National Mission for Clean Ganga (NMCG)
Ministry of Jal Shakti,
River Development & Ganga Rejuvenation
Government of India

Development and Rehabilitation of Sewage Treatment Plants and Associated Infrastructure Under Hybrid Annuity Based PPP Mode at Prayagraj, Uttar Pradesh

(LOA File Number: 50123/447/121, dated 10/11/2018)

Monthly Progress Report
of
Project Engineer
March 2022

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

Table of Contents

1. Introduction 2
2. Hybrid Annuity Model (HAM) 3
3. Objectives 3
4. Project at Glance 5
5. Site Location 6
6. Project Components 7
7. Status of project 10
7.1 Package-I Overall progress status 10
7.1.1. Engineering status 11
7.1.2. Engineering status as per construction plan 11
7.1.3 Procurement & Supply status 14
7.1.4 Procurement & Supply status as per construction plan 14
7.1.5 Construction, Erection & Commissioning status 16
7.1.6 Construction, Erection & Commissioning status as per 16
construction plan 16
7.1.7 Physical construction Activities in March month 26
7.2 Package-II status 30
7.3 Package-III status 32
8. Meetings, Discussions and Site Visits: 34
9. Staff deployment 37
10. Photos of Meetings / Site Visits and Activities 38
11. Outward Register 49
12. Inward Register 54
13. EHS targets, Achievement & compliance report for the month of March' 2022 57
14. Status of statutory permits: 57
15. Plant & Machinery Status 62
16. ANNEXURE'S 63

Annexure-I : Project engineer inspection report and recommendation for Package-I

Annexure-II : KPI reports of Package -II , Project engineer inspection report and recommendation

Annexure-III: KPI reports of Package -III , Project engineer inspection report and recommendation

Annexure-IV: Project engineer activity as per TOR

Annexure-V: Quality control / Quality assurance

1. Introduction

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

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

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

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

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

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

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

2. Hybrid Annuity Model (HAM)

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

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

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

3. Objectives

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

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

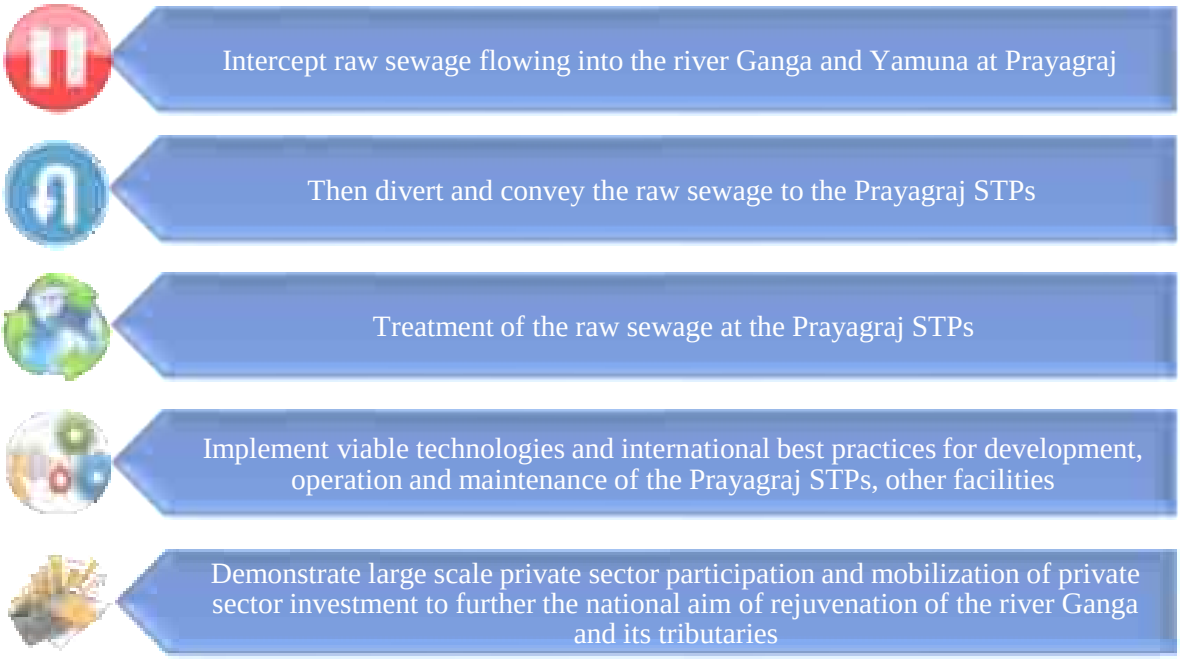


Figure 1 : Objectives of NMCG and UP JAL NIGAM

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

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

4. Project at Glance

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

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

5. Site Location

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

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

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

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

6. Project Components

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

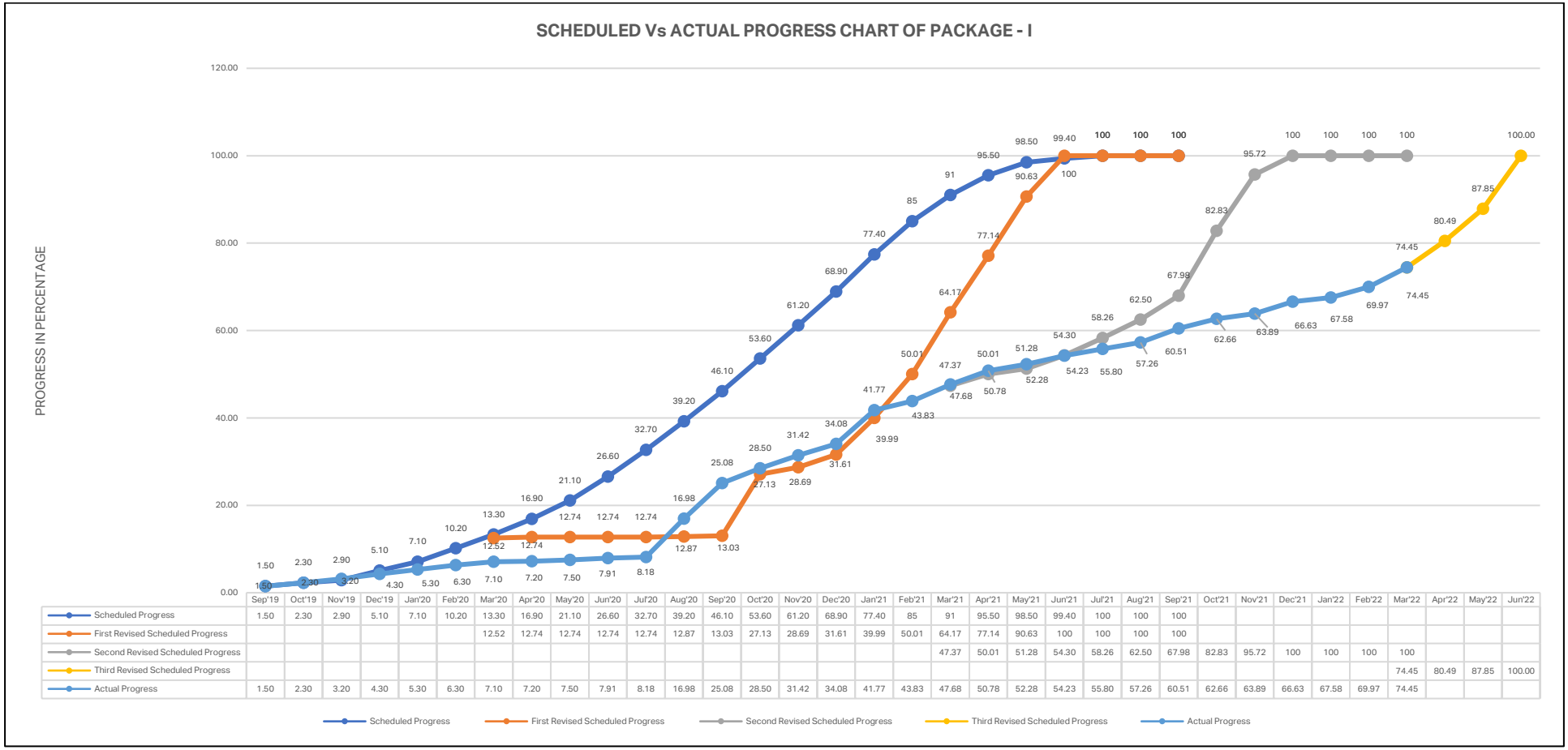
Package Number - I				
Nature of work	**Facilities**			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD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

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

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

7. Status of project

7.1 Package-I Overall progress status



	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
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
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			

- **Project Engineer has provided observation on Concessionaire March'22-month MPR vide letter number AIPL/NMCG/PRAYAG/1414 on dated 16.04.2022 Therefore, status may be change after observation incorporated by Concessionaire.**

7.1.7 Physical construction Activities in March month

NEW CONSTRUCTION			
S. No.	**Structure Description**	**Structure Qty.**	**Status**
PACKAGE – I			
PHAPHAMAU STP & ASSOCIATE INFRASTRUCTURE			
1.	FCR tank	01 No.	• 100% RCC Work Completed • Hydrotest work is completed.
2.	Staff Quarter	01 Nos	• Brick work completed and other finishing work under progress
3.	MPS	01 No.	• Casting up to 8th lift completed. 9th lift steel and shuttering work is under progress. • Inlet chamber - 7th Lift wall casting is completed, and 8th lift steel and shuttering is under progress.
4.	Tube Settler	01 No.	• CCT Area: Tonner room brick work completed. All other structural casting completed. • Hopper and Sludge holding tank portion: RCC work has been completed up to 8th lift out of 8th lift. • Sludge holding portion work completed.
5.	Process Building	01 No	• Part-A: 24 Nos column up to 2nd lift above raft is completed • Part- B: 4 Nos column up to 4th lift completed 8 Nos column up to 3rd lift completed 1 Nos column up to 2nd lift completed • Part-C: 4 Nos column up to 4th lift completed 3 Nos up to 3rd lift completed
6.	Basna Nala SPS	01 No.	• RCC work of slab up to level 80.5 is completed, and reinforcement and shuttering work above the slab is under progress.
7.	Outfall Sewer	2000 mtr.	• Out fall sewer pipe laying completed 1732.5 mtr. Out of 2000 mtr.16 Nos. manhole completed out of total 29 Nos.
NAINI – II STP & ASSOCIATE INFRASTRUCTURE			
8.	FCR tank	01 No.	• Civil Construction Completed. • Hydrotesting work is under Progress.
9.	Tube Settler	01 No.	• Tank A – RCC work of CCT completed. • RCC work of wall Completed upto 91.0 level

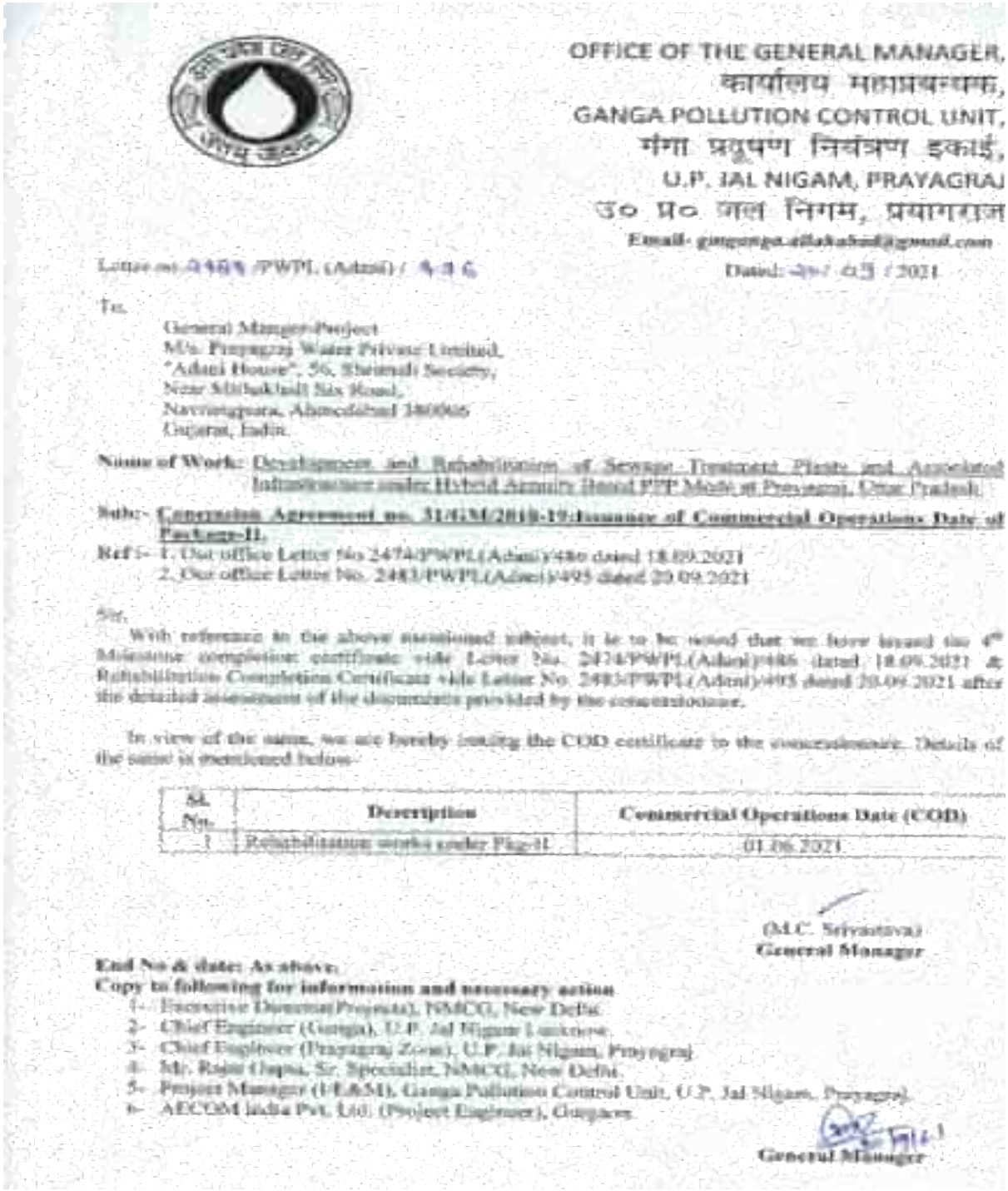
			• Tank B – hoppers casting completed. Beam casting is completed and lounder with wall casting is completed
10.	Staff Quarter	01 No.	• Finishing work under progress
11.	MPS	01 No.	• 13th lift wall casting completed • Inlet chamber -RCC work of wall up to 88.8 level completed
12.	Process Building	01 No	• Part B – RCC work of slab up to level 98.85 is completed. Foundation and flooring work under progress. • Part A- Grit chamber area RCC of work of wall is completed and RCC work of walkway and slab is completed up to 94.25 Level
13.	Mahewaghat SPS	01 No.	• RCC work of wall completed and reinforcement of slab at 89 level is under progress. • Inlet chamber: RCC work of wall is completed and shuttering work completed reinforcement work under progress. • Panel Room, RCC work of tie beam at level 86.5 is under progress
14.	Mawaiya Nalla SPS	01 No.	• Wall up to 89 level is completed • Inlet Chamber wall completed
15.	Boundary Wall	01 No.	• Work under progress
16.	DI Pipeline from Mahewaghat to Naini-II (300mm Dia.)	700 Rmt.	• Total 688 mtr pipeline laying work is completed
17.	DI Pipeline from Mawaiya Nalla to Naini-II (800mm Dia.)	700 Rmt.	• Total 687 mtr pipeline laying work is completed
18.	RCC 600 dia. From Mahewaghat to Naini-II	4490 Rmt.	• Total 3902 mtr Completed till date. • Total 100-meter length, 1000 mm dia MS casing pipe pushing completed. No further work due to unavailability of 600mm dia RCC pipe.
19.	RCC 1400 dia. From Mahewaghat to Naini-II	3050 Rmt.	• 2853 m Laying work completed,
20.	RCC 1600 mm Dia.	997 Rmt.	• 943 m Laying work completed,
21.	Out fall Sewer	690 Rmt.	• 365m laying completed of 1600 Dia. RCC pipe
22.	I &D work	6 Nos	• I&D work at Mawaiya drain started
JHUNSI STP & ASSOCIATE INFRASTRUCTURE			
23.	FCR tank	01 No.	• Civil and Hydrotesting work completed. • Diffuser Frame Installation Work in Progress.
24.	Process Building	01 No	• In Part A Reinforcement binding work in Grit chamber wall. • Backfilling work in progress for Grid 6A- 14 grade slab. • Part A Grid 1-6 Grade Slab Completed.

			• Part B 98.8 Level Slab Completed. 5. Part C 94.0 Level Slab Completed.
25.	Tube Settler	01 No.	• RCC Structure work 100% Completed with Hydrotest. Tonner room Brick work in Progress.
26.	MPS	01 No.	• Final lift wall with 89.0 Level Slab Completed and above 89 Level Column Reinforcement work in Progress.
27.	Security Cabin	01 No.	• Putty work is completed
28.	Staff Quarter	01 No.	• Putty work is completed
29.	Shastri Bridge SPS	01 No	• Layout work completed and dewatering work under progress.
30.	I &D work	13 Nos	• Work under progress at 8 Site.
31.	Gravity main	3165m	• 278 m of 700mm dia. RCC pipe laid • 115 m of 500 mm dia. pipe laid
32.	Raising main	3875m	• 1861m of 700 dis DI pipe laid
33.	Outfall sewer	187m	• 52m of 900 dia. RCC pipe laid

PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION FOR PACKAGE-I IS MENTIONED IN

ANNEXURE - I

7.2 Package-II status



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

Letter no. 2484 /PWPL (Adani) / 496 Dated: 29/ 05 /2021

To,

General Manager-Project
M/s. Prayagraj Water Private Limited,
"Adani House", 56, Shrimali Society,
Near Mithakhali Six Road,
Navrangpura, Ahmedabad 380009
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. 31/4/M/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. Rajiv 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.

