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
February 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.

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1. Introduction

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

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

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

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

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

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

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

2. Hybrid Annuity Model (HAM)

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

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

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

3. Objectives

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

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

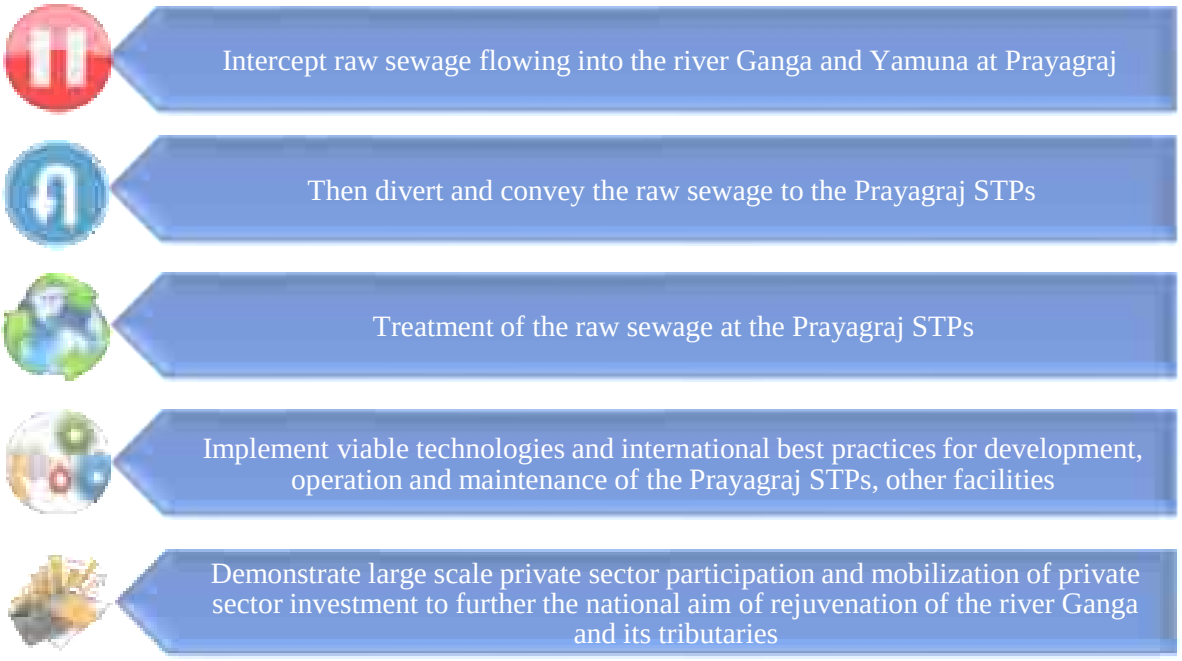


Figure 1 : Objectives of NMCG and UP JAL NIGAM

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

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

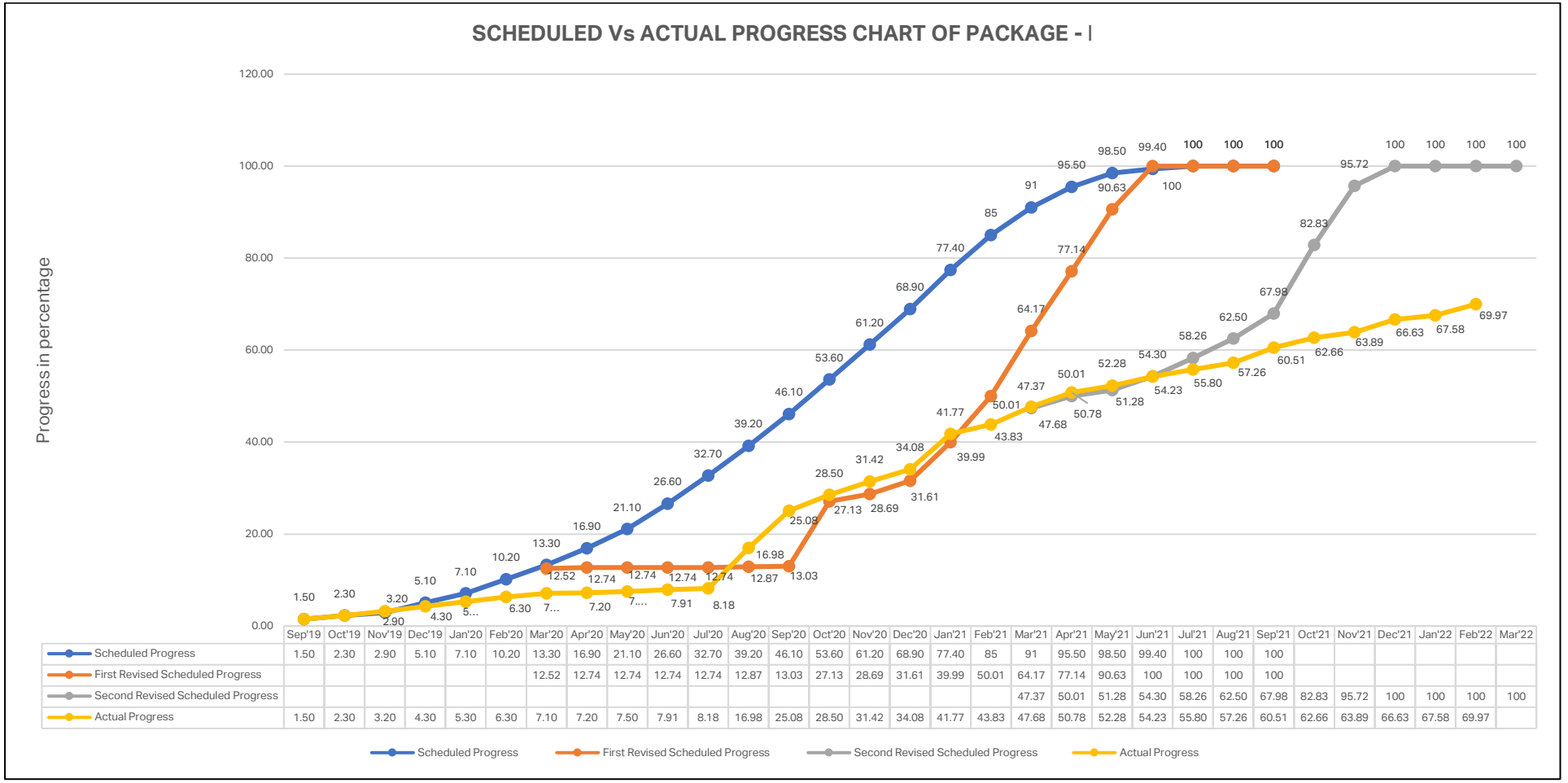
Package Number - I				
Nature of work	**Facilities**			
New construction	Design, develop, finance, construct, operate and maintain, and transfer the Package-I Facilities including three STP facilities with a proposed capacity of 42 MLD at Naini (District G), 14 MLD at Phaphamau (District F), and 16 MLD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

7.1.7 Physical construction Activities in February month

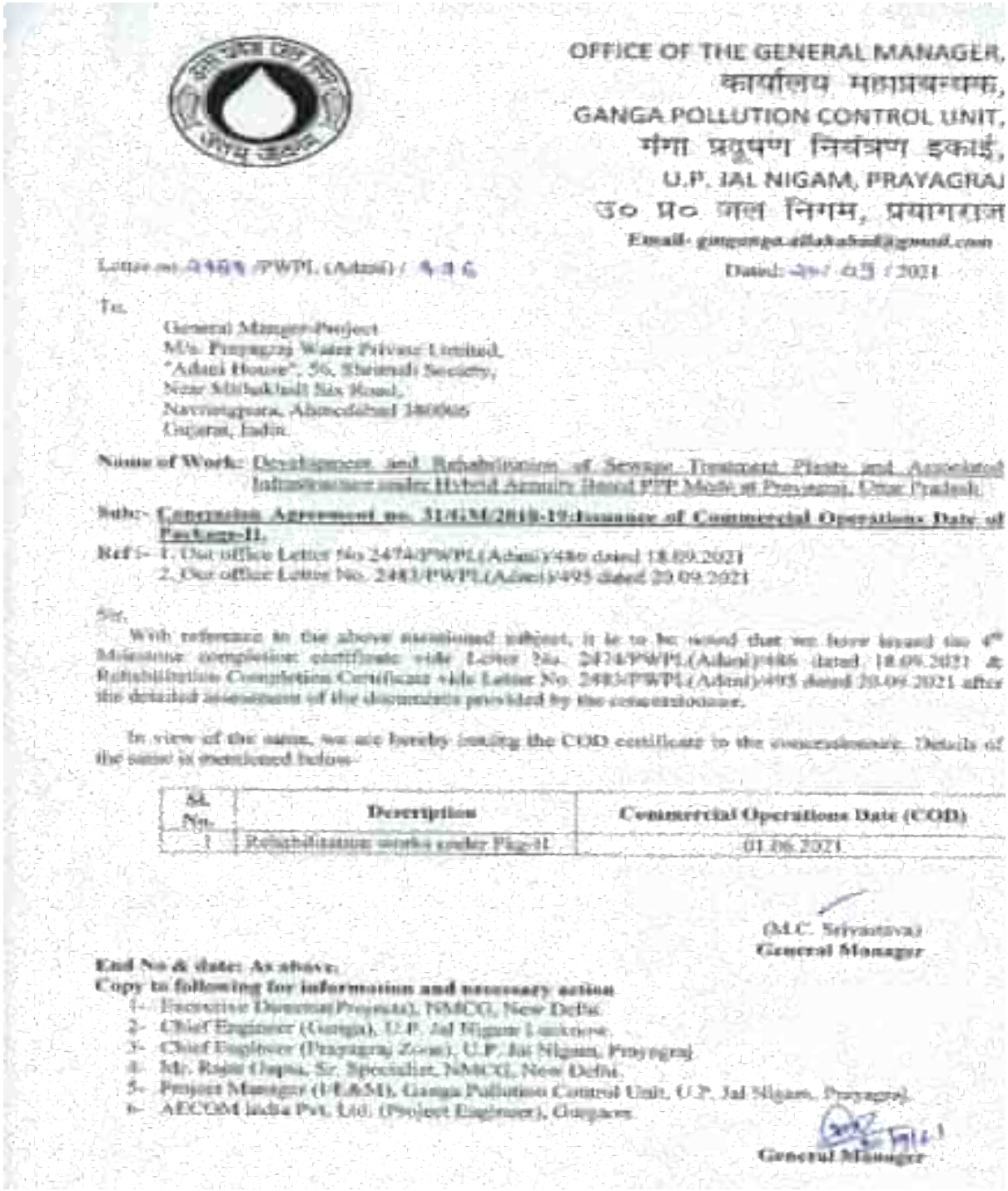
NEW CONSTRUCTION			
S. No.	**Structure Description**	**Structure Qty.**	**Status**
PACKAGE – I			
PHAPHAMAU STP			
1.	FCR tank	01 No.	• 100% RCC Work Completed • Hydrotest work is completed.
2.	Staff Quarter	01 Nos	• Brick work completed and other finishing work under progress
3.	MPS	01 No.	• Casting 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	• 28 Nos. column up to 2nd lift above raft is completed. • Grit chamber portion PCC and raft is completed also first lift of all columns and second lift of 04 No's column are casted.
6.	Basna Nala SPS	01 No.	• 2nd lift casting is completed, and 3rd lift steel and shuttering is under progress.
7.	Outfall Sewer	2000 mtr.	• Out fall sewer pipe laying completed 1732.5 mtr. Out of 2000 mtr.12 Nos. manhole completed out of total 29 Nos.
NAINI – II STP			
8.	FCR tank	01 No.	• Civil Construction Completed. • Hydrotesting work completed.
9.	Tube Settler	01 No.	• Tank A – RCC work of CCT completed. • 5^{th} Lift wall Casting Completed out of 8 lift in Sludge Storage. • 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.	• Raft and wall up to 10th lift casting completed & slab after 10th lift is casted. • Inlet chamber - 4th lift casting under progress out of total 10 lifts.

