NATIONAL MISSION FOR CLEAN GANGA (NMCG)

MINISTRY OF JAL SHAKTI DEPARTMENT OF WATER RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION, GOVT. OF INDIA

जल शक्ति मंत्रालय
जल संसाधन, नदी विकास और गंगा संरक्षण विभाग
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION

सत्यमेव जयते

DEVELOPMENT OF NEW SEWAGE TREATMENT PLANTS, REHABILITATION OF EXISTING SEWAGE TREATMENT INFRASTRUCTURE AND O&M FOR 15 YEARS IN KANPUR

UNDER

ONE CITY ONE OPERATOR CONCEPT THROUGH HYBRID ANNUITY BASED PPP MODE (HAM – KANPUR)

(STC agreement dated 19.04.2019 &LOA: Pr-12012/41/2018-PPP/NMCG dated 04.02.2019)

Monthly Progress Report

Of

Project Engineer

February - 2021

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Table of Contents

MONTHLY PROGRESS REPORT – HAM KANPUR 5
1 INTRODUCTION 5
2 HYBRID ANNUITY MODEL (HAM) 6
3 OBJECTIVES 6
4 HAM KANPUR PROJECT AT A GLANCE 7
5 PROJECT WISE DETAILS OF COMPONENTS UNDER HAM KANPUR PROJECT 8
5.1 PANKHA FACILITIES 8
5.2 UNNAO FACILITIES 9
5.3 SHUKLAGANJ STP FACILITIES 10
5.4 JAJMAU (PHASE I) FACILITIES 10
5.5 JAJMAU PHASE II STP FACILITY 11
5.6 BINGAWAN FACILITIES 11
5.7 SAJARI FACILITIES 11
6 PHYSICAL PROGRESS OF WORK 12
6.1 MILESTONE WISE ACTIVITIES AND PROGRESS: PANKHA STP FACILITIES 12
6.2 MILESTONE WISE ACTIVITIES AND PROGRESS: UNNAO STP 31
6.3 WORK PROGRESS AT SHUKLAGANJ STP 29
7 PRESENT STATUS AND ISSUES OF HAM PROJECT KANPUR 31
7.1 PANKHA 30 MLD STP FACILITIES 31
7.2 UNNAO 15 MLD STP FACILITIES 31
7.3 JAJMAU (PHASE – 1) 130 MLD STP AND IPS REHABILITATION 32
7.4 43 MLD JAJMAU PHASE II 32
7.5 42 MLD SAJARI STP 33
7.6 210 MLD BINGAWAN FACILITIES 35
8 STATUS OF BEP & OTHER DETAILS 35
9 PROCEDURES BEING ADOPTED FOR QUALITY ASSURANCE 39
9.1 QUALITY CONTROL 39
9.2 TEST CONDUCTED AT SITE: 40
9.3 QUALITY REGISTERS MAINTAINING AT SITE: 40
10 QUALITY ASSURANCE / QUALITY CONTROL 41
10.1 FOR 30 MLD STP SITE & IPS AT PANKHA KANPUR 41
10.2 FOR 15 MLD STP SITE & IPS AT UNNAO 43

10.3 FOR 05 MLD STP SITE & IPS AT SHUKLAGANJ 47

11 CONSTRUCTION RUNNING MATERIAL /EQUIPMENTS 51

LIST OF TABLES

Table 2.1 : HAM Kanpur Project at a Glance
Table 5.1 : Pankha Facilities (District-III)
Table 5.2 : Unnao Facilities
Table 5.3 : Shuklaganj Facilities
Table 5.4 : Jajmau Facilities
Table 5.5 : Bingawan Facilities
Table 5.6 : Sajari Facilities
Table 6.1 : Milestone Wise Activities And Progress: Pankha STP Facilities
Table 6.2 : Milestone Wise Activities And Progress: Unnao STP Facilities
Table 6.3 : BEPs and other details

