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
September 2023

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

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1. Introduction

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

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

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

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

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

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

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

2. Hybrid Annuity Model (HAM)

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

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

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

3. Objectives

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

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

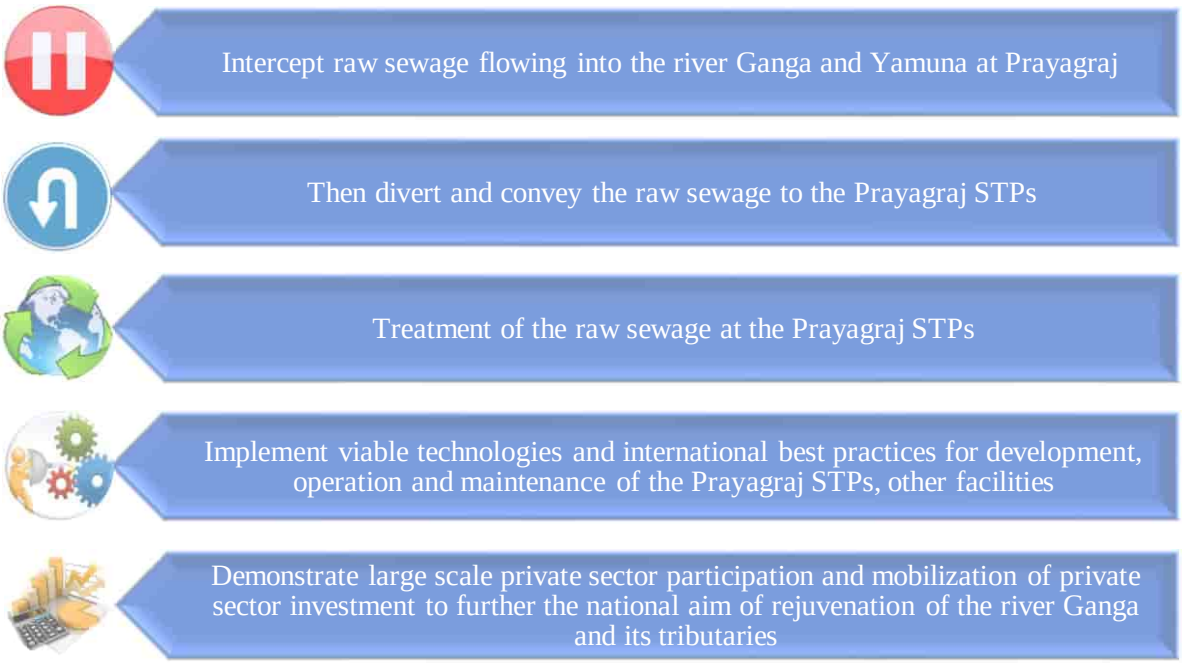

Figure 1 : Objectives of NMCG and UP JAL NIGAM

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

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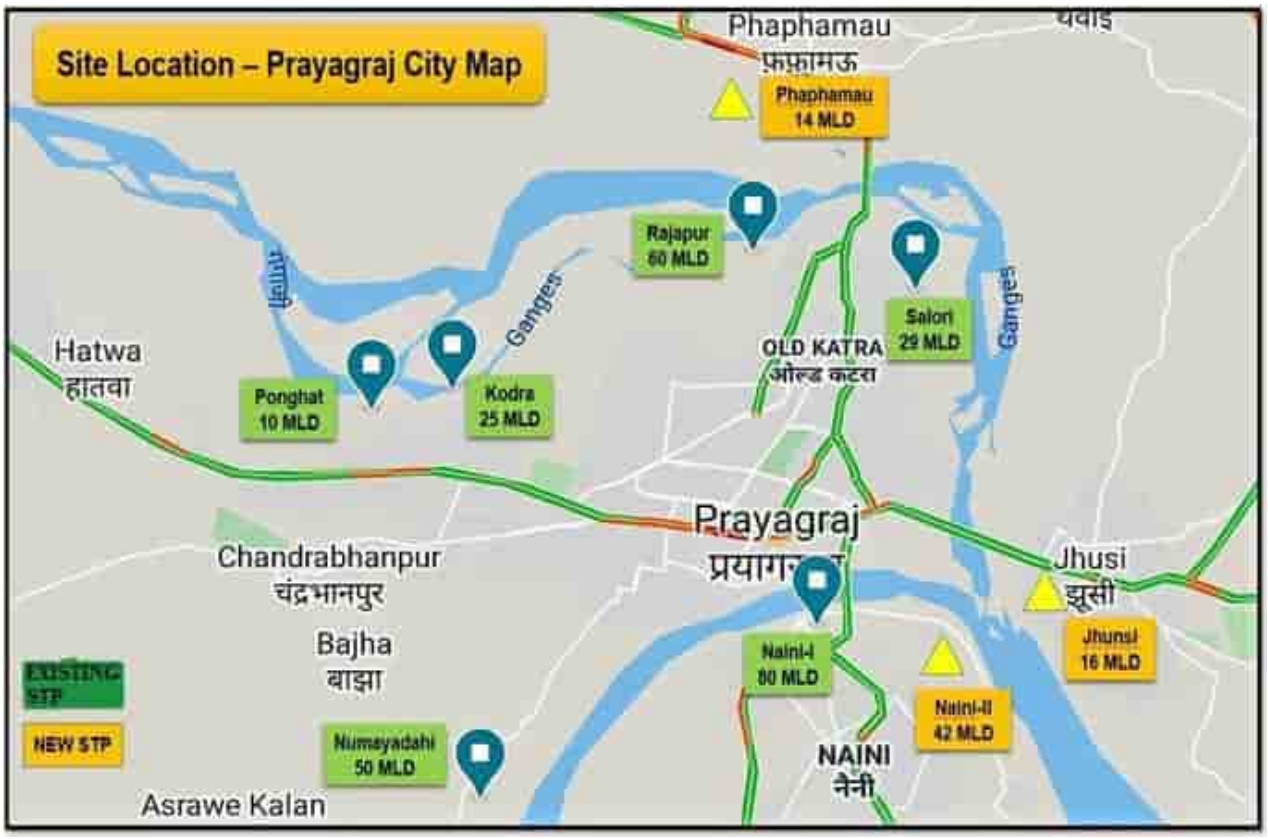
4. Project at Glance

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

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

5. Site Location



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

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

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

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

6. Project Components

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

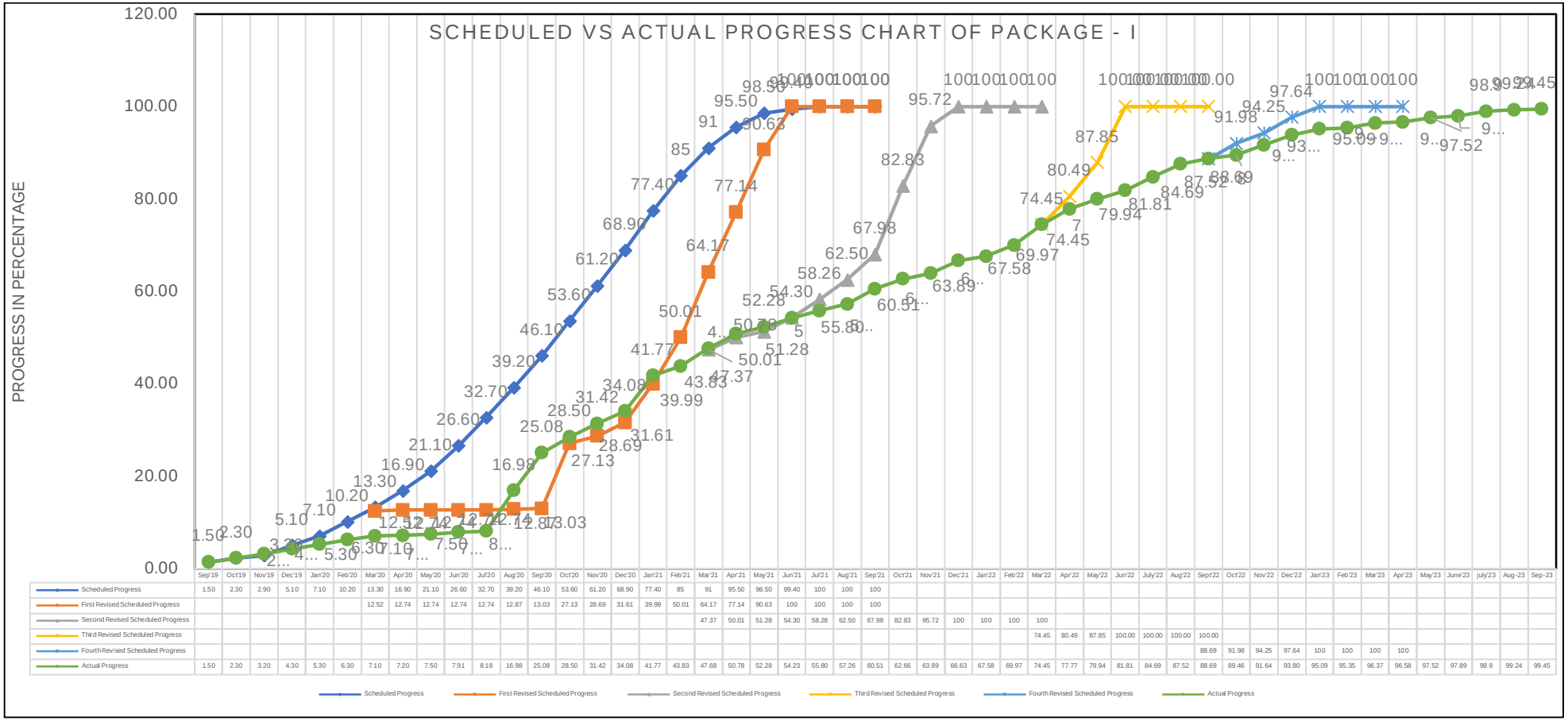
Package Number - I				
Nature of work	Facilities			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD at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

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

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

7. Status of project

7.1 Package-I Overall progress status

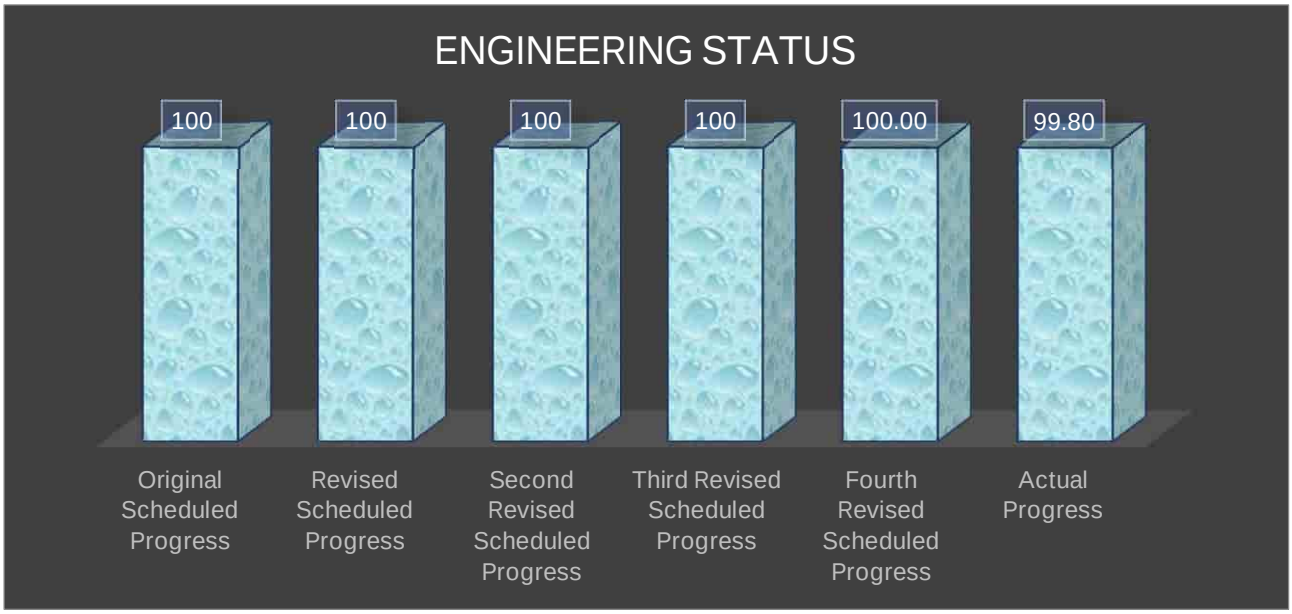


	Sep'19	Oct'19	Nov'19	Dec'19	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20	Jan'21	Feb'21	Mar'21	Apr'21	May'21	Jun'21	Jul'21	Aug'21	Sep'21	Oct'21	Nov'21	Dec'21	Jan'22	Feb'22	Mar'22	Apr'22	May'22	Jun'22	July'22	Aug'22	Sept'22	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23	Apr'23	May'23	June'23	july'23	Aug-23	Sep-23
Scheduled Progress	1.50	2.30	2.90	5.10	7.10	10.20	13.30	16.90	21.10	26.60	32.70	39.20	46.10	53.60	61.20	68.90	77.40	85	91	95.50	98.50	99.40	100	100	100																							
First Revised Scheduled Progress							12.52	12.74	12.74	12.74	12.74	12.87	13.03	27.13	28.69	31.61	39.99	50.01	64.17	77.14	90.63	100	100	100	100																									
Second Revised Scheduled Progress																			47.37	50.01	51.28	54.30	58.26	62.50	67.98	82.83	95.72	100	100	100	100																			
Third Revised Scheduled Progress																															74.45	80.49	87.85	100.00	100.00	100.00	100.00												
Fourth Revised Scheduled Progress																																					88.69	91.98	94.25	97.64	100	100	100	100				
Actual Progress	1.50	2.30	3.20	4.30	5.30	6.30	7.10	7.20	7.50	7.91	8.18	16.98	25.08	28.50	31.42	34.08	41.77	43.83	47.68	50.78	52.28	54.23	55.80	57.26	60.51	62.66	63.89	66.63	67.58	69.97	74.45	77.77	79.94	81.81	84.69	87.52	88.69	89.46	91.64	93.80	95.09	95.35	96.37	96.58	97.52	97.89	98.9	99.24	99.45

Scheduled Progress | First Revised Scheduled Progress | Second Revised Scheduled Progress | Third Revised Scheduled Progress | Fourth Revised Scheduled Progress | Actual Progress

- Project Engineer has provided observation on Concessionaire September'23-month MPR vide letter number AIPL/NMCG/PRAYAG/1675-B on dated 26.10.2023 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%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
8.	Resubmission, review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	11-02-19	11-10-19	100%	100%	0%	100%
9.	Jhunsi STP	11-01-19	15-03-20				
10.	Submission of Basic Engg. Drawings/documents to UPJN (Based on old location)	11-01-19	11-02-19	100%	100%	0%	100%
11.	Submission of Basic Engg. Drawings/documents to UPJN (based on revised location)	10-11-19	10-12-19	100%	100%	0%	100%
12.	Resubmission, review and Approval of Basic Engg. of drawings/documents from UPJN/PE/IIT	10-12-19	15-03-20	100%	100%	0%	100%
13.	Jhunsi associated Infrastructure	11-01-19	15-03-20				
14.	Submission of Basic Engg. Drawings/documents to UPJN (Based on old location)	11-01-19	11-02-19	100%	100%	0%	100%
15.	Submission of Basic Engg.Drawings/documents to UPJN (based on revised location)	01-01-20	31-01-20	100%	100%	0%	100%
16.	Review and Approval of Basic Engg. of drawings/documen	25-10-19	15-03-20	100%	100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
	ts from UPJN/PE/IIT						
17.	Detail Engineering	01-03-20	20-11-22				
18.	Submission of Detailed Engineering drawings to UPJN	01-03-20	10-11-22				
19.	Mechanical	01-03-20	15-10-22	100%	100%	0%	100%
20.	Electrical and C&I	01-03-20	20-08-22	100%	100%	0%	100%
21.	Civil & Structure	01-03-20	10-11-22	100%	99%	0%	99%
22.	Review and Approval of Engineering drawings by UPJN/PE/IIT	01-03-20	20-11-22				
23.	Mechanical	01-03-20	30-10-22	100%	100%	0%	100%
24.	Electrical and C&I	01-03-20	05-10-22	100%	100%	0%	100%
25.	Civil	01-03-20	20-11-22	100%	99%	0%	99%

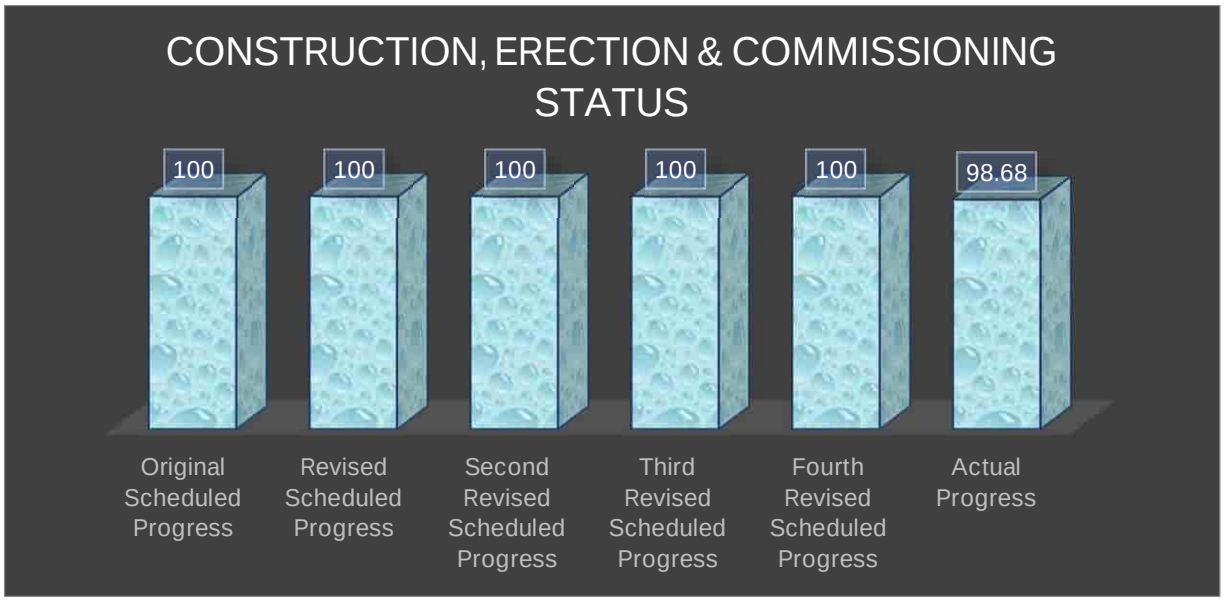
7.1.3 Procurement & Supply status

7.1.4 Procurement & Supply status as per construction plan

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

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
16.	Valves & Gates	15-01-21	10-11-22	100%	100%	0.00%	100%
17.	Other misc. Material	01-11-20	31-08-22	100%	100%	0.00%	100%
18.	Electrical and C&I	01-10-20	30-11-22				
19.	PLC Panel	01-11-20	20-04-22	100%	100%	0%	100%
20.	Flow Meters, Transmitters	01-11-20	20-04-22	100%	100%	0%	100%
21.	MCC Panel	28-02-21	30-09-22	100%	100%	0%	100%
22.	Analyzers	01-11-20	15-04-22	100%	100%	0%	100%
23.	HT/ LT switchgear	15-12-20	10-11-21	100%	100%	0%	100%
24.	Distribution Transformer	15-12-20	20-10-22	100%	100%	0%	100%
25.	Diesel Generators (DG's)	28-02-21	31-07-22	100%	100%	0%	100%
26.	Solar Panel	01-01-21	30-11-22	100%	100%	0%	100%
27.	CC TV	01-10-20	25-10-20	100%	100%	0%	100%
28.	HT/LT/C&I CABLES	01-11-20	20-10-22	100%	100%	0%	100%
29.	Other misc. material	01-12-20	31-10-22	100%	100%	0%	100%