12.	Process Building	01 No	• Part B - First Floor Roof casted and second floor slab steel binding under progress • Part A- Grit chamber area raft completed.3rd lift casting done, and 4th lift shuttering is under progress.
13.	Mahewaghat SPS	01 No.	• Casting upto 10th lift completed.11th lift steel and shuttering work completed and is ready for casting. • Inlet chamber 1st lift is completed out of 7 lifts and 2nd lift wall is ready for concrete.
14.	Mawaiya Nalla SPS	01 No.	• 7th lift casting is completed, and 8th lift steel and shuttering is under progress. • 2. Inlet chamber 3rd lift is completed out of 7 lifts.
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, • Pipe laying work is under progress.
JHUNSI STP			
21.	FCR tank	01 No.	• Civil and Hydrotesting work completed.
22.	Process Building	01 No	• Soil filling work up to tie beam is completed. Plinth beam casting is completed up to 75%. • Slab along with staircase at level 94 meter is casted. 2nd Lift column casting is under progress.
23.	Tube Settler	01 No.	• CCT Area: RCC work has been completed along with slab at level 91.2. • Hopper and Sludge holding tank portion: RCC work has been completed up to all 8 lifts at level 91.2 meter. • Hydrotesting work under progress
24.	MPS	01 No.	• Wall up to 8th lift is completed out of 11 lift.9th lift steel and shuttering is completed
25.	Security Cabin	01 No.	• Putty work under progress
26.	Staff Quarter	01 No.	• Putty work under progress

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,
दूरभाष : 0532-2684329, 2684691, फैक्स 0532-2684688

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 February' 2022.

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
1.	Site inspection of Jhunsi STP	1-Feb-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
2.	Site inspection of Jhunsi STP	1-Feb-22	Mr. Nishant Bagde	Inspection, supervision and monitoring of ongoing Civil activities
3.	Site inspection of Naini-II STP	3-Feb-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
4.	Site inspection of Naini-II STP & Associate infrastructure	3-Feb-22	Mr. Nishant Bagde	Inspection, supervision and monitoring of ongoing Civil activities
5.	Site inspection of Phaphamau STP	7-Feb-22	Mr. Nishant Bagde	Inspection, supervision and monitoring of ongoing Civil activities
6.	Site inspection of Phaphamau STP Associate infrastructure	7-Feb-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
7.	Site inspection of Jhunsi STP	9-Feb-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
8.	Site inspection of Jhunsi STP	9-Feb-22	Mr. Nishant Bagde	Inspection, supervision and monitoring of ongoing Civil activities
9.	Site inspection of Naini-II STP	10-Feb-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
10.	Site inspection of Naini-II Associate infrastructure	10-Feb-22	Mr. Nishant Bagde	Inspection, supervision and monitoring of ongoing Civil activities
11.	Site inspection of Jhunsi STP	18-Feb-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities
12.	Site inspection of Phaphamau STP	21-Feb-22	Mr. Abhishek Singh	Inspection, supervision and monitoring of ongoing Civil activities

Sr. No.	Site Visit & Meeting with UPJN / NMCG / PWPL	Date	Attendees	Description
13.	Site inspection of Naini-II STP	23-Feb-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
14.	Site inspection of Jhunsi STP	24-Feb-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M activities
15.	Site inspection of Naini-II STP	25-Feb-22	Mr. Amit Ranjan	Inspection, supervision and monitoring of ongoing Civil activities
16.	Site inspection of Naini-II STP	26-Feb-22	Mr. Gaurav Pandey	Inspection, supervision and monitoring of ongoing E&M 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	Out ward Date	To (Organization)	Copies To
1.	AIPL/NMCG/PRAYAG/1317	Gate Documents_STP_Prayagraj_ Package I	2-Feb-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/1318	Observation on Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	2-Feb-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/1319	Observation on Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	2-Feb-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/1320	Observation on Datasheet & GAD of Sluice, Butterfly & Check Valves- Resubmission of Package-I.	2-Feb-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/1321	Observation on BEP for Jhunsi Associated Infrastructure	4-Feb-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/1322	Submission of O & M Monthly Progress report for the month of November ,2021 of Package – III	7-Feb-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/1323	Submission of Revised O & M Monthly Progress report for the month of December ,2021 of Package – III	8-Feb-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	Out ward Date	To (Organization)	Copies To
8.	AIPL/NMCG/PRAYAG/1324	Observation on Interception & Diversion Sluice Gate Datasheet & GAD	8-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
9.	AIPL/NMCG/PRAYAG/1325	Observation on GAD & datasheet of MPS-SPS Gates - package-I	8-Feb-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/ 1327	Regarding discrepancies for backfilling and compaction under Pkg-I.	9-Feb-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/1326	Observation on Naini II Process Building Civil Drawings	9-Feb-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/ 1328	Observation on Design Documents of Mahewaghat Drain Weir	10-Feb-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/1329	Observation on revised Civil Drawings for Process Building Jhunsi	10-Feb-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/ 1330	Regarding Site Observation at Naini II STP, Mahewaghat and Mawaiya SPS	11-Feb-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/1332	Observation on Aftercoolers STP-Package-I	12-Feb-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/1331	Submission of O & M Monthly Progress report for the month of November ,2021 of Package – III	12-Feb-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	Out ward Date	To (Organization)	Copies To
17.	AIPL/NMCG/PRAYAG/1333	Observation on Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	12-Feb-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/1334	Observation on Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	12-Feb-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/1335	Regarding the release of the withheld amount of Quarter – 3 of Package – III.	14-Feb-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/1336	Regarding the submission of MPR of Dec'21	14-Feb-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/1337	Observation on O & M Monthly Progress report for the month of January, 2022 of Package – III	15-Feb-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/1340	Observation on Revised O & M Monthly Progress report for the month of December ,2021 of Package – III	16-Feb-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/1341	Regarding verification and certification of invoice of 5th Quarter i.e. Nov 2021 to Jan 2022 of Package-III	16-Feb-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/1338	Observation on revised documents – Phaphamau BEP	16-Feb-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	Out ward Date	To (Organization)	Copies To
25.	AIPL/NMCG/PRAYAG/1339	Observation on revised BEP for Jhunsi STP	16-Feb-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/1342	Observation on Ball valve documents – Prayagraj Package-I	16-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. PM-E&M - UPJN, Prayagraj
27.	AIPL/NMCG/PRAYAG/1343	Observation on Knife Gate Valves - Datasheet & GAD - Package-I	16-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. PM-E&M - UPJN, Prayagraj
28.	Via Mail	Observation on HAC and HAZOP Report - Pkg - I	16-Feb-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/1344	Observation on revised FEEP for Naini II	17-Feb-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/1345	Observation on BEP for Jhunsi Associated Infrastructure	17-Feb-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/1346	Observation on revised GA Drawings for Mahewaghat SPS	17-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. PM-E&M - UPJN, Prayagraj
32.	AIPL/NMCG/PRAYAG/1347	Observation on G. A drawing of Jhunsi MPS	17-Feb-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/1349	Inspection Reports of Jhunsi facility, Naini-II facility and Phaphamau facility under Package-I	20-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
34.	AIPL/NMCG/PRAYAG/ 1348	Observation on G. A drawing of shastri bridge SPS	20-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj

Sr. No.	PE Transmittal/ Ref No	Description	Out ward Date	To (Organization)	Copies To
					3. PM-E&M - UPJN, Prayagraj
35.	AIPL/NMCG/PRAYAG/1350	Observation on O & M Monthly Progress report for the month of January, 2022 of Package –II.	21-Feb-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/1351	Inspection reports of Package-III facilities	22-Feb-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/1353	Observation on Naini-II outfall drawings-Package-I	23-Feb-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/1354	Observation on Civil Drawings for Process Building Phaphamau	23-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
39.	AIPL/NMCG/PRAYAG/1352	Observation on O & M Monthly Progress report for the month of January, 2022 of Package – III.	23-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
40.	AIPL/NMCG/PRAYAG/1356	Observation on cost variation for Jhunsi & regarding submission of GAD of Basna Nala	24-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
41.	AIPL/NMCG/PRAYAG/1357	Inspection reports of Package-II facilities	24-Feb-22	S.E.-2 Circle - UPJN	1. NMCG, New Delhi 2. M/s PWPL, Prayagraj 3. PM-E&M - UPJN, Prayagraj
42.	AIPL/NMCG/PRAYAG/1359	Observation on Electrical Design docs for Jhunsi MPS : Prayagraj STP	25-Feb-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	Out ward Date	To (Organization)	Copies To
43.	AIPL/NMCG/PRAYAG/1360	Observation on Datasheet & GAD of Sluice, Butterfly & Check Valves- Package-I	28-Feb-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
1.	PWPL/UPJN/PMCG/019/22	Submission of Basna Nalla Weir Design & Drawings	1-Feb-22	Prayagraj water private limited
2.	PWPL/UPJN/PMCG/020/22	Submission of Shantipuram Nalla Weir Revised Drawing	1-Feb-22	Prayagraj water private limited
3.	PWPL/UPJN/PMCG/021/22	Submission of Jhunsi Variation Claim_Prayagraj_ Package I	1-Feb-22	Prayagraj water private limited
4.	PWPL/UPJN/PMCG/023/22	Submission of 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	2-Feb-22	Prayagraj water private limited
5.	PWPL/UPJN/PMCG/025/22	Submission of Design Documents of Mahewaghat Drain Weir	3-Feb-22	Prayagraj water private limited
6.	PWPL/UPJN/PMCG/026/22	Submission of Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	3-Feb-22	Prayagraj water private limited
7.	PWPL/UPJN/PMCG/027/22	Submission of Miscellaneous crane & Hoist drawing/documents for various STP location at Prayagraj STP (Package-I)	3-Feb-22	Prayagraj water private limited
8.	PWPL/UPJN/PMCG/028/22	Submission of Augharwa Nalla, Bhola Mandir Nalla, Gangoli Shivalaya Nalla 1 & 2 I&D Works (part of Shastri Bridge SPS I&D Works) Design & Drawings	3-Feb-22	Prayagraj water private limited

Sr. No.	PWPL Transmittal reference number	Description	Date	From
9.	PWPL/UPJN/PMCG/029/22	Submission of 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	3-Feb-22	Prayagraj water private limited
10.	PWPL/UPJN/PMCG/030/22	Submission of Saccha Baba Nalla Weir Revised Design & Drawings	5-Feb-22	Prayagraj water private limited
11.	PWPL/UPJN/PMCG/031/22	Submission of GAD & datasheet of MSP-SPS Gates - package-I	7-Feb-22	Prayagraj water private limited
12.	PWPL/UPJN/PMCG/032/22	Submission of BEP for Jhunsi Associated Infrastructure	7-Feb-22	Prayagraj water private limited
13.	PWPL/UPJN/PMCG/033/22	Submission of Interception & Diversion Sluice Gate Datasheet & GAD	7-Feb-22	Prayagraj water private limited
14.	PWPL/UPJN/PMCG/034/22	Submission of Knife Gate Valves - Datasheet & GAD - Package-I	7-Feb-22	Prayagraj water private limited
15.	PWPL/UPJN/PMCG/035/22	Submission of Electrical Design docs for Jhunsi MPS : Prayagraj STP	8-Feb-22	Prayagraj water private limited
16.	PWPL/UPJN/PMCG/036/22	Submission of Ball valve documents –Prayagraj Package-I	8-Feb-22	Prayagraj water private limited
17.	PWPL/UPJN/PMCG/037/22	Submission of revised Civil Drawings for Mahewaghat SPS	10-Feb-22	Prayagraj water private limited
18.	PWPL/UPJN/PMCG/038/22	Submission of Naini-II outfall drawings- Package-I	16-Feb-22	Prayagraj water private limited
19.	PWPL/UPJN/PMCG/039/22	Submission of Rising main Piping drawing from Trivenipuram SPS to Jhunsi MPS	18-Feb-22	Prayagraj water private limited

