for operation. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that they can start & stop on the basis of level in the sump.
24. At Kodra MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
25. Landscaping of site must be improved; it needs to be made better.
26. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
27. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
28. Installation of Public Address System is done but its commissioning is not completed yet.
29. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
30. Make a proper store for storage of flammable and hazardous materials including spare parts.
31. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

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

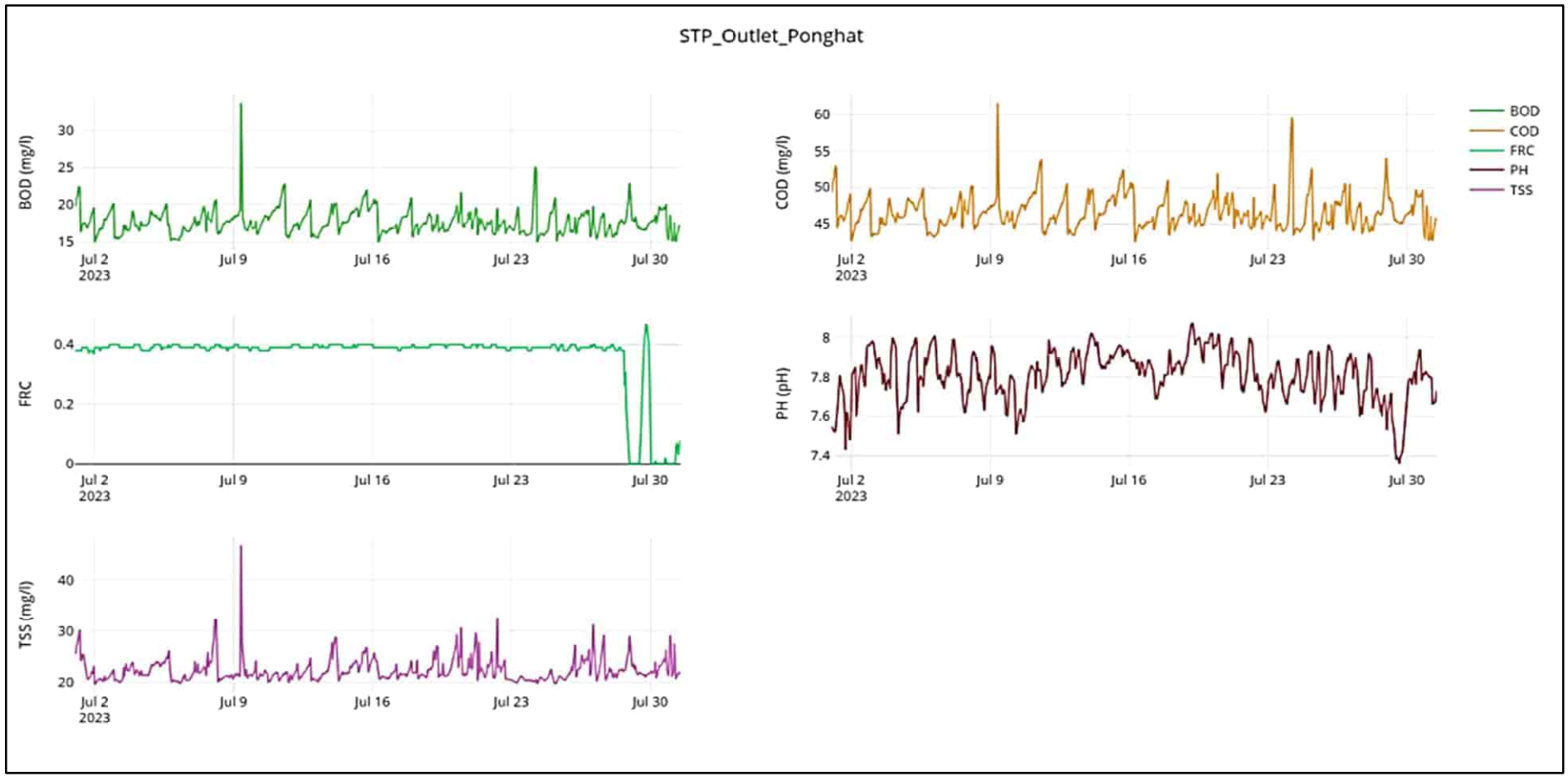
b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.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