7.1.5 Construction, Erection & Commissioning status



7.1.6 Construction, Erection & Commissioning status as per construction plan

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

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)
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%
13.	PCC work	01-10-20	09-10-20	100%	100%	0.00%	100%
14.	RCC upto completion	01-10-20	31-10-21	100%	100%	0.00%	100%
15.	Other Misc Works	01-01-22	15-01-23	100%	100%	0.00%	100%
16.	Hydrotesting	15-01-22	25-04-22	100%	100%	0.00%	100%
17.	Tube settler, CCT & Sludge storage Tank	16-01-21	20-01-23				
18.	Earth work & Boulder filling work	16-01-21	28-02-21	100%	100%	0.00%	100%
19.	PCC work	01-02-21	28-02-21	100%	100%	0.00%	100%
20.	RCC upto completion	01-02-21	20-04-22	100%	100%	0.00%	100%
21.	Other Misc Works	16-04-22	20-01-23	100%	100%	0.00%	100%
22.	Hydrotesting	25-07-22	20-08-22	100%	100%	0.00%	100%
23.	Main Process Building	01-03-21	20-01-23				
24.	Excavation	01-03-21	10-11-21	100%	100%	0.00%	100%
25.	Rubble soling/ Stone filling work	03-07-21	20-11-21	100%	100%	0.00%	100%
26.	PCC	10-07-21	10-12-21	100%	100%	0.00%	100%
27.	Structure completion (Expect finishing works)	20-07-21	10-11-22	100%	100%	0.00%	100%
28.	Other Misc Works	10-11-22	20-01-23	100%	100%	0.00%	100%
29.	Hydrotesting	10-11-22	20-11-22	100%	100%	0.00%	100%
30.	Basana Nala SPS and I&D Works	05-11-21	20-01-23				
31.	Excavation work	05-11-21	25-11-21	100%	100%	0.00%	100%
32.	PCC	25-11-21	05-12-21	100%	100%	0.00%	100%
33.	RCC upto completion	05-12-21	15-11-22	100%	100%	0.00%	100%
34.	Hydrotesting	15-11-22	25-11-22	100%	100%	0.00%	100%
35.	Boundary wall	01-12-22	20-01-23	100%		25%	25%
36.	Staff quarter	01-12-22	20-01-23	100%	100%	0.00%	100%
37.	Other Misc Works	15-06-22	20-01-23	100%	95%	0%	95%
38.	Shantipuram MPS and I&D Works	01-09-20	20-01-23				
39.	Excavation work	01-11-20	28-03-21	100%	100%	0.00%	100%
40.	PCC	28-03-21	30-04-21	100%	100%	0.00%	100%
41.	RCC work upto completion	01-04-21	30-07-22	100%	100%	0.00%	100%
42.	Other Misc Works	01-05-22	20-01-23	100%	100%	0.00%	100%
43.	Hydrotesting	10-08-22	20-08-22	100%	100%	0.00%	100%
44.	Staff quarter	01-09-20	15-01-23	100%	100%	0.00%	100%

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)
45.	Pipe laying (Rising Main & Gravity Main)	15-11-21	10-11-22				
46.	Rising main	01-04-22	09-11-22				
47.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-04-22	25-10-22	100%	100%	0%	100%
48.	Hydrotesting	25-10-22	09-11-22	100%	100%	0%	100%
49.	Gravity Main	15-11-21	10-11-22				
50.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	25-10-22	100%	100%	0%	100%
51.	Hydrotesting	26-10-22	10-11-22	100%	100%	0%	100%
52.	Other works	01-01-20	25-01-23	100%			
53.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
54.	Other misc works (Boundary Wall, Road, rainwater harvesting, Land scaping etc)	01-11-22	25-01-23	100%	100%	0%	100%
55.	Mechanical Erection- STP unit	15-06-22	30-01-23				
56.	Pumps	01-12-22	30-01-23	100%	100%	0%	100%
57.	Lamella clarifier/ Tube settler	15-11-22	30-01-23	100%	100%	0%	100%
58.	Grit removal system	15-11-22	30-01-23	100%	100%	0%	100%
59.	Blowers & Diffuser	15-07-22	30-01-23	100%	100%	0%	100%
60.	Firefighting System	15-12-22	30-01-23	100%	100%	0%	100%
61.	Screens	10-12-22	30-01-23	100%	100%	0%	100%
62.	Piping, Valves & Gates	20-07-22	30-01-23	100%	100%	0%	100%
63.	Chlorination	20-08-22	15-10-22	100%	100%	0%	100%
64.	Media Installation/ Bio module	15-06-22	10-12-22	100%	100%	0%	100%
65.	Other misc. work	10-12-22	30-01-23	100%	100%	0%	100%
66.	Mechanical Erection- SPS & MPS	20-08-22	30-01-23				
67.	Pumps	15-10-22	20-01-23	100%	100%	0%	100%
68.	Screens	20-08-22	20-01-23	100%	100%	0%	100%
69.	Piping, Valves & Gates	20-08-22	20-01-23	100%	100%	0%	100%
70.	Other misc. work	20-08-22	30-01-23	100%	100%	0%	100%
71.	Electrical and C&I- STP Unit	20-08-22	30-01-23				
72.	Transformer Installation	01-11-22	31-12-22	100%	100%	0%	100%

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)
73.	HT/LT Panel erection	01-11-22	31-12-22	100%	100%	0%	100%
74.	Instrumentation works	15-12-22	30-01-23	100%	100%	0%	100%
75.	CCTV	01-01-23	30-01-23	100%	100%	0%	100%
76.	Cable Laying	15-10-22	20-01-23	100%	100%	0%	100%
77.	PLC Panel & Online monitoring system	10-11-22	30-01-23	100%	100%	0%	100%
78.	Solar Panel	01-12-22	30-01-23	100%	70%	0%	70%
79.	DG Installation	20-08-22	31-08-22	100%	100%	0%	100%
80.	Other misc. work	01-12-22	30-01-23	100%	100%	0%	100%
81.	Electrical and C&I- SPS & MPS	20-08-22	31-01-23				
82.	Transformer Installation	20-11-22	10-01-23	100%	100%	0%	100%
83.	HT/LT Panel Erection	20-08-22	31-12-22	100%	100%	0%	100%
84.	CABLE LAYING	01-11-22	15-01-23	100%	100%	0%	100%
85.	DG Installation	15-11-22	15-12-22	100%	100%	0%	100%
86.	PLC Panel & Online monitoring system	20-11-22	30-01-23	100%	100%	0%	100%
87.	Other misc. work	20-12-22	30-01-23	100%	100%	0%	100%
88.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	100%	0%	100%
89.	Trial Run, Final Inspection and COD	01-02-23	30-04-23				
90.	Trial Run and Final Inspection	01-02-23	30-04-23			100%	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%

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)
106.	Hydrotesting	20-08-22	30-08-22	100%	100%	0%	100%
107.	Main Process Building	01-02-21	20-01-23				
108.	Excavation	01-02-21	31-05-21	100%	100%	0%	100%
109.	Rubble soling/ Stone filling work	01-07-21	31-07-21	100%	100%	0%	100%
110.	PCC	01-07-21	31-07-21	100%	100%	0%	100%
111.	Structure completion (Expect finishing works)	01-05-21	10-05-22	100%	100%	0%	100%
112.	Other Misc Works	01-06-22	20-01-23	100%	100%	0%	100%
113.	Hydrotesting	10-05-22	30-05-22	100%	100%	0%	100%
114.	Mawaiya SPS and I&D work	01-02-21	15-01-23				
115.	Excavation work	01-02-21	28-02-21	100%	100%	0%	100%
116.	PCC	01-05-21	15-06-21	100%	100%	0%	100%
117.	RCC WORK upto completion	15-05-21	20-05-22	100%	100%	0%	100%
118.	Hydrotesting	20-05-22	30-05-22	100%	100%	0%	100%
119.	Boundary wall	10-08-22	15-01-23	100%	100%	0%	100%
120.	Staff quarter	01-05-22	15-01-23	100%	100%	0%	100%
121.	I&D Other misc works	01-04-22	31-08-22	100%	100%	0%	100%
122.	Mahewaghat SPS and I&D work	01-01-21	30-01-23				
123.	Excavation work	01-01-21	15-04-21	100%	100%	0%	100%
124.	PCC	01-01-21	15-04-21	100%	100%	0%	100%
125.	RCC Work upto completion	30-05-21	10-05-22	100%	100%	0%	100%
126.	Other finishing work	01-06-22	20-01-23	100%	100%	0%	100%
127.	Hydrotesting	10-06-22	20-06-22	100%	100%	0%	100%
128.	Boundary wall	01-05-22	20-01-23	100%	100%	0%	100%
129.	Staff quarter	26-04-22	30-12-22	100%	100%	0%	100%
130.	I&D Other misc works	01-05-22	30-01-23	100%	100%	0%	100%
131.	Naini-II MPS and I&D work	26-10-20	30-01-23				
132.	Excavation work	16-01-21	25-04-21	100%	100%	0%	100%
133.	PCC	16-01-21	25-04-21	100%	100%	0%	100%
134.	RCC Work upto completion	01-05-21	15-05-22	100%	100%	0%	100%
135.	Other finishing work	26-04-22	30-01-23	100%	100%	0%	100%
136.	Hydrotesting	01-06-22	15-06-22	100%	100%	0%	100%
137.	Staff quarter	26-10-20	15-12-22	100%	100%	0%	100%
138.	I&D Other misc works	26-04-22	30-01-23	100%	100%	0%	100%
139.	Pipe laying (Rising Main & Gravity Main)	16-01-21	20-09-22				
140.	Rising main	16-01-21	15-09-22	100%			

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
141.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-21	15-09-22	100%	100%	0%	100%
142.	Hydrotesting	15-07-22	15-09-22	100%	100%	0%	100%
143.	Gravity Main	01-03-21	20-09-22				
144.	Excavation, Laying & Jointing, Backfilling/ Restoration works	01-03-21	05-09-22	100%	100%	0%	100%
145.	Hydrotesting	10-09-22	20-09-22	100%	100%	0%	100%
146.	Other works	01-01-20	30-01-23	100%			
147.	Site office (Temporary office)	01-01-20	31-01-20	100%	100%	0%	100%
148.	Other misc works (Boundary Wall, Road, rain water harvesting, Land scaping etc)	01-03-21	30-01-23	100%	100%	0%	100%
149.	Mechanical Erection- STP unit	01-04-22	30-01-23				
150.	Pumps	01-09-22	15-09-22	100%	100%	0%	100%
151.	Lamella clarifier/ Tube settler	01-05-22	15-09-22	100%	100%	0%	100%
152.	Grit removal system	01-06-22	15-09-22	100%	100%	0%	100%
153.	Piping, Valves & Gates	26-04-22	15-10-22	100%	100%	0%	100%
154.	Firefighting System	01-09-22	20-10-22	100%		100%	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%	1%	100%
164.	Other misc. work	01-07-22	30-01-23	100%	100%	0%	100%
165.	Electrical and C&I- STP Unit	01-05-22	30-01-23				
166.	Transformer Installation	01-07-22	31-08-22	100%	100%	0%	100%
167.	HT/LT panel erection	15-05-22	20-09-22	100%	100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
168.	PLC Panel & Online monitoring system	16-08-22	31-12-22	100%	100%	0%	100%
169.	Instrumentation works	01-07-22	30-11-22	100%	100%	0%	100%
170.	CCTV	01-12-22	30-01-23	100%	100%	0%	100%
171.	CABLE LAYING	01-05-22	30-10-22	100%	100%	0%	100%
172.	Solar Panel	15-06-22	30-11-22	100%	100%	0%	100%
173.	Other misc. work	01-09-22	30-01-23	100%	100%	0%	100%
174.	Electrical and C&I- SPS & MPS	01-06-22	30-06-22				
175.	Transformer Installation	01-07-22	30-09-22	100%	100%	0%	100%
176.	HT/LT panel erection	01-07-22	30-09-22	100%	100%	0%	100%
177.	CABLE LAYING	01-07-22	30-10-22	100%	100%	0%	100%
178.	DG Installation	01-07-22	30-07-22	100%	100%	0%	100%
179.	PLC Panel & Online monitoring system	01-09-22	30-01-23	100%	100%	0%	100%
180.	Other misc. work	15-07-22	30-01-23	100%	100%	0%	100%
181.	Commissioning of Mech., Electrical and C&I	30-01-23	31-01-23	100%	100%	0%	100%
182.	Trial Run, Final Inspection and COD	01-02-23	30-04-23				
183.	Trial Run and Final Inspection	01-02-23	29-04-23		100%	0%	100%
184.	COD	30-04-23	30-04-23		100%	0%	100%
185.	Erection Commissioning, Trial Run and COD of Jhunsi STP (16 MLD) & Associated works						
186.	FCR tank unit	01-10-20	30-01-23				
187.	Excavation work	01-10-20	25-10-20	100%	100%	0%	100%
188.	Boulder filling work	26-10-20	29-10-20	100%	100%	0%	100%
189.	PCC work	30-10-20	30-10-20	100%	100%	0%	100%
190.	RCC up to completion	31-10-20	15-10-21	100%	100%	0%	100%
191.	Other finishing work	01-03-22	30-01-23	100%	95%	5%	100%
192.	Hydro testing	01-04-22	30-04-22	100%	100%	0%	100%
193.	Tube settler, CCT & Sludge storage Tank	01-01-21	30-01-23				
194.	Earth work & Boulder filling work	01-01-21	15-02-21	100%	100%	0%	100%
195.	PCC work	16-02-21	28-02-21	100%	100%	0%	100%
196.	RCC up to completion	01-03-21	05-04-22	100%	100%	0%	100%
197.	Other finishing work	01-02-22	30-01-23	100%	100%	0%	100%
198.	Hydro testing	05-04-22	20-04-22	100%	100%	0%	100%
199.	Main Process Building	01-06-21	30-01-23				
200.	Excavation & Column	01-06-21	16-06-21	100%	100%	0%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
201.	Rubble soling/ Stone filling work	16-06-21	26-06-21	100%	100%	0%	100%
202.	PCC	26-06-21	30-06-21	100%	100%	0%	100%
203.	Structure completion (Except finishing works)	01-07-21	10-11-22	100%	100%	0%	100%
204.	Other finishing work	01-05-22	30-01-23	100%	95%	5%	100%
205.	Hydro testing	01-08-22	10-09-22	100%	100%	0%	100%
206.	Shastri bridge SPS and I&D work	16-04-22	30-01-23				
207.	Excavation work	16-04-22	28-04-22	100%	100%	0%	100%
208.	PCC	28-04-22	02-05-22	100%	100%	0%	100%
209.	RCC up to completion	02-05-22	10-12-22	100%	100%	0%	100%
210.	Other finishing work	01-11-22	30-01-23	100%	67%	0%	67%
211.	Hydro testing	10-12-22	20-12-22	100%	100%	0%	100%
212.	Boundary wall	15-12-22	30-01-23	100%			
213.	Staff quarter	20-11-22	30-01-23	100%	95%	0%	95%
214.	Other Misc. works	15-11-22	30-01-23	100%	70%	0%	70%
215.	Jhunsi MPS and I&D work	01-09-20	30-01-23				
216.	Excavation work	01-08-21	15-10-21	100%	100%	0%	100%
217.	PCC	16-10-21	20-10-21	100%	100%	0%	100%
218.	RCC up to completion	21-10-21	30-04-22	100%	100%	0%	100%
219.	Other finishing work	01-06-22	30-01-23	100%	95%	5%	100%
220.	Hydro testing	01-07-22	15-07-22	100%	100%	0%	100%
221.	Staff quarter	01-09-20	30-11-22	100%	100%	0%	100%
222.	Other Misc. works	01-07-22	30-01-23	100%	90%	0%	90%
223.	Pipe laying (Rising Main & Gravity Main)	15-11-21	04-01-23				
224.	Rising main	15-11-21	25-12-22	100%			
225.	Excavation, Laying & Jointing, Backfilling/ Restoration works	15-11-21	15-12-22	100%	100%	0%	100%
226.	Hydro testing	05-12-22	25-12-22	100%	100%	0%	100%
227.	Gravity Main	16-01-22	04-01-23				
228.	Excavation, Laying & Jointing, Backfilling/ Restoration works	16-01-22	20-12-22	100%	100%	0%	100%
229.	Hydro testing	15-12-22	04-01-23	100%	95%	0%	95%
230.	Other works	01-02-20	30-01-23	100%			

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
231.	Site office (Temporary office)	01-02-20	30-04-20	100%	100%	0%	100%
232.	Other misc. works (Boundary Wall, Road, rain water harvesting, Land scraping etc.)	01-12-22	30-01-23	100%	10%	0%	10%
233.	Mechanical Erection- STP unit	01-04-22	30-01-23				
234.	Pumps	20-11-22	20-01-23	100%	100%	0%	100%
235.	Lamella clarifier/ Tube settler	01-04-22	30-10-22	100%	100%	0%	100%
236.	Fire fighting System	01-01-23	30-01-23	100%	100%	0%	100%
237.	Chlorination	20-11-22	30-01-23	100%	95%	5%	100%
238.	Grit removal system	01-12-22	30-01-23	100%	100%	0%	100%
239.	Blowers & Diffuser	01-07-22	31-12-22	100%	100%	0%	100%
240.	Screens	20-11-22	31-12-22	100%	100%	0%	100%
241.	Piping, Valves & Gates	01-07-22	25-01-23	100%	100%	0%	100%
242.	Media Installation/ Bio module	15-04-22	25-12-22	100%	85%	0%	85%
243.	Other misc. work	01-12-22	30-01-23	100%	90%	5%	95%
244.	Mechanical Erection- SPS & MPS	20-10-21	30-01-23				
245.	Pumps	20-11-22	20-01-23	100%	100%	0%	100%
246.	Screens	01-12-22	15-01-23	100%	70%	0%	70%
247.	Piping, Valves & Gates	20-10-21	30-01-23	100%	80%	0%	80%
248.	Other misc. work	01-12-22	30-01-23	100%	75%	15%	90%
249.	Electrical and C&I- STP Unit	01-09-22	31-01-23				
250.	Transformer Installation	25-10-22	31-01-23	100%	100%	0%	100%
251.	HT/LT panel erection	01-09-22	20-01-23	100%	100%	0%	100%
252.	PLC Panel & Online monitoring system	01-11-22	30-01-23	100%	80%	10%	90%
253.	Instrumentation works	01-11-22	30-01-23	100%	90%	0%	90%
254.	CCTV	01-11-22	30-01-23	100%	100%	0%	100%
255.	Cable laying	01-11-22	30-01-23	100%	90%	5%	95%
256.	DG Installation	01-09-22	25-01-23	100%	100%	0%	100%
257.	Solar Panel	15-11-22	30-01-23	100%	100%	0%	100%
258.	Other misc. work	01-12-22	30-01-23	100%	90%	0%	90%
259.	Electrical and C&I- SPS & MPS	01-11-22	31-01-23				
260.	Transformer Installation	01-11-22	30-01-23	100%	75%	25%	100%

Sr. No.	Work description	Scheduled Start Date	Scheduled End Date	Scheduled Completion (In %)	Completion up to previous month (In %) (A)	This month Completion (In%) (B)	Total Completion (In %) (A+B)
261.	HT/LT Panel erection	15-11-22	30-01-23	100%	90%	10%	100%
262.	Cable laying	15-11-22	30-01-23	100%	85%	15%	100%
263.	DG Installation	15-11-22	30-01-23	100%	95%	5%	100%
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%	25%	75%
266.	Commissioning of Mech., Electrical and C&I	31-01-23	31-01-23	100%	65%	15%	80%
267.	Trial Run, Final Inspection and COD	01-02-23	30-04-23				
268.	Trial Run and Final Inspection	01-02-23	30-04-23			100%	100%
269.	COD	30-04-23	30-04-23			100%	100%

7.1.7 Physical construction Activities in August'23 month

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

ANNEXURE - I

Naini-II Facility COD

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

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

To,

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

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

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

Dear Sir,

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

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

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

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

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

Yours Faithfully

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

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Copy Forwarded to Following for information and necessary action:

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

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

Phaphamau Facility COD

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

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

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

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

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

Dear Sir,

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

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

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

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

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

Yours Faithfully

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

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Copy Forwarded to Following for information and necessary action:

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

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

Jhunsi Facility COD

OFFICE OF THE SUPERINTENDING ENGINEER,

CIRCLE OFFICE,

U.P. JAL NIGAM(RURAL), PRAYAGRAJ

Email –se_2circle@rediffmail.com

Letter no. 104 /PWPL/40 Dated: 18/09 /2023

To,

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

Subject: Design, Build, Rehabilitate, Finance, Operate and Transfer Sewage Treatment Plants (STPs) along with Associated Infrastructure with operation and maintenance period of 15 Years under Hybrid Annuity Based PPP model in Phaphamau, Jhunsi, Naini-II, Naini-I, Salori, Numayadahi, Rajapur, Ponghat & Kodara at Prayagraj (erstwhile Allahabad), Uttar Pradesh, India - **8th i.e., Final Payment Milestone completion certificate for Jhunsi facility under Package-I.**

Reference:

1. Concession Agreement dated 11th Jan 2019
2. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/SITE/896 dated 29th Mar 2023
3. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/SITE/901 dated 11th Apr 2023
4. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/SITE/902 dated 17th Apr 2023
5. NMCG Letter No. F. No. Pr 23012/2/2021 dated 26th May 2023
6. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/SITE/915 dated 13th July 2023
7. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/SITE/921 dated 25th July 2023
8. Concessionaire's letter no. PWPL/UPJN/PRAYAGRAJ/O&M/691 dated 26th Aug 2023
9. AECOM letter no. AIPL/NMCG/PRAYAG/1645 dated 28th Aug 2023
10. UPJN Letter no. 96/PWPL/38 dated 29th Aug 2023
11. NMCG Letter No. F. no. Pr 12012/6/2018 dated 05th Sep 2023
12. PWPL Letter no. PWPL/UPJN/PRAYAGRAJ/SITE/925 dated 05th Sep 2023
13. AECOM Letter no. AIPL/NMCG/PRAYAG/1653 dated 13th Sep 2023.