Sr. No.	PWPL Transmittal reference number	Description	Date	From
20.	PWPL/UPJN/PMCG/040/22	Submission of Trunk sewer drawing from Trivenipuram SPS to Jhunsi MPS	21-Feb-22	Prayagraj water private limited
21.	PWPL/UPJN/PMCG/041/22	Submission of Architectural plan and elevation details of process building-Jhunsi STP	22-Feb-22	Prayagraj water private limited
22.	PWPL/UPJN/PMCG/042/22	Architectural plan and elevation details of process building-Naini II STP	23-Feb-22	Prayagraj water private limited
23.	PWPL/UPJN/PMCG/043/22	Submission of Datasheet & GAD of Sluice, Butterfly & Check Valves	24-Feb-22	Prayagraj water private limited
24.	PWPL/UPJN/PMCG/044/22	Submission of Architectural plan and elevation details of process building-Phaphamau STP.	25-Feb-22	Prayagraj water private limited
25.	PWPL/UPJN/PMCG/045/22	Submission of revised BEP documents of Basna Nala	28-Feb-22	Prayagraj water private limited
26.	PWPL/UPJN/PMCG/046/22	Submission of Non clog submersible pumps - Mahewaghat, Shantipuram, Basnanalla Documents - Package-I	28-Feb-22	Prayagraj water private limited
27.	PWPL/UPJN/PMCG/047/22	Submission of Non clog submersible pumps - Jhunsi Documents - Package-I	28-Feb-22	Prayagraj water private limited

13. EHS targets, Achievement & compliance report for the month of February' 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. 2. Revised estimate charges against road restoration & maintenance charges

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
				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 2021.
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
10	Approach Road to new Facilities	Forest Department/ Panchayat/Lo	NA	Not Required

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
		cal Authority/Irrigation Department		
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
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

Sr. No.	Applicable Permit	Authority	Quantity	Remarks
8	Obtaining No Objection Certificate for various sewerage facilities under the ULB for handing them over to UPJN	ULB/District Administration	NA	Not Required
9	Construction of Weirs/pipeline crossings	Irrigation department/ULB	13 No	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.	Poclain	1	3	2
4.	Ajax	-	4	-
5.	Hydra	-	1	1
6.	Roller	-	1	1
7.	Submersible Pump	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
	Total	**23**	**95**	**37**

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

1.1 Inspection Report

Date of site visit	1st, 9th & 18th Feb, 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. Sharad, PWPL.
Name of Facility	16 MLD Jhunsi STP & Associated Infrastructure, Prayagraj.

A. FCR Tank-

- RCC work at FCR tank is 100 % completed.
- Total 135.80 cubic meter PCC work has been done at FCR.
- Approximately 2523.52 cum RCC work has been 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.

- It is suggested to complete the RCC work of openings of FCR tank below sandwich raft.
- 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.

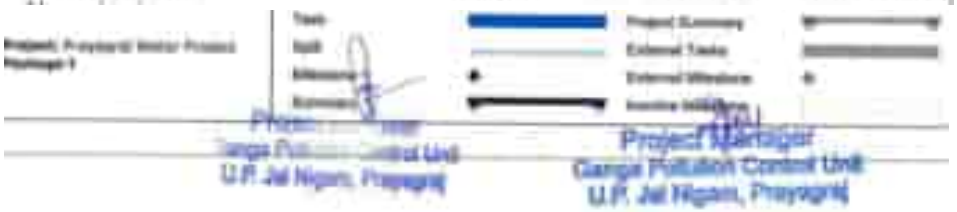
B. Staff Quarter –

- 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 75% completed.
- Column above plinth beam is 75 % completed.
- Reinforcement & shuttering of Slab at 94 m level is under progress.
- Reinforcement & shuttering of PTU portion above plinth beam is under progress.
- Total 91 cum. PCC work is done at Process Building.
- Total 46 cum concrete is done in the month of Jan-22.
- Till date 585.4 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.

Main Process Building	**197 days**	**Tue 01-06-21**	**Wed 15-12-21**
Excavation & Column	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.
- In the month of Jan-22 no physical progress is achieved.
- Total 1442.5 cum RCC work is completed at Tube Settler.
- Concessionaire has started hydrotesting of CCT portion on 2nd Feb -2022 & during site inspection leakages & seepage were observed. but after observation period of 7 days during site inspection on 10th Feb-2022 it was observed that seepages & leakages were not rectified & water level was dropped 25mm below its original level. Concessionaire is suggested to rectify all the seepages & leakages by proper grouting method & restart the hydrotesting at earliest.
- Concessionaire is suggested to expedite the work with additional manpower & Resources as Execution of Tube Settler is lagging far behind construction plan.

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

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 7th lift wall is completed.
- Reinforcement & Shuttering of 8th 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 34 cum RCC is done in the month of Jan-22.
- Till date 545 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 ISD 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

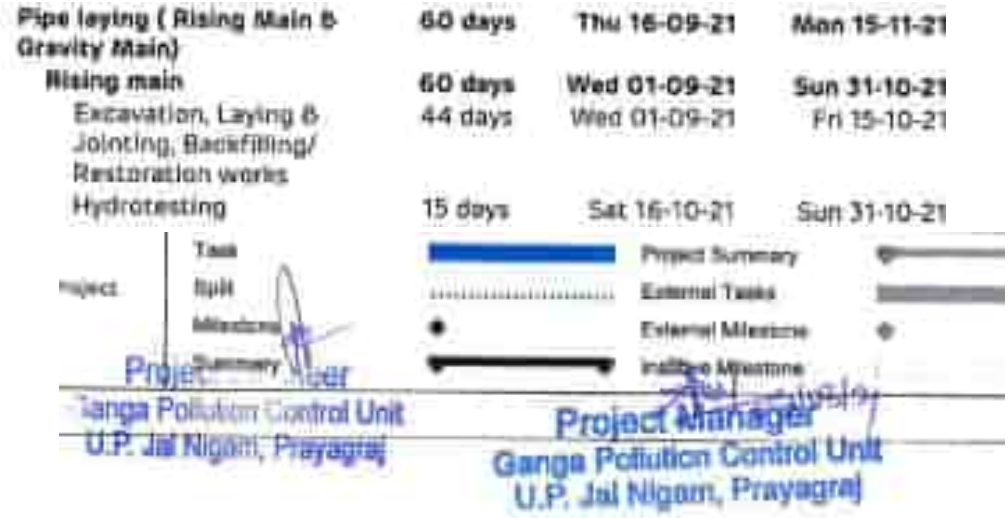
G. Shastri bridge SPS-

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

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

- Rising Main from shastri bridge SPS to Jhunsi MPS is approved on 23.05.2021 vide our reference no AIPL/NMCG/PRAYAG/95 & execution is started on 27.05.2021 but till the month of Nov-21 only 495-meter laying is completed out of 3950 meters as execution work is stopped on 7.06.2021 due to unavailability of DI pipes. Laying & Jointing of DI K9 pipe was again started on 10th Dec-21 & after laying of total 1303 meter, execution work is stopped on 24.12.2021 due to unavailability of 700 mm DI K9 pipes. Concessionaire is required to procure the remaining DI pipes at earliest as there is no physical progress is achieved since 24.12 .2021.

- 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.



I. Trunk sewer & I & D works

- Concessionaire has started the excavation work of gravity sewer from HAWELIYA NALLA on 23rd Dec-21 but during site inspection it was observed that no physical progress was achieved at site. concessionaire is suggested to start the laying work at earliest.

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 jan-22 there was only 40 labour engaged at Jhunsi STP.
- Total 80 cum RCC work has done in the month of jan-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.

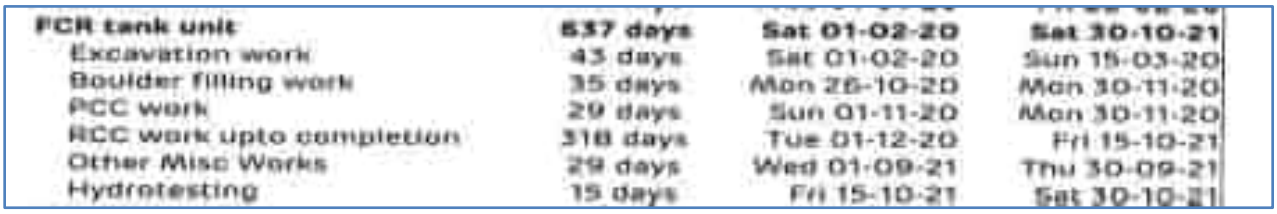
2. NAINI-II STP AND ASSOCIATE INFRASTRUCTURE

2.1 Inspection Report

Name of Facility	42 MLD Naini – II STP & Associated Infrastructure, Prayagraj.
Date of visit	27th Jan,3rd & 10th Feb 2022
Site Visitors	1. Mr. Santosh Kumar, UPJN. 2. Mr. Arvind Yadav, UPJN 3. Mr. Nishant Bagde, AECOM. 4. Mr. Amit Ranjan AECOM. 5. Mr. Pushpender, PWPL.

A. FCR unit:

- FCR Civil construction completed - 100 %
- Tank A – Hydrotesting Completed.
- Tank B – Water filling for Hydrotesting Work is Under Progress.
- 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.

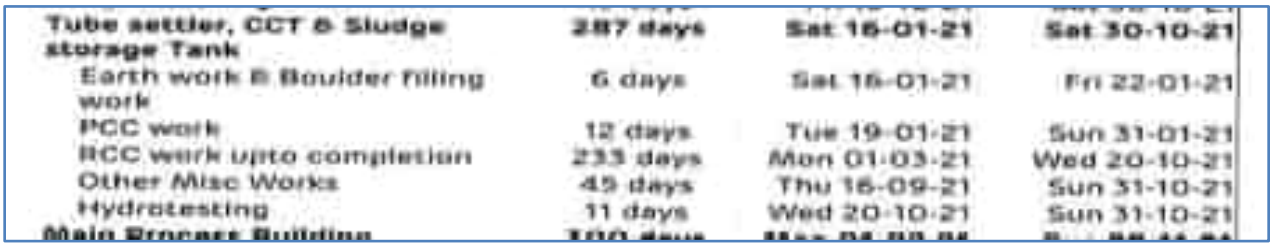


FCR tank unit	637 days	Sat 01-02-20	Sat 30-10-21
Excavation work	43 days	Sat 01-02-20	Sun 15-03-20
Boulder filling work	35 days	Mon 26-10-20	Mon 30-11-20
PCC work	29 days	Sun 01-11-20	Mon 30-11-20
RCC work upto completion	318 days	Tue 01-12-20	Fri 15-10-21
Other Misc Works	29 days	Wed 01-09-21	Thu 30-09-21
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 at CCT.
- Tank A - 4th Lift wall Casting Completed in Sludge Storage. 5th lift wall shuttering work is under progress.
- Tank A – Two Hoppers casting completed; 1st lift wall shuttering work is under progress.

- Tank B – 6 Hoppers casting and 1st lift wall completed & 2nd lift 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 labours 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
Main Process Building	1001 days		

C. Process Building unit:

- **E**xcavation & PCC is completed. RCC work of raft is completed.
- All Columns casting is completed up to level +92.5.
- At Level + 94.25 slab casting completed. Shuttering work is under progress for 2nd lift of column above slab.
- At Level 92.5 Slab Casting completed.
- Grit Chamber Grade slab & 2nd lift wall completed, 3st lift wall shuttering work is under progress.
- Total 40 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%.
- concessionaire has submitted microplanning for STPs & associated infrastructure on 19th Nov 2021, but still site progress is behind the microplanning as well.
- It is suggested Concessionaire with respect to date of construction, regular curing should be done.