3.3 Recommendation's

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

4. PONGHAT STP AND ASSOCIATE INFRASTRUCTURE

4.1 KPI Report



Source: Online analyzer,

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

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

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

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

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Jul-23	13490	13.49	7.41	7.5	135	18	310	48	293	26	NA	400	0.2	23.23	1300000	Plant availability is 100%
02-Jul-23	12940	12.94	7.43	7.74	140	17	312	44	286	23	NA	300	0.3	23.51	1200000	Plant availability is 100%
03-Jul-23	13150	13.15	7.46	7.8	145	16	300	48	280	24	NA	500	0.3	23.06	1400000	Plant availability is 100%
04-Jul-23	14420	14.42	7.42	7.82	135	17	308	44	294	22	NA	400	0.2	22.49	1200000	Plant availability is 100%
05-Jul-23	11400	11.4	7.4	7.81	145	18	310	48	289	25	NA	300	0.3	23.68	1500000	Plant availability is 100%
06-Jul-23	12790	12.79	7.41	7.77	150	17	316	44	274	22	NA	500	0.3	23.67	1400000	Plant availability is 100%
07-Jul-23	13820	13.82	7.43	7.74	140	18	306	48	296	25	NA	600	0.2	23.5	1300000	Plant availability is 100%
08-Jul-23	13930	13.93	7.44	7.71	145	17	308	44	284	24	NA	400	0.3	23.1	1200000	Plant availability is 100%
09-Jul-23	13250	13.25	7.42	7.65	135	18	300	48	278	23	NA	500	0.2	23.42	1400000	Plant availability is 100%
10-Jul-23	14210	14.21	7.4	7.55	140	17	296	44	298	22	NA	600	0.3	23.2	1500000	Plant availability is 100%
11-Jul-23	13390	13.39	7.43	7.68	150	18	308	48	276	23	NA	500	0.3	22.94	1300000	Plant availability is 100%
12-Jul-23	13650	13.65	7.45	7.78	145	17	312	44	282	24	NA	400	0.2	23.18	1400000	Plant availability is 100%
13-Jul-23	13850	13.85	7.48	7.76	135	16	320	48	292	23	NA	500	0.3	23.02	1200000	Plant availability is 100%
14-Jul-23	14740	14.74	7.43	7.88	145	18	304	44	286	25	NA	600	0.3	23.81	1300000	Plant availability is 100%
15-Jul-23	14660	14.66	7.41	7.84	140	19	308	48	275	26	NA	400	0.3	23.45	1400000	Plant availability is 100%
16-Jul-23	14930	14.93	7.44	7.74	150	16	316	44	288	24	NA	500	0.2	23.09	1200000	Plant availability is 100%
17-Jul-23	15130	15.13	7.38	7.65	145	17	320	48	275	23	NA	600	0.3	23.36	1500000	Plant availability is 100%
18-Jul-23	13840	13.84	7.42	7.73	140	18	308	44	282	24	NA	400	0.3	22.92	1300000	Plant availability is 100%
19-Jul-23	14960	14.96	7.46	7.85	130	16	300	48	270	25	NA	500	0.2	23.08	1200000	Plant availability is 100%
20-Jul-23	14280	14.28	7.43	7.84	145	17	316	44	284	27	NA	600	0.3	23.46	1400000	Plant availability is 100%
21-Jul-23	14110	14.11	7.45	7.8	140	16	300	48	294	26	NA	500	0.3	23.15	1300000	Plant availability is 100%
22-Jul-23	12110	12.11	7.41	7.68	135	17	308	44	282	25	NA	400	0.2	22.85	1200000	Plant availability is 100%
23-Jul-23	14610	14.61	7.37	7.65	145	16	312	48	291	22	NA	500	0.2	23.14	1500000	Plant availability is 100%
24-Jul-23	13530	13.53	7.39	7.61	140	18	316	44	272	21	NA	600	0.3	22.92	1400000	Plant availability is 100%
25-Jul-23	13230	13.23	7.42	7.7	135	16	300	48	284	23	NA	500	0.2	23.3	1300000	Plant availability is 100%
26-Jul-23	13650	13.65	7.46	7.74	145	17	310	44	278	25	NA	600	0.3	23.14	1400000	Plant availability is 100%
27-Jul-23	12750	12.75	7.42	7.81	150	18	304	48	272	22	NA	400	0.3	23	1200000	Plant availability is 100%
28-Jul-23	13000	13	7.38	7.79	135	17	300	44	267	23	NA	500	0.2	23.46	1300000	Plant availability is 100%
29-Jul-23	12990	12.99	7.44	7.59	145	16	312	48	275	24	NA	600	0.3	22.86	1500000	Plant availability is 100%
30-Jul-23	14840	14.84	7.41	7.68	130	18	304	44	282	25	NA	400	0.3	23.28	1400000	Plant availability is 100%
31-Jul-23	14080	14.08	7.47	7.7	140	16	300	48	274	24	NA	500	0.2	22.53	1300000	Plant availability is 100%
Average	**13733.23**	**13.73**	**7.42**	**7.73**	**141.13**	**17.10**	**307.87**	**46.06**	**282.35**	**23.87**	**NA**	**483.87**	**0.26**	**23.19**	**1335483.87**	