Dear Sir,

With respect to above cited subject, this is to certify that, Final i.e 8th Payment Milestone Completion Certificate as per clause no. 8.15(a)(ii) of Concession Agreement for Jhunsi facility:

Sr. No.	Description	8th Payment Milestone Completion date
1	Construction Works of Jhunsi facility under Package-I	13.04.2023

This completion certificate is being issued on the basis of instructions received from NMCG vide letter mentioned at Sr. no. 11 and subsequently claim submitted by M/s Prayagraj Water Private Limited vide letter mentioned at Sr. no. 12 and subsequent review received from Project Engineer, M/s AECOM India Pvt. Ltd. vide letter mentioned at Sr. no. 13.

It is pertinent to mention here that, Final Milestone payment for Jhunsi facility to be withheld and released only after completion of peripheral works as per instructions received from NMCG vide letter mentioned at Sr. no. 11.

Furthermore, this certificate is being issued with the following conditions:

a) Payment regarding Annuity (Annuity + Interest) will be released once the peripheral works corresponding to 1.72% are completed. Meanwhile, O&M payment and power & diesel charges will be reimbursed as per conditions given in the Concession Agreement.
b) Since the completion date for 8th milestone is 13.04.2023, Construction price index will be considered as per index released for the month of Mar-2023 for releasing milestone payment.
c) The concessionaire is instructed to complete the pending peripheral works corresponding to 1.72% within one month of date of issuance of the construction completion certificate.
d) The Concessionaire shall be responsible for compliance to the conditions given in Concession Agreement and liable to penal provisions as per Concession Agreement for non-compliances.

Yours Faithfully

18/9/23

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

Copy Forwarded to Following for information and necessary action:

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

Superintending Engineer
Circle office, UPJN (Rural), Prayagraj

7.2 Package-II status

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

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

To,

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

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

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

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

Sir,

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

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

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

(M.C. Srivastava)
General Manager

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

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

20/9/21
General Manager

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

KPI REPORT'S OF PACKAGE - II,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - II

7.3 Package-III status

OFFICE OF THE GENERAL MANAGER,
कार्यालय महाप्रबन्धक,
GANGA POLLUTION CONTROL UNIT,
गंगा प्रदूषण नियंत्रण इकाई,
U.P. JAL NIGAM, PRAYAGRAJ
उ0 प्र0 जल निगम प्रयागराज,
दूरभाष : 0532-2684329, 2684691, फैक्स 0532-2684690

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

To,

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

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

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

Sir,

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

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

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

Yours faithfully

02-11-2020

General Manager

Endt No. & and date as above:

Copy to following:

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

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

KPI REPORT'S OF PACKAGE - III,

ACTION TAKEN REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - III

8. Meetings, Discussions and Site Visits:

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

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Jhunsi STP	01-Sep-23	Mr. GauravGupta	Inspection, supervision and monitoring of ongoing E&M, operation and maintenance activities of plant
2.	Site inspection of Naini-II STP	01-Sep-23	Mr. Sudhir Tomar	Inspection, supervision of operation and maintenance activities of plant
3.	Site inspection of Naini-II STP	05-Sep-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision of operation and maintenance activities of plant
4.	Site inspection of Phaphamau STP	06-Sep-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision of operation and maintenance activities of plant
5.	Site inspection of Phaphamau STP	11-Sep-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision of operation and maintenance activities of plant
6.	Site inspection of Jhunsi STP	15-Sep-23	Mr. GauravGupta Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation and maintenance activities of plant
7.	Site inspection of Naini-II STP	18-Sep-23	Mr. Gaurav Gupta	Inspection, supervision of operation and maintenance activities of plant
8.	Site inspection of Phaphamau STP	21-Sep-23	Mr. Sudhir Tomar	Inspection, supervision of operation and maintenance activities of plant
9.	Site inspection of Jhunsi STP	21-Sep-23	Mr. Gaurav Gupta	Inspection, supervision and monitoring of ongoing E&M, operation and maintenance activities of plant
10.	Site inspection of Jhunsi STP	21-Sep-23	Mr. Sudhir Tomar	Inspection, supervision and monitoring of ongoing E&M, operation and maintenance activities of plant

10. Photos of Meetings / Site Visits and Activities

PACKAGE - I
PHAPHAMAU FACILITY

Main Plant view of 14 MLD Phaphamau STP

STP campus – Road and Finishing work status

PHAPHAMAU FACILITY

Process Building: Current status (Functional)

Shantipuram MPS: Current status (Functional)

FCR Tank: Current status (Functional)

FCR Tank

Basna Nalla SPS Current status (Functional)

NAINI-II FACILITY

Naini-II STP Process aera.

Naini-II STP Staff quarter and Solar area

NAINI-II FACILITY

Tube settler– Current status (Functional)

FCR Tank – Current status (Functional)

Mahewaghat SPS– Current status (Functional)

Mawaiya SPS– Current status (Functional)

JHUNSI FACILITY

Jhunsi MPS – Current Status (Functional)

Tube settler– Current Status (Functional)

JHUNSI FACILITY

FCR Tank – Current status (Functional)

Shastri Bridge SPS – Inside finishing Work is progress

11. Outward Register

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

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
1.	AIPL/NMCG/PRAYAG/1649	Regarding Trial Operations of Jhunsi STP under Package-I.	1-Sep-2023	S.E.-2 Circle(Rural) - UPJN
2.	AIPL/NMCG/PRAYAG/1650	Submission of O & M Monthly Progress report for the month of July, 2023 of Package – III	4-Sep-2023	S.E.-2 Circle(Rural) - UPJN
3.	AIPL/NMCG/PRAYAG/1651	Submission of O & M Monthly Progress report for the month of July, 2023 of Package – III	8-Sep-2023	S.E.-2 Circle(Rural) - UPJN
4.	AIPL/NMCG/PRAYAG/1652	Submission of Revised O & M Monthly Progress report for the month of July, 2023 of Package – II	8-Sep-2023	S.E.-2 Circle(Rural) - UPJN
5.	AIPL/NMCG/PRAYAG/1653	Regarding Notice for 08th Milestone for Jhunsi facility under Package-I.	13-Sep-2023	S.E.-2 Circle(Rural) - UPJN
6.	AIPL/NMCG/PRAYAG/1654	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – II	16-Sep-2023	S.E.-2 Circle(Rural) - UPJN
7.	AIPL/NMCG/PRAYAG/1655	Submission of O & M Tax Invoice of 11th quarter (May, 2023 – July , 2023) of Package - III	19-Sep-2023	S.E.-2 Circle(Rural) - UPJN
8.	AIPL/NMCG/PRAYAG/1656	Regarding Notice for Construction Completion of Jhunsi facility under Package-I.	20-Sep-2023	S.E.-2 Circle(Rural) - UPJN

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)
9.	AIPL/NMCG/PRAYAG/1657	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – III	21-Sep-2023	S.E.-2 Circle(Rural) - UPJN
10.	AIPL/NMCG/PRAYAG/1658	Inspection Reports of Naini-II facility & Phaphamau facility	22-Sep-2023	S.E.-2 Circle(Rural) - UPJN
11.	AIPL/NMCG/PRAYAG/1659	Regarding the submission of MPR and compliance report for the month of Aug'23.	22-Sep-2023	S.E.-2 Circle(Rural) - UPJN
12.	AIPL/NMCG/PRAYAG/1660	Regarding validation of calibration for multiparameter analyzers at inlet of all STPs in Package – II.	23-Sep-2023	S.E.-2 Circle(Rural) - UPJN
13.	AIPL/NMCG/PRAYAG/1661	Inspection Reports of Package-II Facilities	23-Sep-2023	S.E.-2 Circle(Rural) - UPJN
14.	AIPL/NMCG/PRAYAG/1662	Inspection Reports of Package-III facilities	23-Sep-2023	S.E.-2 Circle(Rural) - UPJN
15.	AIPL/NMCG/PRAYAG/1663	Regarding O&M Manual of Jhunsi Facility Under Package-I	23-Sep-2023	S.E.-2 Circle(Rural) - UPJN
16.	AIPL/NMCG/PRAYAG/1664	Inspection Report of Jhunsi Facility	27-Sep-2023	S.E.-2 Circle(Rural) - UPJN
17.	AIPL/NMCG/PRAYAG/1665	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – II	30-Sep-2023	S.E.-2 Circle(Rural) - UPJN
18.	AIPL/NMCG/PRAYAG/1666	Submission of Revised O & M Monthly Progress report for the month of July, 2023 of Package – II	30-Sep-2023	S.E.-2 Circle(Rural) - UPJN

12. Inward Register

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

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
1.	PWPL/UPJN/PRAYAGRAJ/O&M/693	Submission of Revised O&M Monthly Progress report for the month of July, 2023 of Package – II	02-Sep-23	Prayagraj water private limited
2.	PWPL/UPJN/PRAYAGRAJ/O&M/695	Submission of O&M Monthly Progress report for the month of July, 2023 of Package – III	04-Sep-23	Prayagraj water private limited
3.	PWPL/UPJN/PRAYAGRAJ/O&M/696	Reg Electricity problem and Garbage accumulation by Nagar Nigam at Chacharnala SPS	04-Sep-23	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/SITE/925	Regarding Notice for 08th Milestone for Jhunsi facility under Package-I	05-Sep-23	Prayagraj water private limited
5.	PWPL/UPJN/PRAYAGRAJ/O&M/699	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – II	08-Sep-23	Prayagraj water private limited
6.	PWPL/UPJN/PRAYAGRAJ/O&M/700	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – III	08-Sep-23	Prayagraj water private limited
7.	PWPL/UPJN/PRAYAGRAJ/O&M/701	Submission of O & M Monthly Progress report for the month of August, 2023 of Package – III	08-Sep-23	Prayagraj water private limited
8.	PWPL/UPJN/PRAYAGRAJ/O&M/702	Regarding O & M Payment of Quarter -11 i.e., May – 23 to July -23 for Package – III facilities for the STP Project at Prayagraj under HAM based PPP Model	08-Sep-23	Prayagraj water private limited
9.	PWPL/UPJN/PRAYAGRAJ/SITE/926	Regarding the submission of MPR and compliance report for the month of Aug'23.	12-Sep-23	Prayagraj water private limited

Sr. No.	PWPL / UPJN Transmittal reference number	Description	Date	From
10.	PWPL/UPJN/PRAYAGRAJ/SITE/927	Notice for Construction Completion of Jhunsi Facility under Package-I.	18-Sep-23	Prayagraj water private limited
11.	103/PWPL/(PRAYAGRAJ)/39	Regarding payment of Price Index Multiple (PIM) difference under Package - II & Package -III	18-Sep-23	S.E.-2 Circle (Rural)-UPJN,
12.	PWPL/UPJN/PRAYAGRAJ/O&M/705	Submission of O & M Tax Invoice of 11th quarter (May 2023 – July 2023) of Package - III	20-Sep-23	Prayagraj water private limited
13.	108/PWPL/(PRAYAGRAJ)/44	Regarding O&M Payment of 11th Quarter of Package-III	22-Sep-23	S.E.-2 Circle (Rural)-UPJN,
14.	PWPL/UPJN/PRAYAGRAJ/O&M/708	Submission of O & M Monthly Progress report for the month of June, 2023 of Package – II	25-Sep-23	Prayagraj water private limited
15.	PWPL/UPJN/PRAYAGRAJ/O&M/709	Submission of Revised O & M Monthly Progress report for the month of July, 2023 of Package – II	26-Sep-23	Prayagraj water private limited
16.	PWPL/UPJN/PRAYAGRAJ/SITE/928	Regarding release of final milestone payment of Naini-II and Phaphamau Facility under Package-I.	27-Sep-23	Prayagraj water private limited
17.	PWPL/UPJN/PRAYAGRAJ/O&M/711	Reg cleaning strategy of I&Ds of Shastri Bridge SPS and starting of Jhunsi STP.	30-Sep-23	Prayagraj water private limited

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

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
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
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.

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
				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 Authority of India	NA	NA
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 STP and Shastri Bridge SPS is completed.
2	Consent to Establish	State Pollution	1 No.	Received

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

15. Plant & Machinery Status

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

16. ANNEXURE'S

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

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

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

Annexure- IV: PROJECT ENGINEER ACTIVITY AS PER TOR

Annexure- V: QUALITY CONTROL / QUALITY ASSURANCE

ANNEXURE-I

ACTION TAKEN REPORT AND KPI REPORT FOR PACKAGE-I

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1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE

1.1 Action taken Report:

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
Civil Works			
Works as per Scope of Works given in Schedule-1 of Concession Agreement			
1.	At Shastri Bridge SPS, progress of civil construction works is very slow. As per current status, casting work for 18th lift out 19 is in progress. After casting of all lifts, construction works for super structure and other civil works for the SPS will start.	Currently, all RCC work is completed, and brick work is in progress. Plaster work, flooring work, painting work is pending. Installation of door and windows are also pending.	Outer plaster / outer painting work is pending
2.	For Shastri Bridge SPS, staff quarter, which is to be constructed in campus of Jhunsi STP, is under construction but progress is very slow.	Finishing work is pending.	Completed
3.	At Shastri Bridge SPS, construction of boundary wall and approach road is pending.	Work is pending.	Balance Toe wall construction has been initiated
4.	At all 13 Interception and diversion points, arrangement for conveying sewage from existing nalla to the civil structure is pending.	Tapping of all I&Ds was completed except for Trivenipuram Nalla but currently sewage from I&Ds is not taken due to flood in river Ganga	I&D restoration work is under progress
5.	At all 13 Interception and diversion points, repairing work of civil structure which is damaged due to flood is pending.	Repairing work of civil structure was completed however final condition will be checked once the river water will recede in river Ganga after flood.	I&D restoration work is under progress.
6.	At Shastri Bridge SPS, landscaping and site development work is pending.	Work is pending.	Yet to be initiate
7.	At Shastri Bridge SPS, installation of permanent type display/sign boards is pending.	Work is pending.	Completed
8.	At Shastri Bridge SPS, permanent arrangement for water supply is pending.	Work is pending.	Completed
9.	At Jhunsi MPS, epoxy coating in wet well is pending.	Work is pending.	Completed
10.	At Jhunsi MPS, installation of permanent type	Work is pending.	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
	display/sign boards is pending.		
11.	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.	Completed.	Completed
12.	At Jhunsi STP, laying of effluent pipeline is pending.	Work is pending for last stretch near river. It is required to provide permanent arrangement near last point of effluent discharge as per Schedule-1 in CA to avoid cutting of nearby land.	Only last stretch is pending and same will be completed during O&M tenure
13.	At Jhunsi STP, construction of supports for pipeline from MPS to PTU and PTU to CCT is pending	Completed	Completed
Works related to or dependent on proposed variation			
1	At Jhunsi MPS, landscaping and site development work is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be done post COS approval.
2	At Jhunsi MPS, land filling work is pending	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	Will be done post COS approval.
3	At Jhunsi MPS, construction of loading and unloading bay is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be done post COS approval.
4	At Jhunsi STP, construction of boundary wall is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	Will be done post COS approval.
5	At Jhunsi STP, land filling work is pending.	Work is pending. However as informed by Concessionaire,	Will be done post COS approval.

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
		same will be completed once the variation related to Jhunsi facility is approved as this item is part of variation.	
6	At Jhunsi STP, construction works for Road & Drain are pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be done post COS approval,
7	At Jhunsi STP, landscaping and development work for complete site is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be done post COS approval.
8	At Jhunsi STP, arrangements for rainwater harvesting are pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be done post COS approval.
9	Arrangements for treatment of sewage generated from Trivenipuram Nalla as per point-B in clause no. 3.2.1 of Schedule-1 of Concession Agreement.	Work is pending.	Will be done post COS approval.
E&M Works			
Works as per Scope of Works given in Schedule-1 of Concession Agreement			
1	At Shastri Bridge SPS, mechanical works are pending.	• Alignment and fixing, commissioning work of mechanical screen is pending. • Penstock and spindle for all gates is pending. • Installation of firefighting system is completed.	• Work yet to be initiate. • Work yet to be initiate. • Completed
2	At Shastri Bridge SPS, electrical works are pending.	• Testing & commissioning of both transformers is completed. • Testing & commissioning of DG sets is completed. • Testing & commissioning of HT panel is completed. • Testing & commissioning of MCC panel is completed. • Installation, cable laying, cable termination of	• Completed • Completed • Completed • Completed • Work yet to complete. • Completed.