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.
- For 11th lift wall and for slab at Level +83.4m scaffolding work is under progress.
- Plum concrete work is under progress, but with respect to the quantity of plum concrete the work is very slow.
- Inlet channel Raft & 1st lift wall casting completed. 2nd lift wall shuttering work is under progress.
- In this month Work progress of MPS is very slow. 35 labours were deployed at MPS, Work progress is also far behind the construction plan. It should be completed on 31.10.21 but total Civil work progress as on date is only 65%.
- 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 IBD 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
IBD Other misc works	15 days	Sat 16-10-21	Sun 31-10-21

F. Mahewaghat SPS:

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- 5th lift wall and slab casting at level +83.24 was completed on 21.11.21.
- 7th lift wall casting completed on 03.01.2021.
- 8th lift wall casting completed on 27.01.2022.
- 9th lift wall casting completed on 10.02.2022.

- Inlet channel Raft is completed, 1st lift wall reinforcement and shuttering work is under progress.
- For battery & panel room rubble soling work is completed.
- 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 18 labours were deployed at site..

Mahewaghat 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
Bnundery 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.
- In Inlet channel 1st lift wall casting completed & 2nd lift Reinforcement work is under progress.
- For Pipe header & stairs raft reinforcement & shuttering work is 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
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
160 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.

K. 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 enough 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 drainage 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	28th January, and 7th & 11th February 2022
Visitors Name	Mr. Santosh Kumar, UPJN Mr. Tauseef Ahmed, UPJN Ms. Shilpa Chhavi, UPJN Mr. Nishant Bagde, AECOM Mr. Abhishek singh, AECOM Mr. Ashish Singhai, PWPL Mr. Rahul Sharma PWPL

A. FCR Tank:

- FCR Civil Construction work completed. Hydrotesting work is under progress.
- 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 site was idle for 25 days in January month, no work at site.
- 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.

B. Staff Quarter:

- Staff Quarter structure work is completed. Finishing, electrification and plumbing work is balance.
- No work in Staff quarter from last 4 months.
- It is informed to Concessionaire door & window must be install as per concessionaire agreement & specification.

C. Process Building:

- 32 columns are completed up to the bottom of plinth beam, plinth beam shuttering work is under progress & 23 columns are completed up to 1st lift above raft foundation.
- The site was idle for 25 days in January month, no work at site.
- it is informed to concessionaire, resolve the issue & start the work with necessary manpower without further delay.
- 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)	82 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 7th lift completed out of 8 wall lifts. Sludge holding portion work completed.
- The site was idle for 25 days in January month, no work at site.
- Concessionaire is suggested to expedite the work with additional manpower & resources as execution of Tube Settler is lagging far behind as per construction plan.
- It is suggested to concessionaire provide shear key at construction joint.
- During site visit it is observed that wall finishing work is not proper, it is suggested to concessionaire proper wall finishing should be done.

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-

- 8th lift wall & half circular slab at level + 84.90 is completed. Inlet 6th lift wall concreting work is completed out of 8th lift. Slab for header & valve is completed.
- The site was idle for 25 days in January month, no work at site.
- It is suggested to concessionaire, shuttering plywood must be change after 6 times use and use new shuttering.
- 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	10-09-21	100%

G. Basna Nalla SPS -

- Raft is completed, In absence of approved design and drawing. 1st lift Wall reinforcement and shuttering work is under progress.
- Raft was completed on 25th January and 1st lift wall is still pending due to unavailability of shuttering material & concrete from batching plant.
- 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	**Basana Nala SPS and IBD 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%

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

1.1 KPI Report

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

Date	Daily Feed Quantity MLD (Design 80 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
4-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
5-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
6-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
7-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
8-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
9-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
10-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
11-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
12-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
13-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
14-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
15-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
16-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
17-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
18-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
19-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
20-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
21-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
22-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
23-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
24-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
25-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
26-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
27-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
28-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[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	Feb 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 28th Jan 2021, 10th Feb 2022, 24th Feb 2022 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Naini-I STP	103.81 to 117.85
2	Gaughat MPS	103.64 to 117.37
3	Chacharnalla SPS	32.41 to 38.25

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	28 to 35 mg/l
3	pH – Effluent	6.5 – 9.0	7.32 to 7.48
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	23.50 to 25.80 %
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	27.86 to 48.23
2	Salori MPS	62.83 to 83.68

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. Data transmission from online analyzers to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
3. 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.
4. One out of two mechanical screens of 20 MLD part are working. Maintenance for screen no. 2 was in progress. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
5. 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.
6. For 20 MLD, grit removal unit is not working due to problem in scrapper. Also, abnormal noise is coming from rake classifier, Concessionaire to please rectify the problem.
7. 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.
8. In all PSTs, it is observed that lumps of sludge are coming to the top 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.
9. Telescopic valves of Primary Settling Tanks are not working.
10. Installation of actuators is pending for drain valves of Primary Settling Tanks.
11. All nine surface aerators are working. It is recommended to install DO analyzer in this tank also for better monitoring.
12. Aeration tank of 20 MLD is in operation. It is found that air is coming vigorously from 3-4 points due to which air distribution is not proper in the tank which could affect the quality of treatment in aeration tank. Concessionaire is requested to rectify the problem at the earliest. Commissioning of DO analyzer is not completed yet.
13. Interlink of DO analyzer with Aeration blowers is not done yet for running blower in auto mode as per DO levels in Aeration Tank.
14. All Aeration blowers are working.
15. All Final Settling Tanks are working.
16. In FST no. 3, it is observed that lumps of sludge are coming to the top due to which outlet quality of effluent is deteriorating. This can be rectified by ensuring proper withdrawal of sludge. Concessionaire to please ensure the same.
17. It is suggested to install torque switches in all clarifiers for having better protection against excessive load on scrapper.
18. Installation of actuators is pending for drain valves of Final Settling Tanks.
19. 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.
20. 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.

21. In RSPH unit of 20 MLD, both pumps are working.
22. One chlorinator was working but one is in stand-by and one booster pump is working but one was in maintenance hence no pump is in stand-by.
23. Commissioning of Leak absorption system is completed. Checklist forthe same must be prepared and recorded properly every month.
24. 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.
25. Chlorine analyzer at outlet is not working.
26. 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 working.
27. 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.
28. Effluent quality must be improved.
29. 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.
30. In TEPH, all pumps are OK for operation for Dandi and Naini Area.
31. 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.
32. Both DGs are in operation. Installation work of chimney for DGs as per CPCB norms is pending.
33. Sludge dewatering unit is in operation. Installation of various instruments is pending. Currently, one tractor is deployed for transportation of sludge due to which unit has to be stopped when tractor goes for dumping the sludge which takes around 40-45 minutes. Hence it is suggested to deploy two tractors so that unit can be operated uninterruptedly.
34. 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.
35. All filtrate pumps are working.
36. In SCADA, operations of some equipment of water line are not possible from system. Arrangement for the same must be done for complete supervision and control from SCADA system.
37. In SCADA, as discussed, report generation from gas and power generation system must be started.
38. In SCADA, communication from associated infrastructure is not received in Naini-I STP continuously as the signal is breaking regularly. Please rectify the same.
39. In SCADA system, flow variation can be seen in recorded values of daily and monthly flow.
40. Both dewatering feed pumps are working.

41. All Digesters are working.
42. Heat exchangers, sludge recirculation pumps for all digesters are working. Construction of shed is not completed.
43. In compressor room, all six compressors are working.
44. Gas engine is working.
45. Both Gas holders are working.
46. Gas flare is working.
47. H2S scrubber unit is working. Analyzers fitted at inlet & outlet unit are working.
48. Installation of some instruments in gas and power generation area is pending.
49. Installation of service water pumps is pending.
50. Rehabilitation works for storm water pump house are pending.
51. As already decided, repairing/construction of retaining wall must be completed at the earliest for neutralizing the effect of floods.
52. Rehabilitation works for tube well are pending.
53. As already discussed, printed logbooks must be present at site for daily records. Concessionaire to please do the needful at the earliest.
54. Landscaping of the plant is in progress.
55. Housekeeping of the plant must be improved.
56. Construction/repairing of roads is in progress, Concessionaire to please complete the work at the earliest.
57. 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.
58. 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.
59. Installation of Public Address System is done but its commissioning is not completed yet.
60. 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.
61. Some CCTV cameras are out of operation, please rectify.
62. 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.
63. For Gaughat MPS, following observations were made during visit:

    a) At the time of visit, it was found that level of common sump was around 82m during lean hours. In lean hours level should be maintained below 80m without fail.
    b) 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.
    c) 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.

d) All HNC pumps are working. One HNC pump is having abnormal noise, maintenance of the same must be completed at the earliest.

e) All Submersible pumps are working,

f) Repairing of both screens of HNC pumps was completed and installation, commissioning of screen was completed. 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.

g) One out of two mechanical screens for submersible pumps are working. Installation of second screen is in progress. Commissioning of differential level sensors is pending.

h) 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.

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

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

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

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

64. 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.

65. 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.

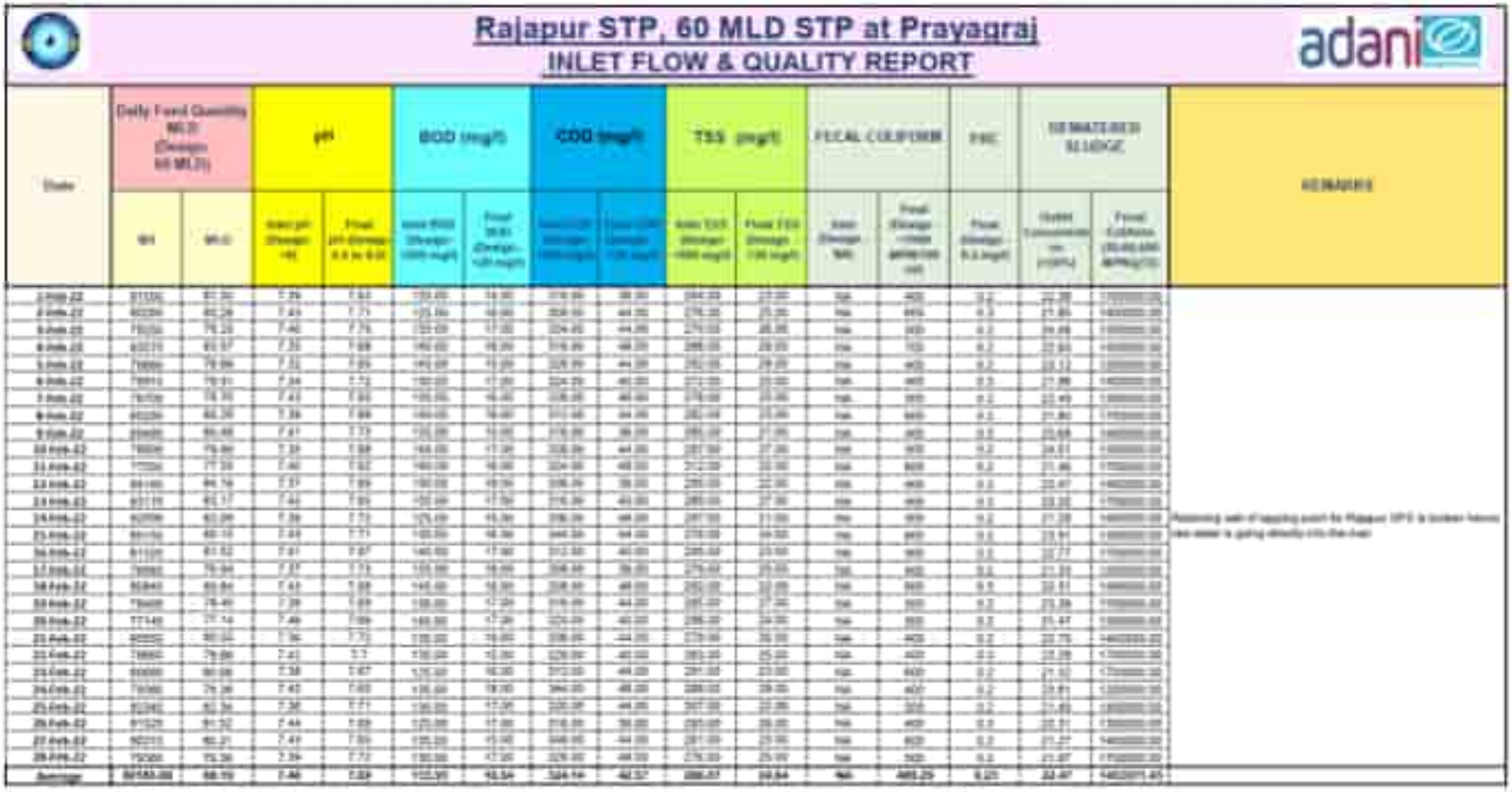
l) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