LIST OF FIGURES

Figure 1 : Objectives of NMCG and UP JAL NIGAM

ABBREVIATIONS

ASP	Activated Sludge Process
BEP	Basic Engineering Package
BOD	Biochemical Oxygen Demand
CETP	Common Effluent Treatment Plant
COD	Chemical Oxygen Demand
COD	Commercial Operation Date
CPs	Condition Precedent
CTE	Consent To Establish
CTO	Consent to Operate
DFGs	Dual Fuel Generators
DPR	Detailed Project Report
ESHS	Environment, Social, Health And Safety
GOI	Government of India
HAM	Hybrid Annuity Model
I&D	Interception & Diversion
IPS	Intermediate Pumping Station
KPIs	Key Performance Indicators
KRMPL	Kanpur River Management Private Limited
LOA	Letter of Award
MOM	Minutes of Meeting
MPS	Main Pumping Station
O&M	Operation and Maintenance
PLC	Programmable Logic Control
PMC	Project Management Consultant
PDD	Proposal Due Date
PDMC	Project Development and Monitoring Consultant
PPP	Public Private Partnership
QAP	Quality Assurance Plan
RFP	Request for Proposal
RTU	Remote Terminal Unit
RTOLMS	Real Time Online Monitoring System
TOR	Terms of Reference
SBR	Sequential Batch Reactors
STP	Sewage Treatment Plant
TEPH	Treated Effluent Pump House
UASB	Up-Flow Anaerobic Sludge Blanket Reactor

MONTHLY PROGRESS REPORT – HAM KANPUR

1 INTRODUCTION

The Govt. of India, recognizing that long-term rejuvenation of the river Ganga will have significant social and economic benefits on the lives of the 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 GoI approved the flagship Namami Gange programme for cleaning, rejuvenation, and protection of the river Ganga. In January 2016, the GoI approved a hybrid annuity model to implement STP projects under the Namami Gange programme on a PPP basis.

Subsequently, the MoWR issued the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 (Ganga 2016 Order) to constitute various authorities to assist the GoI in achieving its aim of effective abatement of pollution in the river Ganga. The Ganga 2016 Order applies to all states in the catchment of the river Ganga basin, including Uttar Pradesh. The Ganga 2016 Order revised the legal status of NMCG (which was initially constituted as a registered society under the Societies Registration Act, 1860) to an authority constituted under the Environment (Protection) Act, 1986 and designated NMCG as the nodal agency for the implementation of the Ganga 2016 Order.

Rapidly increasing population, rising standards of living and exponential growth of industrialisation and urbanisation have exposed water resources, in general, and rivers, in particular, 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.

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 in the State of Uttar Pradesh, the Jal Nigam, in association with NMCG has decided to undertake the development of:

- three new STP facilities(30 MLD Pankha, 15 MLD Unnao&5 MLD Shuklaganj)and their O&M for 15 years;
- rehabilitation of existing 130 MLD Jajmau Phase-I STP facility with O&M for 15 years and;
- O&M for three existing STP facilities (43 MLD Jajmau Phase-II, 210 MLD Bingawan&42 MLD Sajari) in Kanpur under Hybrid Annuity based PPP mode.

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.

NMCG & UPJN appointed M/s. Shah Technical Consultant Pvt. Ltd., as third party engineering firm 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 12th April 2019.

3 OBJECTIVES

To achieve above objectives effective development of STPs at Unnao, Shuklaganj and Pankha rehabilitation of existing STPs with O&M for 15 years in Kanpur are proposed under this program. The objectives that NMCG and the UP Jal Nigam wish to achieve through the Project are mentioned in Figure 1.

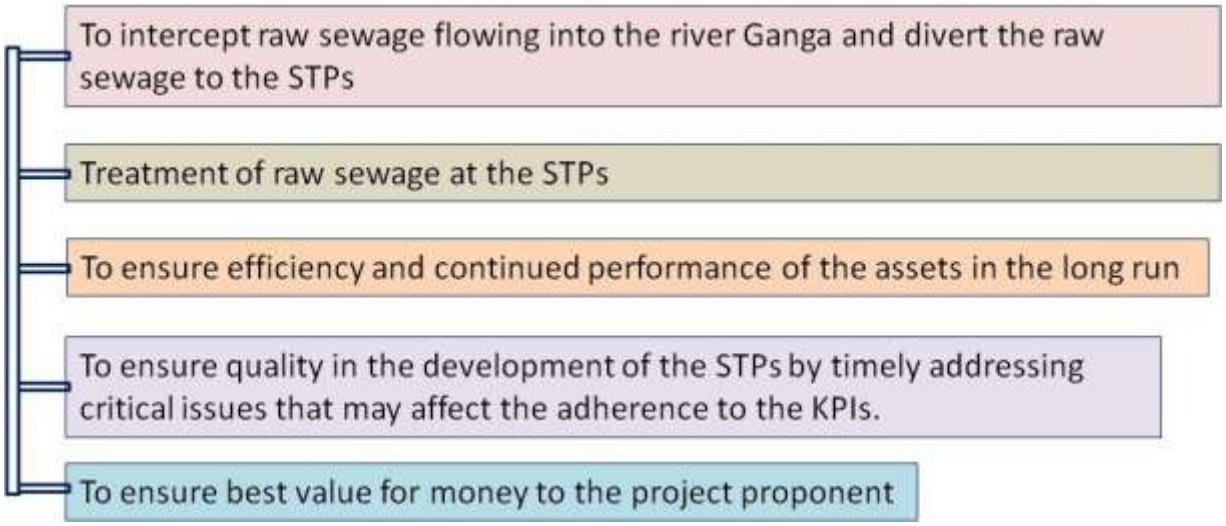


Figure 1: Objectives of NMCG and UP JAL NIGAM

4 HAM KANPUR PROJECT AT A GLANCE

Details of HAM Kanpur project are given in the following table:

Table 2.1: HAM Kanpur Project at a Glance

Name of Project	:	Development of new Sewage Treatment Plants and O&M for 15 years, Rehabilitation of existing Sewage Treatment Infrastructure and O&M for 15 years in Kanpur under One City One Operator concept through Hybrid Annuity based PPP mode. (HAM – Kanpur)
Client	:	National Mission for Clean Ganga (NMCG), New Delhi and UP Jal Nigam
Execution Agency	:	Uttar Pradesh Jal Nigam (UPJN)
Consultant	:	Shah Technical Consultants (P) Ltd. as **'Project Engineer'**
Agreement &LOA	:	STC Agreement dated 12.04.2019 & LOA: Pr-12012/41/2018-PPP/NMCG dated 04.02.2019
Concessionaire	:	Kanpur River Management Private Limited (KRMPL) an SPV of Shapoorji Pallonji& Company Private Limited, Mumbai
Concessionaire's Agreement	:	14/GM/2018-19dated 21.12.2018
Cost of Project (CAPEX+OPEX)	:	Rs. 816.25 Cr. (CAPEX 255.50 Cr. + OPEX 560.75 Cr.)
Effective Date	:	11.10.2019
Completion date (as per contract)	:	24 Months from effective date (21 months construction + 3 months trial run)
O&M period	:	15 years after last Commercial Operation Date (COD)
Description of Work	:	➢ Construction of three new STPs (SBR) at different locations (30 MLD at Pankha, 15 MLD at Unnao and 5 MLD STP at Shuklaganj) and related infrastructure with 15 years of O&M; ➢ Rehabilitation of 130 MLD (Phase-I) STP at Jajmau with construction of 200 MLD TEPS and 173 MLD CCT at Jajmau with O&M for 15 years; ➢ O&M of 43 MLD (Phase-II) Jajmau facilities, O&M of 210 MLD Bingawan facilities and O&M of 42 MLD Sajari facilities for 15 years;

5 PROJECT WISE DETAILS OF COMPONENTS UNDER HAM KANPUR PROJECT

HAM Kanpur project is divided into 5 districts of the Kanpur– Pankha (District –III, Kanpur), Unnao & Shuklaganj – (District Unnao), Jajmau – (District I, Kanpur), Bingawan – (District II, Kanpur) and Sajari – (District IV, Kanpur).

Under this project, development and O&M work of total seven STP facilities are proposed in which three new STP facilities based on SBR technology with associated infrastructure have been proposed for - 30 MLD Pankha (District III, Kanpur), 15 MLD Unnao&5 MLD Shuklaganj.

Rehabilitation and O&M for 15 years is proposed for 130 MLD Jajmau STP facilities (Phase-I) and O&M of 210 MLD USAB based Bingawan STP facilities, 43 MLD Jajmau Phase-II and for 42 MLD ASP based Sajari STP facilities for 15 years.

5.1 PANKHA FACILITIES

Project wise components details of Pankha Facilities are given in table 5.1:

Table 5.1: Pankha Facilities

SN	STP Facilities	Capacity/dia. /size	No. of units/length
	Date of Start- Effective Date (11.10.2019)		
	Scope of Work- New Construction and O&M		
1.1	STP	30 MLD	1
1.2	MPS	115MLD	1
1.3	ICI Nala IPS	25 MLD	1
1.4	Sundar Nagar IPS	20 MLD	1
1.5	Thermal Nala (A)(tapping)	22 MLD	1
1.6	Thermal Nala (B)(tapping)	8 MLD	1
1.7	ICI Nala (tapping)	7.85 MLD	1
1.8	Common Collection chamber	-	1
1.9	Rising main (ICI Nala IPS to collection chamber)	800mm-ϕ	6.91km
1.10	Rising main (Sundar Nagar IPS to collection chamber)	800mm-ϕ	0.651km
1.11	Gravity main (Thermal Nala B Tapping to common collection chamber)		
1.12	Common Gravity main (collection chamber to MPS)	2000mm- ϕ	1.948Km
1.13	Sewage network	350mm-ϕ 400 mm-ϕ 450 mm-ϕ 500 mm-ϕ 600 mm-ϕ 700 mm-ϕ 800 mm-ϕ	2.771km 1.359km 1.272km 1.243km 1.778km 1.487km 1.012km