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
		harmonic filter panel is completed. Testing & commissioning work is pending. • Installation, cable laying, cable termination of UPS system is completed. Testing & commissioning work is completed.	
3	At Shastri Bridge SPS, instrumentation works are pending.	• Installation of differential level transmitted for mechanical screen is completed. Testing & commissioning work is pending. • Installation, testing &commissioning work of level transmitter for sump is completed. • Installation, cable laying, cable termination of PLC panel is completed. Testing &commissioning work is pending. • Installation of SCADA system is completed. Testing &commissioning work is pending. • Installation & commissioning of CCTV is completed.	• Completed. • Completed. • PLC Work yet to be completed. • SCADA system Commissioning work is under progress. • Completed.
4	At all 13 Interception and diversion points, provide the gate at the inlet of I&D after manual screen for the avoiding of silt collection in manhole and rising main at the time of flood.	As informed by Concessionaire, ordering of desired gates is in process.	Gate procurement is under progress.
5	At Jhunsi MPS, laying of permanent power cable from Jhunsi STP to Jhunsi MPS is pending.	Laying of power cable is completed, connections for the same are pending.	Completed
6	At Jhunsi MPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Completed.	Completed
7	At Jhunsi MPS, installation of pressure transmitter in header line of pumps is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
8	At Jhunsi MPS, installation of differential level transmitter for mechanical screen is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
9	At Jhunsi MPS, installation of level transmitter in raw sewage sump is pending.	Completed	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
10	At Jhunsi MPS, installation of outlet flowmeter is completed but it is not working.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
11	At Jhunsi MPS, installation of fire alarm and fire-fighting system is not started yet.	Completed	Completed
12	At Jhunsi MPS, installation of CCTV system is not started yet.	Installation of CCTV is pending at permanent position.	Completed
13	At Jhunsi STP, installation of chute for screw conveyor of mechanical screens is pending.	Completed	Completed
14	At Jhunsi STP, E&M works of screw conveyor and other arrangements for grit removal units is pending	E&M works are complete but proper access for grit disposal must be provided.	Operating platform will be done during O&M tenure.
15	At Jhunsi STP, completion of discharge piping, testing & commissioning, cable laying, power connections and installation of LPBS of grit blowers is pending.	Completed	Completed
16	At Jhunsi STP, discharge piping, cable laying, power connections, erection of air dryer, testing & commissioning of air compressor is pending.	Completed	Completed
17	At Jhunsi STP, installation, cable laying, power connections and laying of associated pipelines of poly dosing system are pending.	Completed	Completed
18	At Jhunsi STP, installation of plants for FCR tanks are pending.	Work is pending.	Plant work will be done after cleaning of FCR Tank.
19	At Jhunsi STP, E&M works for leak detection system and neutralization tower are pending.	Completed	Completed
20	At Jhunsi STP, installation of differential level transmitter for mechanical screen is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
21	At Jhunsi STP, installation of inlet and outlet analyzers is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating. Also, COD sensor for inlet analyzer is not available.	Inlet almost completed except COD sensor pending Outlet completed

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
22	At Jhunsi STP, installation of DO analysers for FCR tanks is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
23	At Jhunsi STP, installation of chlorine analyser at the outlet of STP is pending	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
24	At Jhunsi STP, installation of outlet flowmeter is pending.	Commissioning is completed. However, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating.	Completed
25	At Jhunsi STP, erection & commissioning works of PLC system are pending.	All works are completed however, since the STP is not in operation due to flood, testing for the same will be done once STP starts operating. Concessionaire is also required to cross-check all communication that is provided in SCADA system as per approved I/O list.	Completed
26	At Jhunsi STP, erection & commissioning works of SCADA system are pending.	All works are completed however, since the STP is not in operation due to flood, verification of reports regarding KPIs, running hours of equipment and flow will be done once STP starts operating.	Almost 90% of the work is completed and balance work is under progress.
27	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.	Completed	Completed
28	At Jhunsi STP, installation of asset management system is not started yet.	Work is pending.	Work In progress
29	At Jhunsi STP, sluice valve of 400 mm is installed in place of approved size of 600mm in bypass line of STP which is not as per valve schedule.	Currently the arrangement is working fine but if any requirement arises in future, Concessionaire is required to do the needful for the same at no extra cost to UPJN.	If any requirement arises same will be taken care during O&M tenure.
30	At Jhunsi STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Completed	Completed
Works related to or dependent on proposed Variation.			
1	At Jhunsi STP, construction of earthing pits is pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item	Will be executed post COS approval.

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1664 as on 27th September 2023.		Concessionaire action taken as on date 13th October 2023
		is dependent on land filling which is part of variation.	
2	At Jhunsi STP, installation of permanent lights inside and outside the units for complete site are pending.	Work is pending. However as informed by Concessionaire, same will be completed once the variation related to Jhunsi facility is approved as this item is dependent on land filling which is part of variation.	Will be executed post COS approval.

Note: M/s. PWPL reply is under observation, it will be change according to October 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/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
Civil Works			
1	At Naini-II STP, rectification for problem of water logging in area between FCR and Tube settler tank is in progress.	Completed but permanent solution for the same must be provided i.e., land filling must be done as suggested.	Pumping arrangement has been done, however if problem arises same will be ensured during O&M tenure.
2	At Naini-II STP, rectification of effluent pipeline near outfall area as per site condition.	Work to be completed after lowering of river level which is currently increased due to flood. Currently, temporary arrangement is provided by means of boulder pitching and concrete. However, this work was completed once but pipes broke down in the month of June-23 due to soil erosion.	As the water level is high at this time, hence the work will be executed in Guidance of UPJN during dry weather conditions as per the site feasibility.
E&M Works			
1	At all Interception and diversion points, provide the gate at the inlet of I&D after manual screen for avoiding of silt collection in manhole and rising main at the time of flood.	As informed by Concessionaire, ordering of desired gates is in process. However, this work is not part of scope of works given in Schedule-1 of Concession Agreement but must be done as per site requirement at no extra cost to UPJN.	As this work is beyond the scope of Schedule-1 of Concession Agreement, however for better operation we will execute the same during O&M tenure and procurement of Gates for the same is under process.
2	At Mawaiya SPS, commissioning of differential level transmitter for mechanical screens is pending.	Completed	Completed
3	At Mawaiya SPS, commissioning of harmonic filter panel is pending.	Completed	Completed
4	At Mawaiya SPS, VFD for pump no. 4 is not working.	Completed	Completed
5	At Mahewaghat SPS, commissioning of harmonic filter panel is pending.	Completed	Completed
6	At Naini-II MPS, installation of partition gate in wet well is pending.	Material is available at site. Currently the arrangement is working fine but if any requirement arises in future,	The gate is available at site and if any problem arises same will be completed

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
		Concessionaire will be required to do the needful for the same at no extra cost to UPJN.	in O&M tenure
7	At Naini-II STP, commissioning of harmonic filter panel is pending.	Completed	Completed
8	At Naini-II STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days as per CPCB norms specially for COD and BOD values from inlet analyzer. Therefore, Concessionaire is suggested to keep doing fine tuning of analyzers during O&M phase also for keeping all parameters shown by inlet and outlet analyzers within limit as per CPCB norms and Concession Agreement.	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	Completed
10	At Naini-II STP, installation of EOT for PTU is pending.	Installation of EOT is not possible in current condition however it is available at site. For alternate arrangement, installation of beam is completed but installation of chain pulley block is pending however it is available at site. Currently, manual arrangement is provided however if any requirement arises in future, Concessionaire will be required to provide EOT arrangement at no extra cost to UPJN.	Chain pulley block arrangement is made.
11	At Naini-II STP, commissioning of solar power plant for 800 KW is completed as per CA however work for solar power plant of extra capacity is in progress.	Completed	Completed
12	At Naini-II STP, rectifications of observations regarding SCADA system are required which were given during visit. Concessionaire is required to provide report generation regarding KPIs, flow and running hours as per the method discussed at site.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days as per CPCB norms specially for COD and BOD values from inlet analyzer. Therefore, Concessionaire is suggested to keep doing fine tuning of SCADA system during O&M phase also and do the	Completed

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
		changes as per observations given for getting better performance as per CPCB norms and Concession Agreement.	
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	Completed
14	At Naini-II STP, installation of asset management system is pending.	Asset Management System is almost ready hence Concessionaire is suggested to use the same in daily maintenance activities. Also, changes must be made as per observations given for better performance.	Completed
15	At Naini-II STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Completed	Completed

Note: M/s. PWPL reply is under observation, it will be change according to October 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-Sep-23	47070	47.07	7.55	7.84	170	23	346	45	271	22	NA	700	0.3	24.51	1200000	Plant availability is 100%
02-Sep-23	42990	42.99	7.53	7.87	175	20	336	40	261	20	NA	500	0.3	23.87	1400000	Plant availability is 100%
03-Sep-23	42420	42.42	7.49	7.79	170	22	360	47	278	18	NA	400	0.2	24.61	1700000	Plant availability is 100%
04-Sep-23	42680	42.68	7.61	7.87	165	23	342	48	259	20	NA	600	0.3	25.03	1300000	Plant availability is 100%
05-Sep-23	45170	45.17	7.58	7.89	160	22	330	46	263	19	NA	400	0.3	24.3	1100000	Plant availability is 100%
06-Sep-23	45220	45.22	7.63	7.88	165	24	334	48	269	18	NA	600	0.2	24.81	1400000	Plant availability is 100%
07-Sep-23	52910	52.91	7.59	7.81	160	25	340	47	282	23	NA	500	0.3	25.96	1200000	Plant availability is 100%
08-Sep-23	62630	62.63	7.54	7.83	165	23	346	45	272	25	NA	600	0.3	24.7	1400000	Plant availability is 100%
09-Sep-23	54760	54.76	7.51	7.8	170	24	350	44	280	22	NA	700	0.2	23.75	1700000	Plant availability is 100%
10-Sep-23	53330	53.33	7.58	7.82	175	25	330	46	287	19	NA	500	0.3	25.13	1400000	Plant availability is 100%
11-Sep-23	49100	49.1	7.55	7.9	160	22	311	44	266	16	NA	400	0.2	23.8	1300000	Plant availability is 100%
12-Sep-23	47050	47.05	7.61	7.88	170	23	334	46	273	15	NA	500	0.3	24.51	1100000	Plant availability is 100%
13-Sep-23	53390	53.39	7.54	7.9	175	24	322	48	285	17	NA	600	0.3	25.07	1400000	Plant availability is 100%
14-Sep-23	46810	46.81	7.62	7.89	155	25	310	47	270	15	NA	700	0.2	24.11	1300000	Plant availability is 100%
15-Sep-23	49180	49.18	7.68	7.87	160	23	328	48	280	16	NA	400	0.3	23.78	1200000	Plant availability is 100%
16-Sep-23	46850	46.85	7.7	7.9	175	20	334	44	272	14	NA	500	0.2	24.5	1700000	Plant availability is 100%
17-Sep-23	51070	51.07	7.69	7.92	180	21	368	46	298	15	NA	400	0.3	24.33	1400000	Plant availability is 100%
18-Sep-23	57800	57.8	7.57	7.89	175	20	348	44	290	17	NA	600	0.3	25.08	1100000	Plant availability is 100%
19-Sep-23	47180	47.18	7.54	7.81	170	22	332	47	268	18	NA	400	0.2	25.3	1300000	Plant availability is 100%
20-Sep-23	35110	35.11	7.64	7.83	160	23	323	46	284	19	NA	500	0.2	23.78	1200000	Plant availability is 100%
21-Sep-23	39130	39.13	7.62	7.94	175	21	338	45	289	20	NA	600	0.3	25.22	1700000	Plant availability is 100%
22-Sep-23	39460	39.46	7.6	7.95	170	20	346	44	301	19	NA	400	0.2	24.38	1300000	Plant availability is 100%
23-Sep-23	37450	37.45	7.66	7.94	160	21	327	43	281	20	NA	500	0.2	24.7	1100000	Plant availability is 100%
24-Sep-23	39570	39.57	7.57	7.91	165	20	320	46	271	18	NA	600	0.3	23.77	1400000	Plant availability is 100%
25-Sep-23	37120	37.12	7.71	7.97	170	21	320	44	286	17	NA	400	0.2	24.17	1200000	Plant availability is 100%
26-Sep-23	38550	38.55	7.68	7.95	160	20	330	42	280	17	NA	500	0.2	25.02	1700000	Plant availability is 100%
27-Sep-23	39870	39.87	7.7	7.97	155	22	326	46	288	20	NA	600	0.3	24.37	1300000	Plant availability is 100%
28-Sep-23	37650	37.65	7.67	7.96	160	24	340	45	284	24	NA	700	0.3	24.3	1100000	Plant availability is 100%
29-Sep-23	39980	39.98	7.63	7.98	155	23	314	42	268	22	NA	500	0.2	24.21	1400000	Plant availability is 100%
30-Sep-23	38300	38.3	7.7	7.96	160	24	342	46	300	23	NA	600	0.2	25.4	1200000	Plant availability is 100%
Average	**45326.67**	**45.33**	**7.61**	**7.89**	**166.17**	**22.33**	**334.23**	**45.30**	**278.53**	**18.93**	**NA**	**530.00**	**0.25**	**24.55**	**1340000.00**	

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/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
Civil Works			
1	At Basna Nalla SPS, construction of boundary wall and approach road is pending.	Work for approach road is completed but work for boundary wall is pending.	Work for approach road is completed and boundary wall work is under progress and same bill be completed by 05.10.2023.
2	At Basna Nalla SPS, epoxy coating in wet well is pending.	Work is pending.	We have constructed the structure using SRC cement.
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	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.	Work to be completed after lowering of river level which is currently increased due to flood. It must be done to ensure 100% availability of Basna Nalla SPS.	Same will be taken care after during the O&M period.
5	At Basna Nalla SPS, construction of loading and unloading bay is pending.	Completed	Completed
6	At Basna Nalla SPS, landscaping and site development work is pending.	Work is pending	Same will be completed by 10.10.2023.
7	At Phaphamau STP, landscaping and development work for complete site is pending.	Completed apart from material stacked at the gate which must be shifted to appropriate place.	Completed.
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.	As informed by Concessionaire, ordering of desired gates is in process. However, this work is not part of scope of works given in Schedule-1 of Concession Agreement but must be done as per site requirement at no extra cost to UPJN.	As this work is beyond the scope of Schedule-1 of Concession Agreement, however for better operation we will execute the same during O&M tenure and procurement of Gates for the same is under process.

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
2	At Basna Nalla SPS, installation of sluice gate in partition wall in downstream side of screens is pending.	Material is available at site but as per current conditions, installation of gate is not possible. However, if any requirement arises in future, Concessionaire is required to provide alternate arrangement for the same at no extra cost to UPJN.	The gate is available at site and if any problem arises same will be done during O&M period.
3	At Basna Nalla SPS and Phaphamau STP, commissioning of harmonic filter panel is pending.	Completed	Completed
4	At Phaphamau STP, calibration of inlet and outlet analyzers is completed but it is not showing correct values of parameters.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days as per CPCB norms specially for values from inlet analyzer. Therefore, Concessionaire is suggested to keep doing fine tuning of analyzers during O&M phase also for keeping all parameters shown by inlet and outlet analyzers within limit as per CPCB norms and Concession Agreement.	Completed
5	At Phaphamau STP, calibration of DO analyzers for FCR tanks is completed but it is not showing correct values of parameters.	Completed	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 is pending and Concessionaire is instructed to complete the same as soon as possible.	We assure that we will meet our power guarantee by the currently installed capacity of solar system of 77.01 KW.
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.	Latest reports of Sep-23 are checked and found that they are almost stabilized apart from minor variations on some days as per CPCB norms specially for values from inlet analyzer. Therefore, Concessionaire is suggested to keep doing fine tuning of SCADA system during O&M phase also and do the changes as per observations given for getting better performance as per CPCB norms and Concession Agreement.	Completed
8	At Phaphamau STP, installation of EOT for PTU area is pending.	Installation of EOT is not possible in current condition however it is available at site. For alternate arrangement, installation of beam is completed but installation of chain pulley block is pending however it is available at site.	Chain pulley block arrangement is made.

Sr. No	Observation Raised by Project Engineer vide Letter no. AIPL/NMCG/PRAYAG/1658 as on 22nd September 2023		Concessionaire action taken as on date 27th September 2023
		Currently, manual arrangement is provided however if any requirement arises in future, Concessionaire will be required to provide EOT arrangement at no extra cost to UPJN.	
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	Completed
10	At Phaphamau STP, installation of asset management system is not started yet.	Asset Management System is almost ready hence Concessionaire is suggested to use the same in daily maintenance activities. Also, changes must be made as per observations given for better performance.	Asset management is completed.
11	At Phaphamau STP, sluice valve of 600 mm is installed in place of approved size of 500mm in bypass line of STP which is not as per approved valve schedule.	Currently the arrangement is working fine but if any requirement arises in future, Concessionaire will be required to do the needful for the same at no extra cost to UPJN.	The arrangement is working fine, however if required same will be modified during O&M period.
12	At Phaphamau STP, installation of automatic portable samplers at inlet and outlet of STP is pending.	Completed	Completed

Note: M/s. PWPL reply is under observation, it will be change according to October 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-Sep-23	14570	14.57	6.65	7.71	185	22	360	40	335	23	NA	400	0.2	23.58	1700000	Plant availability is 100%
02-Sep-23	14210	13.68	7.85	7.92	180	20	364	36	280	23	NA	600	0.3	24.53	1400000	Plant availability is 100%
03-Sep-23	12760	12.76	7.83	7.95	170	23	360	40	315	20	NA	700	0.2	23.02	1700000	Plant availability is 100%
04-Sep-23	14470	14.47	7.92	7.94	185	24	364	36	280	21	NA	400	0.3	23.23	1300000	Plant availability is 100%
05-Sep-23	13730	13.73	7.87	8.03	170	22	360	40	290	17	NA	600	0.2	24.27	1700000	Plant availability is 100%
06-Sep-23	14600	14.6	7.82	8.02	175	23	364	36	291	18	NA	400	0.3	22.97	1300000	Plant availability is 100%
07-Sep-23	17150	17.15	7.78	8.04	165	24	360	40	310	20	NA	600	0.2	24.53	1700000	Plant availability is 100%
08-Sep-23	17590	17.59	7.76	8.05	160	21	364	40	290	21	NA	500	0.3	24.55	1400000	Plant availability is 100%
09-Sep-23	17630	17.63	7.76	8.01	165	24	368	44	240	20	NA	600	0.2	23.83	1700000	Plant availability is 100%
10-Sep-23	18740	18.74	8.31	8.66	175	24	340	40	220	22	NA	400	0.3	24.53	1300000	Plant availability is 100%
11-Sep-23	17280	17.28	7.63	8.03	170	22	360	44	250	21	NA	600	0.2	23.91	1700000	Plant availability is 100%
12-Sep-23	16690	16.69	8.2	8.7	175	24	340	40	300	18	NA	400	0.3	22.73	1300000	Plant availability is 100%
13-Sep-23	18870	18.87	7.7	8.04	165	22	372	44	250	19	NA	500	0.2	24.55	1700000	Plant availability is 100%
14-Sep-23	18050	18.05	7.54	8.02	170	24	364	40	245	16	NA	600	0.3	23.9	1300000	Plant availability is 100%
15-Sep-23	16910	16.91	7.55	7.83	180	23	376	44	260	17	NA	500	0.2	23.71	1700000	Plant availability is 100%
16-Sep-23	17510	17.51	7.59	7.95	170	24	340	40	300	18	NA	400	0.3	23.74	1400000	Plant availability is 100%
17-Sep-23	19160	19.16	7.56	7.78	175	25	332	44	275	20	NA	600	0.2	22.29	1700000	Plant availability is 100%
18-Sep-23	17750	17.75	7.7	7.83	170	24	324	40	250	24	NA	500	0.3	24.55	1300000	Plant availability is 100%
19-Sep-23	17090	17.09	7.09	7.91	175	25	328	44	230	18	NA	600	0.2	24.21	1700000	Plant availability is 100%
20-Sep-23	16400	16.4	7.92	8.1	180	23	336	40	260	21	NA	400	0.3	22.87	1400000	Plant availability is 100%
21-Sep-23	19440	19.44	7.69	8.03	175	24	340	44	220	26	NA	500	0.2	22.73	1300000	Plant availability is 100%
22-Sep-23	16800	16.8	7.93	8.07	185	23	368	40	256	24	NA	600	0.3	23.41	1700000	Plant availability is 100%
23-Sep-23	16450	16.45	7.71	8.1	165	24	316	44	260	26	NA	400	0.2	24.23	1300000	Plant availability is 100%
24-Sep-23	17800	17.8	7.92	8.12	160	22	304	40	264	27	NA	600	0.3	22.83	1700000	Plant availability is 100%
25-Sep-23	17770	17.77	7.9	8.09	165	24	324	40	260	21	NA	500	0.3	24.29	1300000	Plant availability is 100%
26-Sep-23	18580	18.58	7.55	8.1	170	26	320	44	270	26	NA	700	0.2	23.79	1700000	Plant availability is 100%
27-Sep-23	18150	18.15	7.9	8.05	160	28	316	40	255	23	NA	600	0.3	24.53	1400000	Plant availability is 100%
28-Sep-23	16630	16.63	7.32	7.83	155	27	300	44	252	28	NA	500	0.3	23.2	1300000	Plant availability is 100%
29-Sep-23	14830	14.83	7.92	8.06	160	28	324	40	240	20	NA	700	0.2	23.46	1700000	Plant availability is 100%
30-Sep-23	15980	15.98	7.6	8.11	155	26	272	44	260	33	NA	600	0.3	24.53	1400000	Plant availability is 100%
Average	**16786.33**	**16.77**	**7.72**	**8.04**	**170.33**	**23.83**	**342.00**	**41.07**	**266.93**	**21.70**	**NA**	**533.33**	**0.25**	**23.75**	**1506666.67**	

Source: Logbook of Laboratory at Sewage Treatment Plant.