General Manager

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

KPI REPORT'S OF PACKAGE - II

AND

PROJECT ENGINEER INSPECTION 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,

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

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

AND

PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION IS MENTIONED IN

ANNEXURE - III

8. Meetings, Discussions and Site Visits:

Regular progress review meetings are being held at UPJN office & sites. Following meetings were held during the month of March' 2022.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Jhunsi STP	2-March-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
2.	Site inspection of Jhunsi STP	2-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
3.	Site inspection of Naini-II STP	3-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
4.	Site inspection of Naini-II STP	3-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
5.	Site inspection of Phaphamau STP	4-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
6.	Site inspection of Jhunsi STP	5-March-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
7.	Site inspection of Jhunsi STP	7-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
8.	Site inspection of Naini-II STP	8-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
9.	Site inspection of Phaphamau STP	9-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
10.	Site inspection of Naini-II STP	12-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
11.	Site inspection of Naini-II STP	12-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
12.	Site inspection of Phaphamau STP	12-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
13.	Site inspection of Jhunsi STP	14-March-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
14.	Site inspection of Jhunsi STP	14-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
15.	Site inspection of Naini-II STP	14-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
16.	Site inspection of Phaphamau STP	14-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
17.	Site inspection of Naini-II STP	16-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
18.	Site inspection of Phaphamau STP	16-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
19.	Site inspection of Jhunsi STP	22-March-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
20.	Site inspection of Naini-II STP	22-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
21.	Site inspection of Jhunsi STP	23-March-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
22.	Site inspection of Jhunsi STP	26-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
23.	Site inspection of Jhunsi STP	26-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
24.	Site inspection of Phaphamau STP	26-March-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
25.	Site inspection of Phaphamau STP	26-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
26.	Site inspection of Naini-II STP	28-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
27.	Meeting with UPJN official (P.M-I) and Concessionaire	29-March-22	Mr. Amit Ranjan Mr. Gaurav Pandey	Review meeting of Physical progress of Package-I

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
28.	Meeting with UPJN official (Chief Sectary)	30-March-22	Mr. Amit Ranjan	Review meeting of Physical progress of Package-I
29.	Meeting with UPJN official (P.M-I) and Concessionaire	31-March-22	Mr. Amit Ranjan Mr. Gaurav Pandey	Review meeting of Physical progress of Package-I
30.	Site inspection of Naini-II STP	31-March-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities

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)	Copies To
1.	AIPL/NMCG/PRAYAG/1361	Observation on Kharkauni Nalla Weir Revised Design & Drawings	1-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
2.	AIPL/NMCG/PRAYAG/1362	Observation on Saccha Baba Nalla Weir Revised Design & Drawings	1-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
3.	AIPL/NMCG/PRAYAG/1363	Observation on Basna Nalla Weir Design & Drawings under Phaphamau Facilities under Package-I	2-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
4.	AIPL/NMCG/PRAYAG/1364	Observation on Shantipuram Nalla Weir Revised Drawing	2-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
5.	AIPL/NMCG/PRAYAG/ 1365	Regarding Progress of Shastribridge SPS of Jhunsi Associated Infrastructure under Package-I	3-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
6.	AIPL/NMCG/PRAYAG/1367	Regarding Operation of Gas Engine 24x7 basis for Optimum power generation	3-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
7.	AIPL/NMCG/PRAYAG/1368	Observation on Outfall/disposal piping for Jhunsi STP_Package -I	4-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
8.	AIPL/NMCG/PRAYAG/1369	Observation on Electrical Design docs for Naini-II MPS	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)	Copies To
					3. PM-E&M - UPJN, Prayagraj
9.	AIPL/NMCG/PRAYAG/1370	Observation on Electrical Design docs for Shantipuram MPS	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
10.	AIPL/NMCG/PRAYAG/1371	Observation on Electrical Design docs for Mawaiya Nalla SPS : Prayagraj STP	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
11.	AIPL/NMCG/PRAYAG/1372	Observation on revised BEP documents of Basna Nala	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
12.	AIPL/NMCG/PRAYAG/1374	Observation on Savitri Nagar Nalla, Dham Nalla, Shastri Bridge Nalla & Triveni Marg Nalla 1 I&D Works (part of Shastri Bridge SPS I&D Works) Design & Drawings	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
13.	AIPL/NMCG/PRAYAG/1375	Observation on Augharwa Nalla, Bhola Mandir Nalla, Gangoli Shivalaya Nalla 1 & 2 I&D Works (part of Shastri Bridge SPS I&D Works) Design & Drawings	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
14.	AIPL/NMCG/PRAYAG/1376	Observation on Triveni Marg Nalla 2, Ulta Quilla Nalla 1&2, Havelia Nalla & Lakkar Nalla I&D Works (part of Shastri Bridge SPS I&D Works) Design & Drawings	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
15.	AIPL/NMCG/PRAYAG/1373	Observation on O & M Monthly Progress report for the month of January, 2022 of Package – III.	5-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
16.	AIPL/NMCG/PRAYAG/1377	Observation on Ball valve documents –Prayagraj Package-I	7-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)	Copies To
					3. PM-E&M - UPJN, Prayagraj
17.	AIPL/NMCG/PRAYAG/1378	Observation on Non clog submersible pumps - Documents - Package-I	7-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
18.	AIPL/NMCG/PRAYAG/1379	Observation on revised monthly progress report for the month of February,2021	14-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
19.	AIPL/NMCG/PRAYAG/1380	Observation on monthly progress report for the month of March ,2021	14-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
20.	AIPL/NMCG/PRAYAG/1381	Observation on monthly progress report for the month of April ,2021	14-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
21.	AIPL/NMCG/PRAYAG/1382	Observation on Non clog submersible pumps - SPS/MPS - Package-I	15-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
22.	AIPL/NMCG/PRAYAG/1383	Observation on Rising main Piping drawing from Trivenipuram SPS to Jhunsi MPS	15-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
23.	AIPL/NMCG/PRAYAG/1384	Observation on Trunk sewer drawing from Trivenipuram SPS to Jhunsi MPS	15-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
24.	AIPL/NMCG/PRAYAG/1385	Observation on Civil Drawings & Design for Jhunsi MPS	15-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)	Copies To
25.	AIPL/NMCG/PRAYAG/1386	Observation on O & M Monthly Progress report for the month of February, 2022 of Package – II.	16-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
26.	AIPL/NMCG/PRAYAG/1387	Regarding O&M Payment of Quarter -2 i.e., Feb-21 to April-21 for Package-III	17-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
27.	AIPL/NMCG/PRAYAG/1388	Regarding the submission of MPR of Feb'22	22-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
28.	AIPL/NMCG/PRAYAG/1389	Regarding O&M Payment of Quarter – 3 i.e., May-21 to July-21 for Package III facilities	22-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
29.	AIPL/NMCG/PRAYAG/1390	Observation on Civil Design & Drawings of Shastri Bridge SPS under Package-I	23-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
30.	AIPL/NMCG/PRAYAG/1391	Regarding submission of Revised Milestone Schedule for Package-I.	24-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
31.	AIPL/NMCG/PRAYAG/1392	Regarding O&M Payment of Quarter – 4 i.e., Aug-21 to Oct-21 for Package III facilities	24-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
32.	AIPL/NMCG/PRAYAG/1393	Inspection Reports of Jhunsi facility, Naini-II facility and Phaphamau facility under Package-I	24-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
33.	AIPL/NMCG/PRAYAG/1394	Submission of O & M Monthly Progress report for the month of February, 2022 of Package – III.	24-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj

Sr. No.	PE Transmittal/ Ref No	Description	Outward Date	To (Organization)	Copies To
34.	AIPL/NMCG/PRAYAG/1395	Inspection reports of Package III facilities	25-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
35.	AIPL/NMCG/PRAYAG/1396	Inspection Reports of Package II facilities	25-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
36.	AIPL/NMCG/PRAYAG/1397	Regarding O&M Payment of Quarter – 5 i.e., Nov-21 to Jan-22 for Package III facilities	29-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
37.	AIPL/NMCG/PRAYAG/1398	Regarding successful implementation of Operation & Maintenance activities for Package II facilities: Requisites during O&M period	29-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
38.	AIPL/NMCG/PRAYAG/1399	Regarding successful implementation of Operation & Maintenance activities for Package III facilities: Requisites during O&M period	29-Mar-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj

12. Inward Register

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

Sr. No.	PWPL Transmittal reference number	Description	Date	From
	For Review			
1.	PWPL/UPJN/PMCG/048/22	Submission of Ball valve documents –Prayagraj Package-I	1-Mar-22	Prayagraj water private limited
2.	PWPL/UPJN/PMCG/049/22	Submission of Non clog submersible pumps - SPS/MPS - Package-I	10-Mar-22	Prayagraj water private limited
3.	PWPL/UPJN/PMCG/051/22	Submission of Electrical Design docs for Shastri Bridge SPS	29-Mar-22	Prayagraj water private limited
4.	PWPL/UPJN/PRAYAGRAJ/SITE/760	Submission of MPR of Feb'22.	7-Mar-22	Prayagraj water private limited
5.	74/PWPL(PRAYAGRAJ)/42	Payment Certification for O&M work of Package -III of Quarter II & III.	15-Mar-22	S.E.-2 Circle - UPJN
	For Information			
6.	PWPL/UPJN/PRAYAGRAJ/SITE/755	Regarding slow work progress of Naini STP, Jhunsi STP and Phaphamau STP & Associated Infrastructure under Package-I.	1-Mar-22	Prayagraj water private limited
7.	RO/LKO/US/NH-96(330)/Km.148.600 - km.149.400/2020/2188	Proposal for NOC permission for laying of sewer pipeline along NH-96(330) from km.145.00 to km.145.845 and Km.145.900 to km.146.200 in Prayagraj Faizabad section in the State of Uttar Pradesh	2-Mar-22	UPJN (C.E), Regional Officer
8.	182/PWPL(PRAYAGRAJ)/66	Regarding Site Inspection of Numayadahi, Ghagharnalla, Sasur Khaderi, Lukarganj STP/SPS/MPS	3-Mar-22	PM-1, UPJN
9.	183/PWPL(PRAYAGRAJ)/67	Site Inspection report of Salori STP	3-Mar-22	PM-1, UPJN

Sr. No.	PWPL Transmittal reference number	Description	Date	From
10.	184/PWPL(PRAYAGRAJ)/68	Site Inspection of Kodra STP	4-Mar-22	PM-1, UPJN
11.	185/PWPL(PRAYAGRAJ)/69	Site Inspection of Ponghat STP	4-Mar-22	PM-1, UPJN
12.	222/PWPL/70	Interception & Diversion of 6 Nag Nalla & 42 MLD Naini-II STP construction under NMCG Project at Prayagraj	4-Mar-22	PM-1, UPJN
13.	60/PWPL/33	Regarding diffuser changing/rectification at Aeration tank of 20 MLD Stream at Naini-I STP	7-Mar-22	S.E.-2 Circle - UPJN
14.	61/PWPL/34	Regarding diffuser changing/rectification at Aeration tank of 10 MLD Ponghat STP - Prayagraj	7-Mar-22	S.E.-2 Circle - UPJN
15.	244/PWPL(PRAYAGRAJ)/76	Regarding Starting of balance work by Trench Less method at 42 MLD Naini-II STP	7-Mar-22	PM-1, UPJN
16.	245/PWPL(PRAYAGRAJ)/77	Regarding completion of balance sewer laying near Sachha Baba Nalla at 42 MLD Naini-II STP	7-Mar-22	PM-1, UPJN
17.	72/PWPL/41	Regarding Slow work Progress	10-Mar-22	S.E.-2 Circle - UPJN
18.	281/PWPL(PRAYAGRAJ)/78	Show cause notice under section 5 of the Environment (Protection) Act, 1986 regarding discharging untreated/partially treated sewage into River Ganga and its tributary reg.	10-Mar-22	PM-1, UPJN
19.	PWPL/UPJN/PRAYAGRAJ/O&M/373	Regarding the release of the withheld amount of Quarter – 2 of Package – III.	15-Mar-22	Prayagraj water private limited
20.	301/PWPL/81	Regarding laying of sewer pipeline along NH-96(330) from km.145.00 to km.145.845 and Km.145.900 to km.146.200 in Prayagraj Faizabad section in the State of Uttar Pradesh	16-Mar-22	PM-1, UPJN

Sr. No.	PWPL Transmittal reference number	Description	Date	From
21.	76/PWPL/43	Regarding laying of sewer pipeline along NH-96(330) from km.145.00 to km.145.845 and Km.145.900 to km.146.200 in Prayagraj Faizabad section in the State of Uttar Pradesh	16-Mar-22	S.E.-2 Circle - UPJN
22.	PWPL/UPJN/PRAYAGRAJ/SITE/774	Regarding the Submission of original Performance Bank Guarantee (PBG) for Package-I.	16-Mar-22	Prayagraj water private limited
23.	PWPL/UPJN/PRAYAGRAJ/SITE/775	Regarding the Submission of Advance Performance Bank Guarantee (ABG) for Package-I.	16-Mar-22	Prayagraj water private limited
24.	305/PWPL(PRAYAGRAJ)/82	Payment certification for O&M work of Package-III of Quarter IV & V	21-Mar-22	PM-1, UPJN
25.	123/012-21(47)/2022	Regarding Web cam installation at all running STP	24-Mar-22	C.E.-Ganga, Lucknow
26.	PWPL/UPJN/PMCG/050/22	Additional works for completion of Shastri Bridge SPS at the new location in Ganga Basin.	25-Mar-22	Prayagraj water private limited
27.	PWPL/UPJN/PRAYAGRAJ/SITE/50-22	Additional works for completion of Shastri Bridge SPS at the new location in Ganga Basin.	25-Mar-22	Prayagraj water private limited
28.	320/PWPL/88	Regarding laying of sewer pipeline along NH-96(330) from km.145.00 to km.145.845 and Km.145.900 to km.146.200 in Prayagraj Faizabad section in the State of Uttar Pradesh	25-Mar-22	PM-1, UPJN
29.	81/PWPL/48	Balance O&M Payment of Second Quarter of Package-III	25-Mar-22	S.E.-2 Circle - UPJN
30.	82/PWPL/49	Balance O&M Payment of Third Quarter of Package-III	25-Mar-22	S.E.-2 Circle - UPJN

13. EHS targets, Achievement & compliance report for the month of March' 2022

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.	Under process towards filing the application. Will be applied before commissioning stage. Location: - 1. At Phaphmau STP 2. At Basna Nalla SPS
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	88 No.	Received NOC From Forest Dept for Cutting 88 Nos. of trees.
4	Road cutting & crossing	Public Works Department	NA	Not Required
5	Railway Crossing	Commissioner Railway Safety	NA	Not Required
6	National Highway cutting & crossing	National Highway Authority of India	1 No.	1. License fee & BG amount of 6.67 Cr. & 3.26 Lacs respectively deposited by UPJN to NH authority on 9th Jul'21.