		900 mm-ϕ	2.170km
		1200 mm-ϕ	3.634km
		1600 mm-ϕ	1.596km
		2000 mm-ϕ	1.948km
1.14	**Milestones**	**Date**	**Amount in Rs.**
	1st Milestone	12-Oct-2019 to 25-Apr-2020	1248,39,750
	2nd Milestone	26-Apr-2020 to 10-Jul-2020	1248,39,750
	3rd Milestone	11-Jul-2020 to 24-Sep-2020	1248,39,750
	4th Milestone	25-Sep-2020 to 09-Dec-2020	1248,39,750
	5th Milestone	10-Dec-2020 to 13-Feb-2021	1248,39,750
	6th Milestone	14-Feb-2021 to 21-Apr-2021	1248,39,750
	7th Milestone	22-Apr-2021 to 22-Jun-2021	1248,39,750
	8th Milestone	23-Jun-2021 to 25-Aug-2021	1248,39,750

5.2 UNNAO FACILITIES

Project wise components details of Unnao Facilities are given in table 5.2:

Table 5.2: Unnao Facilities

SN	STP Facilities	Capacity/ dia. /size	No. of units/length
	Date of Start- Effective Date (11.10.2019)		
	Scope of Work- New Construction and O&M		
1.1	STP	15 MLD	1
1.2	Sump cum Pump house (MPS)	40 MLD	1
1.3	Trunk Sewer	1200mm ϕ	3.2Km
1.4	I&D works (Nala tapping)	40 MLD	1
1.5	Trash screen	7m-1.7m x 0.8m	1
1.6	Grit chamber	12m-4m x 1m	2
1.7	Collection chamber	3.4m-6.2m x 3m	1
1.8	Rising main (MPS to STP)	750mm ϕ	100m
1.9	Rising main (bypass)	750mm ϕ	100m
1.10	Effluent distribution chamber	-	1
1.11	Effluent gravity channel (STP to discharge point)	1.5m x 1.0m	300m
1.12	Effluent disposal drains	-	500m
1.13	**Milestones**	**Date**	**Amount in Rs.**
	1st Milestone	12-Oct-2019 to 24-Feb-2020	478,36,250
	2nd Milestone	25-Feb-2020 to 15-May-2020	478,36,250
	3rd Milestone	16-May-2020to 30-Jul-2020	478,36,250

	4th Milestone	30-Jul-2020to 14-Oct-2020	478,36,250
	5th Milestone	15-Oct-2020to 24-Dec-2020	478,36,250
	6th Milestone	10-Dec-2020 to 01-Mar-2021	478,36,250
	7th Milestone	02-Mar-2021 to 05-May-2021	478,36,250
	8th Milestone	06-May-2021to 10-Jul-2021	478,36,250

5.3 SHUKLAGANJ STP FACILITIES

Project wise components details of Shuklaganj STP are given in table 5.3:

Table 5.3: Shuklaganj Facilities*

SN	STP Facilities	Capacity/dia. /size	No. of units/length
	Date of Start- Effective Date (11.10.2019)		
	Scope of Work- New Construction and O&M		
1.1	STP	5 MLD*	1
1.2	Sump cum Pump house (MPS)	20 MLD	1
1.3	Connecting sewer	-	1
1.4	I&D works (Nala tapping)	-	1
1.5	Collection chamber	-	1
1.6	Rising main (MPS to STP)	500mm ϕ	50m
1.7	Rising main (bypass)	500mm ϕ	50m
1.8	Retaining wall		1
1.9	Effluent channel (STP to discharge point)	1.5m x1m	100m
1.10	**Milestones**	**To be submitted***	

**CTE for new land has been received in July 2020.Geotech survey is in progress*

5.4 JAJMAU (PHASE I) FACILITIES

Project wise components details of Jajmau are given in table 5.4:

Table 5.4: Jajmau Facilities

SN	STP Facilities	Capacity/dia. /size	No. of units/length
A	**Phase-I**		
	Date of Start- Effective Date (11.10.2019)		
	Scope of Work- Renovation and O&M		
1.1	STP 1 on ASP technology with power Generation	130 MLD	1
1.2	Sump cum Pump house (TEPH)	200 MLD	1
1.3	CCT	173 MLD	1
1.4	Nawabganj IPS	-	1
1.5	Parmat IPS	-	1
1.6	Baba Ghat/Muar mill IPS	-	1