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Inspection Report

Month of Site Inspection	July 2023
Site Inspectors	20. Mr. Surendra Singh Parmar, PM-I, UPJN. 21. Ms. Shilpa, AE, UPJN. 22. Mr. Narendra, JE, UPJN. 23. Mr. Gaurav Gupta, AECOM. 24. Mr. Sudhir Kumar Tomar, AECOM. 25. Mr. Rahul Azaad, PWPL. 1. Mr. Anjani, PWPL.
Place(s) of Inspection	• 10 MLD STP at Ponghat, Prayagraj • 10 MLD MPS at Ponghat, Prayagraj

Visit was done on 27th June 2023 , 5th July 2023, 11th July 2023 and 18th July 2023 and following observations were made after action taken by Concessionaire on May 23 month recommendation given by Project Engineer.

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	11.40 to 15.13
2	Ponghat MPS	11.40 to 15.13

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	22 to 26 mg/l
3	pH – Effluent	6.5 – 9.0	7.50 to 7.88
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	300 to 600 MPN/100ml
5	Consistency – Sludge	> 20 %	22.49 to 23.81%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1500000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Ponght STP	117.28 to 144.32
2	Ponght Associated Infrastructure	77.18 to 85.39

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

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

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

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

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

g) Procedure for recording & disposal of complaints.
h) Safety & Health Records. Incident reports must also be submitted along with action plan.
i) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
j) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