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
				2. Revised estimate charges against road restoration & maintenance charges of Rs 9.32 Cr received by UPJN from NH vide Letter-1115/NH-96/330 dated 5th Aug'21. 3. Letter sent to ED-Project for release of fund vide letter No.2044/PWPL(Adani)/414 Dated 11th Aug'21. 4. Letter written to ED- by UPJN regarding payment of license fee. (2576/PWPL(Adani)/508. 5. Permission Received from NH PWD vide letter no. 70/NH-96/330 dated 12th Jan 2022.
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.	Under process towards filing the application, Construction of 2 no. of Weir at; 1. Basna Nalla Drain Tapping 2. Shantipuram Nalla Tapping
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.	Will be processed during commissioning stage.
	Naini-II Facility (Package - I)			
1	Power connection (During commissioning Period)	Electricity Board	3 No.	Under process towards filing the application. Will be applied before commissioning stage. Location: - 1. At Naini-II STP

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
				2. At Mahewaghat SPS 3.At Mawaiya SPS
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	-	Under process towards filing the application. Finalized for laying of trunk sewer line route alignment is under progress.
4	Road cutting & crossing	Public Works Department	1 No.	NOC received from Mahewaghat SPS to Naini-II MPS on 08th Dec'2020.
5	Railway Crossing	Commissioner Railway Safety	1 No.	Permission received from railway vide letter No 86-W/KM/821/L-PRYJ-NYN DATED 16th July 2021'
6	National Highway cutting & crossing	National Highway Authority of India	NA	NA
7	Revenue Road cutting & crossing	Panchayat/Local Authority	1 No.	Under process towards filing the application to concern authority.
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.	Under process towards filing the application, Construction of Weir at 6 nos. Drains. Location: - 1. Mawaiya Drain 2. Sachcha Baba Aashram Drain Tapping 3. Kharkhauni Drain 4. Mahewaghat Nalla-1 5. Mahewaghat Nalla-2 6. Mahewaghat Nalla-3

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
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.	Will be processed during commissioning stage
	Jhunsi Facility (Package - I)			
1	Power connection (During commissioning Period)	Electricity Board	2 No.	Under process towards filing the application. Will be applied before commissioning stage. Location: - 1. Jhunsi STP 2. Shastribridge SPS
2	Consent to Establish	State Pollution Control Board (SPCB)	1 No.	Received
3	Tree cutting	Forest Department	NA	Not Required
4	Road cutting & crossing	Public Works Department	1 No.	Under process towards filing the application to concern authority. Location: - Trivenipuram ADA Colony colony to Shashtri Bridge SPS
5	Railway Crossing	Commissioner Railway Safety	1 No.	UPJN Received letter from DRM-Varanasi Office (Letter No: W/98-13/2020/71/W-2 Dated 19th Jul'21) for payment of railway charges. In this Context, GM-UPJN has sent letter to ED Project, New Delhi for deposition of same. UPJN has sent letter to Senior Divisional Officer, NER, Varanasi regarding to submission of BG- Rs. 5, 00, 000/- .(Letter No. 21//PWPL/15 dated:14.02.2022)
6	National Highway cutting & crossing	National Highway	1 No.	Under process towards filing the application to concern authority. Location: - Underpass Shashtri Bridge

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
7	Revenue Road cutting & crossing	Panchayat/Local Authority	1 No.	Under process towards filing the application to concern authority. Location: - Shastri Bridge SPS to Jhunsi MPS
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	Under process towards filing the application, Construction of Weir at 13 nos. Drains. Locations: - 1. Augharwa Nalla 2. Bhola Mandir Nalla 3. Gangoli Shivala Nalla I 4. Gangoli Shivala Nalla II 5. Savitri Nagar Nalla 6. Dham Nalla 7. Sashtri bridge Nalla 8. Triveni Marg Nalla I 9. Triveni Marg Nalla II 10. Ulta Quila Nalla I 11. Ulta Quila Nalla II 12. Havelia Nalla 13. Lakkar Nalla
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	1 No	Will be processed during commissioning stage

15. Plant & Machinery Status

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

16. ANNEXURE'S

Annexure- I: **PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION FOR PACKAGE-I**

Annexure- II: **KPI REPORTS OF PACKAGE -II AND PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION**

Annexure- III: **KPI REPORTS OF PACKAGE -III AND PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION**

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

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

ANNEXURE-I

PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION FOR PACKAGE-I

Table of Contents

1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE 3
1.1 Inspection Report 3
1.2 Recommendation's- 9
2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE 10
2.1 Inspection Report 10
2.2 Recommendation's 15
3. PHAPHAMAU STP AND ASSOCIATE INFRASTRUCTURE 17
3.1 Inspection Report 17
3.2 Recommendation's 20

1. JHUNSI STP AND ASSOCIATE INFRASTRUCTURE

1.1 Inspection Report

Date of site visit	2nd, 7th & 14th March, 2022
Site Visitor	1. Mr. Santosh Kumar, UPJN 2. Mr. Tauseef Ahmed, UPJN 3. Mr. Satwant Singh, UPJN 4. Mr. Abhishek Singh, AECOM. 5. Mr Gaurav Panday, AECOM 6. Mr. Sharad, PWPL.
Name of Facility	16 MLD Jhunsi STP & Associated Infrastructure, Prayagraj.

Inspection of Jhunsi STP Facility under package I, was done on 2nd, 7th & 14th March -2022, Regarding Physical Activities and following observations were made:

A. FCR Tank-

- RCC work at FCR tank is 100 % completed.
- Total 135.80 cubic meter PCC work has done at FCR.
- Approximately 2523.52 cum RCC work has done at FCR tank.
- Erection of all the structural steel member must adhere **clause 1.21.2 a & B of schedule 10 Part-B of Concession Agreement.**

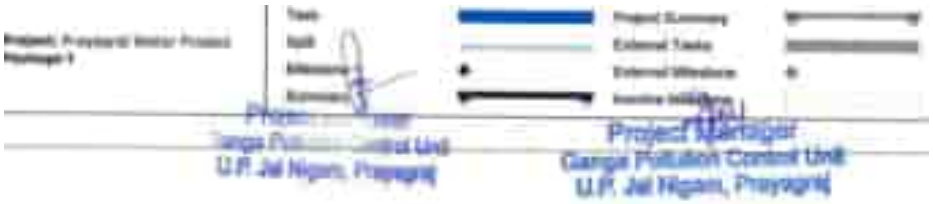
- Concessionaire is required to finalize the framing arrangement of solar system along with base plate & railing at the top of FCR at earliest.

- 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 1.4.1, schedule 10 PART-B of concession agreement & as per approved Drawing of FCR tank.

- Concessionaire is required to finalize the framing arrangement of FCR module along with Air diffuser grid piping & railing at the top of FCR at earliest.

B. Staff Quarter –

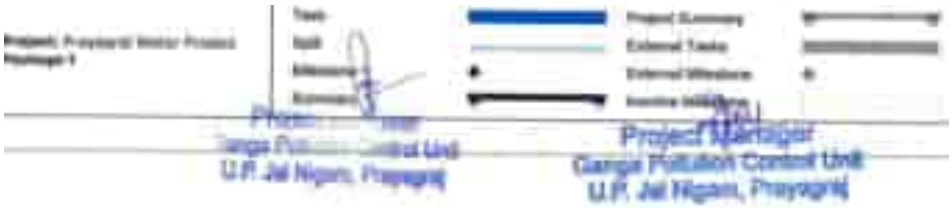
- RCC work of Staff Quarter is completed. Total 129.62 cubic meter RCC is done at staff Quarter.
- Brick work, Plumbing & Lighting work is completed.
- At Staff quarter Plaster work of inside & outside wall is completed & putty work is under progress.
- Painting & Flooring of staff quarter should be done as per approved Drawing.



C. Process Building-

- Excavation at Process building is completed.
- Boulder Soling work is completed.
- PCC of Process Building is completed.
- Bottom Raft of Process Building is completed.
- RCC work of Tie Beam is completed.
- Column above Tie Beam is completed.
- Soil filling above Tie Beam up to plinth beam is completed.
- RCC work of Plinth Beam is 100% completed.
- Column above plinth beam is 100% completed.
- RCC work of Slab at 98 m level is completed.
- Reinforcement & shuttering of PTU portion above plinth beam is under progress.
- Total 161 cum. PCC work is done at Process Building.
- Total 143 cum concrete is done in the month of Fab-22.
- Till date 728.4 cum RCC work is done at Process Building against 1250 cum.
- Concessionaire is suggested to expedite the work with additional manpower & Resources as Execution of Process Building is lagging far behind construction plan.
- Concessionaire is suggested to start the cable laying and foundation work for E&M equipment as per drawing.

Main Process Building	**197 days**	**Tue 01-06-21**	**Wed 15-12-21**
Excavation & Columin	15 days	Tue 01-06-21	Wed 16-06-21
Rubble soling/ Stone filling work	10 days	Wed 16-06-21	Sat 26-06-21
PCC	4 days	Sat 26-06-21	Wed 30-06-21
Structure completion (Expect finishing works)	145 days	Tue 01-06-21	Sun 24-10-21
Other finishing work	105 days	Wed 01-09-21	Wed 15-12-21
Hydrotesting	7 days	Sun 24-10-21	Sun 31-10-21



D. Tube Settler-

- Excavation work At Tube settler is completed.
- Boulder Soling work is completed.
- PCC (72 cum) work is completed.
- Reinforcement of Raft is completed.
- RCC work of Raft is completed.
- RCC work of CCT portion & Tube settler area is 100 % completed.
- Total 1442.5 cum RCC work is completed at Tube Settler.
- Hydrotesting of CCT portion & tube settler is completed.
- Concessionaire is suggested to expedite the work with additional manpower & Resources as Execution of Tube Settler is lagging far behind construction plan.
- Concessionaire is suggested to expedite the work of frame arrangement for tube settler media.

Tube settler, CCT & Sludge storage Tank	**348 days**	**Fri 01-01-21**	**Wed 15-12-21**
Earth work & Boulder filling work	45 days	Fri 01-01-21	Mon 15-02-21
PCC work	12 days	Tue 16-02-21	Sun 28-02-21
RCC upto completion	259 days	Mon 01-03-21	Mon 15-11-21
Other finishing work	60 days	Sat 16-10-21	Wed 15-12-21
Hydrotesting	10 days	Thu 21-10-21	Sun 31-10-21

Project Manager
Ganga Pollution Control Unit
U.P. Jal Nigam, Prayagraj

Project Manager
Ganga Pollution Control Unit
U.P. Jal Nigam, Prayagraj

E. Security Cabin-

- Excavation work is completed.
- PCC work is completed.
- Footing work is completed.
- RCC (23.75 cum) work of security cabin is completed.
- Brick Work at tube Settler is completed.
- Plaster work at security cabin is completed.
- Putty of security cabin is completed.
- Concessionaire is required to finish all the Remaining work of security cabin without any further delay.

F. Main Pumping Station-

- Excavation work At Main Pumping Station is completed.
- Boulder Soling & PCC work is completed.
- RCC of Raft is completed.
- RCC work up to 10th lift wall is completed.

- Reinforcement & Shuttering of 11th lift wall was under Progress.
- It is suggested to provide Pipe & Pipe Barricading with GI sheet around the excavated area to avoid any casualty at site during execution.
- Total 54.5 cum PCC is done at MPS.
- Total 110 cum RCC is done in the month of Feb-22.
- Till date 655 cum RCC work is done at MPS against 722 cum.
- Concessionaire is suggested to expedite the work with additional manpower & Resources as Execution of Process Building is lagging far behind construction plan.

Jhunsi MPS and IBD work	**455 days**	**Tue 01-09-20**	**Tue 30-11-21**
Excavation work	29 days	Sun 01-08-21	Mon 30-08-21
PCC	6 days	Wed 01-09-21	Tue 07-09-21
RCC upto completion	43 days	Tue 07-09-21	Wed 20-10-21
Other finishing work	30 days	Fri 01-10-21	Sun 31-10-21
Hydrotesting	10 days	Thu 21-10-21	Sun 31-10-21
Staff quarter	394 days	Tue 01-09-20	Thu 30-09-21
Other Misc works	14 days	Tue 16-11-21	Tue 30-11-21

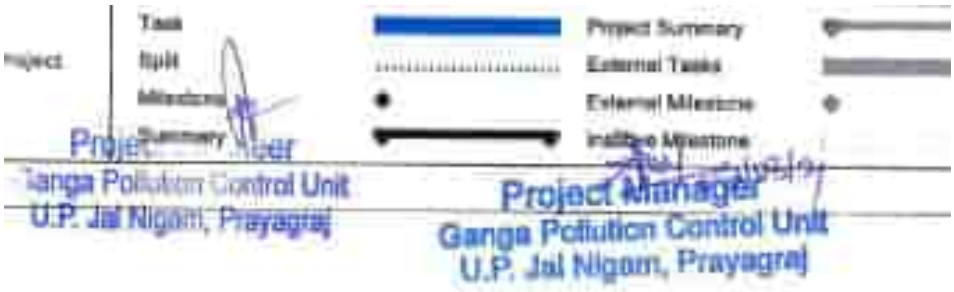
G. Shastri bridge SPS-

- Concessionaire is suggested to start the excavation work of SPS after proper demarcation of plot area. Also, provide GI sheet barricading around plot area.

H. Rising Main from Shastri bridge SPS to Jhunsi MPS:

- Total 1784.5 meter (DI 700 mm Día) laying is completed out of 3950 m.
- It is suggested to provide hard Barricades (Pipe & Pipe) around excavated trench & GI sheet at the end of daily work around open Trench to avoid any inconvenience to Local Public.
- Concessionaire is suggested to take approval of Design/Drawing of Thrust Block/Anchor Block/Pedestal for Rising main so that laying of rising main can be done in Continuity without unnecessary gaps.

Pipe laying (Rising Main & Gravity Main)	**60 days**	**Thu 16-09-21**	**Mon 15-11-21**
Rising main	**60 days**	**Wed 01-09-21**	**Sun 31-10-21**
Excavation, Laying & Jointing, Backfilling/ Restoration works	44 days	Wed 01-09-21	Fri 15-10-21
Hydrotesting	15 days	Sat 16-10-21	Sun 31-10-21



I. Trunk sewer & I & D works

- Total 278.5 m laying of Trunk Main (700 mm Dia) from Ulta Quila-I to Haveliya Nalla is completed.
- Execution work of I & D structures are under progress at 7 nalla locations.

J. Applicable Permits:

- As per schedule 7 of Concessionaire Agreement concessionaire is suggested to expedite the approval of Applicable permits (Railway, PWD, Irrigation & NH (if any)) for following work to avoid any hindrance or Delay in future.

a) Laying of Rising main from Shastri bridge SPS to Jhunsi MPS.
b) Laying For I&D work for 13 nos. of Nallah Tapping.
c) Laying of rising main & Trunk Sewer from Trivenipuram to Jhunsi MPS.

- Concessionaire is suggested to update The Status of Applicable Permit to UPJN/Project Engineer on Weekly Basis. Also, it is suggested to check, identify & apply for all the applicable permits required for whole Jhunsi Facility as no hindrance will be accepted in future due to new applicable permit issue.

K. Other miscellaneous activities-

- Concessionaire is suggested to take all the precaution during execution & follow all the standard safety Norms to avoid any causality during work.
- Concessionaire is required to provide proper Hard barricading (Pipe & pipe with G.I sheet) around Deep excavated area to avoid any casualty at site during construction.
- It is suggested to avoid direct placing of steel on ground & also cement slurry should be sprayed on steel to protect from corrosion due to moisture.
- Concessionaire is required to start the construction of Retaining wall & boundary wall at earliest.
- In the month of Feb-22 there was only 70 labour engaged at Jhunsi STP.
- Total 253 cum RCC work has done in the month of Feb-22 at Jhunsi STP.

1.2 Recommendation's-

- Concessionaire is suggested to execute the construction work with proper planning & prior information (or RFI) should be given for all the activities.
- Proper Finishing is required at Joint of RCC Wall /Column by grouting method.
- It is suggested to provide enough manpower (at least 150 labors) & resources to expedite the work.
- resolve all above-mentioned shortcomings so that in future, work can be executed smoothly.
- It is suggested to maintain all the Safety & Quality measures at site & carry out works with good engineering practice.
- Concessionaire should also strictly follow schedule 10 PART-B of concession agreement & relevant IS Standard for all civil execution works.
- Concessionaire is suggested to improve the workmanship quality to achieve the desired outcome.
- Approved Designs/Drawings/document should be kept at site during construction work.
- Concessionaire shall submit the micro level plan day wise for current milestone for better monitoring and project schedule completion controls.

2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 Inspection Report

Name of Facility	42 MLD Naini – II STP & Associated Infrastructure, Prayagraj.
Date of visit	12th March, 14th March,16th March
Site Visitors	1. Mr. Santosh Kumar, UPJN. 2. Mr. Arvind Yadav, UPJN 4. Mr. Amit Ranjan AECOM. 5. Mr. Pushpender, PWPL.

A. FCR unit:

- FCR Civil construction completed - 100 %
- Tank A – Hydrotesting Completed.
- Tank B – Hydrotesting Completed
- After completion of hydrotesting Painting work should be done as per clause 1.4.1, schedule 10 PART-B of concession agreement and approved drawing of FCR.
- It is suggested to concessionaire proper repairing & grinding shall be done for outer wall where required.
- The work progress is already behind the construction plan. As per construction schedule FCR hydrotesting work should be completed till 30.10.2021. Due to delay in construction & hydrotesting, there is delay in starting mechanical work in FCR.
- The concessionaire is suggested to provide PPE to all labor and follow all ESHS norms at site.
- Concessionaire is required to finalize the framing arrangement of FCR module along with Air diffuser grid piping & railing at the top of FCR at earliest.

FCR tank unit	**637 days**	**Sat 01-02-20**	**Sat 30-10-21**
Excavation work	43 days	Sat 01-02-20	Sun 15-03-20
Boulder filling work	35 days	Mon 26-10-20	Mon 30-11-20
PCC work	29 days	Sun 01-11-20	Mon 30-11-20
RCC work upto completion	318 days	Tue 01-12-20	Fri 15-10-21
Other Misc Works	29 days	Wed 01-09-21	Thu 30-09-21
Hydrotesting	15 days	Fri 15-10-21	Sat 30-10-21

B. Tube-Settler Unit:

- The excavation, rubble soling, PCC & Raft Casting work is completed of Tank-A & Tank-B.
- Tank A – All lift of outer and baffle wall casting is completed of CCT.
- Tank A – RCC work of Sludge Storage tank completed

- Tank A – 7th lift wall shuttering work is under progress.
- Tank B – 7th lift wall shuttering work is under progress.
- Tank B – 70% launder casting is completed.
- As per approved construction plan tube settler structural work including hydrotesting should be completed till **31.10.21.** the work duration has prolonged as compare to the planned schedule.
- 45 labors were deployed at Tube settler & CCT.
- Concessionaire is requested to deploy necessary manpower/machinery and expedite the work progress to avoid further delay.
- It is also suggested to concessionaire to deploy separate labour gangs for CCT & Tub settler work & Day and night shift wise work should be plan.