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 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

2. RAJAPUR STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Rajapur STP, 60 MLD STP at Prayagraj

INLET FLOW & QUALITY REPORT

adani

Date	Daily Feed Quantity MLD (Design 60 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		PHC		SEWAGE		REMARKS
	WI	WO	Inlet pH (Design 7-8)	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 <250 mg/l)	Inlet TSS (Design 400 mg/l)	Final TSS (Design 100 mg/l)	Inlet (Design NIL)	Final (Design <1000 MPN/100 ml)	Final (Design 5.5 mg/l)	Outlet Concentration (<10%)	Final Collform (30-60 MPN/100)		
1-Feb-22	61330	61.34	7.36	7.63	133.00	14.00	216.00	38.00	264.00	23.00	Nil	400	0.3	24.28	1700000.00		
2-Feb-22	60259	60.26	7.45	7.71	125.00	16.00	208.00	44.00	276.00	25.00	Nil	600	0.3	21.85	1400000.00		
3-Feb-22	75030	75.03	7.40	7.75	133.00	17.00	224.00	44.00	276.00	28.00	Nil	300	0.2	24.68	1300000.00		
4-Feb-22	60215	60.37	7.33	7.69	140.00	16.00	216.00	48.00	288.00	28.00	Nil	700	0.2	23.93	1400000.00		
5-Feb-22	79890	79.94	7.31	7.65	140.00	15.00	228.00	44.00	292.00	28.00	Nil	400	0.2	23.12	1300000.00		
6-Feb-22	79911	79.91	7.34	7.73	130.00	17.00	224.00	40.00	272.00	23.00	Nil	400	0.3	21.88	1400000.00		
7-Feb-22	78700	78.70	7.41	7.65	135.00	16.00	228.00	46.00	276.00	25.00	Nil	300	0.2	22.49	1300000.00		
8-Feb-22	60259	60.26	7.36	7.68	140.00	16.00	212.00	44.00	282.00	23.00	Nil	600	0.3	21.80	1700000.00		
9-Feb-22	60490	60.49	7.41	7.73	132.00	15.00	216.00	38.00	280.00	27.00	Nil	400	0.2	23.68	1400000.00		
10-Feb-22	78804	78.80	7.39	7.68	144.00	17.00	228.00	44.00	287.00	27.00	Nil	400	0.2	24.61	1400000.00		
11-Feb-22	77250	77.25	7.40	7.62	140.00	16.00	224.00	48.00	272.00	23.00	Nil	600	0.3	21.86	1700000.00		
12-Feb-22	84160	84.16	7.31	7.59	130.00	15.00	208.00	38.00	280.00	22.00	Nil	400	0.3	23.47	1400000.00		
13-Feb-22	61170	61.17	7.44	7.65	132.00	17.00	216.00	40.00	280.00	27.00	Nil	400	0.3	23.20	1700000.00		
14-Feb-22	62056	62.06	7.36	7.71	125.00	15.00	208.00	44.00	287.00	23.00	Nil	300	0.2	21.28	1400000.00	Retaining wall of lagoon wall for Rajapur STP is broken hence raw water is going directly into the river	
15-Feb-22	60150	60.15	7.49	7.71	130.00	16.00	240.00	44.00	276.00	24.00	Nil	600	0.3	23.91	1400000.00		
16-Feb-22	81320	81.32	7.41	7.67	140.00	17.00	212.00	40.00	280.00	23.00	Nil	300	0.3	23.77	1700000.00		
17-Feb-22	78960	78.94	7.37	7.73	133.00	16.00	208.00	38.00	276.00	25.00	Nil	400	0.3	21.59	1300000.00		
18-Feb-22	81840	81.84	7.43	7.69	145.00	15.00	208.00	48.00	292.00	22.00	Nil	300	0.3	22.81	1400000.00		
19-Feb-22	78400	78.40	7.39	7.69	138.00	17.00	216.00	44.00	280.00	27.00	Nil	300	0.2	23.39	1700000.00		
20-Feb-22	77140	77.14	7.46	7.59	140.00	17.00	224.00	40.00	296.00	24.00	Nil	300	0.3	21.47	1300000.00		
21-Feb-22	80020	80.02	7.36	7.73	135.00	16.00	208.00	44.00	272.00	26.00	Nil	400	0.2	23.75	1400000.00		
22-Feb-22	78860	78.86	7.41	7.7	130.00	15.00	228.00	40.00	280.00	25.00	Nil	400	0.3	23.28	1700000.00		
23-Feb-22	84000	84.00	7.38	7.67	135.00	16.00	212.00	44.00	291.00	23.00	Nil	400	0.2	21.32	1700000.00		
24-Feb-22	79380	79.38	7.42	7.63	130.00	18.00	204.00	48.00	288.00	28.00	Nil	400	0.2	23.81	1300000.00		
25-Feb-22	82340	82.34	7.38	7.71	130.00	17.00	220.00	44.00	267.00	22.00	Nil	300	0.3	21.83	1300000.00		
26-Feb-22	81520	81.52	7.44	7.69	125.00	17.00	216.00	36.00	280.00	26.00	Nil	400	0.3	23.31	1700000.00		
27-Feb-22	80210	80.21	7.41	7.63	135.00	15.00	208.00	44.00	281.00	23.00	Nil	400	0.3	21.27	1400000.00		
28-Feb-22	75260	75.26	7.39	7.72	130.00	17.00	228.00	48.00	276.00	25.00	Nil	300	0.3	21.87	1700000.00		
Average	84160.00	68.10	7.40	7.69	112.50	15.54	224.14	42.57	288.57	23.64	Nil	465.29	0.25	22.47	1402321.43		

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Inspection Report

Month of Site Inspection	February 2022
Site Inspectors	1. Mr. Santosh Kumar, PM-I, UPJN 2. Mr. Arvind Yadav, AE, UPJN 3. Mr. Manish Srivatava, JE, UPJN. 4. Mr. Gaurav Gupta, AECOM. 5. Mr. Sudhir Tomar, AECOM. 6. Mr. Girjesh, 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 February 11th February & 19th February 24th February and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Rajapur STP	76.66 to 84.16
2	Rajapur SPS	7.11 to 16.07
3	Mumfodganj MPS	64.98 to 69.55

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 18 mg/l
2	TSS – Effluent	< 30 mg/l	21 to 29 mg/l
3	pH – Effluent	6.5 – 9.0	7.62 to 7.75
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.29 to 24.51%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Rajapur STP	25.26 to 39.10
2	Rajapur Associated Infrastructure	52.15 to 63.66

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 2505.04 m3/hr i.e., 60.12 MLD at 2.20 PM.
2. Data transmission from online analyzers 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 & rectify the problem.
4. One grit removal unit is working, and one unit is in maintenance.
5. Both Mechanical Fine Screens at PTU are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
6. During visit it was found that several distribution cells of both UASB reactors are choked. Cleaning work is in progress.
7. 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.
8. 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.
9. All surface aerators are working.
10. 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.
11. Both DG sets are working. Repairing of DG shed is pending.
12. It is suggested to increase the height of chimney of DG sets as per CPCB norms.
13. 3 out of 4 sludge transfer pumps are working. One is under maintenance.
14. Drainage system must be provided near the sludge collection area of dewatering system for avoiding sludge accumulation.
15. 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.
16. 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.
17. 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.
18. 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.
19. Flowmeter at outlet was working and it was showing flow of 2460.49 m3/hr i.e., 59.05 MLD at 3.10 PM. Calibration flowmeter is completed by site team, Concessionaire is required to get the calibration of flowmeter verified by OEM and submit calibration certificates.

20. Calibration of flowmeter in outlet line of effluent pumps is pending. Concessionaire to please do the needful and submit calibration reports.
21. In SCADA, operations of some equipment of water line are not possible from system. Arrangement for the same must be done for complete supervision and control from SCADA system.
22. In SCADA, communication from associated infrastructure is not received in Naini-I STP continuously as the signal is breaking regularly. Please rectify the same.
23. In SCADA, required changes in the report must be done as discussed.
24. Gas holder and gas flare are not in operation. Concessionaire is requested to complete the maintenance works and take both into operation.
25. Landscaping of the plant is started . Concessionaire is suggested to increases the manpower for landscaping work.
26. Housekeeping of the plant must be improved.
27. All main roads of plant are broken. Construction/repairing of roads is not started yet, Concessionaire to please start the work at the earliest.
28. 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.
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. As per table given in clause no. 1.7.9 of Part-G in Concession Agreement, composite sample for both influent & effluent of one day in a month is required to be sent to NABL accredited lab recognized by CPCB & SPCB but no sample is being sent till date.
33. Installation of Public Address System is done but its commissioning is not completed yet.
34. 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.

35. 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.

36. 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.

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

1.1 KPI Report

Source: Logbook of Laboratory at Sewage Treatment Plant

1.2 Inspection Report

Month of Site Inspection	Feb 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 31st Jan 2021 & 11th Feb 2022 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Numayadahi STP	57.65 to 67.52
2	Ghagharnalla MPS	58.87 to 69.08
3	Sasur Kadheri SPS	29.85 to 39.34
4	Lukerganj SPS	4.30 to 5.40

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 20 mg/l	14 to 17 mg/l
2	TSS – Effluent	< 30 mg/l	22 to 28 mg/l
3	pH – Effluent	6.5 – 9.0	7.56 to 7.84
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.96 to 25.65 %
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1100000 to 1700000 MPN/gTS

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

- **Status of Energy Consumption:**

S. No.	Facility Name	Actual Energy Consumption (KWH/MLD)
1	Numayadahi STP	47.53 to 70.09
2	Numayadahi Associated Infrastructure	89.06 to 104.35

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 3-4 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. 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 analyzers at the outlet of Aeration tanks are not working properly, please check & rectify the problem.
12. All Centrifuges are working along with Sludge Feed pumps and Poly dosing pumps. Sludge generation is 4 – 6 trolleys per day.
13. All Sludge Recirculation Pumps are in working condition.
14. 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 once period of Magh Mela is over.

15. Both booster pumps & both chlorinators are in working condition & chlorine dosing was found to be running around 4-5 kg/hr.
16. Residual chlorine was checked & found to be around 0.2 – 0.3 mg/l.
17. 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.
18. Currently, water is filled in neutralization tank but as per norms proper caustic solution must be present in the tank. Also, testing of system in auto mode is not completed 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 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.
20. Chlorine analyzer for the effluent is not giving correct values.
21. 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.
22. In SCADA, operations of some equipment are not possible in auto mode due to lack of provision in old electrical panels. Arrangement for the same must be done.
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 from inside also.
29. Some CCTV cameras are out of operation, please rectify.
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) 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.