4.3 Recommendation's

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

ANNEXURE-IV

PROJECT ENGINEER ACTIVITY AS PER TOR

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of Construction material including lab testing.
4,1(ii)	Review, analysis and qualifying assessment of Design Memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	Yes	Yes
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 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	f. Environment Health and Safety Plan, material safety data and hazardous chemicals if any.			
4.1(v)	Review of the Drawings and Documents as set forth in Paragraph 4 and 5;	Yes	Yes	Yes
4.1(vi)	Identification of Construction Milestones & Project progress monitoring and issue of Milestone Construction Certificates, Construction Completion Certificate, monitoring Trail run, recommendations for issuance of COD certificate by Jal Nigam etc..	Review and Monitoring of project	Review and Monitoring of project	Review and Monitoring of project
4.1(vii)	To Assist NMCG for getting Statutory permissions	NA	NA	NA
4.1(viii)	Ensure compliance with Statutory provisions under various applicable laws	Yes	Yes	Yes
4.1(ix)	Review, inspection, supervision and monitoring of Construction Works as set forth in Paragraph 6; conducting Tests on completion of construction and issuing Completion/ Provisional Certificate as set forth in Paragraph 6	Yes	Yes	Yes
	Review, inspection and monitoring of O&M as set forth in Paragraph 6;	Yes	Yes	Yes
	determining, as required under the Concession Agreement, the costs of any works or	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	services and/or their reasonableness;			
	determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation	Yes	Yes	Yes
	Determining the Events of default and guidance on consequent Termination notices and Payment as detailed in clauses 16.1 to 16.5of the Concession Agreement	NA	NA	NA
	Determine deficiencies in the commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam	Yes	Yes	Yes
	Any other matter which is not specified in ((vi),(vii), or (viii) above and which creates an obligation or liability on the Employer /NMCG beyond the provisions of the Concession Agreement.	Yes	Yes	Yes
4.1(x)	Ensuring Interim Availability of the existing Facilities during construction period and certifying Scheduled Outages during Scheduled Maintenance.	NA	NA	NA
4.1(xi)	The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and	YES	YES	YES

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	NMCG, in respect of its duties and functions under the Concession Agreement.			
4.1(xii)	The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement.	Yes	Yes	Yes
4.1(xiii)	Assisting the Parties in resolution of Disputes as set forth in Paragraph 9;	Yes	Yes	Yes
4.1(xiv)	Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 20.3 of the Concession Agreement; and	Yes	NA	NA
4.1(xv)	Undertaking all other duties and functions in accordance with this agreement. Project Engineer shall utilize best of analytical tools /computational models for review/analysis of structural/hydraulics wherever essential.	Yes	Yes	Yes
4.2	The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice.	Yes	Yes	Yes
4.3	The Project Engineer must function in a manner to assist and equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities in a manner that: (i) Is in compliance with the Technical Specifications,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st June 2023 to 30th June 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Applicable Laws, Applicable Permits and Good Industry Practice; Results in the Facilities achieving the KPIs as detailed in schedule 9of the Concession Agreement and certify within 7 days the KPI adherence Report as per clause 9.12 of the Concession Agreement; (ii) Ensures that the Allahabad Facilities are capable of treating Sewage up to the Design Capacity on a daily basis; (iii) Ensures efficient treatment of Sewage and handling and disposal of STPs By- Products and the Treated Effluent (iv) STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure; (v) Is in compliance with the technology license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure; (vi) Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable			