Tube settler, CCT & Sludge storage Tank	**287 days**	**Sat 16-01-21**	**Sat 30-10-21**
Earth work & Boulder filling work	6 days	Sat 16-01-21	Fri 22-01-21
PCC work	12 days	Tue 19-01-21	Sun 31-01-21
RCC work upto completion	233 days	Mon 01-03-21	Wed 20-10-21
Other Misc Works	45 days	Thu 16-09-21	Sun 31-10-21
Hydrotesting	11 days	Wed 20-10-21	Sun 31-10-21

C. Process Building unit:

- **E**xcavation & PCC is completed. RCC work of raft is completed.
- Slab casting completed at Level 92.5
- At Level + 98.85 slab casting completed.
- Grit Chamber final lift wall reinforcement work under progress
- Grit channel at 94.25 walkway slab shuttering work under progress
- Total 80 labours were deployed at processes building.
- As per construction plan process building structural work should be completed till 20.10.21 & Mechanical work has to be stared from 16.10.21 but as on date the structural progress is less than 50%.
- It is suggested Concessionaire with respect to date of construction, regular curing should be done.
- Concessionaire is suggested to start the cable laying and foundation work for E&M equipment as per drawing.

Main Process Building	**300 days**	**Mon 01-02-21**	**Sun 28-11-21**
Excavation	119 days	Mon 01-02-21	Mon 31-05-21
Rubble soling/ Stone filling work	30 days	Thu 01-07-21	Sat 31-07-21
PCC	30 days	Thu 01-07-21	Sat 31-07-21
Structure completion (Expect finishing works)	172 days	Sat 01-05-21	Wed 20-10-21
Other Misc Works	53 days	Wed 06-10-21	Sun 28-11-21
Hydrotesting	11 days	Wed 20-10-21	Sun 31-10-21

D. Boundary Wall:

- RCC for boundary wall columns, Brick work, plastering work are in progress,
- 80% RCC & Brick work Completed.
- Work is slow. It is suggested Concessionaire work should be expedite by increasing manpower.

E. Naini-II MPS and I&D works:

- RCC wall Work completed up to 10th wall lift.
- 13th lift wall shuttering work under progress.
- Plum concrete work completed
- Inlet channel Raft & 8th out of 10th lift wall casting completed.
- In this month Work progress of MPS is very slow. 35 labors were deployed at MPS, Work progress is also far behind the construction plan. It should be completed on 31.10.21.
- Concessionaire is suggested to increase the manpower & machinery to complete the work without further delay & follow all safety norms at site.

Naini-II MPS and I&D work	**385 days**	**Mon 26-10-20**	**Mon 15-11-21**
Excavation work	99 days	Sat 16-01-21	Sun 25-04-21
PCC	99 days	Sat 16-01-21	Sun 25-04-21
RCC Work upto completion	177 days	Sat 01-05-21	Mon 25-10-21
Other finishing work	75 days	Wed 01-09-21	Mon 15-11-21
Hydrotesting	11 days	Wed 20-10-21	Sun 31-10-21
Staff quarter	370 days	Mon 26-10-20	Sun 31-10-21
I&D Other misc works	15 days	Sat 16-10-21	Sun 31-10-21

F. Mahewaghat SPS:

- Inlet channel Raft is completed, 4th out of 6th lift wall completed 5th lift of wall reinforcement and shuttering work is under progress.
- RCC work of Wall upto 88.84 level is completed
- For battery & panel room tie beam reinforcement work under progress.
- It is suggested to concessionaire, gradation of construction material (Aggregate and sand) must be done before RCC work. At the start of concrete pouring, Slump Cone, Cube moulds & admixture measuring jar must be available at site.
- Steel reinforcement was directly placed on ground surface. steel reinforcement should not be stacked direct on ground, that can be stacked on wooden batten, Steel reinforcement shall ordinarily be stored in such a way as to avoid distortion and to prevent deterioration and corrosion.
- At one side SPS wall was out of plumb, it is suggested to concessionaire kindly take necessary action to rectify.
- Concessionaire has not provided safety barricades as per standard norms, it is suggested that construction site should be properly barricaded with Pipe & Pipe along with GI Sheet to avoid any incident or unauthored access at site.
- AT Mahewaghat SPS site during inspection it is observed that only 15 labours were deployed at site.

Maheswaghat SPS and IBD work	303 days	Fri 01-01-21	Sun 31-10-21
Excavation work	104 days	Fri 01-01-21	Thu 15-04-21
PCC	104 days	Fri 01-01-21	Thu 15-04-21
RCC Work upto completion	143 days	Sun 30-05-21	Wed 20-10-21
Other finishing work	30 days	Fri 01-10-21	Sun 31-10-21
Hydrotesting	11 days	Wed 20-10-21	Sun 31-10-21
Boundary wall	60 days	Wed 01-09-21	Sun 31-10-21
Staff quarter	60 days	Wed 01-09-21	Sun 31-10-21
IBD Other misc works	60 days	Wed 01-09-21	Sun 31-10-21

G. Mawaiya Nalla SPS:

- Excavation, stone pitching and PCC is completed.
- 2nd lift wall was completed on 03.12.2021.
- 5th lift wall was completed on 03.01.2022.
- 6th lift wall casting & slab at level +83.95m completed on 05.02.2022.
- 9th lift wall casting completed and 10 lift wall shuttering work under progress.
- In Inlet channel 5th lift wall casting completed & 6nd lift Reinforcement work is under progress.
- Staff quarter footing reinforcement and shuttering work under progress
- During site inspection it is observed that 35 labours were deployed at site.
- It is suggested to concessioner, work should be plan as per wall lift and labour should be increase accordingly.
- During site inspection it is observed that, concessionaire has not provided safety barricades as per standard norms, it is suggested that construction site should be properly barricaded with Pipe & Pipe along with GI Sheet to avoid any incident or unauthored access at site.
- It was observed that steel reinforcement was directly placed on ground surface. steel reinforcement should not be stacked direct on ground, that can be stacked on wooden batten, Steel reinforcement shall ordinarily be stored in such a way as to avoid distortion and to prevent deterioration and corrosion.
- Site instruction register was not available at site, concessionaire is suggested to keep instruction register at site on regular basis.

	Duration	Start	Finish	Qtr 4
PCC	45 days	Sat 01-05-21	Tue 15-06-21	
RCC WORK upto completion	158 days	Sat 15-05-21	Wed 20-10-21	
Hydrotesting	11 days	Wed 20-10-21	Sun 31-10-21	
Boundary wall	60 days	Wed 01-09-21	Sun 31-10-21	
Staff quarter	60 days	Wed 01-09-21	Sun 31-10-21	
IBD Other misc works	75 days	Wed 01-09-21	Mon 15-11-21	

H. Raising Main Mahewaghat SPS & Mawaiya SPS to Naini-II MPS:

- Raising main of DI 300 mm dia. From Mahewaghat to Naini-II MPS started on 13.01.2021 and total approx. 687.5 rmt. out of 700 Rmt. laying done at site.
- Raising main of DI 800 mm dia. From Mawaiya nalla to Naini-II MPS started on 20.01.2021 and total approx. 683.5 rmt. out of 700 rmt. laying completed.
- Air valve installation is not started as on date.
- Hydro-Testing of laid pipes has not been started till date. Due to this, the road restoration work is also affecting.
- The concessionaire is requested to carry-out all pending works and Hydro-Testing earliest

I. Trunk Sewer pipeline:

- RCC 600mm Dia. Pipe started laying form Mahewaghat to Naini-II stretch and total of 3902 Rmt. out of 4077 Rmt. laid till date.
- At Mahewaghat Gravity main near naini old bridge for trenchless pipelaying, casing pipe pushing work was completed in first week of oct'21, but as on date this work is pending due to unavailability of 600 mm dia carriage pipe at site which attributes unnecessary delay.
- The trunk Sewer pipeline of RCC 1400mm Dia. Pipe started laying form Mawaiya nalla to Naini-II stretch and total of approx. 2853 Rmt. out of approx. 3050 Rmt.
- 1600 Dia pipe laid 702 m out of 997m at site till date. Pipe laying work under progress Near Naini II STP,
- Total 95 nos. Manholes Completed out 108 nos. Further work under progress.
- Cleaning & road motorable work under progress.

Pipe laying (Rising Main & Gravity Main)	**288 days**	**Sat 16-01-21**	**Sun 31-10-21**
Rising main	**287 days**	**Sat 16-01-21**	**Sat 30-10-21**
Excavation, Laying & Jointing, Backfilling/ Restoration works	247 days	Sat 16-01-21	Mon 20-09-21
Hydrotesting	29 days	Fri 01-10-21	Sat 30-10-21
Gravity Main	**244 days**	**Mon 01-03-21**	**Sun 31-10-21**
Excavation, Laying & Jointing, Backfilling/ Restoration works	234 days	Mon 01-03-21	Thu 21-10-21
Hydrotesting	10 days	Thu 21-10-21	Sun 31-10-21

J. Staff Quarter:

- The individual building, staff quarter is not completed as on date. Electrical, plumbing & finishing work is balance in staff quarter.
- RCC & Plastering work is completed up to 2nd Roof slab.
- It is noticed that the work in Staff quarter started in Feb-March'20 and still work is balance, it is showing the progress of work is very poor.
- The concessionaire is requested to increase the manpower and expedite the work to meet the progress & follow all the safety norms at site.

Other miscellaneous activities:

- The Progress at site is very slow. Availability of manpower is less at site.
- It is observed that, electric current is not available at Naini II STP site, which is affecting testing of construction material at site. it is suggested to concessionaire resolve the issue at the earliest.
- Laboratory was not found fully equipped at site. It is suggested to concessionaire make an arrangement for testing of construction material & Compression testing machine (CTM) at Naini II STP site.
- Toilets are not operational at site due to unavailability of water and absence of cleaning, which violate the sanitation guidelines and involves health risk for workers. It suggested to concessionaire resolve this issue earliest and make all toilets operational at site.
- There is regular issue in availability of concrete from batching plant.
- Availability of concrete pump is not adequate.
- Concessionaire is required to provide proper hard barricading (Pipe & pipe with G.I sheet) around Deep excavated area to avoid any casualty at site during construction.
- Proper Stacking of Steel should be done at site & cement slurry should be sprayed on steel to protect from corrosion due to moisture.
- It is found that the cement stacked and covered, but it is too close to the wall, also proper height to be provided. It is suggested provided to close all the openings of shed to protect it from rain water and moistures. SRC Cement stack also checked at RMC Plant and same observations provided for compliance.

2.2 Recommendation's

- The Average labour strength at Naini-II STP site is 150 nos. As the progress of work is far behind the construction schedule, concessionaire is requested to increase the labours (at least 200) and arrange separate labour gangs at different construction units. UPJN SE also instructed to Concessionaire, engage Manpower and separate gang for all unit & Concessionaire Committed to UPJN for increasing manpower.
- It is suggested to concessionaire, revised Work plan must be submitted for further review and approval.
- It suggested to concessionaire, Exposed surfaces of concrete shall be kept continuously in a damp of wet condition by ponding or by covering with a layer of sacking, canvas, hessian or similar materials and kept constantly wet for at least seven days from the date of concrete
- It is suggested to concessionaire, Expedite the work by deploying additional manpower and machinery & pipes should be made available at site.
- It is suggested to concessionaire make alternate batching plant arrangement. So that work will not be delay due to unavailability of concrete.

- It is already suggested to concessionaire; hindrance register must be maintained at all the facilities.
- Proper Finishing is required at Joint of RCC Wall /Column by grouting method.
- Work quality should be maintained & proper arrangement should be made for curing of structure.
- Copy of all approved design and drawing should be available at site.
- The concessionaire is suggested to implement all ESHS norms at site.
- The concessionaire is requested to follow 'Schedule-10 Part-B' of the concessionaire agreement and IS-456 and other relevant IS codes for all the site execution activities and works as and when required.
- The concessionaire is suggested to take necessary action to incorporate all the observation otherwise timely completion of milestones will not be possible and any delay will be attributed at the concessionaire's end.

3. PHAPHAMAU STP AND ASSOCIATE INFRASTRUCTURE

3.1 Inspection Report

Name of Facility	14 MLD Phaphamau STP & Associated Infrastructure
Date of Visit	12th March, 14th March &16th March
Visitors Name	Mr. Santosh Kumar, UPJN Mr. Tauseef Ahmed, UPJN Ms. Shilpa Chhavi, UPJN Mr. Amit Ranjan, AECOM Mr. Ashish Singhai, PWPL Mr. Rahul Sharma PWPL

A. FCR Tank:

- FCR Civil Construction work completed. Hydrotesting work also completed.
- It is informed to concessionaire proper finishing must be done at all the grouting points.
- It is suggested to concessionaire after completion of hydrotesting work, start finishing & painting work as per concessionaire agreement.
- The progress of FCR is already delayed because of slow work progress, it is suggested to concessionaire deploy necessary manpower and E&M work should be started without further delay.
- Concessionaire is required to finalize the framing arrangement of FCR module along with Air diffuser grid piping & railing at the top of FCR at earliest.

B. Staff Quarter:

- Staff Quarter structure work is completed. Finishing, electrification and plumbing work is balance.
- No work in Staff quarter from last 5 months.
- It is informed to Concessionaire door & window must be install as per concessionaire agreement & specification.

C. Process Building:

- Part A: RCC work of 1st list of 24 column completed out of 24. 2nd Lift Column Reinforcement and shuttering work under progress.
- Part B: RCC work of 4th Lift of 12 column and 2nd lift of 11 column completed. Reinforcement and shuttering work under progress
- Part C: RCC work of 3rd lift of 8 columns completed.
- It is suggested to concessionaire, speed up the work of process building as the work progress is very slow.
- It is suggested to concessionaire provide shear key at construction joint.
- It is informed to concessionaire all site observation given by UPJN & Project engineer must be closed at the earliest.

Main Process Building	**289 days**	**Mon 01-03-21**	**Wed 15-12-21**
Excavation	124 days	Mon 01-03-21	Sat 03-07-21
Rubble soling/ Stone filling work	7 days	Sat 03-07-21	Sat 10-07-21
PCC	10 days	Sat 10-07-21	Tue 20-07-21
Structure completion (Expect finishing works)	92 days	Tue 20-07-21	Wed 20-10-21
Other Misc Works	61 days	Fri 15-10-21	Wed 15-12-21
Hydrotesting	10 days	Thu 21-10-21	Sun 31-10-21

D. Tube Settler:

- CCT: Tonner room brick work completed. All other structural casting completed except top level slab of tonner room at level +96.7m.
- Hopper area and Sludge holding portion work completed.
- During site visit it is observed that wall finishing work is not proper, it is suggested to concessionaire proper wall finishing should be done.
- Concessionaire is suggested to expedite the work of frame arrangement for tube settler media.

118	**Main Process Building**	**01-03-21**	**15-12-21**	
119	Excavation	01-03-21	03-07-21	100%
120	Rubble soling/ Stone filling work	03-07-21	10-07-21	100%
121	PCC	10-07-21	20-07-21	100%
122	Structure completion (Expect finishing works)	20-07-21	20-10-21	100%
123	Other Misc Works	15-10-21	15-12-21	100%
124	Hydro testing	21-10-21	31-10-21	100%

E. Security Cabin-

- Execution work at Security Cabin is not started yet.
- It is Suggested to Concessionaire clean that area where is a location of Security cabin and remove excavated soil from that location and start the Security cabin work.

F. Main Pumping Station-

- 10th lift wall & half circular slab at level + 87 is completed. Inlet wall concreting work is completed. Slab for header & valve is completed.
- It is suggested to concessionaire as per revised construction plan RCC Starting Date is 01-09- 2020 & Completion Date 30-11-2021. Concessionaire is suggested to expedite the work with additional manpower & resources as execution of MPS is lagging far behind as per construction plan
- It is Suggested to Concessionaire during the Concrete follow all safety Norms.

133	**Shantipuram MPS and I&D Works**	**01-09-20**	**30-11-21**	
134	Excavation work	01-11-20	28-03-21	100%
135	PCC	28-03-21	30-03-21	100%
136	RCC work up to completion	01-04-21	15-10-21	100%
137	Other Misc Works	16-09-21	30-11-21	100%
138	Hydro testing	16-11-21	30-11-21	100%
139	Staff quarter	01-09-20	30-09-21	100%

G. Basna Nalla SPS -

- Raft is completed. 4th lift casting is completed, and 5th lift steel and shuttering is under progress.
- It is suggested to concessionaire, arrange the required shuttering material & make alternate arrangement for concrete.
- Concessionaire is also suggested; entire construction site should be properly barricaded.
- It is informed to concessionaire increase manpower and speed up work progress.

125	**Basna Nala SPS and I&D Works**	**09-01-21**	**15-11-21**	
126	Excavation work	09-01-21	15-10-21	100%
127	PCC	16-10-21	20-10-21	100%
128	RCC upto completion	20-10-21	09-11-21	100%
129	Hydrotesting	16-10-21	31-10-21	100%
130	Boundary wall	01-09-21	15-11-21	100%
131	Staff quarter	01-09-21	15-11-21	100%
132	Other Misc Works	01-10-21	15-11-21	100%

I&D: Basna Nalla: Excavation work completed and PCC work under Progress
Shantipuram Nalla: Excavation work completed and PCC work under Progress

H. Applicable Permits:

- As per schedule-7 of Concessionaire Agreement concessionaire is suggested to expedite the approval of Applicable permits (Railway, PWD, Irrigation & NH (if any) to avoid any hindrance or Delay in future.
- It is Suggested that follow the flood protection for effluent pipeline as per CRS. Wherever pipe cover less than 1-meter concessionaire must be incase the pipe.

I. Other miscellaneous activities-

- It is suggested to Concessionaire, remove all Dismantling material & install the Project Display board.