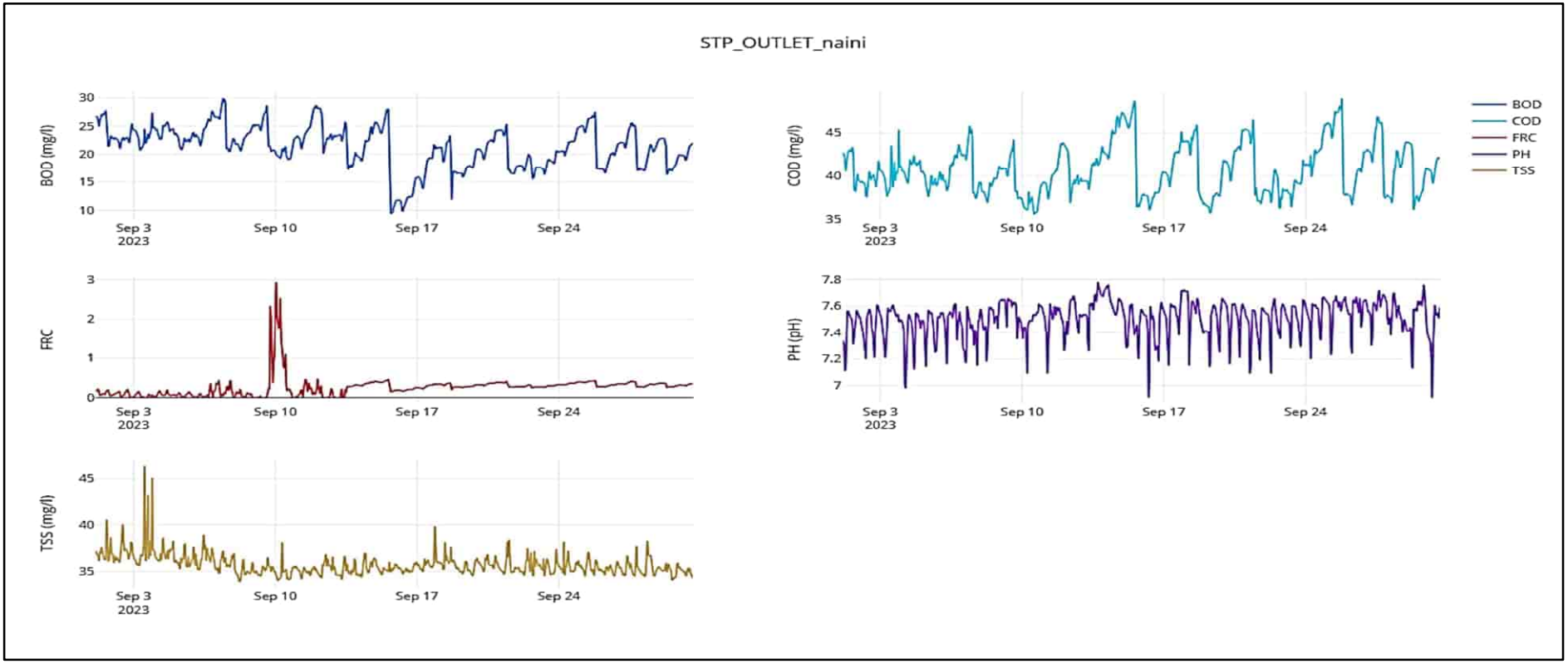
ANNEXURE-II

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 fine tuning 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-Sep-23	112870	112.87	7.25	7.41	130	25	314	43	286	35	NA	600	0.2	24.27	1200000	Plant availability is 100%
02-Sep-23	117080	117.08	7.16	7.48	125	24	304	40	276	37	NA	500	0.3	23.85	1700000	Plant availability is 100%
03-Sep-23	119700	119.7	7.22	7.54	120	25	316	38	265	35	NA	400	0.2	22.94	1400000	Plant availability is 100%
04-Sep-23	118630	118.63	7.19	7.43	125	23	296	40	278	37	NA	500	0.2	24.11	1300000	Plant availability is 100%
05-Sep-23	124720	124.72	7.26	7.47	130	24	306	38	261	36	NA	600	0.3	23.45	1200000	Plant availability is 100%
06-Sep-23	123000	123	7.15	7.5	120	26	310	40	270	38	NA	700	0.2	22.53	1400000	Plant availability is 100%
07-Sep-23	124630	124.63	7.12	7.43	125	23	292	42	263	34	NA	500	0.3	23.08	1200000	Plant availability is 100%
08-Sep-23	113610	113.61	7.14	7.49	135	22	302	40	253	36	NA	600	0.3	23.37	1200000	Plant availability is 100%
09-Sep-23	110530	110.53	7.08	7.55	135	25	294	38	268	35	NA	400	0.2	24.15	1400000	Plant availability is 100%
10-Sep-23	113470	113.47	7.28	7.51	120	22	296	37	278	34	NA	800	0.3	24.62	1700000	Plant availability is 100%
11-Sep-23	110870	110.87	7.36	7.49	120	23	284	38	272	34	NA	600	0.2	24.6	1200000	Plant availability is 100%
12-Sep-23	119220	119.22	7.46	7.51	115	25	292	40	278	38	NA	500	0.3	24.4	1300000	Plant availability is 100%
13-Sep-23	105070	105.07	7.44	7.58	120	22	300	42	282	34	NA	700	0.2	24.2	1100000	Plant availability is 100%
14-Sep-23	108790	108.79	7.41	7.59	115	24	306	44	273	36	NA	600	0.3	24.51	1400000	Plant availability is 100%
15-Sep-23	109750	109.75	7.44	7.51	120	21	312	43	291	33	NA	400	0.2	24.6	1200000	Plant availability is 100%
16-Sep-23	110090	110.09	7.4	7.47	120	13	308	40	278	34	NA	800	0.2	23.5	1700000	Plant availability is 100%
17-Sep-23	117790	117.79	7.29	7.51	115	16	324	41	324	38	NA	600	0.3	24.65	1300000	Plant availability is 100%
18-Sep-23	117830	117.83	7.33	7.52	135	17	308	44	302	40	NA	700	0.2	24.55	1200000	Plant availability is 100%
19-Sep-23	106500	106.5	7.49	7.53	125	19	296	36	274	35	NA	700	0.3	24.1	1100000	Plant availability is 100%
20-Sep-23	108510	108.51	7.47	7.51	140	23	312	42	275	36	NA	500	0.2	24.57	1400000	Plant availability is 100%
21-Sep-23	108400	108.4	7.49	7.52	130	20	316	40	272	37	NA	600	0.3	24.9	1300000	Plant availability is 100%
22-Sep-23	109020	109.02	7.46	7.56	140	18	300	36	268	34	NA	500	0.2	25	1400000	Plant availability is 100%
23-Sep-23	110730	110.73	7.56	7.59	130	19	308	40	279	36	NA	800	0.3	24.7	1700000	Plant availability is 100%
24-Sep-23	108950	108.95	7.49	7.57	135	23	296	42	270	34	NA	400	0.2	24.2	1100000	Plant availability is 100%
25-Sep-23	110550	110.55	7.46	7.58	140	25	304	44	274	33	NA	600	0.3	24.9	1400000	Plant availability is 100%
26-Sep-23	108980	108.98	7.28	7.55	135	21	312	40	268	38	NA	700	0.2	24.8	1300000	Plant availability is 100%
27-Sep-23	101950	101.95	7.31	7.56	130	24	296	43	270	35	NA	500	0.3	24.1	1200000	Plant availability is 100%
28-Sep-23	114080	114.08	7.19	7.49	140	20	308	40	279	37	NA	400	0.3	23.87	1400000	Plant availability is 100%
29-Sep-23	104260	104.26	7.21	7.51	125	19	300	42	275	33	NA	600	0.2	24.2	1700000	Plant availability is 100%
30-Sep-23	112670	112.67	7.08	7.43	145	23	316	44	280	35	NA	800	0.3	24.8	1100000	Plant availability is 100%
Average	**112741.67**	**112.74**	**7.32**	**7.51**	**128.00**	**21.80**	**304.27**	**40.57**	**276.07**	**35.57**	**NA**	**586.67**	**0.25**	**24.18**	**1340000.00**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	September 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Tauseef, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Satwant, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Deepak, PWPL.
Place(s) of Inspection	• 80 MLD STP at Naini-i, Prayagraj • 80 MLD MPS at Gaughat, Prayagraj • 35 MLD SPS at Chacharnalla, Prayagraj

Visit was done on 31st August 2023, 5th September 2023, 14th September 2023 & 18th September 2023 and following observations were made after action taken by Concessionaire on September-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	105.07 to 124.72
2	Gaughat MPS	106.76 to 126.78
3	Chacharnalla SPS	37.56 to 47.04

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	22 to 26 mg/l
2	TSS – Effluent	< 50 mg/l	33 to 38 mg/l
3	pH – Effluent	6.5 – 9.0	7.41 to 7.59
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.53 to 24.62 %
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	28.95 to 49.34
2	Naini I Associated Infrastructure	71.03 to 82.90

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

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

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found the variations in between values shown by SCADA and lab are not within the prescribed limit given by CPCB for Online Continuous Effluent Monitoring System.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. For associated infrastructure of Naini-I STP, reports are being generated for both Chacharnalla SPS and Gaughat MPS except for one out of two streams in Gaughat MPS due to problem in flowmeter of one stream. Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeters at inlet of STP is working.
6. Outlet flowmeter is not working. This is a long-term pending issue hence Concessionaire to please rectify the problem at the earliest. Also, RCC chamber for the flowmeter is not constructed.
7. SCADA reports regarding flow for Naini-I facilities were checked and it was found that flow records generated from SCADA for both inlet flowmeters of Naini-I STP are matching with manual site records but not matching for outlet flowmeter of Naini-I STP.
8. In Naini-I STP, main MCC panel doesn't have provision for taking power from secondary sources like DG, Solar power generation system and Biogas power generation system simultaneously. Concessionaire is required to the needful for running biogas engine even without power from grid.
9. Gas engine is working. Currently, Biogas engine is operated for 16 hours from 3 PM to 7 AM as per availability of Biogas and for remaining time i.e., 7 AM to 3 PM, the STP is being operated on Solar energy as per availability.
10. All three mechanical screens of 60 MLD part are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
11. All two mechanical screens of 20 MLD part are working. Cleaning brush is not working properly replacement of brush is required. Currently screens are running in auto mode through timer however differential level sensors are not working.
12. For 60 MLD, all grit removal units are working.
13. For 20 MLD, all grit removal units are working.
14. All Primary Settling Tanks are working. Scum removal is done manually but it is not efficient as good amount of scum can be seen floating on the surface. Since, Scum removing arrangement is installed, modification is required for the same so that scum collection and removal can be done automatically.
15. Telescopic valves of Primary Settling Tanks are not working.
16. Installation of actuators is pending for drain valves of Primary Settling Tanks. Concessionaire has told that installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.
17. In Aeration Unit of 60 MLD, all surface aerators are in working condition. It is recommended to install DO analyzer in this tank also for better monitoring.
18. Aeration tank of 20 MLD is in operation. Air distribution is not proper in this tank as excess air is coming from some points due to problem in diffusers. DO analyzer is working.
19. All Aeration blowers are working.
20. All Final Settling Tanks are working.
21. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
22. Installation of actuators is pending for drain valves of Final Settling Tanks. Concessionaire has told that

installation of actuators is not feasible in existing valve arrangement. Existing drain valves were replaced during rehab period and at the same time actuators were also purchased for installation, if these two were not matching then the problem must have been resolved during rehab period itself but since the same is not being done, Concessionaire is required to do necessary modification/replacement work done so that installation work can be completed.

23. In RSPH unit of 60 MLD, all pumps are working.
24. In RSPH unit of 20 MLD, all Pumps are working.
25. Both chlorinators are in working condition. Both booster pumps are working.
26. Leak absorption system is working. Checking of concentration for caustic solution filled in leak absorption system must be every month.
27. Storge of Empty and filled chlorine tonner are not done properly as per safety norms. Concessionaires is required to do the needful for the same.
28. Since the chlorine tonner storage in Naini-1 STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
29. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
30. Both thickeners are in working condition. Installation of actuators for drain valves is pending.
31. All thickened sludge transfer pumps are working.
32. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
33. For TEPH panel, modification of room is completed but panel erection is not started yet as per the electrical norms.
34. Both DGs are in operation.
35. Sludge dewatering unit was in operation. One out of four volute presses are under maintenance. Poly preparation unit was in operation.
36. All filtrate pumps are working.
37. There is variation in recorded values of flow from inlet flowmeter at Naini-I STP and outlet flowmeters of Gaughat MPS, please rectify the problem.
38. Both dewatering feed pumps are under maintenance. Currently, submersible pump is being used for transferring sludge from digesters to dewatering building.
39. For sludge drying beds, it is required to check filter media and gravels as water is not percolating from SDBs. Excavation was done in one SDB and it was found that there is no media in it, pipe beneath the gravel is completely choked, gravel is completely choked with sludge and smaller size of gravel is required to be filled in SDBs. All these problems need to be rectified so that SDB can operate for more number of days as currently SDBs are filled in 3-4 days only. Similarly, other SDBs must also be checked.
40. All Digesters are working.
41. Heat exchangers, sludge recirculation pumps for all digesters are working.
42. In compressor room, all six compressors are working.
43. Both Gas holders are working.
44. Gas flare is working.
45. H2S scrubber unit is working. Analyzers fitted at inlet & outlet unit are working.
46. Rehabilitation works for storm water pump house are pending. Discussions regarding the feasibility of same has already been done during rehab period and hence the work must be done accordingly.
47. As already decided, repairing/construction of retaining wall is not completed yet. In 2022 also, river water has come inside the STP during flood and various equipment in different units of STP are required to be dismantled and hence when river water has gone down, restarting of STP took 5-6 days which could have been avoided if retaining wall of the STP was repaired/constructed correctly.
48. Rehabilitation works for tube well unit are pending.
49. Landscaping work of the plant must be improved.
50. As per Clause No.1.6 & 1.7.1 of Part – G in concession agreement, 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.
51. Painting of all units from inside is in progress.
52. CCTV camera at the Inlet and outlet point of STP are working.
53. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement or it must be properly stacked at one place after taking proper consent from UPJN. Concessionaire have told that this is out of their jurisdiction for which Concessionaire is required to go through the mentioned clause and plan for the same accordingly.

54. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
55. For Gaughat MPS, following observations were made during visit:

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

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

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

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

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

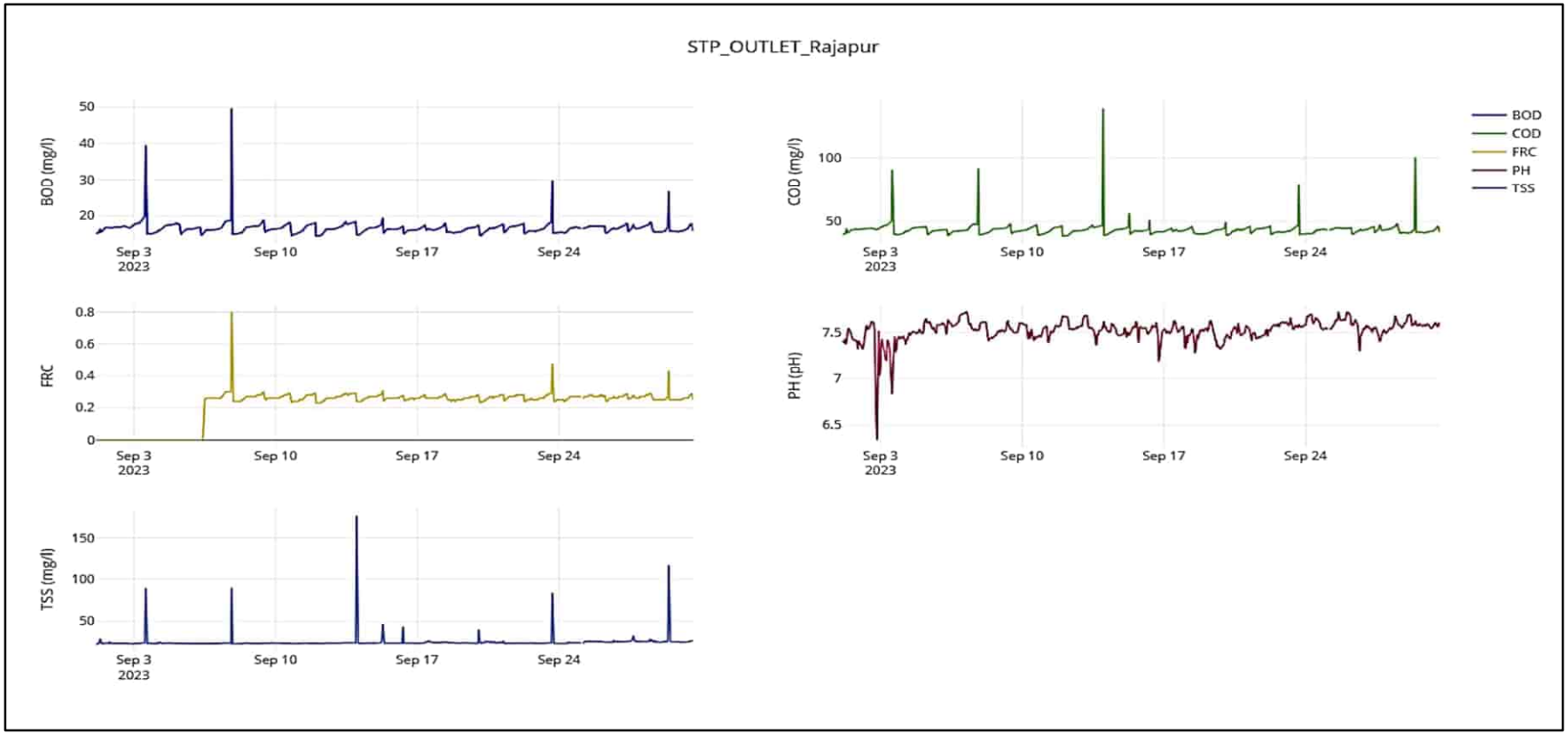
1.3 Recommendation's

- Some of the issues mentioned above are pending since long time and hence must be rectified at the earliest for enhancing the efficiency of the STP.