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	Laws and Applicable Permits; and (vii) Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits.			
4.4	Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation and maintenance of the Facilities and shall work closely with the Uttar Pradesh Jal Nigam and NMCG to monitor compliance with the KPIs. The detailed scope of work of the Project Engineer during various stages of the project, to be read in conjunction with the provisions of the Concession Agreement, is outlined in Paragraphs 4-12 of the TOR.	Yes	Yes	Yes
5.1	During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and	Yes	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	send its comments/observations to the Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.			
5.2	The Project Engineer shall review and assist the Uttar Pradesh Jal Nigam in approval of the submissions by the concessionaire relating to the "design and, Construction Plan, rehabilitation Plan of existing facilities" so as to confirm to the scope as per Schedule 1 of the Concession Agreement.	Yes	Yes	Yes
5.3	The basic engineering drawings for the construction and rehabilitation in the above case shall mean the designs and documents to be submitted by the Concessionaire and approved by the Uttar Pradesh Jal Nigam as a Condition Precedent and shall include but not limited to (a) Conduct Kick off meeting, Scrutiny of contractor's submittals (b) Process description, process calculations and hydraulic calculations;	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	(c) List of design codes and standards; (d) Master drawing schedule; (e) Drainage design; (f) STP Facilities layout; (g) Process flow diagram; (h) Hydraulic flow diagram; (i) Mass balance diagram; (j) Process and instrumentation diagram; (k) Single line diagram; (l) Electrical load list; and (m) Structure design and drawings (n) Pump Characteristics and (o) General arrangement diagrams of all units of Facilities and; (p) Any other information, design, drawings, etc needed for effective development/rehabilitation and operation of Facilities..			
5.4	The Project Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such Drawings or Documents.	Yes	Yes	Yes
5.5	The Project Engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	Concessionaire and furnish its comments within 10 (ten) days of receipt thereof.			
5.6	Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam	NA	NA	NA
6.1	In respect of the Designs Drawing and Documents received by the Project Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall also apply, mutatis mutandis.	Yes	Yes	Yes
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 8.3, 8.4 and 8.5 of the Concession Agreement including Phase 1 and Phase II Design & Drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 8.6 of the Concession Agreement.	Yes	Yes	Yes
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	on effectiveness or otherwise of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date.			
6.4	The Project Engineer shall review the submissions by the Concessionaire as per Schedule 1 of the Concession Agreement and assist Uttar Pradesh Jal Nigam in assessing the effectiveness them.	Yes	Yes	Yes
6.5	The Project Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the / Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report.	Yes	Yes	Yes
6.6	The Project Engineer shall inspect the Construction Works and the Project as and when necessary and submit a report of such inspection (the "Inspection Report"), preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case. The report shall contain, an overview of the status, progress, quality and safety of construction, including the work methodology adopted,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Project Engineer shall send a copy of its Inspection Report to the / Uttar Pradesh Jal Nigam and the Concessionaire within 3 (three) days of the inspection.			
6.7	However serious lapses, defects and/or deficiencies shall be reported to the Uttar Pradesh Jal Nigam/NMCG immediately without waiting for the monthly progress submissions as mentioned in the previous paragraph.	Yes	Yes	Yes
6.8	For determining that the Construction Works conform to Specifications and Standards, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Project Engineer in accordance with approved norms/Good Industry Practice for quality assurance. The Project Engineer shall issue necessary directions to the	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	Concessionaire for ensuring that the tests are conducted in a fair and efficient manner and shall monitor and review the results thereof.			
6.9	The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/ rejection of their results shall be determined by the Project Engineer in accordance with the norms /rules and Good Industry Practice. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice.	Yes	Yes	Yes
6.10	In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests to determine that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests.	Yes	Yes	Yes
6.11	In the event that the Concessionaire fails to	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	achieve any of the Project Milestones, the Project Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Project Engineer identifies that completion of the Project is not feasible within the time specified in the Concession Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire forthwith.			
6.12	If at any time during the Construction Period, the Project Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and common public in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	Construction Works that should be suspended for ensuring safety in respect thereof.			
6.13	In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and common public, it may, by notice in writing, require the Project Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Project Engineer shall inspect the suspended works and make a report to the NMCG/ Uttar Pradesh Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam.	NA	NA	NA
6.14	If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same.			
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire.	NA	NA	NA
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual.	Yes	Yes	Yes
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 21.	Yes	Yes	Yes
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'.	Yes	Yes	Yes

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

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

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; i) Human Resources Plans; j) EHS Plans; k) Emergency procedures; l) Management of Assets Plans. And m) Annual Scheduled Maintenance Programme.			
7.3	The Project Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of the Maintenance Program.	Yes	Yes	Yes
7.4	The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam	Yes	Yes	Yes
7.5	The Project Engineer shall verify the daily reports	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis;			
7.6	The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 9.8(b)(iii) (A) to (G) of the Concession Agreement.	Yes	Yes	Yes
7.7	The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet Point or at any other point at the Facilities for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.	Yes	Yes	Yes
7.8	The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 9.8(b)(iii)(E) the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	within 7 (seven) days of receipt of such report			
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M of the Project. The Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection.	Yes	Yes	Yes
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	Yes	Yes	Yes
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out,	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.			
7.12	The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.	Yes	Yes	Yes
7.13	The Project Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire.	Yes	Yes	Yes
7.14	In the event that the Concessionaire notifies the Project Engineer of any modifications that it proposes to make to the project, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 15 (fifteen) days of receiving the proposal.	NA	NA	NA
7.15	The Project Engineer shall undertake sewage flow sampling, as and when required by the NMCG/ Uttar	Yes	Yes	Yes