3.2 Recommendation's

- Concessionaire is suggested to expedite the work with additional resources & manpower as Execution of all structure is lagging far behind construction plan.
- Concessionaire is suggested to execute the construction work with proper planning & prior information (or RFI) should be given for all the activities.
- Concessionaire is suggested to Start the construction activity at different component (Process building, Tube settle & MPS) simultaneously to avoid any further delay as per construction Plan.
- It is suggested to provide enough manpower (at least 100 labors) & resources to expedite the work.
- During site inspection it is observed that, concessionaire has not provided safety barricades as per standard norms, it is suggested that construction site should be properly barricaded with Pipe & Pipe along with GI Sheet to avoid any incident or unauthored access at site.
- It was observed that steel reinforcement was directly placed on ground surface. steel reinforcement should not be stacked direct on ground, that can be stacked on wooden batten, Steel reinforcement shall ordinarily be stored in such a way as to avoid distortion and to prevent deterioration and corrosion.
- It is suggested to maintain all the Safety & Quality measures at site & carry out works with good engineering practice.
- Concessionaire should also strictly follow schedule 10 PART-B of concession agreement & relevant IS Standard for all civil execution works.
- Concessionaire is suggested to improve the workmanship quality to achieve the desired outcome.
- Approved Designs/Drawings/document should be kept at site during construction work.

ANNEXURE-II

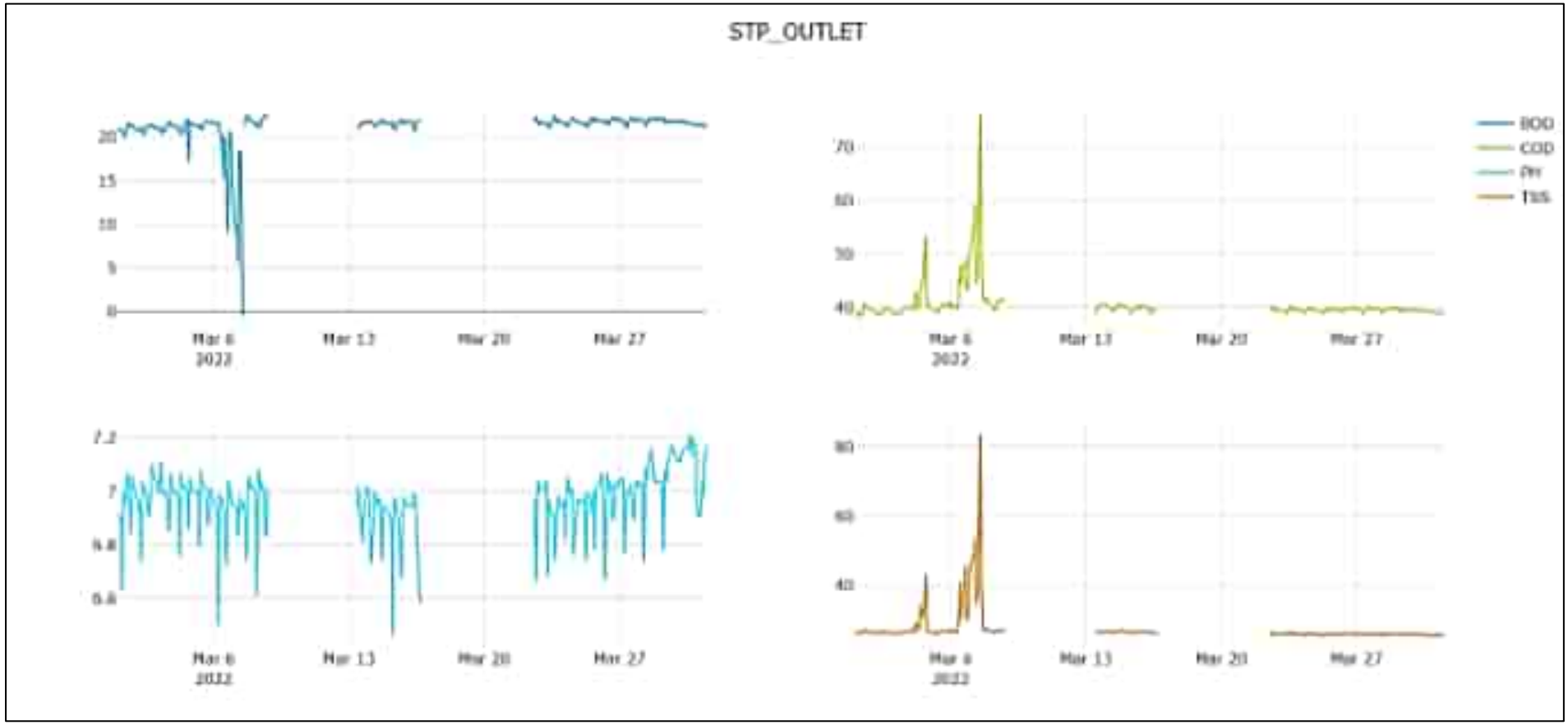
KPI REPORTS OF PACKAGE -II, PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION

Table of Contents

1. NAINI-I STP AND ASSOCIATE INFRASTRUCTURE 2
1.1 KPI Report 2
1.2 Inspection Report 4
1.3 Recommendations 9
2.1 RAJAPUR STP AND ASSOCIATE INFRASTRUCTURE 10
2.1 KPI Report 10
2.2 Inspection Report 12
2.3 Recommendation's 15

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: In the blank areas, data was not transfer due to some issue in router

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- <8)	Final pH (Design 6.5 to 9.0)	Inlet BOD (Design <250 mg/l)	Final BOD (Design <30 mg/l)	Inlet COD (Design <450 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 (>99%)	Fecal Coliform (Design MPN/100 ml)	
1-Mar-22	[illegible]	112.48	[illegible]	7.39	183	33	444	40	337	31	NA	400	0.3	25.5	[illegible]	
2-Mar-22	[illegible]	109.38	7.53	7.42	188	35	555	33	335	32	NA	450	0.2	25.8	[illegible]	
3-Mar-22	[illegible]	113.38	[illegible]	7.51	176	33	389	40	315	30	NA	500	0.3	25.8	[illegible]	
4-Mar-22	[illegible]	113.56	[illegible]	7.56	173	33	555	44	333	32	NA	500	0.3	25.8	[illegible]	
5-Mar-22	[illegible]	112.57	7.51	7.38	128	30	340	40	308	33	NA	700	0.3	25.8	[illegible]	
6-Mar-22	[illegible]	110.99	[illegible]	7.41	196	32	552	44	332	32	NA	450	0.2	25.1	[illegible]	
7-Mar-22	[illegible]	113.88	[illegible]	[illegible]	175	23	394	60	307	34	NA	500	0.3	25.03	[illegible]	
8-Mar-22	[illegible]	111.8	7.20	7.54	180	33	552	40	315	36	NA	630	0.2	25.4	[illegible]	
9-Mar-22	[illegible]	109.55	7.56	7.29	186	33	558	44	335	32	NA	450	0.3	25.7	[illegible]	
10-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	198	33	330	60	338	33	NA	500	0.3	25.8	[illegible]	
11-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	146	30	340	40	312	33	NA	630	0.3	25.8	[illegible]	
12-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	183	33	555	44	332	32	NA	450	0.2	25.9	[illegible]	
13-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	170	30	330	40	308	34	NA	600	0.2	26.1	[illegible]	
14-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	146	34	552	44	305	31	NA	700	0.5	25.2	[illegible]	
15-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	143	30	558	44	330	34	NA	630	0.2	25.8	[illegible]	
16-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	183	33	357	40	338	32	NA	600	0.3	25.9	[illegible]	
17-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	186	33	555	44	314	34	NA	450	0.2	25.8	[illegible]	
18-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	178	25	330	40	332	32	NA	700	0.3	25.8	[illegible]	
19-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	153	30	552	40	308	32	NA	600	0.2	25.9	[illegible]	
20-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	198	34	555	40	332	36	NA	500	0.2	25.8	[illegible]	
21-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	186	33	552	44	303	33	NA	500	0.3	25.8	[illegible]	
22-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	183	33	344	40	337	33	NA	700	0.3	33	[illegible]	
23-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	188	33	340	44	341	33	NA	500	0.2	25.8	[illegible]	
24-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	173	30	339	40	333	33	NA	700	0.3	25.8	[illegible]	
25-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	156	33	552	44	308	33	NA	630	0.2	25.2	[illegible]	
26-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	186	30	344	40	305	33	NA	700	0.2	25.8	[illegible]	
27-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	173	33	360	40	313	31	NA	500	0.3	25.8	[illegible]	
28-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	180	30	552	40	335	33	NA	700	0.2	25.8	[illegible]	
29-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	183	33	340	30	338	30	NA	630	0.3	25.2	[illegible]	
30-Mar-22	[illegible]										NA					Plant Shutdown due to Repairing work
31-Mar-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]		[illegible]	[illegible]	
Average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar, PM-I, UPJN 2. Mr. Arvind Yadav, AE, UPJN 3. Mr. Gaurav Gupta, AECOM. 4. Mr. Sudhir Tomar, AECOM. 5. Mr. Rahul Azaad, PWPL. 6. Mr. Rahul Chaudhary, 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 04th Mar 2022, 08th March 2022, 14th March 2022, 22nd March 2022 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	99.02 to 136.42
2	Gaughat MPS	100.98 to 133.71
3	Chacharnalla SPS	30.13 to 50.62

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	18 to 24 mg/l
2	TSS – Effluent	< 50 mg/l	30 to 36 mg/l
3	pH – Effluent	6.5 – 9.0	7.03 to 7.48
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	200 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.80 to 26.00 %
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	25.65 to 55.58
2	Salori MPS	73.40 to 84.25

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

- **Status of various units & records at site:**

1. Online Analyzer at Inlet is not giving correct values of parameters. Concessionaire to please check &rectify the problem.
2. Communication of data from PLC system of SPS/MPS to SCADA system of STP is started but signals are breaking hence data is not received continuously, hence SCADA reports related to associated infrastructure cannot be generated. This is a long-term pending issue and hence Concessionaire is required to rectify the problem at the earliest.
3. 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. It is observed that Biogas engine is operated in daytime due to which power generated from solar system is wasted during daytime. Therefore, it is suggested to operate Biogas engine in nighttime so that solar power generation system can be operated at full efficiency and full power generated from the same can be used to run equipment. This will increase the power generation from renewable resources and decrease the power requirement from grid which will ultimately lower the electricity bill of the facility.
4. Currently, Biogas engine is operated for 9 hours only during the day but as per clause no. 1.1. of Part-G in Schedule-10, the facilities shall run 24 hours every day. Hence, Concessionaire is requested to do the needful.
5. All three mechanical screens of 60 MLD part are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
6. All two mechanical screens of 60 MLD part are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
7. For 60 MLD, all grit removal units are working. Grit removal from grit separator of unit no. 2 is not efficient, Concessionaire to please rectify the problem.
8. For 20 MLD, all grit removal units are working.
9. All Primary Settling Tanks are working. Scum removal system is not working efficiently as large amount of scum can be seen floating on the surface. Scum is fully filled in the box & it is not going properly to collection chamber. Rectification of problem is required.
10. In all PSTs, it is observed that lumps of sludge are coming to the top in some parts due to which outlet quality of PSTs is deteriorating. This can be rectified by ensuring proper withdrawal of sludge. Concessionaire to please ensure the same.
11. Telescopic valves of Primary Settling Tanks are not working.
12. Installation of actuators is pending for drain valves of Primary Settling Tanks.
13. All nine surface aerators are working. It is recommended to install DO analyzer in this tank also for better monitoring.
14. Aeration tank of 20 MLD is in operation. Commissioning of DO analyzer is not completed yet.
15. Interlink of DO analyzer with Aeration blowers is not done yet for running blower in auto mode as per DO levels in Aeration Tank.
16. All Aeration blowers are working.
17. All Final Settling Tanks are working.
18. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
19. Installation of actuators is pending for drain valves of Final Settling Tanks.
20. Cleaning of Chlorine Contact Tank is required as due to flood, mud and silt is deposited in the tank which is in-turn deteriorating the quality of effluent. Concessionaire to please

rectify the problem at the earliest.

21. In RSPH unit of 60 MLD, 2 out of 4 pumps are working, two pumps are under maintenance. Hence, no pump is in stand-by. Concessionaire to please rectify the problem at the earliest.
22. In RSPH unit of 20 MLD, 1 out of 2 pumps are working, one pump is under maintenance. Hence, no pump is in stand-by. Concessionaire to please rectify the problem at the earliest.
23. One chlorinator was working but one is in maintenance and one booster pump is working but one was in maintenance hence no chlorinator/pump is in stand-by.
24. Commissioning of Leak absorption system is completed. Checklist forthe same must be prepared and recorded properly every month.
25. Process analyzers at outlet is working. Installation of new analyzer is completed but verification of calibration in presence of UPJN/Project Engineer is pending. Concessionaire to please check & do the needful.
26. Chlorine analyzer at outlet is not working.
27. 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.
28. Both thickeners are in working condition. Installation of actuators for drain valves is pending. Installation of flowmeter in one out of two lines from blending tank to thickener is pending.
29. Effluent quality must be improved.
30. All thickened sludge transfer pumps are working. It is suggested to install exhaust blowers in thickened sludge pump house for releasing the gases generated inside the room for safety purposes.
31. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
32. As already conveyed, it is required to do modifications in TEPH panel room for fulfilling the electrical norms due to installation of new double front panel in old room. Concessionaire to please do the needful.
33. Both DGs are in operation. Installation work of chimney for DGs as per CPCB norms is pending.
34. Sludge dewatering unit is in operation. Installation of various instruments is pending.
35. Currently, only one sludge drying bed is empty and one is running. Though the cleaning work is in progress, Concessionaire is requested to keep at least 10 sludge drying beds empty for ensuring proper withdrawal of sludge from the system in all conditions.
36. All filtrate pumps are working.
37. In SCADA system, flow variation can be seen in recorded values of daily and monthly flow as per site records. This problem must be rectified.
38. Both dewatering feed pumps are working.
39. All Digesters are working.
40. Heat exchangers, sludge recirculation pumps for all digesters are working. Construction of shed is in progress.
41. In compressor room, all six compressors are working.
42. Gas engine is 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. Installation of service water pumps is pending.
47. Rehabilitation works for storm water pump house are pending.

48. As already decided, repairing/construction of retaining wall must be completed at the earliest for neutralizing the effect of floods.
49. Rehabilitation works for tube well are pending.
50. As already discussed, printed logbooks must be present at site for daily records. Concessionaire to please do the needful at the earliest.
51. Landscaping work of the plant is in progress.
52. Housekeeping of the plant must be improved.
53. Construction/repairing of roads is in progress, Concessionaire to please complete the work at the earliest.
54. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not implemented till date. Concessionaire to please check & do the needful.
55. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. This is not started yet, Concessionaire to pleasedo the needful.
56. Installation of Public Address System is done but its commissioning is not completed yet.
57. As already discussed, painting of all units from inside and outside is not started yet. Concessionaire to please do the needful. Proper consent for the color coding must be taken from the UPJN.
58. Some CCTV cameras are out of operation, please rectify.
59. 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.
60. It was found that ground water is being used as service water but as per CPCB norms effluent must be used as service water in complete plant. Concessionaire is requested to make arrangements for the same.
61. For Gaughat MPS, following observations were made during visit:

    a) Flowmeter in not working in new outlet line of MPS. Currently, reading of same line from Naini-I STP is written in MPS's logbook. This is a long-term pending issue hence must be resolved at the earliest.
    b) Replacement of NRV in header line of HNC pumps in Gaughat MPS is required for reducing the effect of water hammering on the pumps. Concessionaire to please do the needful.
    c) All HNC pumps are working. One HNC pump is having abnormal noise, maintenance of the same must be completed at the earliest.
    d) Two out of three submersible pumps are working. One pump is under maintenance.
    e) Both mechanical screens of HNC pumps are working. Currently sensor of one screen which provides overload protection is broken, it must be replaced at the earliest as excessive wear and tear can be caused in screen due to overload. Commissioning of differential level sensors is pending.
    f) Both mechanical screens for submersible pumps are working. Installation of second screen is in progress. Commissioning of differential level sensors is pending.
    g) DG set of 1000 KVA and DG sets of submersible pumps are working. Repairing work of 11 KV DG synchronization panel is pending. Repairing work of 500 KVA/11KV DG set is pending. Concessionaire to please complete all pending works.

h) In DG set of 1000 KVA, oil is leaking from pipes, please rectify the problem.

i) It is suggested to install manual screen in receiving chamber of SPS for reducing load on mechanical screens.

j) Painting for all units in the MPS is not started yet. Concessionaire to please do the needful.

k) In PLC panels, indication for ON/OFF of mechanical screens, belt/screw conveyor is not coming.

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

a) Currently all VNC pumps are working.

b) One out of two mechanical screens are working. One mechanical screen and belt conveyor are under maintenance.

c) Both DG sets are OK for operation.

d) Old DG set is not working due to non-availability of electrical panel. Concessionaire to please do the needful so that old DG can be kept ready for operation in emergency conditions.

e) Calibration of flowmeter (Make – Adept) for VNC pumps of 125 HP is completed but calibration of flowmeter (Make – Krone Marshall) for VNC pumps of 75 HP is pending. Concessionaire to please do the needful and submit calibration certificates for the same.

f) Installation of pressure transmitter on header line of VNC pumps is pending.

g) Painting for all units in the MPS is not started yet. Concessionaire to please do the needful.

h) In PLC panels, indication for ON/OFF of mechanical screens, belt conveyor is not coming.