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

2. RAJAPUR STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

* BOD in mg/l, COD in mg/l and TSS in mg/l

Note:

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

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

Date	Daily Feed Quantity MLD (Design- 60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <30 mg/l)	Inlet COD (Design- <500 mg/l)	Final COD (Design - <50 mg/l)	Inlet TSS (Design- <500 mg/l)	FinalTSS (Design - <50 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Sep-23	65890	65.89	7.23	7.45	130	17	308	40	287	25	NA	600	0.3	23.34	1300000	Plant availability is 100%
02-Sep-23	65290	65.29	7.25	7.44	125	16	312	44	291	24	NA	400	0.2	23.16	1200000	Plant availability is 100%
03-Sep-23	75780	75.78	7.15	7.29	140	18	324	44	295	23	NA	600	0.3	23.18	1700000	Plant availability is 100%
04-Sep-23	77410	77.41	7.23	7.49	130	17	296	40	259	24	NA	500	0.3	24.18	1400000	Plant availability is 100%
05-Sep-23	74870	74.87	7.17	7.59	125	16	304	44	285	25	NA	700	0.3	23.22	1300000	Plant availability is 100%
06-Sep-23	75430	75.43	7.12	7.62	135	17	292	40	271	23	NA	400	0.2	24.15	1200000	Plant availability is 100%
07-Sep-23	79840	79.84	7.08	7.63	140	18	312	44	289	24	NA	600	0.3	23.11	1700000	Plant availability is 100%
08-Sep-23	78610	78.61	7.05	7.54	130	16	316	40	283	25	NA	500	0.3	22.98	1300000	Plant availability is 100%
09-Sep-23	78880	78.88	7.14	7.55	135	17	308	44	278	24	NA	700	0.2	23.41	1400000	Plant availability is 100%
10-Sep-23	87540	87.54	7.09	7.47	125	16	304	40	272	23	NA	600	0.3	23.13	1300000	Plant availability is 100%
11-Sep-23	77160	77.16	7.57	7.82	115	15	292	44	240	17	NA	400	0.2	23.54	1300000	Plant availability is 100%
12-Sep-23	79830	79.83	7.18	7.6	125	16	296	40	265	22	NA	600	0.3	24.61	1700000	Plant availability is 100%
13-Sep-23	82070	82.07	7.29	7.73	135	18	312	44	245	23	NA	500	0.3	23.75	1400000	Plant availability is 100%
14-Sep-23	81340	81.34	7.32	7.71	125	17	328	40	274	25	NA	600	0.2	24.32	1300000	Plant availability is 100%
15-Sep-23	77100	77.1	7.24	7.53	130	16	324	44	281	24	NA	400	0.3	23.28	1700000	Plant availability is 100%
16-Sep-23	82360	82.36	7.21	7.51	135	17	332	44	305	25	NA	500	0.2	23.34	1400000	Plant availability is 100%
17-Sep-23	83400	83.4	7.23	7.55	130	16	328	40	295	24	NA	600	0.3	24.22	1700000	Plant availability is 100%
18-Sep-23	84840	84.84	7.25	7.43	125	17	324	44	289	23	NA	400	0.3	23.22	1300000	Plant availability is 100%
19-Sep-23	78920	78.92	7.22	7.48	120	16	316	40	274	24	NA	600	0.3	23.65	1400000	Plant availability is 100%
20-Sep-23	79530	79.53	7.24	7.5	125	17	328	44	282	25	NA	500	0.2	24.52	1700000	Plant availability is 100%
21-Sep-23	79250	79.25	7.29	7.51	115	16	332	44	304	24	NA	700	0.3	23.22	1400000	Plant availability is 100%
22-Sep-23	79280	79.28	7.32	7.58	135	17	340	40	317	26	NA	600	0.2	22.39	1200000	Plant availability is 100%
23-Sep-23	75140	75.14	7.35	7.6	120	16	344	44	323	23	NA	400	0.3	24.49	1300000	Plant availability is 100%
24-Sep-23	75640	75.64	7.32	7.63	130	17	292	40	273	24	NA	500	0.3	23.5	1700000	Plant availability is 100%
25-Sep-23	77970	77.97	7.37	7.62	115	16	296	44	271	25	NA	600	0.2	24.57	1400000	Plant availability is 100%
26-Sep-23	76640	76.64	7.41	7.6	125	17	292	40	269	26	NA	400	0.3	23.35	1200000	Plant availability is 100%
27-Sep-23	75480	75.48	7.42	7.53	115	16	296	44	275	25	NA	600	0.3	24.97	1700000	Plant availability is 100%
28-Sep-23	80190	80.19	7.41	7.59	130	18	300	40	268	26	NA	500	0.2	23.09	1300000	Plant availability is 100%
29-Sep-23	80140	80.14	7.31	7.62	115	16	288	40	259	27	NA	700	0.3	23.67	1700000	Plant availability is 100%
30-Sep-23	78450	78.45	7.13	7.61	125	17	292	44	265	25	NA	600	0.2	24.15	1400000	Plant availability is 100%
Average	**78142.33**	**78.14**	**7.25**	**7.56**	**126.83**	**16.63**	**310.93**	**42.13**	**279.47**	**24.10**	**NA**	**543.33**	**0.26**	**23.66**	**1433333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

Month of Site Inspection	September 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Tauseef, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Satwant, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Azaad, PWPL. 10. Mr. Girijesh, PWPL.
Place(s) of Inspection	• 60 MLD STP at Rajapur, Prayagraj • 25 MLD SPS at Rajapur, Prayagraj • 55 MLD MPS at Mumfodganj Prayagraj

Visit was done on 1st September 2023, 6th September 203, 11th September 2023 & 19th September 2023 and following observations were made after action taken by Concessionaire on July.23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	65.29 to 87.54
2	Rajapur SPS	4.92 to 10.28
3	Mumfodganj MPS	60.50 to 82.71

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	17 to 25 mg/l
3	pH – Effluent	6.5 – 9.0	7.29 to 7.82
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.98 to 24.61 %
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	8.62 to 24.24
2	Rajapur Associated Infrastructure	54.31 to 60.22

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 September-23 month recommendation given by Project Engineer.

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

from some minor variations.

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found the variations in between values shown by SCADA and lab are not within the prescribed limit given by CPCB for Online Continuous Effluent Monitoring System.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. For associated infrastructure of Rajapur STP, reports are being generated for both Mumforganj SPS and Rajapur MPS.

   Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
5. Flowmeters at inlet of STP is working.
6. Flowmeter at outlet of STP is working.
7. One Grit removal unit is working. One grit removal unit is in maintenance.
8. Both Mechanical Fine screens at PTU are working but both mechanical screens are not lifting waste efficiently. Currently screens are running in auto mode through timer however differential level sensors are not working.
9. Both UASBs were working satisfactorily. Cleaning of launders and scum from top must be done regularly. Also, several distribution cells were found in choked condition, cleaning for the same must be done on regular basis for avoiding such kind of situations. If it is required to increase the manpower, then same must be done at the earliest.
10. It is suggested to clean the UASB reactors after regular interval of time may be once in a year for removing dead sludge from the reactors which in turn will increase the efficiency of UASBs. Hence, Concessionaire is suggested to plan for the same.
11. It is 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.
12. 14 surface aerators were found running, 1 surface aerator is in maintenance. It is recommended to install DO analyzer in this tank also for better monitoring.
13. It is also suggested to clean the Aeration tank for removing dead sludge which in turn will increase the efficiency of Aeration.
14. For Quiescent zone, it is suggested to plan for cleaning of the same for removing dead sludge which in turn will increase the efficiency of Quiescent zone. Currently, dead sludge which is deposited in quiescent zone is coming along with effluent which is deteriorating the quality of effluent.
15. Both DG sets are working. It is suggested to increase the height of chimney of DG sets as per CPCB norms.
16. All sludge transfer pumps are in working condition.
17. Sludge dewatering unit is working. Poly dosing unit is working.
18. For chlorination system, temporary arrangement is provided for using effluent water at the inlet of booster pumps. Concessionaire is suggested to make this arrangement permanent.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. At flood pumping station, all Pumps are in working condition.
21. Since the chlorine tonner storage in Rajapur STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
22. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
23. There is variation in recorded values of flow from inlet flowmeter at Rajapur STP and outlet flowmeter of Mumfordganj SPS, please rectify the problem.
24. There is variation in recorded values of flow from inlet flowmeters at Rajapur STP and outlet flowmeter of Rajapur STP, please rectify the problem.
25. Gas holder and gas flare are not in operation. It is part of STP facility hence must be made operational. Also, amount of Gas generation also indicates the performance level of UASBs. Concessionaire is requested to complete the maintenance works and take both into operation as follow-up for the same is being done since rehab period.

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

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

30. At Mumfodganj MPS following observations were made:

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

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

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

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

2.3 Recommendation's

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

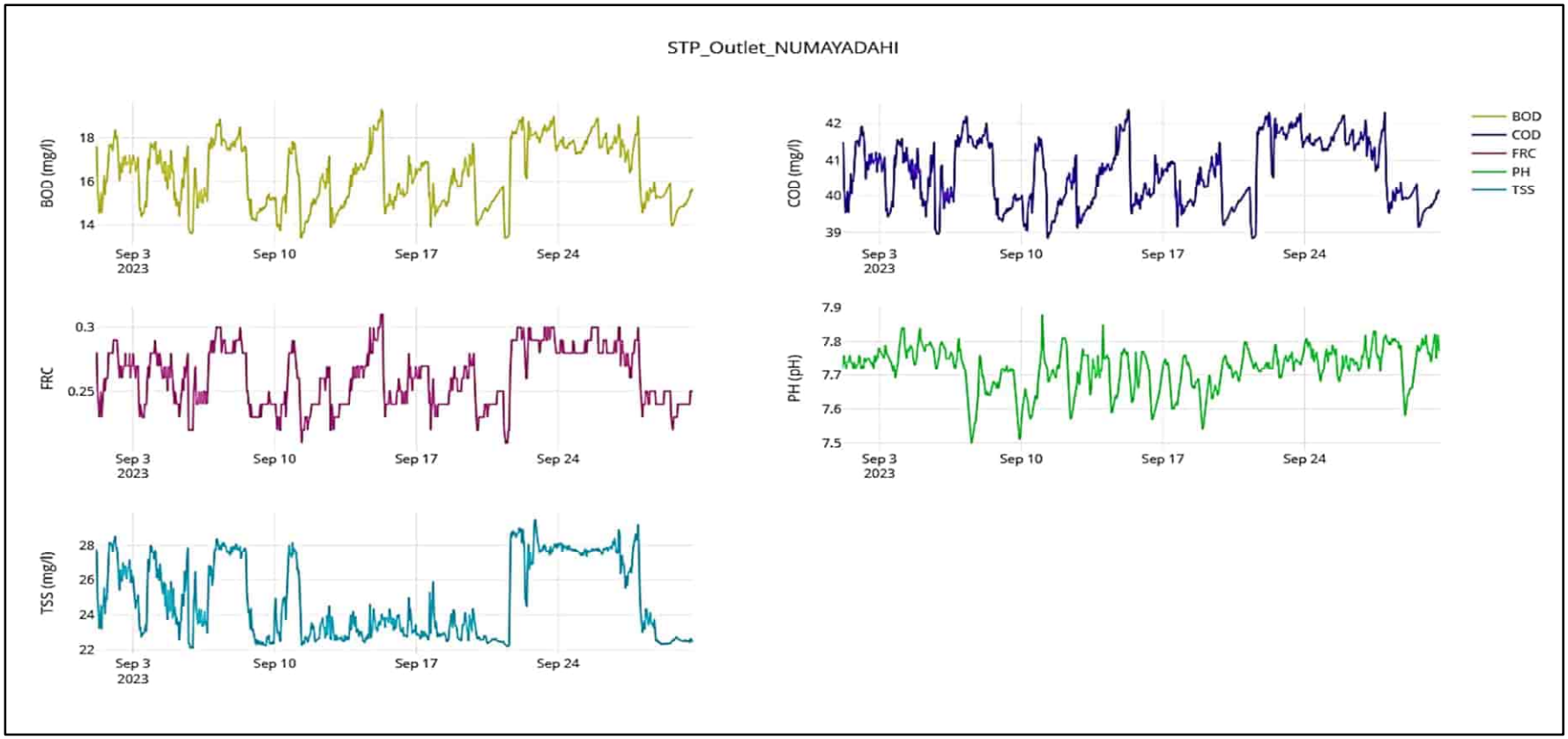
ANNEXURE-III

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

Table of Contents

1. NUMAYADAHI STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report



Source: Online analyzer,

* BOD in mg/l, COD in mg/l and TSS in mg/l

Note:

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

Numayadahi STP, 50 MLD STP at 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-Sep-23	60850	60.85	7.32	7.74	130	15	284	40	248	25	NA	400	0.3	23.57	1300000	Plant availability is 100%
02-Sep-23	60520	60.52	7.38	7.67	125	17	312	44	256	27	NA	600	0.2	24.22	1400000	Plant availability is 100%
03-Sep-23	60950	60.95	7.28	7.76	130	16	288	40	248	24	NA	500	0.3	23.22	1100000	Plant availability is 100%
04-Sep-23	62780	62.78	7.34	7.66	140	18	296	40	267	26	NA	700	0.3	23.54	1400000	Plant availability is 100%
05-Sep-23	61300	61.3	7.33	7.78	135	16	308	44	254	24	NA	400	0.2	24.54	1400000	Plant availability is 100%
06-Sep-23	56300	56.3	7.32	7.64	130	15	300	40	261	25	NA	600	0.3	22.85	1700000	Plant availability is 100%
07-Sep-23	61580	61.58	7.28	7.67	135	17	308	44	278	28	NA	500	0.2	24.5	1100000	Plant availability is 100%
08-Sep-23	64570	64.57	7.21	7.71	130	16	312	44	288	26	NA	600	0.2	24.01	1400000	Plant availability is 100%
09-Sep-23	61980	61.98	7.34	7.71	125	14	304	36	283	24	NA	400	0.3	23.69	1300000	Plant availability is 100%
10-Sep-23	60800	60.8	7.27	7.69	130	17	316	40	296	24	NA	600	0.3	22.99	1700000	Plant availability is 100%
11-Sep-23	60960	60.96	7.31	7.73	140	15	296	40	281	25	NA	500	0.3	23.08	1400000	Plant availability is 100%
12-Sep-23	64850	64.85	7.28	7.76	130	14	308	44	264	22	NA	700	0.2	24.04	1700000	Plant availability is 100%
13-Sep-23	61780	61.78	7.36	7.64	145	16	300	40	248	23	NA	500	0.3	23.64	1100000	Plant availability is 100%
14-Sep-23	63880	63.88	7.32	7.71	125	17	308	44	271	25	NA	600	0.3	23.78	1400000	Plant availability is 100%
15-Sep-23	61260	61.26	7.24	7.68	130	16	320	40	280	22	NA	700	0.3	23.54	1700000	Plant availability is 100%
16-Sep-23	63340	63.34	7.22	7.72	145	17	292	44	240	25	NA	500	0.3	22.46	1100000	Plant availability is 100%
17-Sep-23	63050	63.05	7.32	7.83	125	15	324	40	256	24	NA	600	0.3	24.89	1700000	Plant availability is 100%
18-Sep-23	65550	65.55	7.12	7.78	130	15	304	44	265	22	NA	700	0.3	24.4	1400000	Plant availability is 100%
19-Sep-23	62050	62.05	7.16	7.76	130	16	328	40	252	24	NA	400	0.2	23.12	1300000	Plant availability is 100%
20-Sep-23	62650	62.65	7.14	7.69	135	14	320	36	256	25	NA	600	0.3	23.58	1400000	Plant availability is 100%
21-Sep-23	63180	63.18	7.21	7.72	140	16	312	44	268	26	NA	500	0.3	24.25	1700000	Plant availability is 100%
22-Sep-23	63770	63.77	7.24	7.67	145	17	308	40	262	26	NA	700	0.2	23.54	1400000	Plant availability is 100%
23-Sep-23	64180	64.18	7.18	7.7	140	17	300	40	258	27	NA	400	0.3	23.78	1100000	Plant availability is 100%
24-Sep-23	64720	64.72	7.22	7.67	135	18	312	44	264	27	NA	700	0.3	24.68	1700000	Plant availability is 100%
25-Sep-23	64120	64.12	7.18	7.74	130	17	308	44	256	26	NA	500	0.3	24.16	1300000	Plant availability is 100%
26-Sep-23	63920	63.92	7.28	7.71	140	18	296	40	248	26	NA	400	0.2	22.77	1400000	Plant availability is 100%
27-Sep-23	59750	59.75	7.24	7.66	135	17	304	44	256	28	NA	400	0.3	23.24	1300000	Plant availability is 100%
28-Sep-23	65580	65.58	7.26	7.48	130	15	312	40	267	25	NA	600	0.3	24.42	1700000	Plant availability is 100%
29-Sep-23	60480	60.48	7.23	7.64	125	14	300	36	244	24	NA	400	0.2	23.19	1100000	Plant availability is 100%
30-Sep-23	62200	62.2	7.26	7.71	130	16	308	36	271	23	NA	500	0.3	24.32	1400000	Plant availability is 100%
Average	**62430.00**	**62.43**	**7.26**	**7.70**	**133.17**	**16.03**	**306.27**	**41.07**	**262.87**	**24.93**	**NA**	**540.00**	**0.27**	**23.73**	**1403333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Action taken report

Month of Site Inspection	September 2023
Site Inspectors	1. Mr. Surendra Singh Parmar, PM-I, UPJN(R). 2. Mr. Syed Mohd Shabaz, EE-E&M, UPJN(R). 3. Mr. Abhishek Shrivastava, AE, UPJN(R). 4. Mr. Karunakar Singh AE, UPJN(R). 5. Mr. Rahul Paswan, JE, UPJN(R). 6. Mr. Jitender, JE, UPJN(R). 7. Mr. Gaurav Gupta, AECOM. 8. Mr. Sudhir Kumar Tomar, AECOM. 9. Mr. Rahul Kumar Azaad, PWPL. 10. Mr. Vijay, PWPL. 11. Mr. Jitender, PWPL.
Place(s) of Inspection	• 50 MLD STP at Numayadahi, Prayagraj • 50 MLD MPS at Ghagharnalla, Prayagraj • 15 MLD SPS at Sasur Kadheri, Prayagraj • 16.5 MLD SPS at Lukarganj, Prayagraj

Visit was done on 30th August 2023, 8th September 2023, 16th September 2023, 20th September 2023 and following observations were made after action taken by Concessionaire on August -23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	56.30 to 64.85
2	Ghagharnalla MPS	57.10 to 66.10
3	Sasur Kadheri SPS	32.11 to 36.90
4	Lukerganj SPS	4.99 to 7.68

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	14 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.64 to 7.78
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.46 to 24.54 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Numayadahi STP	69.85 to 72.27
2	Numayadahi Associated Infrastructure	96.60 to 111.78

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 August-23 month recommendation given by Project Engineer.