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) Both mechanical screens are in working condition.

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:

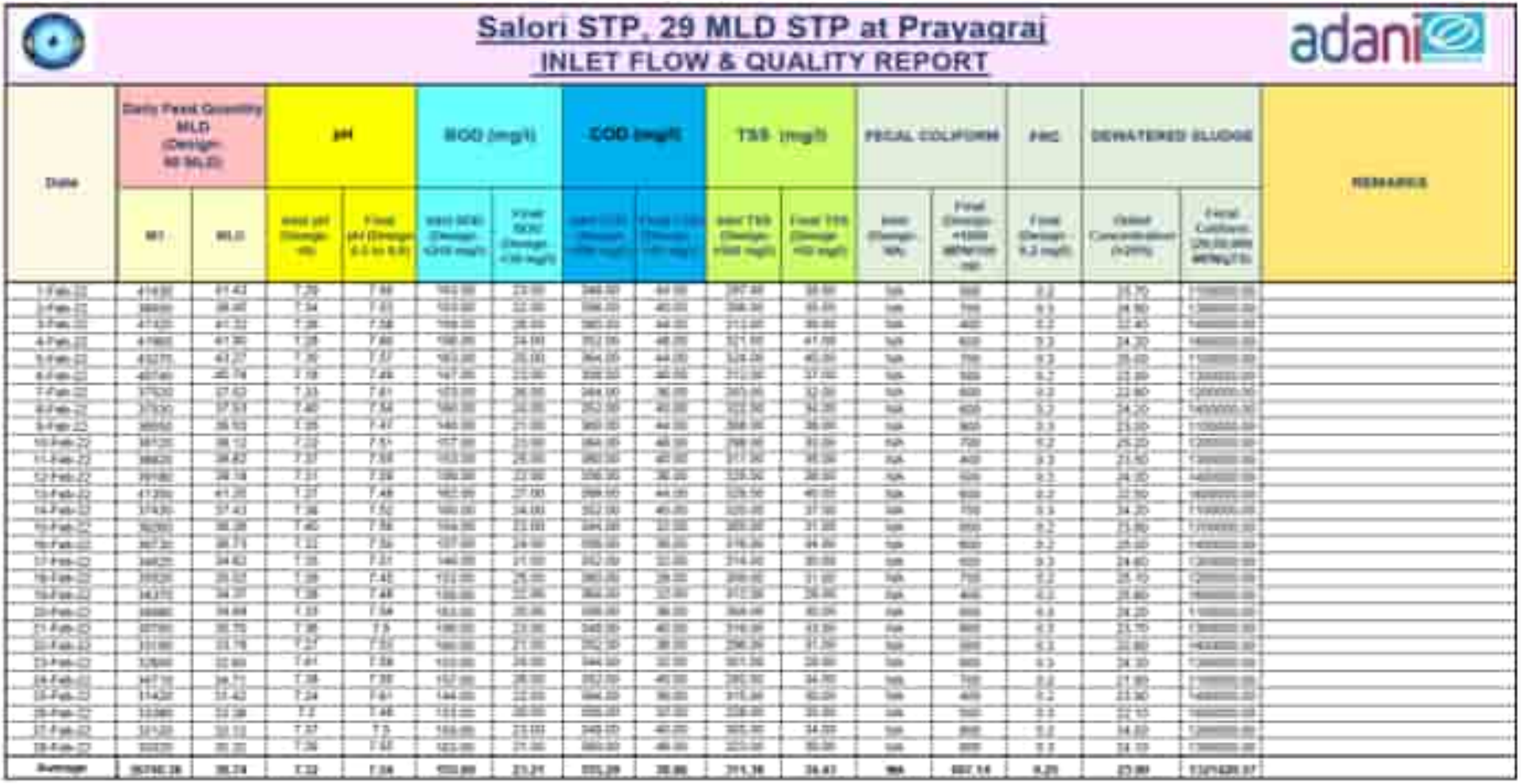
a) Graphs based on data obtained from online monitoring system in accordance with clause no. 3.1 of schedule-6 in Concession Agreement.
b) Testing of TN, NH4-N, TP for composite samples each day as per Part-G in Schedule-10 of CA.
c) Site Diary as per Clause no. 1.7.2 of Part-G in Schedule – 10 of Concession 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 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 Bio towers for checking the efficiency of Bio towers.
- Concessionaire to please ensure that all the testings 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

2. SALORI STP AND ASSOCIATE INFRASTRUCTURE

2.1 KPI Report



Salori STP, 29 MLD STP at Prayagraj

INLET FLOW & QUALITY REPORT

adani

Date	Daily Feed Quantity MLD (Design- 29 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		AMC	DEWATERED SLUDGE		REMARKS
	M1	M2	Inlet pH (Design- nil)	Final pH (Design- 6.5 to 9.0)	Inlet BOD (Design- <240 mg/l)	Final BOD (Design- <30 mg/l)	Inlet COD (Design- <480 mg/l)	Final COD (Design- <100 mg/l)	Inlet TSS (Design- <500 mg/l)	Final TSS (Design- <50 mg/l)	Inlet (Design- NIL	Final (Design- <1000 MPN/100 ml)	Final (Design- 6.2 mg/l)	Outlet Concentration (<20%)	Fecal Coliform (<50,000 MPN/100)	
1-Feb-22	41430	41.43	7.29	7.49	163.00	23.00	348.00	44.00	197.00	33.00	NIL	500	3.2	23.70	1100000.00	
2-Feb-22	38600	38.60	7.34	7.51	153.00	22.00	336.00	40.00	208.00	35.00	NIL	700	3.3	28.80	1300000.00	
3-Feb-22	47430	47.43	7.38	7.58	199.00	28.00	360.00	44.00	213.00	36.00	NIL	400	3.2	32.45	1400000.00	
4-Feb-22	41860	41.86	7.28	7.60	158.00	24.00	352.00	48.00	221.00	41.00	NIL	600	3.3	24.20	1400000.00	
5-Feb-22	43270	43.27	7.30	7.57	163.00	25.00	364.00	44.00	228.00	40.00	NIL	700	3.3	25.00	1100000.00	
6-Feb-22	40740	40.74	7.19	7.46	147.00	23.00	338.00	36.00	212.00	37.00	NIL	500	3.2	22.80	1300000.00	
7-Feb-22	37500	37.50	7.33	7.61	123.00	26.00	344.00	36.00	201.00	32.00	NIL	600	3.3	22.80	1200000.00	
8-Feb-22	37930	37.93	7.40	7.54	130.00	24.00	352.00	40.00	222.00	34.00	NIL	600	3.2	24.20	1400000.00	
9-Feb-22	38050	38.05	7.35	7.47	146.00	21.00	360.00	44.00	208.00	36.00	NIL	800	3.3	23.00	1100000.00	
10-Feb-22	38125	38.12	7.22	7.51	157.00	23.00	364.00	48.00	198.00	33.00	NIL	700	3.2	25.20	1200000.00	
11-Feb-22	38820	38.82	7.37	7.58	153.00	25.00	360.00	40.00	217.00	35.00	NIL	400	3.3	21.60	1300000.00	
12-Feb-22	39180	39.18	7.31	7.59	139.00	23.00	356.00	36.00	228.00	38.00	NIL	500	3.3	24.20	1400000.00	
13-Feb-22	41350	41.35	7.27	7.48	162.00	27.00	368.00	44.00	229.00	40.00	NIL	600	3.2	23.80	1600000.00	
14-Feb-22	37430	37.43	7.36	7.52	160.00	24.00	332.00	40.00	220.00	37.00	NIL	700	3.3	24.20	1100000.00	
15-Feb-22	38260	38.26	7.40	7.56	164.00	23.00	344.00	32.00	205.00	31.00	NIL	600	3.2	23.80	1200000.00	
16-Feb-22	36730	36.73	7.32	7.54	137.00	24.00	336.00	36.00	216.00	34.00	NIL	500	3.2	25.00	1400000.00	
17-Feb-22	34620	34.62	7.35	7.51	146.00	21.00	352.00	32.00	214.00	30.00	NIL	600	3.3	24.60	1300000.00	
18-Feb-22	35520	35.52	7.39	7.45	122.00	26.00	360.00	28.00	208.00	31.00	NIL	700	3.2	25.70	1200000.00	
19-Feb-22	34370	34.37	7.38	7.48	139.00	22.00	364.00	32.00	212.00	36.00	NIL	400	3.3	23.80	1600000.00	
20-Feb-22	33680	33.68	7.33	7.54	151.00	20.00	336.00	36.00	204.00	30.00	NIL	600	3.3	24.20	1100000.00	
21-Feb-22	33700	33.70	7.36	7.5	156.00	23.00	348.00	40.00	216.00	33.00	NIL	800	3.3	23.70	1300000.00	
22-Feb-22	33180	33.18	7.27	7.51	160.00	21.00	352.00	36.00	206.00	31.00	NIL	600	3.3	22.80	1400000.00	
23-Feb-22	32600	32.60	7.41	7.59	153.00	24.00	344.00	32.00	201.00	28.00	NIL	600	3.3	24.30	1200000.00	
24-Feb-22	34710	34.71	7.38	7.55	157.00	26.00	352.00	40.00	220.00	34.00	NIL	700	3.2	23.80	1100000.00	
25-Feb-22	31420	31.42	7.24	7.61	144.00	22.00	364.00	36.00	215.00	32.00	NIL	400	3.2	23.90	1400000.00	
26-Feb-22	33380	33.38	7.2	7.48	153.00	26.00	356.00	32.00	208.00	30.00	NIL	500	3.3	22.10	1600000.00	
27-Feb-22	32120	32.12	7.37	7.5	152.00	23.00	348.00	40.00	205.00	34.00	NIL	800	3.2	24.20	1200000.00	
28-Feb-22	33220	33.22	7.36	7.57	151.00	21.00	360.00	48.00	223.00	30.00	NIL	600	3.3	24.10	1300000.00	
Average	36740.36	36.74	7.33	7.54	153.89	23.21	355.29	39.86	211.36	34.43	964	657.14	4.29	23.89	1324285.57	

Source: Logbook of Laboratory at Sewage Treatment Plant

2.2 Inspection Report

Month of Site Inspection	Feb 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 01st Feb 2022, 21st Feb 2021 and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Salori STP	34.37 to 43.27
2	Salori MPS	34.37 to 42.83

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

- **Status of KPIs:**

S. No.	Parameter Name	Design Value	Parameter Value
1	BOD – Effluent	< 30 mg/l	21 to 27 mg/l
2	TSS – Effluent	< 50 mg/l	28 to 41 mg/l
3	pH – Effluent	6.5 – 9.0	7.45 to 7.61
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 800 MPN/100 ml
5	Consistency – Sludge	> 20 %	22.4 to 25.8 %
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	82.52 to 117.22
2	Salori MPS	49.07 to 53.42

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. Data transmission from online analyzers to servers of SPCB/CPCB is not started till date. Concessionaire to please do the needful.
4. 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.
5. Chlorine analyzer at outlet is not working.
6. All Grit Removal Units are working.
7. Both Mechanical Screens are working. Differential level sensors are not synchronized with mechanical screens hence screens cannot run in auto mode.
8. Both FAB units are working. DO analyzer for FAB no. 2 is not working.
9. Pump for sensor cleaning of DO analyzers must be made operational for efficient working of DO analyzers.
10. All Aeration blowers are working.
11. 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.
12. Sample of both clarisettlers was checked found that outlet quality of clarisettler no. 1 is not good as compared to that of clarisettler no. 2. Please rectify the problem.
13. 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.
14. Quality of effluent is not good during peak hours. Wastewater from drains of all clarisettlers was checked and it was found that sludge deposition was more than normal. Concessionaire is requested to ensure proper withdrawal of sludge so that quality of effluent can be improved during peak hours also.
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. In SCADA, operations of some equipment are not possible in auto mode. Concessionaire to please do the needful at the earliest.
24. In SCADA, supervision of sludge dewatering unit is completed but controlling is not possible. Arrangement for the same must be given also.
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. 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.
27. 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.
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 must be implemented from day 1 of O&M period but the same is not completed till date, Concessionaire to please do the needful.
31. Installation & commissioning of Public Address System is not completed yet.
32. 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.
33. Housekeeping around dewatering area must be improved, lot of sludge can be seen scattered in this area.
34. All CCTV cameras are working
35. Since COD is announced on 01.11.2020 for all Package – III facilities hence Concessionaire is required to implement following documents as per Clause no. 9 & Part-G in Schedule – 10 of Concession Agreement at the earliest:

    a) 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 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.