63. 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) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in Concession Agreement.

b) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.

c) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.

d) Records as per point no. (a)(iii) of Clause no. 9.8 of the 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) Breakdown & failure reports must be submitted within 12 hours of such breakdown/failure.

j) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.

k) Calibration reports for all instruments & meters installed at site.

l) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

1.3 Recommendations

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Regular testing of samples must be done from outlet of PSTs, Aeration tanks for checking the efficiency of individual units.
- Concessionaire to please ensure that all the testings must be done as per clause no. 1.7.9 of Part-G in Concession Agreement.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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

Date	Daily Feed Quantity MLD (Design-49 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M1	M2	Inlet pH (Design-<9)	Final pH (Design-6.5 to 8.0)	Inlet BOD (Design-<250 mg/l)	Final BOD (Design-<30 mg/l)	Inlet COD (Design-<450 mg/l)	Final COD (Design-<250 mg/l)	Inlet TSS (Design-<500 mg/l)	Final TSS (Design-<50 mg/l)	Inlet (Design-NA)	Final (Design-<1000 MPN/100 ml)	Final (Design-0.2 mg/l)	Quant Concentration (>20%)	Fecal Coliform (20.00,000 MPN/gm)	
1-Mar-22	80350	83.55	7.42	7.73	140	15	336	40	173	34	NA	600	0.2	23.11	1700000	
2-Mar-22	77580	77.33	7.38	7.69	130	18	348	48	180	37	NA	400	0.2	22.84	1400000	
3-Mar-22	75000	73.38	7.42	7.62	125	16	324	44	162	28	NA	700	0.2	21.22	1300000	
4-Mar-22	76750	78.22	7.34	7.72	138	19	334	42	194	33	NA	900	0.3	23.33	1700000	
5-Mar-22	78180	78.13	7.42	7.73	132	17	328	48	155	38	NA	400	0.2	23.23	1400000	
6-Mar-22	77420	77.42	7.32	7.68	125	15	312	39	179	29	NA	600	0.2	21.27	1400000	
7-Mar-22	76500	73.98	7.29	7.71	125	14	340	44	183	38	NA	200	0.3	22.95	1700000	
8-Mar-22	78770	78.27	7.32	7.72	139	17	318	42	197	33	NA	400	0.3	22.77	1200000	
9-Mar-22	78180	78.28	7.4	7.69	140	18	344	44	183	38	NA	800	0.2	21.38	1400000	
10-Mar-22	75840	73.84	7.38	7.74	145	15	328	40	185	33	NA	500	0.2	22.83	1700000	
11-Mar-22	76050	78.05	7.42	7.75	135	15	332	48	199	38	NA	400	0.3	21.95	1700000	
12-Mar-22	76420	75.82	7.34	7.75	150	17	316	44	205	28	NA	400	0.3	22.88	1400000	
13-Mar-22	80110	83.21	7.35	7.67	140	16	348	44	193	34	NA	600	0.2	21.33	1300000	
14-Mar-22	78830	78.8	7.43	7.72	125	18	336	40	188	25	NA	900	0.3	22.85	1400000	
15-Mar-22	78110	78.21	7.37	7.71	135	17	338	44	189	29	NA	700	0.2	21.33	1300000	
16-Mar-22	78050	78.02	7.35	7.68	145	15	340	48	207	27	NA	500	0.2	23.15	1500000	
17-Mar-22	71140	71.08	7.4	7.73	160	19	316	48	178	39	NA	400	0.2	22.88	1300000	
18-Mar-22	80030	80.33	7.32	7.65	125	18	336	40	188	34	NA	900	0.3	21.95	1400000	
19-Mar-22	81150	81.05	7.37	7.72	160	17	344	44	195	25	NA	800	0.2	21.87	1700000	
20-Mar-22	74140	74.14	7.41	7.75	155	15	328	48	165	28	NA	400	0.2	22.68	1300000	
21-Mar-22	76610	76.61	7.35	7.71	125	17	348	40	196	30	NA	500	0.2	24.00	1600000	
22-Mar-22	71870	71.67	7.43	7.75	130	19	340	44	203	27	NA	600	0.2	22.95	1300000	
23-Mar-22	76580	73.58	7.38	7.72	140	18	328	48	179	25	NA	400	0.2	21.38	1700000	
24-Mar-22	77580	77.58	7.41	7.69	135	16	344	36	196	28	NA	500	0.3	22.75	1400000	
25-Mar-22	73080	73.08	7.42	7.73	125	16	330	40	207	24	NA	800	0.2	23.57	1700000	
26-Mar-22	78280	78.28	7.39	7.68	130	17	332	44	171	27	NA	800	0.2	22.88	1700000	
27-Mar-22	8110	8.11	7.37	7.71	140	15	320	48	199	25	NA	600	0.2	23.83	1500000	
28-Mar-22	13020	12.67	7.33	7.72	135	16	330	44	203	25	NA	500	0.2	22.45	1300000	
29-Mar-22	8250	8.23	7.4	7.68	125	18	332	40	203	28	NA	800	0.2	23.15	1600000	
30-Mar-22	18050	13.83	7.42	7.73	135	15	328	44	184	27	NA	600	0.2	21.75	1700000	
31-Mar-22	19030	23.49	7.39	7.68	130	16	324	36	198	25	NA	400	0.2	21.88	1700000	
Average	65888.45	64.00	7.39	7.71	133.57	16.48	329.29	43.00	188.84	28.84	#DIV/0!	486.42	0.21	22.65	1521428.57	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar, PM-I, UPJN. 2. Mr. Arvind Yadav, AE, UPJN. 3. Mr. Manish Srivastva, JE, UPJN 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Tomar, AECOM. 6. Mr. Girgesh, PWPL.
Place(s) of Inspection	• 60 MLD STP at Rajapur, Prayagraj • 25 MLD SPS at Rajapur, Prayagraj • 55 MLD MPS at Mumfodganj Prayagraj

Visit was done on 5th March, 11th March & 22th March and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	71.58 to 86.33
2	Rajapur SPS	6.60 to 15.02
3	Mumfodganj MPS	64.98 to 72.66

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	14 to 19 mg/l
2	TSS – Effluent	< 30 mg/l	23 to 29 mg/l
3	pH – Effluent	6.5 – 9.0	7.65 to 7.75
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.33 to 23.25%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1300000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Rajapur STP	22.11 to 41.32
2	Rajapur Associated Infrastructure	52.04 to 59.17

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

- **Status of various units & records at site:**

1. Flowmeter at inlet was working and it was showing flow of 4641.58 m3/hr i.e., 111.39 MLD at 11.10 AM.
2. Data transmission to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
3. Online Analyzer at Inlet is not giving correct values of parameters which can be due to incorrect sample reaching the analyzer or due to some problem in analyzer. Concessionaire to please check and rectify the problem.
4. Communication of data from PLC system of SPS/MPS to SCADA system of STP is started but signals are breaking hence data is not received continuously, hence SCADA reports related to associated infrastructure cannot be generated. This is a long-term pending issue and hence Concessionaire is required to rectify the problem at the earliest.
5. Both grit removal units are working.
6. Both Mechanical Fine Screens at PTU are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
7. During visit it was found that several distribution cells of both UASB reactors are choked. Cleaning work is in progress.
8. During rehabilitation period, it was suggested to complete the cleaning of UASB reactors for increasing the efficiency of treatment process but the same was not done. Hence, Concessionaire is suggested to plan for the same.
9. 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.
10. All surface aerators are working.
11. In meter room, no permanent arrangement is being made for safe approach to the electrical panel at increased height which is very dangerous and violates all safety norms. Concessionaire is required to look into the matter & do the needful at the earliest.
12. Both DG sets are working. Repairing of DG shed is pending.
13. It is suggested to increase the height of chimney of DG sets as per CPCB norms.
14. All sludge transfer pumps are working.
15. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
16. For chlorination system, it was found that booster pumps were getting water from potable water system of plant which is completely against CPCB norms. Concessionaire to please look into the matter and make arrangement for using treated water in booster line.
17. 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.
18. Rehabilitation of Leak absorption system is completed. Testing of system for working in auto mode is not done yet. This must be done at the earliest for avoiding any kind of mis-happening at the time of chlorine leakage.
19. Installation of New Online Analyzer at Outlet was completed. Calibration online Analyzer is completed by site team.
20. Flowmeter at outlet was working and it was showing flow of 4542.60 m3/hr i.e., 109.02 MLD at 11.40 AM. Calibration flowmeter is completed by site team, Concessionaire is

required to get the calibration of flowmeter verified by OEM and submit calibration certificates.

21. Calibration of flowmeter in outlet line of effluent pumps is pending. Concessionaire to please do the needful and submit calibration reports.
22. In SCADA, required changes in the report must be done as discussed.
23. Gas holder and gas flare are not in operation. Concessionaire is requested to complete the maintenance works and take both into operation.
24. Landscaping of the plant is started. Concessionaire is suggested to increases the manpower for landscaping work.
25. Housekeeping of the plant must be improved.
26. All main roads of plant are broken. Construction/repairing of roads is not started yet, Concessionaire to please start the work at the earliest.
27. As already discussed, printed logbooks must be present at site for daily records. Use of printed logbooks is started but it is still not implemented for all records yet. Concessionaire to please do the needful at the earliest.
28. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not done till date. Concessionaire to please check & do the needful.
29. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
30. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. This is not started yet, Concessionaire to please do the needful.
31. Installation of Public Address System is done but its commissioning is not completed yet.
32. At Rajapur SPS following observations were made:

    a) Temporary Bund at tapping pint 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.
    b) Mechanical coarse Screens at SPS is working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
    c) 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 pump can start & stop on the basis of level in the sump.
    d) Calibration of flow meter is pending, Concessionaire to please do the needful and submit calibration reports.

33. At Mumfodganj MPS following observations were made:

    a) Mechanical coarse screens at MPS are not working properly as screens are not lifting waste material properly. Concessionaire to please rectify the problem. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
    b) At Mumfodganj 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 pump can start & stop on the basis of level in the sump.
    c) Dismantling joint must be provided along with flowmeter for ease in maintenance.
    d) NRV must be provided in common header to reduce the effect of water hammering.
    e) Site house Keeping & landscaping must be improved. Concessionaire is suggested to keep the Old material Properly.

f) Painting for all units in the MPS is not started yet. Concessionaire to please do the needful.

34. 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:

m) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in Concession Agreement.
n) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
o) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
p) Records as per point no. (a)(iii) of Clause no. 9.8 of the Concession Agreement.
q) Quarterly report as per Part-G in Schedule-10 of CA.
r) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
s) Procedure for recording & disposal of complaints.
t) Safety & Health Records. Incident reports must also be submitted along with action plan.
u) Breakdown & failure reports must be submitted within 12 hours of such breakdown/failure.
v) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
w) Calibration reports for all instruments & meters installed at site.
x) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

2.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Regular testing of samples must be done from outlet of UASBs, Aeration tanks for checking the efficiency of individual units.
- Concessionaire to please ensure that all the testing must be done as per clause no. 1.7.9 of Part-G in Concession Agreement.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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, PROJECT ENGINEER INSPECTION REPORT AND RECOMMENDATION

Table of Contents

1. NUMAYADAHI STP AND ASSOCIATE INFRASTRUCTURE 2
1.1 KPI Report 2
1.2 Inspection Report 3
1.3 Recommendation's 7
2. SALORI STP AND ASSOCIATE INFRASTRUCTURE 8
2.1 KPI Report 8
2.2 Inspection Report 10
2.3 Recommendation's 13
3. KODRA STP AND ASSOCIATE INFRASTRUCTURE 14
3.1 KPI Report 14
3.2 Inspection Report 15
3.3 Recommendation's 18
4. PONGHAT STP AND ASSOCIATE INFRASTRUCTURE 19
4.1 KPI Report 19
4.2 Inspection Report 20
4.3 Recommendation's 23

1. NUMAYADAHI STP AND ASSOCIATE INFRASTRUCTURE

1.1 KPI Report

Date	Daily Flow Quantity MLD (Design- 60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS..(mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	MI	MLD	Inlet pH (Design- n/a)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <30 mg/l)	Inlet COD (Design- n/a mg/l)	Final COD (Design - <100 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design - <100 mg/l)	Inlet (Design - N/A)	Final (Design - <1000 MPN/100 ml)	Final (Design- 0.2 mg/l)	Outlet Concentration (>35%)	Fecal Coliform (20,00,000 MPN/gTS)	
1-Mar-22	62150	65.15	7.16	7.7	155	12	408	80	268	26	NA	400	0.2	24.1	1100000	
2-Mar-22	59629	58.52	7.22	7.88	140	10	318	32	228	28	NA	800	0.2	24.78	1400000	
3-Mar-22	61050	61.05	7.13	7.8	155	17	338	40	288	36	NA	500	0.3	23.3	1300000	
4-Mar-22	65250	66.2	7.25	7.79	160	16	328	40	258	29	NA	400	0.2	23.48	1400000	
5-Mar-22	62230	62.28	7.26	7.88	155	17	308	38	278	28	NA	300	0.3	24.28	1300000	
6-Mar-22	67350	67.88	7.13	7.86	165	18	332	44	246	24	NA	600	0.3	23.34	1200000	
7-Mar-22	68800	68.88	7.29	7.76	150	16	338	40	270	28	NA	400	0.3	23.87	1200000	
8-Mar-22	63575	65.57	7.26	7.36	140	14	308	48	250	26	NA	400	0.3	23.47	1400000	
9-Mar-22	63120	65.12	7.18	7.8	125	12	428	80	230	28	NA	700	0.2	23.51	1700000	
10-Mar-22	63020	63.02	7.21	7.84	150	16	318	36	260	28	NA	400	0.3	24.13	1400000	
11-Mar-22	62050	61.55	7.28	7.76	160	20	308	38	256	28	NA	700	0.3	23.84	1300000	
12-Mar-22	61150	61.15	7.26	7.8	158	15	328	40	228	24	NA	400	0.3	24.3	1400000	
13-Mar-22	61910	61.91	7.3	7.37	165	12	332	36	282	22	NA	500	0.2	23.14	1200000	
14-Mar-22	57800	57.8	7.24	7.64	152	12	338	40	275	26	NA	400	0.2	23.79	1000000	
15-Mar-22	65570	65.57	7.21	7.58	165	14	328	38	257	28	NA	700	0.3	24.21	1400000	
16-Mar-22	59620	59.62	7.19	7.71	160	12	318	44	284	24	NA	600	0.2	23.34	1300000	
17-Mar-22	61140	61.14	7.31	7.31	165	17	338	40	271	28	NA	500	0.3	23.74	1700000	
18-Mar-22	68700	68.78	7.24	7.76	160	18	312	36	258	29	NA	400	0.3	23.49	1400000	
19-Mar-22	72020	72.02	7.21	7.89	180	20	328	40	289	29	NA	500	0.2	24.11	1500000	
20-Mar-22	63010	63.01	7.18	7.34	155	17	308	38	263	24	NA	600	0.3	23.68	1200000	
21-Mar-22	58810	58.81	7.28	7.72	160	18	318	40	258	22	NA	400	0.3	23.56	1300000	
22-Mar-22	57130	57.13	7.31	7.41	155	15	288	44	277	24	NA	600	0.2	24.31	1300000	
23-Mar-22	58820	58.82	7.28	7.84	160	16	328	40	255	28	NA	500	0.2	23.39	1200000	
24-Mar-22	60850	60.85	7.14	7.88	145	14	338	40	284	26	NA	700	0.3	24.19	1300000	
25-Mar-22	62150	62.15	7.28	7.67	157	20	328	46	234	24	NA	400	0.2	23.9	1400000	
26-Mar-22	52150	52.1	7.14	7.76	150	15	324	40	268	22	NA	400	0.2	23.54	1200000	
27-Mar-22	54050	54.09	7.19	7.54	165	19	335	39	264	28	NA	500	0.3	23.95	1300000	
28-Mar-22	52210	52.21	7.15	7.66	155	19	318	40	234	24	NA	700	0.3	23.84	1200000	
29-Mar-22	51540	51.54	7.14	7.86	140	15	308	36	289	29	NA	900	0.2	23.44	1300000	
30-Mar-22	61300	61.3	7.28	7.79	160	17	312	48	250	24	NA	700	0.2	23.98	1700000	
31-Mar-22	64080	64.08	7.16	7.8	155	13	328	40	260	28	NA	400	0.3	23.03	1400000	
Average	**61058.79**	**61.04**	**7.22**	**7.71**	**161.32**	**15.68**	**326.29**	**46.29**	**262.43**	**25.29**	**#DIV/0!**	**632.14**	**0.25**	**23.46**	**1382142.86**	

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar, PM-I, UPJN. 2. Mr. Tauseef Ahmed, AE, UPJN. 3. Mr. Satwant, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Tomar, AECOM. 6. Mr. Vijay Dwivedi, 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 2nd March 2022 and 11th March 2022 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	54.31 to 72.02
2	Ghagharnalla MPS	56.28 to 74.19
3	Sasur Kadheri SPS	27.49 to 38.01
4	Lukerganj SPS	3.90 to 5.90

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	12 to 18 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.32 to 7.89
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 900 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.52 to 25.30 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Numayadahi STP	49.35 to 70.15
2	Numayadahi Associated Infrastructure	94.21 to 102.97

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

- **Status of various units & records at site:**

1. It is observed that power cut at Numayadahi STP is very frequent and normally 2-3 times power cut takes place every day. This is having adverse effect on the operation of facilities and can lower down the efficiency of facility. Also, frequent power cuts can cause excessive wear & tear of equipment. Hence, UPJN is requested to please look into the matter and do the needful.
2. Online Analyzer at Inlet is not giving correct values of parameters which can be due to incorrect sample reaching the analyzer or due to some problem in analyzer. At the time of current visit, sample pump was not found running, Concessionaire to please check & rectify the problem.
3. Data transmission from online analyzers to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
4. Communication of data from PLC system of SPS/MPS to SCADA system of STP is started but signals are breaking hence data is not received continuously, hence SCADA reports related to associated infrastructure cannot be generated. This is a long-term pending issue and hence Concessionaire is required to rectify the problem at the earliest.
5. Both grit removal units were in operation.
6. Both Mechanical Screens are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
7. All Biotowers were in operation.
8. 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.
9. All Aeration tanks are in operation. It is found that in all Aeration tanks, air is coming vigorously from 2-3 points due to which air distribution is not proper in the tank which could affect the quality of treatment in aeration tanks. Concessionaire is requested to rectify the problem at the earliest.
10. All Aeration blowers are in working condition & two blowers were found running. Ammeters of blower no. 3 & 4 are not working, please rectify the problem.
11. DO analyzer at the outlet of Aeration tank no. 3 is not working properly, please check & rectify the problem.
12. Pressure transmitted & temperature transmitted on header line of Aeration blowers is not installed yet.
13. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 4 – 6 trolleys per day.
14. All Sludge Recirculation Pumps are in working condition.
15. Both Secondary clarifiers were found in operation. In Secondary clarifier no. 2, it is found that dead sludge can be seen coming to the top of water surface in some parts. Though the maintenance work is completed and floatation of sludge is rectified in major parts of this clarifier but it is suggested to rectify this minor problem also.
16. Both booster pumps & both chlorinators are in working condition & chlorine dosing was found to be running around 6 kg/hr.
17. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
18. Rehabilitation of Leak absorption system is completed. Testing of system for working in auto mode was checked and it was found that air blower & caustic pump start running at 3 ppm but it must be set around 1 ppm for providing better safety measures.