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	Pradesh Jal Nigam, under and in accordance with the provisions of this agreement.			
7.16	The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual), including monthly Environmental Monitoring Reports as detailed in Schedule 10(Part G) of the Concession Agreement.	Yes	Yes	Yes
7.17	The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire.	Yes	Yes	Yes
7.18	The Project Engineer will provide necessary assistance to NMCG and UP Jal Nigam for the understanding various projects undertaken through other Central Government/State Government schemes /Urban Local Bodies and advice NMCG/UP Jal Nigam accordingly so that the overall objective preventing flow of untreated sewage into the river Yamuna is accomplished. The support by the proposed PE will include, but not limited to the following: 7.18.1 Preparation of a road map/policy note for	NA	NA	NA

Activities Carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st June 2023 to 30th June 2023**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	completion of sewage related work at the City Level taking into consideration various schemes implemented through NMCG/Central/State Government funding and/or through Urban Local Body funding; 7.18.2 Assist in developing dovetailing partnerships with other schemes in the sewage sector like AMRUT, SMART City Mission and Swachh Bharat Mission to develop Synergistic plans. 7.18.3 Assist in identification of suitable new technologies for improving sewage infrastructure, economizing investment and for sustainable development and operation of the project; 7.18.4 Collecting information on regular monitoring and of implementation of various projects by the project implementing agencies/Urban Local Bodies and to produce status report;			
7.19	Assist in identification of bottlenecks in implementation of projects and suggesting remedial actions.	Yes	Yes	Yes

ANNEXURE-V

QUALITY CONTROL / QUALITY ASSURANCE

S.NO	Description	Instrument	1st July 2023 to 31st July 2023				Remarks
			As per IS no of test required	No of test conducted	No of test accepted	No of test rejected	
1	Aggregate Impact Value	IS 2386-Part 4	ONE TEST/300 CUM	1	1	0	Aggregate Impact value test conduct in Jhunsi. found satisfactory
2	Sand gradation	IS 2386-Part 1	ONE TEST/300CUM	1	1	0	Sand Gradation Test conduct in, Jhunsi and found satisfactory
3	Cube test	IS 516-2001	Quantity of concrete (m3) Number of samples 1-5 1 6-15 2 16-30 3 31-50 4 51 and above 4 plus one additional sample for each additional 50 m3 or part thereof.	03	03	0	Jhunsi SPS cube test at Jhunsi site. Cube test is acceptable for 7 Days
4	Silt Content in Sand	IS 2386: 1963-Part 2	50 M3 – 1 TEST	1	1	0	Silt Content Test conduct in Jhunsi and found satisfactory
5	Sieve analysis (Aggregate 10mm)	IS 2386	ONE TEST/300 M3	1	1	0	Sieve Test Activity conduct in , Jhunsi site as per quality of material found acceptable

S.NO	Description	Instrument	1st July 2023 to 31st July 2023				Remarks
			As per IS no of test required	No of test conducted	No of test accepted	No of test rejected	
6	Sieve analysis (Aggregate 20mm)	IS 2386	ONE TEST/300 M3	1	1	0	Sieve Test Activity conduct in Jhunsi, site as per quality of material found acceptable
7	Brick Test	IS 1077 & 3495	1 SAMPLE/50000 BRICKS	1	1	0	As per site brick test activity conduct at Jhunsi (Phaphamau bricks) and result found acceptable as per IS
8	OPC CEMENT 43 GRADE	IS 4031	I TEST PER LOT	1	1	0	Ultratech (Third party batch report Submitted)