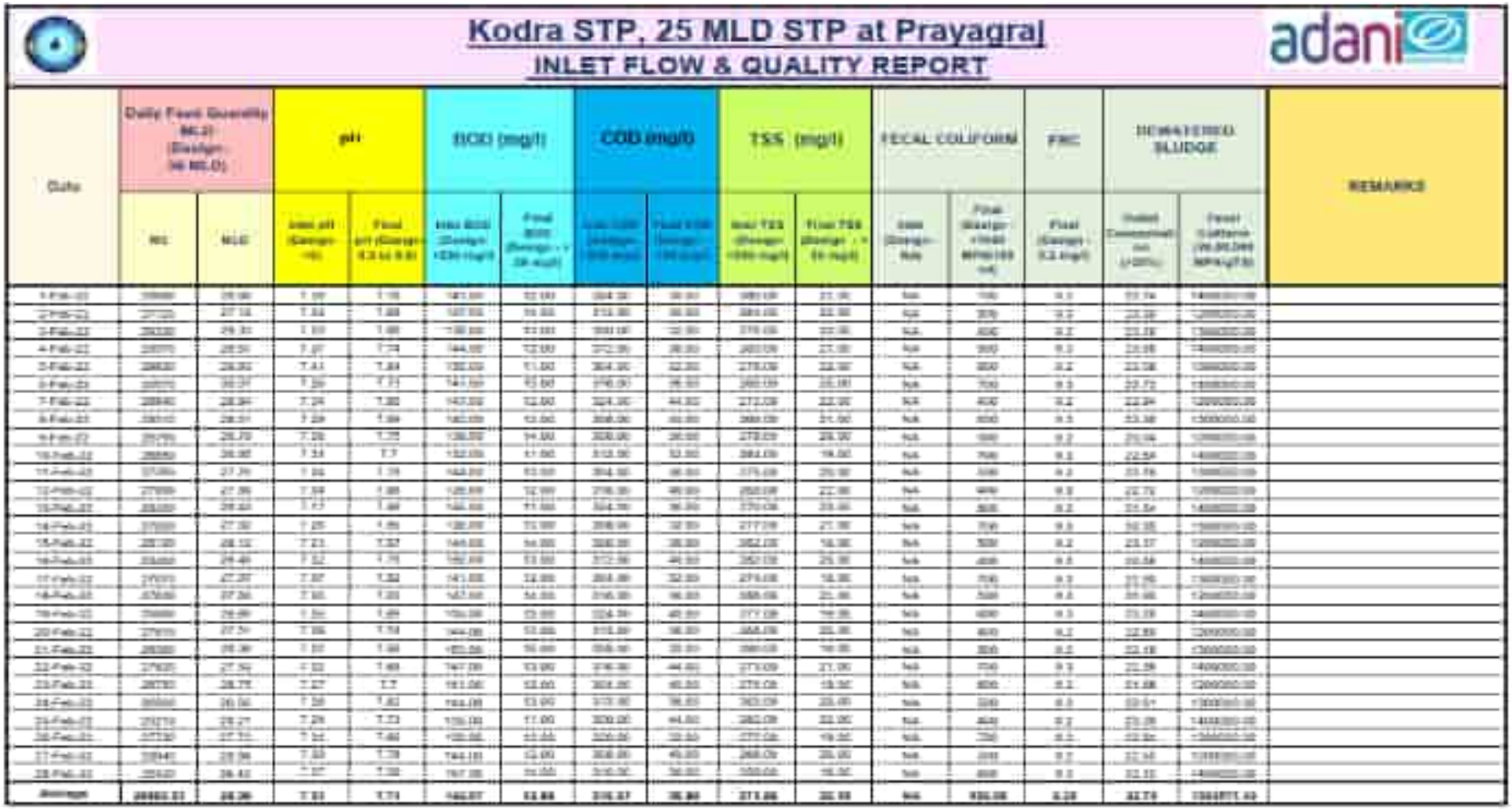
l) Scheduled Maintenance Program specifying the impact of Scheduled Maintenance Periods on the Availability of each facility.

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. KODRA STP AND ASSOCIATE INFRASTRUCTURE

3.1 KPI Report



Kodra STP, 25 MLD STP at Prayagraj

INLET FLOW & QUALITY REPORT

adani

Date	Daily Feed Quantity MLD (Design- 36 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		FAC	RECIRCULATED SLUDGE		REMARKS
	MS	MLD	Inlet pH (Design- nil)	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- <250 mg/l)	Inlet TSS (Design- <350 mg/l)	Final TSS (Design - < 50 mg/l)	Inlet (Design- Nil)	Final (Design- <1000 MPN/100 ml)	Final (Design - 0.2 mg/l)	Outlet Concentration (>20%)	Feed to Lagoons (40,00,000 MPN/gTS)	
1-Feb-22	33000	29.00	7.07	7.15	141.00	12.00	324.00	44.00	260.00	21.00	NA	700	0.2	22.74	14000000.00	
2-Feb-22	27120	27.12	7.34	7.68	127.00	14.00	312.00	36.00	284.00	22.00	NA	800	0.2	23.28	12000000.00	
3-Feb-22	29330	29.33	7.03	7.68	138.00	12.00	308.00	32.00	276.00	21.00	NA	400	0.2	23.28	13000000.00	
4-Feb-22	28970	28.97	7.07	7.74	144.00	12.00	312.00	36.00	260.00	21.00	NA	900	0.2	23.28	14000000.00	
5-Feb-22	28830	28.83	7.43	7.84	132.00	11.00	304.00	32.00	276.00	22.00	NA	800	0.2	23.28	13000000.00	
6-Feb-22	29370	29.37	7.29	7.71	141.00	12.00	316.00	36.00	260.00	20.00	NA	700	0.2	22.72	13000000.00	
7-Feb-22	28840	28.84	7.24	7.80	143.00	12.00	324.00	44.00	272.00	22.00	NA	400	0.2	22.84	12000000.00	
8-Feb-22	29010	29.01	7.29	7.84	140.00	12.00	308.00	40.00	268.00	21.00	NA	600	0.2	23.38	13000000.00	
9-Feb-22	28170	28.17	7.29	7.78	138.00	14.00	300.00	36.00	278.00	20.00	NA	500	0.2	23.04	12000000.00	
10-Feb-22	28840	28.84	7.34	7.7	132.00	11.00	312.00	32.00	284.00	19.00	NA	700	0.2	22.54	14000000.00	
11-Feb-22	27780	27.78	7.04	7.78	148.00	13.00	304.00	36.00	276.00	20.00	NA	500	0.2	23.76	13000000.00	
12-Feb-22	27900	27.90	7.04	7.88	126.00	12.00	296.00	40.00	260.00	22.00	NA	900	0.2	22.72	12000000.00	
13-Feb-22	28320	28.32	7.17	7.68	144.00	11.00	304.00	36.00	270.00	23.00	NA	800	0.2	23.54	14000000.00	
14-Feb-22	27720	27.72	7.25	7.89	138.00	13.00	308.00	32.00	277.00	21.00	NA	700	0.2	22.55	13000000.00	
15-Feb-22	28120	28.12	7.23	7.87	146.00	14.00	308.00	36.00	282.00	19.00	NA	500	0.2	23.37	12000000.00	
16-Feb-22	29400	29.40	7.32	7.75	152.00	13.00	312.00	40.00	280.00	25.00	NA	400	0.2	22.58	14000000.00	
17-Feb-22	27972	27.97	7.07	7.82	141.00	12.00	304.00	32.00	276.00	19.00	NA	700	0.2	23.05	13000000.00	
18-Feb-22	27930	27.93	7.10	7.93	147.00	14.00	316.00	36.00	288.00	21.00	NA	500	0.2	22.66	12000000.00	
19-Feb-22	28980	28.98	7.34	7.89	150.00	13.00	324.00	40.00	277.00	20.00	NA	400	0.2	23.28	14000000.00	
20-Feb-22	27972	27.97	7.06	7.74	144.00	12.00	312.00	36.00	268.00	20.00	NA	600	0.2	22.83	13000000.00	
21-Feb-22	28560	28.56	7.07	7.88	150.00	13.00	308.00	32.00	280.00	19.00	NA	800	0.2	22.49	12000000.00	
22-Feb-22	27825	27.82	7.02	7.83	147.00	13.00	316.00	44.00	273.00	21.00	NA	700	0.2	22.58	14000000.00	
23-Feb-22	28785	28.78	7.27	7.7	151.00	12.00	304.00	40.00	276.00	19.00	NA	800	0.2	23.08	13000000.00	
24-Feb-22	28560	28.56	7.28	7.82	154.00	13.00	312.00	36.00	260.00	20.00	NA	500	0.2	22.61	13000000.00	
25-Feb-22	27972	27.97	7.29	7.73	139.00	11.00	300.00	44.00	282.00	22.00	NA	400	0.2	23.28	14000000.00	
26-Feb-22	27930	27.93	7.34	7.82	150.00	12.00	308.00	32.00	272.00	19.00	NA	700	0.2	23.04	13000000.00	
27-Feb-22	28140	28.14	7.33	7.79	144.00	12.00	304.00	40.00	268.00	20.00	NA	600	0.2	22.72	13000000.00	
28-Feb-22	28560	28.56	7.07	7.78	147.00	13.00	316.00	36.00	280.00	19.00	NA	800	0.2	22.72	14000000.00	
Average	28060.00	28.06	7.23	7.71	142.07	12.64	310.37	35.80	271.66	20.93	NA	636.66	0.20	22.73	13666571.43	

Source: Logbook of Laboratory at Sewage Treatment Plant

3.2 Inspection Report

Month of Site Inspection	Feb 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. 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 3rd February, 10th February & 17th February and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Kodra STP	26.79 to 30.07
2	Kodra MPS	26.79 to 30.07

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 14 mg/l
2	TSS – Effluent	< 50 mg/l	19 to 22 mg/l
3	pH – Effluent	6.5 – 9.0	7.59 to 7.89
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700 MPN/100 ml
5	Consistency – Sludge	> 20 %	21.44 to 23.58%
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1400000 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	85.37 to 103.17
2	Kodra MPS	90.18 to 100.39

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 1010.40 m3/hr i.e., 24.24 MLD at 3.50 PM.
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 1488.90 m3/hr i.e. 35.73 MLD at 11.00 AM.
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. Unit Painting, road repairing work are in progress.
25. Site house Keeping & landscaping are required. Concessionaire is suggested to keep the Old material Properly.
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. 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 is not started yet, Concessionaire to please do the needful.
30. Installation of Public Address System is done but its commissioning 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) 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 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.

3.3 Recommendation's

- Concessionaire must ensure satisfactory working of Online monitoring system & transmit the data asper requirement.
- All the maintenance jobs required for the observations made above must be done as soon as possibleto 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 Bio towers for checking the efficiency of Bio towers.
- Concessionaire to please ensure that all the testing must be done as per the clause no. 1.7.9 of Part-Gin Concession Agreement.
- It is also instructed to fulfill all safety requirements while doing all kinds of work and proper PPEs mustbe used.
- All the old material removed from the dismantling works in various units must be stacked properly atthe 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 workersmust wear proper PPEs while doing work at Site.
- More awareness trainings for workers must be given for encouraging them to use PPEs.