Concessionaire is requested to do the needful.

19. Filling of caustic solution was completed in neutralization tank and it was instructed to check the concentration of caustic solution and maintain it around 20%.
20. Online Analyzer at Outlet was not giving correct values of parameters which can be due to incorrect sample reaching the analyzer or due to some problem in analyzer. This problem is pending from long time now. Concessionaire to please rectify the problem at the earliest.
21. Chlorine analyzer for the effluent is not giving correct values.
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. Minor Seepages from Biotowers & some other units can be seen, and this must be rectified.
24. As already discussed, printed logbooks must be present at site for daily records. Use of printed logbooks is started but it is still not implemented for all records yet. Concessionaire to please do the needful at the earliest.
25. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not implemented till date. Concessionaire to please check & do the needful.
26. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. This is not started yet, Concessionaire to pleasedo the needful.
27. Installation of Public Address System is done but its commissioning is not completed yet.
28. Painting of units in the STP is started. It is suggested to start the painting work for all units from inside also.
29. Some CCTV cameras are out of operation, please rectify the problem.
30. Recording of flow from flowmeters at inlet & outlet is not accurate in SCADA system, Concessionaire to please check & rectify the problem.
31. For Ghagharnalla MPS, following issues are required to be resolved:

    a) It is observed that overflow occurs sometimes during peak time due to deposition of sludge in the path of nalla towards tapping point even after running MPS at full capacity. Hence, UPJN is requested to please look into the matter and do the needful.

    b) Repairing of wall of pump house towards sump is required so that no sewage can go inside the pump house in any situation.

    c) Currently, all HNC pumps (5 new + 1 old) are in working condition. It is suggested to complete repairing of old pumps also so that they can be used during emergency situation.

    d) NRVs for two pumps are leaking due to which flow is going back in the pumps that are not operating and hence the condition may arise in which pumps will not give full flow if the discharge will also start leaking. This is a long-term pending issue and hence Concessionaire is required to rectify the problem at the earliest.

    e) There is minor leakage of sewage from the retaining wall at the tapping point of MPS, this must be rectified. Also, strengthening of the wall must be done so that it does not broke during rains and floods.

    f) Both Mechanical screens are working.

g) Both DG sets are working.

h) 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.

i) Painting for all units in the MPS is not started yet. Concessionaire to please do the needful.

32. For Sasur Kadheri SPS, following issues are required to be resolved:

a) Raw sewage is leaking from the sides of retaining wall at the tapping point of SPS, this must be rectified.

b) Currently all submersible pumps in the SPS are OK for operations.

c) Both Mechanical screens are working.

d) Both DG sets are OK for operation.

e) It is observed that power cut at SPS is very frequent. This can have adverse effect on the operation of facilities and can lower down the efficiency of facility. Also, frequent power cuts can cause excessive wear & tear of equipment. Hence, UPJN is requested to please look into the matter and do the needful.

f) Painting for all units in SPS is not started yet. Concessionaire to please do the needful.

33. At Lukerganj SPS,

a) All 6 pumps are OK for operation. It is suggested to complete repairing of old pumps also so that they can be used during emergency situation.

b) One mechanical screen is working and one is in .

c) Painting for units is in progress

d) Both DG sets are working.

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

a) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.

b) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in 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) Records as per point no. (a)(iii) of Clause no. 9.8 of the Concession Agreement.

f) Quarterly report as per Part-G in Schedule-10 of CA.

g) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.

h) Procedure for recording & disposal of complaints.

i) Safety & Health Records. Incident reports must also be submitted along with action

plan.

j) Breakdown & failure reports must be submitted within 12 hours of such breakdown/failure.
k) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
l) Calibration reports for all instruments & meters installed at site.
m) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

1.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Regular testing of samples must be done from outlet of Biotowers for checking the efficiency of Biotowers.
- 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.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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

Date	Daily Feed Quantity MLD (Design- 29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	MD	MLD	Inlet pH (Design- <9)	Final pH (Design- 6.5 to 8.5)	Inlet BOD (Design- <250 mg/l)	Final BOD (Design - <25 mg/l)	Inlet COD (Design- <450 mg/l)	Final COD (Design- <80 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design - <30 mg/l)	Inlet (Design - NIL)	Final (Design - <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (<20%)	Fecal Coliform (Design- <2500 MPN/g DS)	
1-Mar-22	22040	22.04	7.42	7.63	157	24	394	44	217	27	NA	500	0.3	23.4	1300000	
2-Mar-22	23110	23.11	7.35	7.52	143	21	355	40	226	28	NA	700	0.2	22.5	1100000	
3-Mar-22	23480	23.48	7.4	7.55	153	23	352	44	229	40	NA	800	0.3	23.8	1400000	
4-Mar-22	23190	23.26	7.22	7.39	150	24	339	40	213	28	NA	500	0.3	24.1	1200000	
5-Mar-22	23070	23.07	7.3	7.45	168	26	348	38	209	24	NA	600	0.3	24.7	1600000	
6-Mar-22	24470	24.47	7.28	7.49	156	22	383	31	220	30	NA	700	0.2	25	1200000	
7-Mar-22	22470	22.47	7.34	7.51	153	23	355	40	212	28	NA	850	0.2	23.2	1100000	
8-Mar-22	21530	21.53	7.37	7.56	159	25	381	38	208	22	NA	500	0.3	22.7	1300000	
9-Mar-22	21150	21.15	7.25	7.48	147	24	352	37	223	31	NA	800	0.2	21.9	1400000	
10-Mar-22	22190	22.19	7.31	7.64	156	25	394	44	305	35	NA	400	0.3	24.4	1200000	
11-Mar-22	21110	21.11	7.4	7.58	150	23	360	39	216	29	NA	700	0.2	22.3	1100000	
12-Mar-22	22210	22.21	7.28	7.52	159	24	388	40	256	33	NA	800	0.3	21.8	1300000	
13-Mar-22	21790	21.79	7.33	7.57	153	25	344	44	214	27	NA	500	0.3	23.3	1200000	
14-Mar-22	23420	23.42	7.23	7.5	156	23	339	36	220	24	NA	700	0.2	24.2	1400000	
15-Mar-22	21550	21.5	7.37	7.65	162	25	380	40	308	36	NA	400	0.3	23.7	1600000	
16-Mar-22	22940	22.94	7.19	7.56	153	24	389	44	225	28	NA	500	0.2	23.3	1200000	
17-Mar-22	22770	22.77	7.29	7.51	163	26	355	36	218	23	NA	650	0.3	23.9	1300000	
18-Mar-22	25320	25.3	7.34	7.63	159	23	344	40	227	25	NA	700	0.2	24.1	1400000	
19-Mar-22	24340	24.34	7.25	7.54	153	21	369	44	220	40	NA	500	0.3	23.2	1600000	
20-Mar-22	22230	22.23	7.27	7.59	144	21	348	48	214	27	NA	800	0.2	22.8	1300000	
21-Mar-22	22090	22.09	7.41	7.58	156	24	383	44	224	34	NA	600	0.2	23.5	1400000	
22-Mar-22	22430	22.43	7.21	7.53	162	25	352	40	208	28	NA	650	0.3	22.7	1200000	
23-Mar-22	22940	22.94	7.31	7.64	153	23	344	44	216	30	NA	700	0.2	23.2	1300000	
24-Mar-22	23370	23.37	7.27	7.58	159	24	395	40	229	22	NA	850	0.3	22.5	1100000	
25-Mar-22	22215	22.21	7.38	7.72	156	22	388	36	212	25	NA	500	0.3	22.9	1200000	
26-Mar-22	22440	22.44	7.39	7.62	162	25	352	44	206	42	NA	700	0.2	23.3	1400000	
27-Mar-22	23550	23.55	7.23	7.48	153	23	344	40	220	29	NA	600	0.3	22.7	1300000	
28-Mar-22	22210	22.21	7.31	7.55	147	28	359	44	208	35	NA	650	0.2	22.9	1100000	
29-Mar-22	22650	22.65	7.36	7.68	156	24	340	36	214	31	NA	500	0.3	23.6	1300000	
30-Mar-22	24180	24.18	7.22	7.55	165	23	352	40	205	34	NA	800	0.2	22.8	1400000	
31-Mar-22	22540	22.54	7.34	7.63	159	23	344	44	218	27	NA	700	0.2	23.1	1300000	
Average	**22592.84**	**22.59**	**7.31**	**7.58**	**156.29**	**23.84**	**350.42**	**40.00**	**214.26**	**28.45**	**#DIV/0!**	**660.00**	**0.24**	**22.33**	**1296428.57**	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar, PM-I, UPJN. 2. Mr. Tauseef, AE, UPJN. 3. Mr. Gaurav Gupta, AECOM. 4. Mr. Sudhir Tomar, AECOM. 5. Mr. Vaibhav, PWPL 6. Mr. Ashish, PWPL
Place(s) of Inspection	• 29 MLD STP at Salori, Prayagraj. • 29 MLD MPS at Salori, Prayagraj.

Visit was done on 25th Feb 2021, 25th Mar 2021 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	31.15 to 38.77
2	Salori MPS	31.15 to 38.77

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	21 to 26 mg/l
2	TSS – Effluent	< 50 mg/l	30 to 40 mg/l
3	pH – Effluent	6.5 – 9.0	7.39 to 7.69
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.8 to 25.0 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1600000 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	85.20 to 114.40
2	Salori MPS	49.86 to 53.68

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

- **Status of various units & records at site:**

1. Process analyzers at inlet is working but it is showing incorrect values of parameters, please check & rectify the problem.
2. Process analyzers at outlet is working. Installation of new analyzer is completed but verification of calibration in presence of UPJN/Project Engineer is pending. Concessionaire to please check & do the needful.
3. In SCADA system, recording of inlet and outlet flow is started from 03rd Feb 2022 but there is variation in recorded values of daily report, monthly reports of SCADA and site records. Concessionaire to please check & rectify the problem.
4. Chlorine analyzer at outlet is not working.
5. All Grit Removal Units are working.
6. Both Mechanical Screens are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
7. Both FAB units are working. DO analyzer for FAB no. 2 is not working.
8. Pump for sensor cleaning of DO analyzers must be made operational for efficient working of DO analyzers.
9. All Aeration blowers are working.
10. Both Clarisettlers are working. In both Clarisettlers (especially in Clarisettler no. 2), levelling of outlet launders must be checked as supernatant is not coming equally in all outlet lauders & this can affect the quality of effluent. This problem was highlighted earlier also but no progress is madetill date. Concessionaire to please look into the matter & rectify the problem at the earliest.
11. Sample of both clarisettlers was checked and found that outlet quality of clarisettler no. 1 is not good as compared to that of clarisettler no. 2. Please rectify the problem.
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 not good during peak hours. Concessionaire is requested to ensure proper withdrawal of sludge so that quality of effluent can be improved during peak hours also.
14. Transformer no. 2 is not working due to oil leakage, maintenance work is in progress.
15. Sludge dewatering unit is made operational. Installation of instruments (flowmeter for poly dosing line, etc.) is pending, Concessionaire to please do the needful.
16. Both Sludge transfer pumps for Clarisettler are working.
17. Both Filtrate pumps are working.
18. Both chlorinators and chlorine booster pumps are working.
19. Windsock must be replaced at chlorination building.
20. Leak absorption system is working. Checklist for the same must be prepared and recorded properly every month.
21. Thickener unit is 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. As already discussed, printed logbooks must be present at site for daily records. Use of printed logbooks is started but it is still not implemented for all records yet. Concessionaire to please do the needful at the earliest.
24. At Salori MPS, 5 pumps are OK for operation and 1 pump is in maintenance hence only one pump is in stand-by. Since the programming for running pumps in auto mode is

completed, it is suggested to operate them in auto mode for optimum performance.

25. At Salori MPS, it is suggested to rectify problems in old pumps also so that they be used in emergency situation. Currently, all old pumps are not in working condition.
26. At Salori MPS, coarse screens before sump are working but lot of waste is passing due to gap between screens and RCC structure due to which pumps are getting choked and lot of wear and tear is happening in the pumps. Hence, UPJN is requested to instruct M/s Passavant to rectify the problem.
27. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not done till date. Concessionaire to please check & do the needful.
28. As already discussed, all the waste material obtained during Rehabilitation Works must be removed from the site as per point (h) in clause 8.8 of Concession Agreement.
29. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. This must be implemented from day 1 of O&M period but the same is not completed till date, Concessionaire to please do the needful.
30. Installation & commissioning of Public Address System is not completed yet.
31. Installation of FeCl3 dosing system is completed but it is not made operational yet. Concessionaire to please complete the work at the earliest so that the quality of effluent can be improved further.
32. Housekeeping around dewatering area must be improved, lot of sludge can be seen scattered in this area.
33. All CCTV cameras are working
34. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    n) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    o) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in Concession Agreement.
    p) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
    q) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession Agreement.
    r) Records as per point no. (a)(iii) of Clause no. 9.8 of the Concession Agreement.
    s) Quarterly report as per Part-G in Schedule-10 of CA.
    t) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    u) Procedure for recording & disposal of complaints.
    v) Safety & Health Records. Incident reports must also be submitted along with action plan.
    w) Breakdown & failure reports within 12 hours of such breakdown/failure.
    x) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    y) Calibration reports for all instruments & meters installed at site.
    z) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

2.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of FABs for checking the efficiency of FABs.
- 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.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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.

3.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar PM-I, UPJN. 2. Mr. Tauseef Ahmed, AE UPJN. 3. Mr. Narendra, JE UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Tomar, AECOM. 6. Mr. Jagdish, PWPL. 7. Mr. Rajan, PWPL.
Place(s) of Inspection	• 25 MLD STP at Kodra, Prayagraj • 25 MLD MPS at Kodra, Prayagraj

Visit of Kodra STP & MPS was done on 3th March,10th March & 15th March and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	25.57 to 30.87
2	Kodra MPS	25.57 to 30.87

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	11 to 16 mg/l
2	TSS – Effluent	< 50 mg/l	19 to 25 mg/l
3	pH – Effluent	6.5 – 9.0	7.56 to 7.85
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.44 to 23.45%
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	78.72 to 103.25
2	Kodra MPS	95.41 to 103.67

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

- **Status of various units & records at site:**

1. Flowmeter at inlet was working and it was showing flow of 1469.40 m3/hr i.e., 35.26 MLD at 11.35 AM.
2. Data transmission to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
3. Online Analyzer at Inlet is not working satisfactorily.
4. Both grit removal unit are working.
5. Both Mechanical Fine Screens at PTU are working.
6. All Biotowers are working. Small amount of plastic waste is reaching the biotowers.
7. All Aeration tanks are working.
8. Vigorous air is coming from marked point in Aeration Tank no. 1. This must be checked & rectified. Same is the case for Aeration Tank no .2 also. Concessionaire is requested to rectify the problem as soon as possible.
9. Both Dissolved oxygen Analyzer are not working at aeration tank.
10. All Aeration blowers are working. Connection of Pressure switches is pending.
11. All Centrifuge are in working condition.
12. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
13. All Sludge Recirculation Pumps are working.
14. Both Centrifuge Feed Pumps are working.
15. Both Secondary Clarifiers are working. Secondary Clarifier launder cleaning is required.
16. Both Chlorine Dosing Systems are working. Chlorine dosing was around 4-5 kg/hr and residual chlorine in effluent was 0.2 to 0.3 mg/l.
17. 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.
18. Rehabilitation of Leak absorption system is completed. Testing of system for working in auto mode is not done yet. This must be done at the earliest for avoiding any kind of mis-happening at the time of chlorine leakage.
19. Online Analyzer at Outlet is not working satisfactorily.
20. Flowmeter at outlet was working and it was showing flow of 1410.13 m3/hr i.e. 33.84 MLD at 12.10 PM.
21. In SCADA, operations of some equipment is not possible. Work is in progress.
22. Both Mechanical coarse Screens at MPS are working.
23. At Kodra MPS, all 6 pumps are OK for operation. Pressure transmitter is not installed in common header line of pumps yet. Also, pumps must be kept in auto mode so that pump can start & stop on the basis of level in the sump.
24. Site house Keeping & landscaping are required. Concessionaire is suggested to keep the Old material Properly.
25. As already discussed, printed logbooks must be present at site for daily records. Use of printed logbooks is started but it is still not implemented for all records yet. Concessionaire to please do the needful at the earliest.
26. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not done till date. Concessionaire to please check & do the needful.
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. This is not started yet, Concessionaire to please do the needful.
29. Installation of Public Address System is done but its commissioning is not completed yet.
30. As already discussed, the painting of units from inside and outside but work is not completed yet.
31. Raw sewage is leaking from the retaining wall at the tapping point of MPS, this must be rectified. Also, strengthening of the wall must be done so that it does not broke during rains and floods.
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) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    b) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in 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) Records as per point no. (a)(iii) of Clause no. 9.8 of the Concession Agreement.
    f) Quarterly report as per Part-G in Schedule-10 of CA.
    g) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    h) Procedure for recording & disposal of complaints.
    i) Safety & Health Records. Incident reports must also be submitted along with action plan.
    j) Breakdown & failure reports within 12 hours of such breakdown/failure.
    k) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    l) Calibration reports for all instruments & meters installed at site.
    m) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

3.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of FABs for checking the efficiency of FABs.
- 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.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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.