1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found that the said SCADA reports are almost stabilized apart from some minor variations.
3. Communication of data from PLC system of Ghagharnalla MPS, Sasur Kadheri SPS and Lukarganj SPS is coming to SCADA system of STP. Furthermore, there is problem in receiving signals at PLC/SCADA control system from some equipment/instruments and it is also not possible to control some of the equipment (mainly mechanical screens) from PLC/SCADA control system. Also, mechanical screens have provisions in PLC system for being remotely operated and differential level sensors were also installed for the same. Therefore, the system is available, but it is not working due to lack of wiring, etc., hence provision must be made for operating mechanical screens through SCADA which in turn can be operated manually or remotely as per requirement.
4. Flowmeter at inlet of STP is working.
5. 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.
6. Both grit removal units are in operation. Replacement of screw conveyer for both grit removal unit is required as they are not scrapping grit properly.
7. Both Mechanical Screens are working. Currently screens are running in auto mode through timer however differential level sensors are not working. Repairing of electrical panel for screens is required.
8. All Biotowers were in operation. Arms of biotower mechanism for all biotowers are completely rusted and must be replaced at the earliest as they can broke at any time and treatment in biotowers will be completely stopped. Replacement of net is also required for all biotowers.
9. 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.
10. All Aeration tanks are working. Air is coming out vigorously from 8-9 points due to problem in diffusers for Aeration tank no. 1 & 2. This must be rectified at the earliest.
11. All aeration blowers are in working condition & two blowers were found running.
12. DO analyzer at the outlet of all aeration tanks are not working, please check & rectify the problem.
13. Pressure transmitter & temperature transmitter are not installed yet on header line of Aeration blowers.
14. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 13-15 trolleys per day.
15. Housekeeping near dewatering area is very shabby and must be improved.
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. Thickener was found in operation.
20. Both booster pumps & both chlorinators are in working condition & chlorine dosing was found to be running at 3 to 4 Kg/hr. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
21. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
22. Installation of new chlorine analyzer at outlet is completed. It is under observation.
23. Storge of Empty and filled chlorine tonner are not done properly as per safety norms. Concessionaires is required to do the needful for the same.
24. Since the chlorine tonner storage in Numayadahi STP goes beyond 4 tonners at one time hence concessionaires is required to obtain license regarding chlorine storage as per gas cylinder Rules (2016).
25. Both DGs are working.
26. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
27. As per Clause no. 1.6 & 1.7.1 of 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.

28. Make a proper store for storage for flammable and hazardous materials including spare parts.
29. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
30. Housekeeping and cleaning must be improved for all units.
31. All CCTV cameras installed at site are not working except for the one at the outlet of STP.
32. There is variation in recorded values of flow from inlet flowmeter at Numayadahi STP and outlet flowmeter of Ghagharnalla MPS, please rectify the problem.
33. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
34. For Ghagharnalla MPS, following issues are required to be resolved:

    a) Currently, it was observed that overflow occurs sometimes during peak hours due to deposition of sludge in the 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, HNC pumps (4 new + 1 old) are in working condition. One pump is under maintenance.
    d) Currently, there was minor leakage of sewage from the retaining wall at the tapping point of MPS, this must be rectified as raw sewage is going directly into the river.
    e) Both Mechanical screens are working.
    f) Both DG sets are working.
    g) During the shutdown taken in the month of May-21, NRV was taken out from the main header line for maintenance purpose, but it is not reinstalled till date. Concessionaire to please do the needful so that effect of back hammering on the pumps can be reduced.
    h) Painting of units in the MPS is completed from outside. It is suggested to start the painting work for all units from inside also.
35. For Sasur Kadheri SPS, following issues are required to be resolved:

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

36. At Lukerganj SPS,

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

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

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

Agreement.

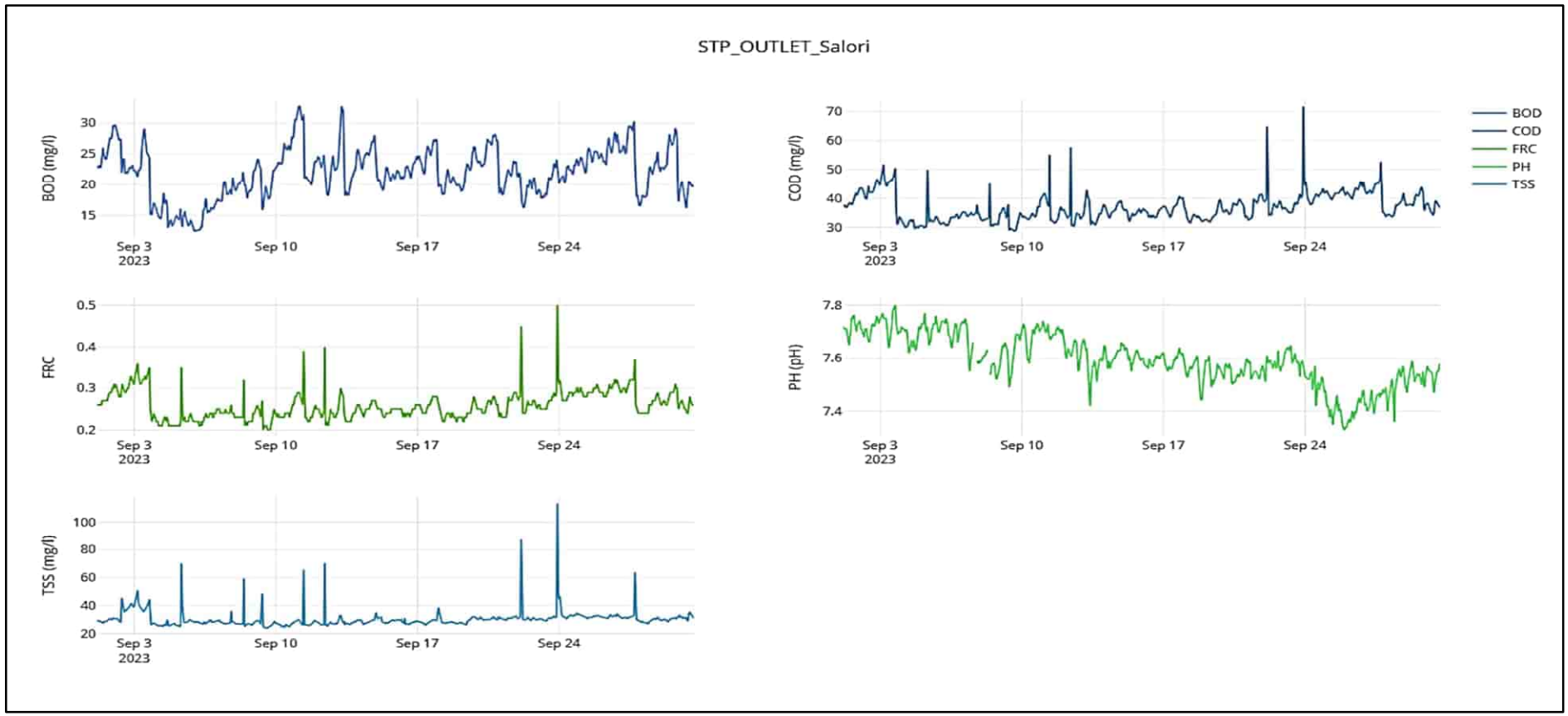
c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
e) Quarterly report as per Part-G in Schedule-10 of CA.
f) Monthly Environmental Monitoring Report as per Part-G in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

1.3 Recommendation's

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

2. SALORI STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Source: Online analyzer,

* BOD in mg/l, COD in mg/l and TSS in mg/l

Note:

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

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

Date	Daily Feed Quantity MLD (Design- 29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <20 mg/l)	Inlet COD (Design- <500 mg/l)	Final COD (Design - <50 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design <30 mg/l)	Inlet (Design - NA)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Sep-23	39290	39.29	7.43	7.67	160	27	360	40	334	31	NA	600	0.2	23.8	1400000	Plant availability is 100%
02-Sep-23	38040	38.04	7.52	7.69	155	25	364	44	340	33	NA	700	0.3	24.9	1300000	Plant availability is 100%
03-Sep-23	37950	38.52	7.43	7.66	145	24	356	40	336	35	NA	500	0.2	24.6	1100000	Plant availability is 100%
04-Sep-23	37950	37.95	7.28	7.56	135	23	348	32	340	28	NA	700	0.3	25.3	1400000	Plant availability is 100%
05-Sep-23	40380	40.38	7.18	7.61	155	24	356	36	328	33	NA	600	0.2	23.8	1300000	Plant availability is 100%
06-Sep-23	40370	40.37	7.24	7.59	155	20	352	32	308	30	NA	500	0.2	24.3	1700000	Plant availability is 100%
07-Sep-23	42120	42.12	7.19	7.61	160	21	344	36	302	30	NA	700	0.3	24.5	1400000	Plant availability is 100%
08-Sep-23	39340	39.34	7.22	7.55	135	22	336	34	355	28	NA	600	0.3	25.1	1300000	Plant availability is 100%
09-Sep-23	37080	37.08	7.29	7.61	155	23	356	32	340	26	NA	500	0.2	24.7	1100000	Plant availability is 100%
10-Sep-23	42830	42.83	7.18	7.66	160	24	364	36	329	25	NA	600	0.2	24.2	1400000	Plant availability is 100%
11-Sep-23	38080	38.08	7.24	7.68	155	26	348	34	342	26	NA	400	0.3	23.4	1300000	Plant availability is 100%
12-Sep-23	38880	38.88	7.15	7.59	160	23	328	32	304	28	NA	500	0.2	23.8	1100000	Plant availability is 100%
13-Sep-23	37750	37.75	7.21	7.53	155	24	324	36	313	27	NA	600	0.3	24.6	1400000	Plant availability is 100%
14-Sep-23	40190	40.19	7.17	7.58	160	23	332	40	318	28	NA	700	0.2	23.7	1700000	Plant availability is 100%
15-Sep-23	38820	38.82	7.23	7.64	165	22	340	36	326	27	NA	500	0.2	24.3	1300000	Plant availability is 100%
16-Sep-23	40030	40.03	7.18	7.6	155	24	328	32	312	26	NA	600	0.3	24.5	1400000	Plant availability is 100%
17-Sep-23	40060	40.06	7.25	7.55	160	26	344	36	345	27	NA	400	0.2	23.8	1100000	Plant availability is 100%
18-Sep-23	38610	38.61	7.2	7.57	165	22	352	32	328	28	NA	500	0.2	23.4	1300000	Plant availability is 100%
19-Sep-23	38760	38.76	7.24	7.53	160	25	372	36	342	31	NA	600	0.3	24.1	1700000	Plant availability is 100%
20-Sep-23	40050	40.05	7.28	7.56	165	27	348	40	335	32	NA	700	0.2	23.5	1400000	Plant availability is 100%
21-Sep-23	42580	42.58	7.3	7.59	170	23	336	36	315	30	NA	500	0.3	23.3	1100000	Plant availability is 100%
22-Sep-23	40100	40.1	7.33	7.61	160	21	324	40	318	32	NA	600	0.2	24.2	1300000	Plant availability is 100%
23-Sep-23	39160	39.16	7.4	7.58	155	22	340	44	307	35	NA	400	0.3	24.8	1400000	Plant availability is 100%
24-Sep-23	39070	39.07	7.35	7.53	160	24	348	40	311	33	NA	500	0.3	23.6	1700000	Plant availability is 100%
25-Sep-23	38690	38.69	7.31	7.44	165	26	332	44	306	31	NA	600	0.2	23.9	1100000	Plant availability is 100%
26-Sep-23	38300	38.3	7.28	7.4	155	27	344	40	316	34	NA	500	0.3	24.1	1300000	Plant availability is 100%
27-Sep-23	39630	39.63	7.32	7.46	165	25	328	44	305	32	NA	400	0.3	24.5	1400000	Plant availability is 100%
28-Sep-23	37470	37.47	7.36	7.52	160	22	352	36	322	30	NA	600	0.2	23.8	1100000	Plant availability is 100%
29-Sep-23	38980	38.98	7.26	7.55	155	24	336	40	314	32	NA	500	0.3	24.7	1300000	Plant availability is 100%
30-Sep-23	31750	31.75	7.23	7.53	150	21	324	36	309	33	NA	400	0.3	24.3	1700000	Plant availability is 100%
Average	**39077.00**	**39.10**	**7.28**	**7.58**	**157.00**	**23.67**	**343.87**	**37.20**	**323.33**	**30.03**	**NA**	**550.00**	**0.25**	**24.18**	**1350000.00**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Action taken report

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

Visit was done on 29th August 2023, 5th September 2023, 11th September 2023, 21st September 2023 and following observations were made after action taken by Concessionaire on August-23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	36.60 to 42.83
2	Salori MPS	36.60 to 42.83

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	20 to 27 mg/l
2	TSS – Effluent	< 50 mg/l	25 to 35 mg/l
3	pH – Effluent	6.5 – 9.0	7.53 to 7.69
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.40 to 25.30 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- Status of Energy Consumption:

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Salori STP	86.79 to 114.73
2	Salori Associated Infrastructure	46.54 to 52.89

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 August-23 month recommendation given by Project Engineer.

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

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found that the variations in between values shown by SCADA and lab are not within the prescribed limit given by CPCB for Online Continuous Effluent Monitoring System.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. All Grit Removal Units are working.
7. Both Mechanical Screens are working but both mechanical screens are not lifting screenings efficiently. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. Both FAB units are working.
9. DO analyzers for both FAB units are not working, please rectify the problem.
10. All three aeration blowers are working.
11. Both clarisettlers are working. In Clarisettler no. 1, levelling of outlet launders must be checked as supernatant is not coming equally in all outlet lauders & this can affect the quality of effluent. Concessionaire to please look into the matter & rectify the problem at the earliest.
12. In clarisettlers it is observed that when agitators are operated, sludge starts coming to the top due to which quality deteriorates. Hence, it is suggested to do necessary modifications in agitators so that the problem can be rectified.
13. Quality of effluent is satisfactory.
14. Sludge dewatering unit is in operation, poly dosing unit is in operation.
15. Both Sludge transfer pumps for Clarisettler are working.
16. Both Filtrate pumps are working.
17. Both chlorinators are working. Both booster pumps are working.
18. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
19. Leak detection and leak absorption system are working. It must be ensured that the system must remain in auto mode all the time.
20. Thickener unit is working. Cleaning of scum from top is required.
21. Both DGs are working.
22. It was found that sludge is being dumped within the STP. Concessionaire to please look into the matter and dump sludge only in the land which is being allotted by UPJN for sludge disposal.
23. At Salori MPS, All pumps are working. Since the programming for running pumps in auto mode is completed, it is suggested to operate them in auto mode for optimum performance.
24. At Salori MPS, it is suggested to rectify problems in old pumps also so that they can be used in emergency Currently, all old pumps are not in working condition.
25. At Salori MPS, one coarse screen is working, and one coarse screen is in maintenance before sump due to which lot of waste is passing and pumps are getting choked and lot of wear and tear is happening in the pumps. Hence, UPJN is requested to instruct M/s Passavant to rectify the problem.
26. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
27. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
28. Installation & commissioning of Public Address System is not completed yet.
29. Housekeeping near FeCl3 dosing system needs to be improved.
30. All CCTV cameras are working.
31. Make a proper store for storage of flammable and hazardous materials including spare parts.
32. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
33. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of

STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.

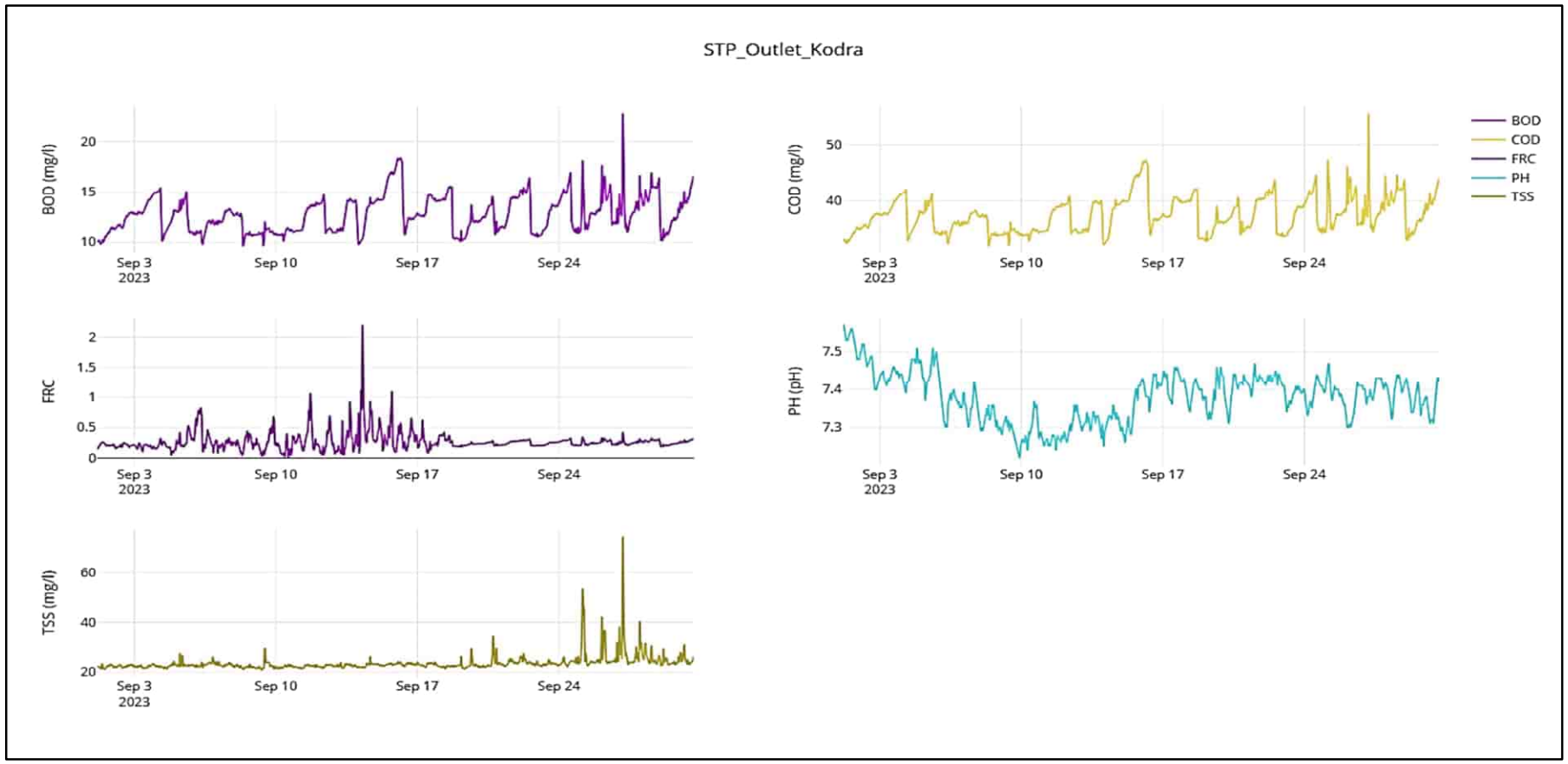
b) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
c) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
d) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.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

2.3 Recommendation's

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

3. KODRA STP AND ASSOCIATE INFRASTRUCTURE

3.1 KPI Report



Source: Online analyzer,

* BOD in mg/l, COD in mg/l and TSS in mg/l

Note:

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

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

Date	Daily Feed Quantity MLD (Design-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-Sep-23	29500	29.5	7.19	7.48	105	11	276	32	247	22	NA	600	0.3	23.26	1200000	Plant availability is 100%
02-Sep-23	28530	28.53	7.22	7.45	110	12	260	36	242	21	NA	400	0.3	23.79	1300000	Plant availability is 100%
03-Sep-23	28080	28.08	7.14	7.46	115	14	276	40	258	23	NA	500	0.2	23.96	1400000	Plant availability is 100%
04-Sep-23	25290	25.29	7.18	7.42	110	13	284	36	274	22	NA	600	0.3	23.68	1300000	Plant availability is 100%
05-Sep-23	26710	26.71	7.16	7.47	120	12	288	40	280	23	NA	500	0.2	23.27	1700000	Plant availability is 100%
06-Sep-23	29190	29.19	7.19	7.39	130	11	292	32	268	22	NA	700	0.2	23.47	1400000	Plant availability is 100%
07-Sep-23	31710	31.71	7.23	7.37	125	13	276	36	248	21	NA	500	0.3	24.5	1200000	Plant availability is 100%
08-Sep-23	27390	27.39	7.21	7.37	130	11	260	32	242	22	NA	400	0.3	23.45	1400000	Plant availability is 100%
09-Sep-23	32510	32.51	7.18	7.32	125	10	272	36	239	23	NA	600	0.2	24..15	1700000	Plant availability is 100%
10-Sep-23	30220	30.22	7.2	7.36	120	11	284	32	251	21	NA	400	0.2	24.35	1300000	Plant availability is 100%
11-Sep-23	28770	28.77	7.16	7.32	130	12	296	36	272	22	NA	700	0.3	24.01	1200000	Plant availability is 100%
12-Sep-23	32390	32.39	7.12	7.34	125	13	292	36	278	21	NA	500	0.2	24.25	1700000	Plant availability is 100%
13-Sep-23	29030	29.03	7.19	7.36	135	12	304	40	286	23	NA	600	0.2	25.02	1400000	Plant availability is 100%
14-Sep-23	27390	27.39	7.17	7.42	130	13	312	36	297	22	NA	500	0.3	24.39	1300000	Plant availability is 100%
15-Sep-23	29030	29.03	7.22	7.38	125	15	324	44	309	24	NA	400	0.3	23.57	1700000	Plant availability is 100%
16-Sep-23	27690	27.69	7.1	7.44	130	14	308	40	287	23	NA	600	0.3	24.11	1300000	Plant availability is 100%
17-Sep-23	31800	31.8	7.16	7.47	135	13	284	40	265	22	NA	400	0.2	23.28	1400000	Plant availability is 100%
18-Sep-23	28250	28.25	7.21	7.43	120	14	280	36	246	23	NA	700	0.3	23.72	1100000	Plant availability is 100%
19-Sep-23	28640	28.64	7.22	7.37	125	11	284	32	276	22	NA	500	0.3	24.31	1200000	Plant availability is 100%
20-Sep-23	29440	29.44	7.2	7.43	120	13	272	36	263	23	NA	600	0.2	23.38	1300000	Plant availability is 100%
21-Sep-23	28320	28.32	7.16	7.38	130	12	304	40	298	24	NA	400	0.2	24.63	1400000	Plant availability is 100%
22-Sep-23	28240	28.24	7.19	7.46	125	14	276	40	261	26	NA	700	0.2	23.96	1100000	Plant availability is 100%
23-Sep-23	28360	28.36	7.13	7.42	130	12	268	36	257	22	NA	500	0.2	23.86	1300000	Plant availability is 100%
24-Sep-23	30310	30.31	7.15	7.41	125	15	284	40	282	26	NA	400	0.3	24.41	1200000	Plant availability is 100%
25-Sep-23	28670	28.67	7.19	7.46	135	13	272	36	267	27	NA	600	0.2	23.7	1400000	Plant availability is 100%
26-Sep-23	27410	27.41	7.17	7.39	130	14	288	40	275	24	NA	500	0.3	23.19	1200000	Plant availability is 100%
27-Sep-23	27730	27.73	7.21	7.46	125	12	272	36	268	26	NA	700	0.2	23.48	1300000	Plant availability is 100%
28-Sep-23	28160	28.16	7.13	7.44	120	15	280	40	271	25	NA	600	0.3	24.5	1100000	Plant availability is 100%
29-Sep-23	28320	28.32	7.16	7.37	135	11	268	36	253	22	NA	400	0.2	24.41	1400000	Plant availability is 100%
30-Sep-23	29380	29.38	7.22	7.43	125	13	276	40	269	24	NA	700	0.3	24.98	1700000	Plant availability is 100%
Average	**28882.00**	**28.88**	**7.18**	**7.41**	**124.83**	**12.63**	**283.73**	**37.07**	**267.63**	**23.03**	**NA**	**540.00**	**0.25**	**23.96**	**1353333.33**	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Action taken report

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

Visit was done on 28th August 2023, 7th September 2023, 12thSeptember 2023, 22nd September 2023 and following observations were made after action taken by Concessionaire on August-23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	25.29 to 32.51
2	Kodra MPS	25.29 to 32.51

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

- Status of KPIs:

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	10 to 14 mg/l
2	TSS – Effluent	< 30 mg/l	21 to 24 mg/l
3	pH – Effluent	6.5 – 9.0	7.32 to 7.48
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.26 to 25.02%
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	86.23 to 98.46
2	Kodra Associated Infrastructure	94.92 to 101.88

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 August-23 month recommendation given by Project Engineer.

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

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found that the variations in between values shown by SCADA and lab are not within the prescribed limit given by CPCB for Online Continuous Effluent Monitoring System.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working.
6. Both grit removal units are working.
7. Both Mechanical Fine Screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
8. All Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working. Excess air is coming out from 5-6 points in all aeration tanks due to problem in diffusers. Because of air distribution in not uniform in aeration tanks hence this problem must be rectified at the earliest.
10. One DO Analyzer out of two is working at outlet of aeration tank.
11. All Aeration blowers are working.
12. All Centrifuges are in working condition.
13. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
14. All Sludge Recirculation Pumps are working.
15. Both Centrifuge Feed Pumps are working.
16. Both Secondary Clarifiers are working.
17. Thickener unit is working.
18. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be around 0.3 to 0.4mg/l.
19. Installation of new chlorine analyzer at outlet is completed but it is not showing correct values.
20. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
21. There is variation in recorded values of flow from inlet flowmeter at Kodra STP and outlet flowmeter of Kodra STP, please rectify the problem.
22. One Mechanical coarse Screens at MPS is working. One Mechanical coarse Screens is under maintenance Though the screens are running in auto mode through timer, differential level sensors must also be made operational for running mechanical screens more efficiently through level difference during peak and lean period.
23. At Kodra MPS, all 6 pumps are OK for operation. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that they can start & stop on the basis of level in the sump.
24. At Kodra MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
25. Landscaping of site must be improved; it needs to be made better.
26. Make a proper store for storage of flammable and hazardous materials including spare parts.
27. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
28. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. CMMS system is installed but it is required to do modifications as discussed for making it useful regarding daily maintenance works performed at site. Concessionaire to please do the needful.
29. Installation of Public Address System is done but its commissioning is not completed yet.
30. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
31. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.

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

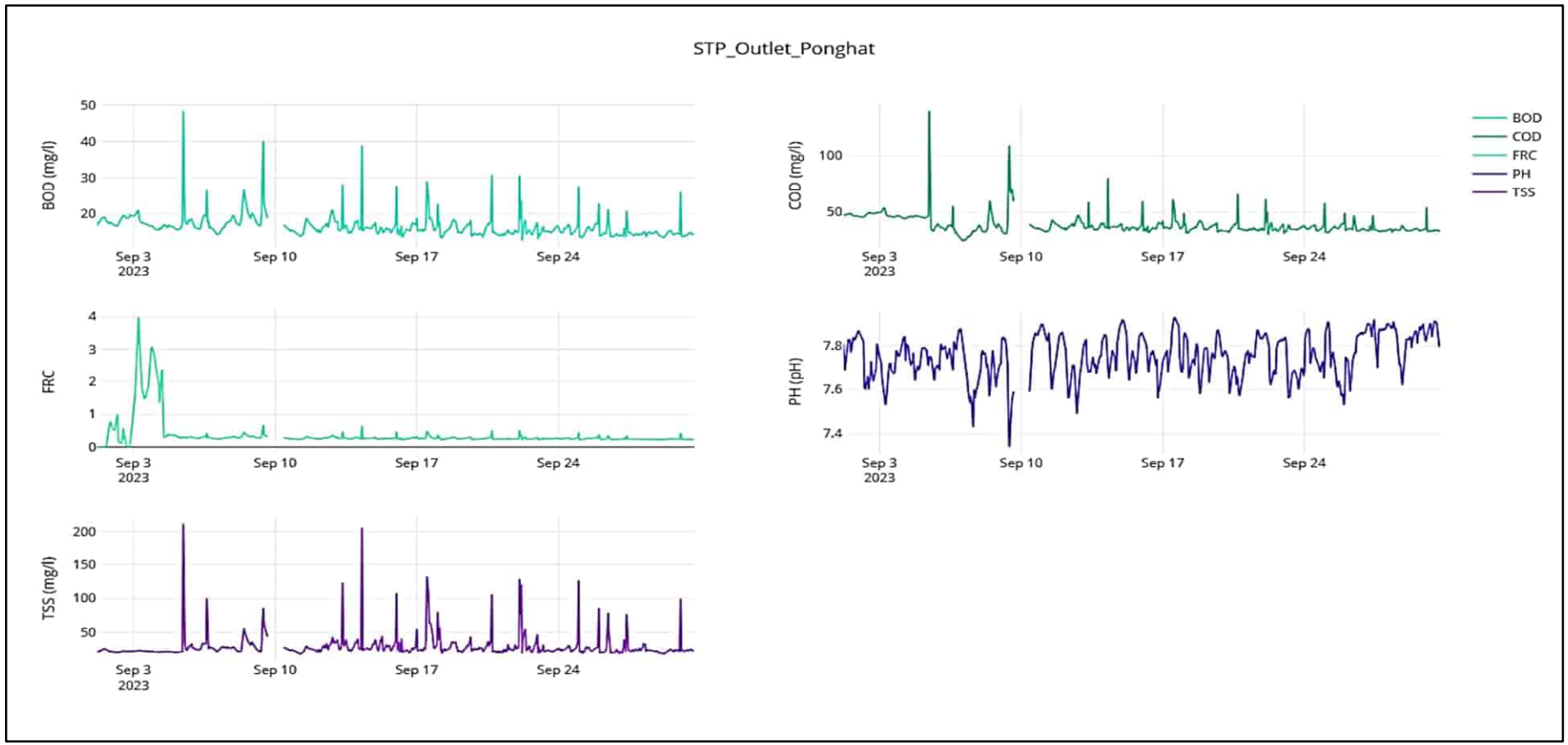
    a) Portable samplers must be provided to collect composite samples for monitoring from inlet and outlet of STP as per clause no. 1.3.1 in Part-E of Schedule-10 of CA. Also, all the instruments as mentioned in Table-3 given in clause no. 1.3.1 in Part-E of Schedule-10 of CA must be maintained in the laboratory.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

3.3 Recommendation's

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

4. PONGHAT STP AND ASSOCIATE INFRASTRUCTURE

4.1 KPI Report



Source: Online analyzer,

* BOD in mg/l, COD in mg/l and TSS in mg/l

Note:

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

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

Date	Daily Feed Quantity MLD (Design-10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH (Design-<9)	Final pH (Design-6.5 to 9.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design -<20 mg/l)	Inlet COD (Design-<500 mg/l)	Final COD (Design -<50 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design -<30 mg/l)	Inlet (Design - NA)	Final (Design -<1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Fecal Coliform (20,00,000 MPN/gTS)	
01-Sep-23	13060	13.06	7.1	7.7	120	17	284	48	254	25	NA	600	0.3	23.85	1500000	Plant availability is 100%
02-Sep-23	12790	12.79	7.24	7.62	125	18	290	44	264	23	NA	700	0.2	23.6	1400000	Plant availability is 100%
03-Sep-23	12510	12.51	7.18	7.58	120	17	294	48	256	24	NA	500	0.3	24.2	1200000	Plant availability is 100%
04-Sep-23	10650	10.65	7.08	7.66	125	18	286	44	262	22	NA	400	0.2	24.48	1300000	Plant availability is 100%
05-Sep-23	11710	11.71	7.02	7.68	130	16	270	40	230	26	NA	600	0.3	24.86	1500000	Plant availability is 100%
06-Sep-23	11150	11.15	7.04	7.72	135	17	308	36	270	28	NA	500	0.2	24.28	1400000	Plant availability is 100%
07-Sep-23	11480	11.48	6.98	7.6	125	16	300	32	274	26	NA	400	0.3	23.88	1200000	Plant availability is 100%
08-Sep-23	12300	12.3	7.01	7.59	130	19	288	44	256	29	NA	600	0.2	23.64	1300000	Plant availability is 100%
09-Sep-23	12270	12.27	6.96	7.56	125	18	292	48	262	29	NA	500	0.3	23.25	1400000	Plant availability is 100%
10-Sep-23	12060	12.06	6.92	7.66	130	16	284	36	252	25	NA	400	0.3	23.76	1500000	Plant availability is 100%
11-Sep-23	12560	12.56	7.04	7.75	120	17	308	40	248	24	NA	600	0.2	23.48	1300000	Plant availability is 100%
12-Sep-23	13320	13.32	6.85	7.72	125	16	288	36	255	26	NA	500	0.3	23.92	1200000	Plant availability is 100%
13-Sep-23	12730	12.73	6.95	7.65	130	17	312	40	268	28	NA	400	0.2	24.25	1400000	Plant availability is 100%
14-Sep-23	12760	12.76	6.9	7.78	135	16	296	36	256	27	NA	700	0.3	23.78	1500000	Plant availability is 100%
15-Sep-23	13090	13.09	6.89	7.67	130	17	292	36	265	28	NA	600	0.2	23.55	1400000	Plant availability is 100%
16-Sep-23	11800	11.8	6.78	7.58	135	15	300	40	275	26	NA	500	0.3	22.96	1300000	Plant availability is 100%
17-Sep-23	13760	13.76	6.77	7.69	130	18	288	36	264	29	NA	400	0.3	23.4	1200000	Plant availability is 100%
18-Sep-23	14260	14.26	7.04	7.61	125	15	272	40	220	28	NA	600	0.2	24.15	1400000	Plant availability is 100%
19-Sep-23	13830	13.83	7.36	7.66	130	16	268	36	202	27	NA	700	0.3	23.78	1300000	Plant availability is 100%
20-Sep-23	13310	13.31	7.21	7.53	125	15	276	36	250	28	NA	600	0.2	23.64	1400000	Plant availability is 100%
21-Sep-23	12590	12.59	7.18	7.63	135	16	280	32	262	25	NA	500	0.3	24.25	1500000	Plant availability is 100%
22-Sep-23	14200	14.2	7.3	7.72	125	17	244	40	159	29	NA	400	0.3	24.05	1200000	Plant availability is 100%
23-Sep-23	12560	12.56	7.12	7.58	130	16	268	36	170	24	NA	700	0.2	23.78	1300000	Plant availability is 100%
24-Sep-23	12450	12.45	7.21	7.69	125	17	280	36	200	27	NA	600	0.3	24.46	1400000	Plant availability is 100%
25-Sep-23	12050	12.05	7.22	7.62	135	16	288	40	240	26	NA	500	0.3	23.75	1200000	Plant availability is 100%
26-Sep-23	11430	11.43	7.15	7.65	130	15	292	36	230	24	NA	400	0.2	24.27	1500000	Plant availability is 100%
27-Sep-23	11210	11.21	7.1	7.79	135	16	296	32	265	27	NA	600	0.3	24.6	1400000	Plant availability is 100%
28-Sep-23	12240	12.24	7.12	7.74	130	15	288	36	270	25	NA	700	0.2	24.18	1300000	Plant availability is 100%
29-Sep-23	12470	12.47	7.15	7.69	125	14	292	32	260	23	NA	500	0.3	23.78	1200000	Plant availability is 100%
30-Sep-23	12880	12.88	7.19	7.75	130	15	284	36	264	25	NA	400	0.2	23.46	1400000	Plant availability is 100%
Average	**12516.00**	**12.52**	**7.07**	**7.66**	**128.33**	**16.37**	**286.93**	**38.40**	**246.77**	**26.10**	**NA**	**536.67**	**0.26**	**23.91**	**1350000.00**	Plant availability is 100%

Source: Logbook of Laboratory at Sewage Treatment Plant

4.2 Inspection Report

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

Visit was done on 28th August 2023, 7th September 2023, 12thSeptember 2023, 22nd September 2023 and following observations were made after action taken by Concessionaire on August-23 month recommendation given by Project Engineer.

- Status of Availability:

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	10.65 to 13.32
2	Ponghat MPS	10.65 to 13.32

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 19 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 29 mg/l
3	pH – Effluent	6.5 – 9.0	7.56 to 7.78
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100ml
5	Consistency – Sludge	> 20 %	22.96 to 24.86%
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	101.16 to 151.15
2	Ponght Associated Infrastructure	75.42 to 84.30

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 August-23 month recommendation given by Project Engineer.
  1. Latest SCADA reports regarding KPIs for all STPs were checked to evaluate the performance of multiparameter analyzer at outlet and it was found that the said SCADA reports are almost stabilized apart from some minor variations.

2. Online analyzer at inlet is replaced with new one. Calibration for the same is completed. However, SCADA reports for the are checked and it was found that the variations in between values shown by SCADA and lab are not within the prescribed limit given by CPCB for Online Continuous Effluent Monitoring System.
3. Data transfer from online analyzer at the outlet of STP to CPCB servers is in progress. By studying the graph available at the online portal, it was found that sudden spikes/drops can be seen in the graphs available at the online portal which is fundamentally not correct. These types of incidents have been observed in past also. Concessionaire is required to rectify these problems.
4. Flowmeter at inlet of STP is working.
5. Flowmeter at outlet of STP is working but it is not showing correct readings as compared to that of inlet flowmeter.
6. Both Mechanical fine screens at PTU are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
7. Both Grit Removal Units are working.
8. Both Biotowers are working. Small amount of plastic waste is reaching the biotowers which must be rectified by doing overhauling of mechanical screens at PTU.
9. All Aeration tanks are working. Air is coming out vigorously from 5-6 points due to problem in diffusers. This must be rectified at the earliest.
10. Both DO Analyzers at aeration tanks are not working.
11. All Aeration Blowers are working.
12. One Centrifuges is working, and one centrifuge is in maintenance. Repairing of discharge chute is required.
13. Sludge generation is 4–5 trolleys per day.
14. All Sludge Feed pumps, and Poly dosing pumps are working.
15. Quality of effluent is satisfactory.
16. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
17. Both Sludge Recirculation Pumps are working.
18. Both Chlorine Dosing Systems are working. Residual chlorine in effluent was found to be 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. At Ponghat MPS, all 6 pumps are OK for operation. Presser transmitter is not installed at pump discharge common header.
22. Both mechanical coarses screen at MPS are working. Currently screens are running in auto mode through timer however differential level sensors are not working.
23. At Ponghat MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
24. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
25. As per Clause no. 1.6 & 1.7.1 of 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.
26. Installation of Public Address System is done but its commissioning is not completed yet.
27. Make a proper store for storage of flammable and hazardous materials including spare parts.
28. Painting of units in the STP is completed from outside. It is suggested to start the painting work for all units from inside also.
29. It is found that testing of earthing pits is not done regularly for complete site. Concessionaire is required to perform testing of earthing pits internally at least once in a quarter and externally at least once in a year. This activity must be done on priority basis considering the mishappening of STP in Uttarakhand.
30. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Portable samplers must be provided to collect composite samples for monitoring from 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 Sep 2023 to 30th Sep 2023		
		Undertaken till previous months	Undertaken during this month	Expected for next month
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of Construction material including lab testing.
4,1(ii)	Review, analysis and qualifying assessment of Design Memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	NA	NA
4.1(iii)	Conduct Kick Off meetings	Yes	NA	NA
4.1(iv)	Review and monitor the submissions of the Concessionaire such as: a. Work Schedule b. Detailed Survey report c. Basic Engineering d. Detailed design and Drawings for i. Civil Works 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii. Mechanical and Electrical Works iii. Automation and Instrumentation works iv. Any other allied works e.QA/QC plans	Yes	Yes	Yes

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

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

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

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

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

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

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

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

ANNEXURE-V

QUALITY CONTROL / QUALITY ASSURANCE

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