4. PONGHAT STP AND ASSOCIATE INFRASTRUCTURE

4.1 KPI Report

Ponghat STP, 10 MLD STP at Prayagraj

INLET FLOW & QUALITY REPORT

adani

Date	Daily Feed Quantity MLD (Design 10 MLD)		pH		BOD (mg/l)		COD (mg/l)		TSS (mg/l)		FECAL COLIFORM		TRC	DEWATERED SLUDGE		REMARKS
	M3	MLD	Inlet pH	Final pH	Inlet BOD	Final BOD	Inlet COD	Final COD	Inlet TSS	Final TSS	Inlet	Final	Final	[illegible]	[illegible]	
1-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
2-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
3-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
4-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
5-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
6-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
7-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
8-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
9-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
10-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
11-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
12-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
13-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
14-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
15-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
16-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
17-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
18-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
19-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
20-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
21-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
22-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
23-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
24-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
25-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
26-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
27-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[illegible]	[illegible]	[illegible]	
28-Feb-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA	[illegible]	[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

4.2 Inspection Report

Month of Site Inspection	Feb 2022
Site Inspectors	Mr. Santosh Kumar, PM-I, UPJN. Mr. Tauseef Ahmed, AE, UPJN. Mr. Satwant, JE, UPJN. Mr. Gaurav Gupta, AECOM. Mr. Sudhir Tomar, AECOM. Mr. Jagdish, PWPL. 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 February 9th February & 17th February and following observations were made:

- **Status of Availability:**

S. No.	Facility Name	Actual Flow Pumped /Received at Facility (MLD)
1	Ponghat STP	10.94 to 13.03
2	Ponghat MPS	10.94 to 13.03

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	18 to 24
3	pH – Effluent	6.5 – 9.0	7.43 to 7.81
4	Fecal coliform – Effluent	<= 1000 MPN/100 ml	400 to 700
5	Consistency – Sludge	> 20 %	20.54 to 23.16
6	Fecal Coliform – Sludge	< 20,00,000 MPN/gTS	1200000 to 1600000

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	118.93 to 158.97
2	Ponght MPS	84.36 to 93.25

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 1088.19 m3/hr i.e., 26.11 MLD at s11.30 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 screens at MPS are working.
5. Both Grit Removal Units are working.
6. Both Mechanical Fine Screens at PTU are working.
7. Bio tower no. 1 is not working satisfactorily as its mechanism is not moving. Small amount of plastic waste is reaching the bio towers 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 2 – 3 trolleys per day.
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 Secondary Clarifiers are working. Weir notch levelling is not satisfactory.
15. 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.
16. 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.
17. 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.
18. Outlet water quality is good.
19. It is continuously observed that dewatered sludge is being dumped inside the plant. Concessionaire is required to dump the dewatered sludge in the place given by UPJN.
20. Online Analyzer at Outlet is not working satisfactorily.
21. Flowmeter at outlet was working and it was showing flow of 863.52 m3/hr i.e., 20.72 MLD at 11.35 AM.
22. 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.
23. In SCADA, flow reports do not contain cumulative readings yet. Concessionaire to please do the needful.
24. At Ponghat 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.

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. As already discussed, road & drain repairing for STP & Associated Infrastructures is not started yet.
27. Site house Keeping & landscaping are required. Concessionaire is suggested to keep the Old material Properly.
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. 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) 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 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.

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 Bio towers for checking the efficiency of Bio towers.
- 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				
Clause as per TOR	**Scope**	**Period from 1st Feb 2022 to 28th Feb 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	Yes	Yes	Review of revised Construction plan and remaining drawing design of Civil/Mech/Electrical

Activities carried out as per TOR				
Clause as per TOR	**Scope**	**Period from 1st Feb 2022 to 28th Feb 2022**		
		Undertaken till previous months	**Undertaken during this month**	**Expected for next month**
	iii. Automation and Instrumentation works iv. Any other allied works e.QA/QC plans f. Environment Health and Safety Plan, material safety data and hazardous chemicals if any.			
4.1(v)	Review of the Drawings and Documents as set forth in Paragraph 4 and 5;	Yes	Yes	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

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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
	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

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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 and functions under the Concession Agreement.	YES	YES	YES
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	professionalism and Good Industry Practice.			
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 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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 (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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	outlined in Paragraphs 4-12 of the TOR.			
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
5.4	The Project Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receiving such Drawings or Documents.	Yes	Yes	Yes
5.5	The Project Engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receipt thereof.	Yes	Yes	Yes
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	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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			
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 of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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, the materials used and their sources, and conformity of Construction	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 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

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
6.11	In the event that the Concessionaire fails to 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.	Yes	Yes	revised construction plan is to be 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	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the Construction Works that should be suspended for 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	NA	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Pradesh Jal Nigam and the Concessionaire of the same.			
6.15	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire.	NA	NA	NA
6.16	The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual.	Yes	NA	NA
6.17	Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 21.	Yes	NA	NA
6.18	The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates'.	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
6.19	The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 8, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with.	Yes	Yes	Yes
6.20	On completion of construction and at behest of Employer, the Project Engineer may review the work done as per 'as built' drawings and identify defects and suggest changes as per clause 8.14(a)of the Concession Agreement.	Yes	NA	NA
6.21	Similarly, the Project Engineer may inspect the trial process and may point out the defects and cause changes or retrial of the process as per clause 8.15(d) of the Concession Agreement	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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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			
6.24	Project Engineer shall ensure that the Concessionaire shall meet the Guaranteed Interim Availability of the existing Allahabad STP and associated infrastructure within 30 days from the Effective Date of the Concession Agreement.	Yes	NA	NA
6.25	Project Engineer shall also ensure that the STP by-products and Treated Effluents discharged from the Existing Facilities meet the relevant Discharge Standards in accordance with the Clause 9.12(c) of the Concession Agreement, from 1 year from the Effective Date.	Yes	Yes	Yes
7.1	In respect of the Designs, Drawings, and Documents received by the Project Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis.	Yes	NA	NA
7.2	The Project Engineer shall review the O&M Manual (Clause 9.2) and the	Yes	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Scheduled Maintenance Programme submitted by the concessionaire and provides its recommendations on the same, including suggestions for change, if any. The O&M Manual shall cover: a) O&M Procedures; b) O&M Plan; c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Concessionaire within 10 (ten) days of receipt of the Maintenance Program.			
7.4	The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam	Yes	Yes	Yes
7.5	The Project Engineer shall verify the daily reports submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis;	Yes	Yes	Yes
7.6	The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 9.8(b)(iii) (A) to (G) of the Concession Agreement.	Yes	Yes	Yes
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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards.			
7.8	The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 9.8(b)(iii)(E) the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report	Yes	Yes	Yes
7.9	The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the 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	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection.			
7.10	The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections.	Yes	Yes	Yes
7.11	The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.	Yes	Yes	Yes
7.12	The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay.	Yes	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
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 Reports as detailed in Schedule 10(Part G) of the Concession Agreement.	Yes	Yes	Yes
7.17	The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when	Yes	Yes	Yes

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire.			
7.18	The Project Engineer will provide necessary assistance to NMCG and UP Jal Nigam for the understanding various projects undertaken through other Central Government/State Government schemes /Urban Local Bodies and advice NMCG/UP Jal Nigam accordingly so that the overall objective preventing flow of untreated sewage into the river Yamuna is accomplished. The support by the proposed PE will include, but not limited to the following: 7.18.1 Preparation of a road map/policy note for completion of sewage related work at the City Level taking into consideration various schemes implemented through NMCG/Central/State Government funding and/or through Urban Local Body funding; 7.18.2 Assist in developing dovetailing partnerships with other schemes in the sewage sector like AMRUT, SMART City Mission and	Yes	NA	NA

Activities carried out as per TOR				
Clause as per TOR	Scope	Period from 1st Feb 2022 to 28th Feb 2022		
		Undertaken till previous months	Undertaken during this month	Expected for next month
	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: February 2022				Remarks
			As per IS no of test required	No of test conducted	No. of test accepted	No. of test rejected	
1	Aggregate Impact Value	IS 2386-Part 4	ONE TEST/300 CUM	5	5	0	Aggregate Impact value test conduct in Naini-II. Jhunsi, Phaphamau and found satisfactory
2	Sand gradation	IS 2386-Part 1	ONE TEST/300CUM	5	5	0	Sand Gradation Test conduct in, Phaphamau, Naini-II, Jhunsi and found satisfactory
3	Cube test	IS 516-2001	Quantity of concrete (m3) Number of samples 1-5 1 6-15 2 16-30 3 31-50 4 51 and above 4 plus one additional sample for each additional 50 m3 or part thereof.	170	170	0	Jhunsi Office building Tube Settler, Naini-II (Tube settler). Phaphamau, Cube test is acceptable for 7 Days
4	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	190	190	0	Naini-I, Naini-II (FCR), Boundary wall, Staff Quarter), Phaphamau. Cube test is acceptable for 28 days
5	Silt Content in Sand	IS 2386: 1963-Part 2	50 M3 – 1 TEST	5	5	0	Silt Content Test conduct in Naini-II, Jhunsi, Phaphamau

Sl. no	Description	IS code	Duration: February 2022				Remarks
			As per IS no of test required	No of test conducted	No. of test accepted	No. of test rejected	
							and found satisfactory
6	Sieve analysis (Aggregate 10mm)	IS 2386	ONE TEST/300 M3	5	5	0	Sieve Test Activity conduct in Jhunsi, Naini-I, Naini-II, Phaphamau site as per quality of material found acceptable
7	Sieve analysis (Aggregate 20mm)	IS 2386	ONE TEST/300 M3	5	5	0	Sieve Test Activity conduct in Jhunsi, Naini-II, Phaphamau site as per quality of material found acceptable
8	Brick Test	IS 1077 & 3495	1 SAMPLE/5000 0 BRICKS	1	1	0	As per site brick test activity conduct at Naini- II and result found acceptable as per IS
9	Slump Test	IS 1199	I TEST PER TM	270	270	0	Slump Test Activity conduct in Jhunsi, Naini-II, Phaphamau site as per quality of material found acceptable
10	Cube test	IS 516-2001	Quantity of concrete (m3) Number of samples 1-5 1 6-15 2 16-30 3 31-50 4	5	5	0	As per cube test report Phaphamau road manhole acceptable for 7 days

Sl. no	Description	IS code	Duration: February 2022				Remarks
			As per IS no of test required	No of test conducted	No. of test accepted	No. of test rejected	
			51 and above 4 plus one additional sample				
11	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	4	4	0	As per cube test report Phaphamau road manhole acceptable for 28 days
12	TMT	IS 456	I TEST PER LOT	100%	100%	0	After Inspection of TMT of site Phaphamau, jhunsi, Nani-II for Pacakge- 1 and found ok
13	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	190	190	0	As per cube test report, Jhunsi Office building Tube Settler, Naini-II (Tube settler) .Phaphamau, Cube test is acceptable for 7 Days
14	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	5	5	0	As per cube test report, Naini-I, Naini-II (FCR), Boundary wall, Staff Quarter), Phaphamau. Cube test is acceptable for 28 days

Sl. no	Description	IS code	Duration: February 2022				Remarks
			As per IS no of test required	No of test conducted	No. of test accepted	No. of test rejected	
			additional sample				
15	SRC Cement	IS 4031	1 TEST PER LOT	2	2	0	Chetak
16	OPC Cement 43 Grade	IS 4031	I TEST PER LOT	2	2	0	Ultratech