4.2 Inspection Report

Month of Site Inspection	March 2022
Site Inspectors	1. Mr. Santosh Kumar PM-I, UPJN. 2. Mr. Tauseef Ahmed, AE UPJN. 3. Mr. Narendra, JE UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Tomar, AECOM. 6. Mr. Jagdish, PWPL. 7. Mr. Anjani, PWPL.
Place(s) of Inspection	• 10 MLD STP at Ponghat, Prayagraj • 10 MLD MPS at Ponghat, Prayagraj

Visit of Ponghat STP & MPS was done on 4th March, 9th March & 16th March and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	11.19 to 13.38
2	Ponghat MPS	11.19 to 13.38

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	< 30 mg/l	13 to 16
2	TSS – Effluent	< 50 mg/l	20 to 28
3	pH – Effluent	6.5 – 9.0	7.38 to 7.79
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700
5	Consistency – Sludge	> 20 %	21.16 to 23.62
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000

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	108.95 to 143.80
2	Ponght MPS	75.86 to 88.47

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

- **Status of various units & records at site:**

1. Flowmeter at inlet was working and it was showing flow of 836.11 m3/hr i.e., 20.06 MLD at 11.45 AM.
2. Online Analyzer at Inlet was not working satisfactorily.
3. Data transmission to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
4. Both Mechanical Coarse screen at MPS are working.
5. Both Grit Removal Units are working.
6. Both Mechanical Fine Screens at PTU are working.
7. Biotower no. 1 is not working satisfactorily as its mechanism is not moving. Small amount of plastic waste is reaching the biotowers which must be stopped as it can choke up the media.
8. All Aeration tanks are working.
9. Both DO Analyzer at aeration are not working.
10. All Aeration Air Blowers are working.
11. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 3 – 4 trolleys per day.
12. Outlet water quality is good.
13. MPS pump operation is not according to level of the sump.
14. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
15. All Sludge Recirculation Pumps are working.
16. Both Secondary Clarifiers are working. Weir notch levelling is not satisfactory.
17. Both Chlorine Dosing Systems are working. Chlorine dosing was around 3-4 kg/hr and residual chlorine in effluent was 0.2 to 0.3 mg/l.
18. Rehabilitation of Leak absorption system is not completed yet. Testing of system for working in auto mode is not done yet. This must be done at the earliest for avoiding any kind of mis-happening at the time of chlorine leakage.
19. Currently, water is filled in caustic tank but as per norms proper caustic solution must be present in the tank. This must be done at the earliest for avoiding any kind of mis-happening at the time of chlorine leakage.
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. Online Analyzer at Outlet is not working satisfactorily.
22. Flowmeter at outlet was working and it was showing flow of 758.52 m3/hr i.e., 18.20 MLD at 11.55 AM.
23. In SCADA, operations of some equipment is not possible in auto mode due to lack of provision in old electrical panels. Arrangement for the same must be done.
24. In SCADA, flow reports do not contain cumulative readings yet. Concessionaire to please do the needful.
25. At Ponghat MPS, all 6 pumps are OK for operation. Presser transmitter is not installed at pump discharge common header.
26. As already discussed, printed logbooks must be present at site for daily records. Use of printed logbooks is started but it is still not implemented for all records yet. Concessionaire to please do the needful at the earliest.

27. As already discussed, road & drain repairing for STP & Associated Infrastructures is not started yet.
28. Site house Keeping & landscaping are required. Concessionaire is suggested to keep the Old material Properly.
29. Testing of all parameters given in Table – 2 in Clause no. 1.3.1 in Part-G of Concession Agreement is to be done on daily basis but it is not done till date. Concessionaire to please check & do the needful.
30. 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.
31. As per Clause no. 1.6 & 1.7.1 of Concession Agreement, Computer Maintenance Management System (CMMS) must be implemented at all Sites. This is not started yet, Concessionaire to please do the needful.
32. Installation of Public Address System is done but its commissioning is not completed yet.
33. As already discussed, Concessionaire must complete the painting of units from inside also.
34. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) Calibration certificates of all the instruments must be submitted as per clause no. 9.8(a)(viii) of Concession Agreement.
    b) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in 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) Records as per point no. (a)(iii) of Clause no. 9.8 of the Concession Agreement.
    f) Quarterly report as per Part-G in Schedule-10 of CA.
    g) Monthly Environmental Monitoring Report as per Part-G in Schedule-10 of CA.
    h) Procedure for recording & disposal of complaints.
    i) Safety & Health Records. Incident reports must also be submitted along with action plan.
    j) Breakdown & failure reports within 12 hours of such breakdown/failure.
    k) Periodic reports from all facilities must be uploaded on Central Pollution Control Board's Website.
    l) Calibration reports for all instruments & meters installed at site.
    m) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

4.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data as per requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possible to increase the efficiency of plant.
- Permits must be used for all kind of maintenance jobs whether it is Preventive or Corrective. Concessionaire to please ensure the same.
- All the records must be provided as per the observations made above.
- All logbooks must be filled timely and accurately.
- Testing of samples must be done from outlet of FABs for checking the efficiency of FABs.
- 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.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs must be used.
- All the old material removed from the dismantling 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 March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
4.1 (i)	Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing.	Yes	Yes	Review of construction material including lab testing.
4,1(ii)	Review, analysis and qualifying assessment of Design Memorandums, specifications and construction drawings prepared and submitted by the concessionaire.	Yes	Yes	Review of construction drawing
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 f. Environment Health and Safety Plan, material safety	Yes	Yes	Review of revised Construction plan and remaining drawing design of Civil/Mech/Electrical

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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	Review of remaining drawing design of Civil/Mech/Electrical
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 services and/or their reasonableness;	NA	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation	Yes	Yes	Yes
	Determining the Events of default and guidance on consequent Termination notices and Payment as detailed in clauses 16.1 to 16.5of the Concession Agreement	NA	NA	NA
	Determine deficiencies in the commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam	Yes	NA	NA
	Any other matter which is not specified in ((vi),(vii), or (viii) above and which creates an obligation or liability on the Employer /NMCG beyond the provisions of the Concession Agreement.	Yes	Yes	Yes
4.1(x)	Ensuring Interim Availability of the existing Facilities during construction period and certifying Scheduled Outages during Scheduled Maintenance.	Yes	NA	NA
4.1(xi)	The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and NMCG, in respect of its duties	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	and functions under the Concession Agreement.			
4.1(xii)	The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement.	Yes	Yes	Yes
4.1(xiii)	Assisting the Parties in resolution of Disputes as set forth in Paragraph 9;	Yes	Yes	NA
4.1(xiv)	Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 20.3 of the Concession Agreement; and	NA	NA	NA
4.1(xv)	Undertaking all other duties and functions in accordance with this agreement. Project Engineer shall utilize best of analytical tools /computational models for review/analysis of structural/hydraulics wherever essential.	Yes	Yes	Yes
4.2	The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice.	Yes	Yes	Yes
4.3	The Project Engineer must function in a manner to assist and equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities in a manner that: (i) Is in compliance with the Technical Specifications, Applicable Laws, Applicable	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Permits and Good Industry Practice; Results in the Facilities achieving the KPIs as detailed in schedule 9of the Concession Agreement and certify within 7 days the KPI adherence Report as per clause 9.12 of the Concession Agreement; (ii) Ensures that the Allahabad Facilities are capable of treating Sewage up to the Design Capacity on a daily basis; (iii) Ensures efficient treatment of Sewage and handling and disposal of STPs By- Products and the Treated Effluent (iv) STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure; (v) Is in compliance with the technology license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure; (vi) Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable Laws and Applicable Permits; and			

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	(vii) Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits.			
4.4	Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation and maintenance of the Facilities and shall work closely with the Uttar Pradesh Jal Nigam and NMCG to monitor compliance with the KPIs. The detailed scope of work of the Project Engineer during various stages of the project, to be read in conjunction with the provisions of the Concession Agreement, is outlined in Paragraphs 4-12 of the TOR.	Yes	Yes	Yes
5.1	During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and send its comments/observations to	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	the Uttar Pradesh Jal Nigam and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.			
5.2	The Project Engineer shall review and assist the Uttar Pradesh Jal Nigam in approval of the submissions by the concessionaire relating to the "design and, Construction Plan, rehabilitation Plan of existing facilities" so as to confirm to the scope as per Schedule 1 of the Concession Agreement.	Yes	Yes	Yes
5.3	The basic engineering drawings for the construction and rehabilitation in the above case shall mean the designs and documents to be submitted by the Concessionaire and approved by the Uttar Pradesh Jal Nigam as a Condition Precedent and shall include but not limited to (a) Conduct Kick off meeting, Scrutiny of contractor's submittals (b) Process description, process calculations and hydraulic calculations; (c) List of design codes and standards;	Yes	Yes	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	(d) Master drawing schedule; (e) Drainage design; (f) STP Facilities layout; (g) Process flow diagram; (h) Hydraulic flow diagram; (i) Mass balance diagram; (j) Process and instrumentation diagram; (k) Single line diagram; (l) Electrical load list; and (m) Structure design and drawings (n) Pump Characteristics and (o) General arrangement diagrams of all units of Facilities and; (p) Any other information, design, drawings, etc needed for effective development/rehabilitation and operation of Facilities..			
5.4	The Project Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such Drawings or Documents.	Yes	Yes	Yes
5.5	The Project Engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	comments within 10 (ten) days of receipt thereof.			
5.6	Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam	NA	NA	NA
6.1	In respect of the Designs Drawing and Documents received by the Project Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall also apply, mutatis mutandis.	Yes	Yes	Yes
6.2	The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 8.3, 8.4 and 8.5 of the Concession Agreement including Phase 1 and Phase II Design & Drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 8.6 of the Concession Agreement.	Yes	Yes	Yes
6.3	The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments on effectiveness or otherwise	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date.			
6.4	The Project Engineer shall review, in particular, 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 March 2022 to 31st March 2022		
		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 March 2022 to 31st March 2022		
		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	Review of Construction	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		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.		plan submitted by Concessionaire in line with time extension granted by NMCG	
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 March 2022 to 31st March 2022		
		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 schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same.	NA	NA	NA
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer	NA	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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.			
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual.	Yes	NA	NA
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 21.	Yes	Yes	NA
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'.	Yes	Yes	Yes
6.19	The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 8, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with.	Yes	Yes	Yes
6.20	On completion of construction and at behest of Employer, the	Yes	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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.			
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	NA	NA	NA
6.22	Project Engineer shall ensure that the Concessionaire shall meet the Guaranteed Interim Availability of the existing Allahabad STPs and associated infrastructure within 30 days from the Effective Date of the Concession Agreement.	Yes	NA	NA
6.23	Project Engineer shall also ensure that the STP by-products and Treated Effluents discharged from the Existing Facilities meet the relevant Discharge Standards in accordance with the Clause 9.12(c) of the Concession Agreement, from 1 year from the Effective Date	Yes	Yes	Yes
6.24	Project Engineer shall ensure that the Concessionaire shall meet the Guaranteed Interim Availability of the existing Allahabad STP and associated infrastructure within 30 days from the Effective Date of the Concession Agreement.	Yes	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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	NA	NA
7.2	The Project Engineer shall review the O&M Manual (Clause 9.2) and the Scheduled Maintenance Programme submitted by the concessionaire and provides its recommendations on the same, including suggestions for change, if any. The O&M Manual shall cover: a) O&M Procedures; b) O&M Plan; c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity;	Yes	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis;	Yes	Yes	Yes
7.6	The Project Engineer shall monitor, review and advise the	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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.			
7.7	The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet Point or at any other point at the Facilities for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.	Yes	Yes	Yes
7.8	The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 9.8(b)(iii)(E) the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report	Yes	Yes	Yes
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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.			
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	Yes	Yes	Yes
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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	NA	NA
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	NA	NA
7.15	The Project Engineer shall undertake sewage flow sampling, as and when required by the NMCG/ Uttar Pradesh Jal Nigam, under and in accordance with the provisions of this agreement.	Yes	Yes	Yes
7.16	The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual), including monthly Environmental Monitoring	Yes	Yes	Yes

Activities carried out as per TOR				
Clouse as per TOR	Scope	Period from 1st March 2022 to 31st March 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Reports as detailed in Schedule 10(Part G) of the Concession Agreement.			
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 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;	Yes	NA	NA

Activities carried out as per TOR				
Clouse as per TOR	**Scope**	**Period from 1st March 2022 to 31st March 2022**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	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

Sl No.	Description	IS code	Duration: 1st March to 31st March 2022				
			As per IS code number of tests required	No. of test conducted	No. of test accepted	No. of test rejected	Remarks
1	Aggregate Impact Value	IS 2386-Part 4	One test/300 Cum	3	3	0	Aggregate Impact value test conducted at Naini-II and found satisfactory
2	Aggregate Impact Value	IS 2386-Part 4	ONE TEST/300 CUM	2	2	0	Aggregate Impact value test conducted at Phaphamau and found satisfactory
3	Aggregate Impact Value	IS 2386-Part 4	ONE TEST/300 CUM	3	3	0	Aggregate Impact value test conducted at Jhunsi and found satisfactory
4	Sand Gradation	IS 2386-Part 1	ONE TEST/300 CUM	3	3	0	Sand Gradation Test conducted at Naini-II, and found satisfactory
5	Sand Gradation	IS 2386-Part 1	ONE TEST/300 CUM	2	2	0	Sand Gradation Test conducted at Phaphamau, and found satisfactory
6	Sand Gradation	IS 2386-Part 1	ONE TEST/300 CUM	3	3	0	Sand Gradation Test conducted at Jhunsi and found satisfactory
7	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.	290	290	0	Tube Settler, Staff Quarter & Process Building, Jhunsi STP Naini-II . Phaphamau, Cube test is acceptable for 7 Days

Sl No.	Description	IS code	Duration: 1st March to 31st March 2022				
			As per IS code number of tests required	No. of test conducted	No. of test accepted	No. of test rejected	Remarks
8	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	240	240	0	Tube Settler, Staff Quarter & Process Building ,Jhunsi Stp Naini-II . Phaphamau, Cube test is acceptable for 28 Days
9	Silt Content	IS 2386: 1963-Part 2	50 M3 – 1 TEST	3	3	0	Silt Content Test conducted in Naini-II, and found satisfactory
10	Silt Content	IS 2386: 1963-Part 2	50 M3 – 1 TEST	3	3	0	Silt Content Test conducted in Phaphamau and found satisfactory
11	Silt Content	IS 2386: 1963-Part 2	50 M3 – 1 TEST	3	3	0	Silt Content Test conducted at Jhunsi and found satisfactory
12	Sieve analysis (Aggregate 10 mm)	IS 2386	ONE TEST/300 M3	3	3	0	Sieve Analysis conducted at Naini-II site and foundacceptable
13	Sieve analysis (Aggregate 10 mm)	IS 2386	ONE TEST/300 M3	3	3	0	Sieve Analysis conducted at Phaphamau site and found acceptable
14	Sieve analysis (Aggregate 10 mm)	IS 2386	ONE TEST/300 M3	3	3	0	Sieve Analysis conducted at Jhunsi, site found acceptable
15	Sieve analysis (Aggregate 20 mm)	IS 2386	ONE TEST/300 M3	3	3	0	Sieve Analysis conducted in Naini-II, site as per quality of material found acceptable
16	Sieve analysis	IS 2386	ONE TEST/300 M3	2	2	0	Sieve Analysis conducted in Phaphamau site

Sl No.	Description	IS code	Duration: 1st March to 31st March 2022				
			As per IS code number of tests required	No. of test conducted	No. of test accepted	No. of test rejected	Remarks
	(Aggregate 20 mm)						as per quality of material found acceptable
17	Sieve analysis (Aggregate 20 mm)	IS 2386	ONE TEST/300 M3	3	3	0	Sieve Analysis conducted conduct in Jhunsi, site as per quality of material found acceptable
18	Brick Test	IS 1077 & 3495	1 SAMPLE/500 00 BRICKS	1	1	0	Brick test activity conducted at Naini- II and result found acceptable
19	SRC CEMENT	IS 4031	1 TEST PER LOT	1	1	0	Chetak (Third party batch report Submitted)
20	OPC CEMENT 43 GRADES	IS 4031	I TEST PER LOT	1	1	0	Ultratech (Third party batch report Submitted)