1.7	GuptarGhat IPS	-	1
1.8	Jajmau CSPS	-	1

5.5 JAJMAU PHASE II STP FACILITY

Project wise components details of Jajmau Phase II are given in table 5.4:

SN	STP Facilities	Capacity/ dia. /size	No. of units/length
	Schedule Handing Over Date- 01.10.2019		
	Scope of Work- O&M		
1.1	STP 2 on ASP technology with power Generation	43 MLD	1
1.2	Sanjaypuram IPS	-	1
1.3	Khalisa lane IPS	-	1
1.4	Jajmau MPS	-	1

5.6 BINGAWAN FACILITIES

Project wise component detail of Bingawan is given in table 5.5:

Table 5.5: Bingawan Facilities

SN	STP Facilities	Capacity /dia. /size	No. of units/length
	Schedule Handing Over Date- 01.04.2019		
	Scope of Work- Renovation and O&M for 15 years		
1.1	STP on UASB Technology with power generation	210 MLD	1
1.2	Installation of online monitoring system (RTOLMS)		L.S.
1.3	Bingawan MPS	200 MLD	1
1.4	Rakhimandi IPS	100 MLD	1
1.5	Halwakhanda IPS	20 MLD	1
1.6	Munshipurwa IPS	67 MLD	1
1.7	ShisamauNala (tapping)	8MLD	1

5.7 SAJARI FACILITIES

Project wise component detail of Sajari is given in table 5.6

Table 5.6: Sajari Facilities

SN	STP Facilities	Capacity/dia. /size	No. of units/length
	Schedule Handing Over Date- 11.10.2019		
	Scope of Work- O&M for 15 years		
1.1	STP on ASP technology	42 MLD	1
1.2	MPS	42 MLD	1
1.3	Chakeri IPS	14 MLD	1
1.4	Sanigawan IPS	14 MLD	1

6 PHYSICAL PROGRESS OF WORK

As per the provision of Concessionaire Agreement, effective date of the project was to be declared before 19th April 2019. Effective date for work execution under HAM Kanpur project was declared on 11th October 2019. Hence, work related to construction / execution of new STP facilities and related infrastructure i.e. Pankha, Unnao & Shuklaganj and renovation of existing facilities i.e. Jajmau 130 MLD started after effective date.

The overall physical progress of the facilities have been taken in the same proportion as financial progress as per milestones in approved Construction Plan. Overall progress can be monitored as project works have been divided in eight milestones each having progress of 12.5%. The scheduled date of project completion is 10th October 2021 i.e. 24 months from the effective date.

6.1 MILESTONE WISE ACTIVITIES AND PROGRESS: PANKHA STP FACILITIES

Milestone wise activities and their progress of work for Pankha STP are given in table 6.1:

Table 6.1: Pankha STP Facilities

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
A	**Design & Drawing & STP & Sewer Laying works**						
	A. On approval of BEP	100%	249,67,950.00				
	B. On approval of design & drawings for Civil & Sewerage works	100%	249,67,950.00				
B	**CONSTRUCTION**						
	STP (30 MLD)						
1	**SBR Basin Area**						-
	CIVIL WORK						-
	Site Clearance	100%	2,50,000.00				-
	Excavation	100%	98,38,400.00				-
	PCC	100%	147,57,600.00				-
	RCC Foundation/Raft	40%	98,38,400.00	60%	147,57,600.00		-
	Wall 50% of total lift work		-	100%	245,96,000.00		-
	Walls (balance 50% of Total Lift work)		-		-	60%	147,57,600.00
	Baffle Walls work		-		-		-
	Walkway/Platform		-		-		-
	Finishing Work		-		-		-
2	**Chlorine Contact Tank Area**				-		-
	Site Clearance	100%	1,50,000.00		-		-
	Excavation	100%	7,37,880.00		-		-
	PCC	100%	11,06,820.00		-		-
	RCC Foundation/Raft		-	100%	46,11,750.00		-
	Wall 50% of total lift work		-	100%	27,67,050.00		-
	Walls (balance 50% of Total Lift work)		-		-	100%	27,67,050.00
	Baffle Walls work		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Finishing Work		-		-		-
3	**Chlorination House Area**				-		-
	CIVIL WORK				-		-
	Site Clearance	100%	1,00,000.00		-		-
	Excavation	100%	3,68,940.00		-		-
	PCC	100%	5,53,410.00		-		-
	RCC Foundation/Column footing		-	100%	27,67,050.00		-
	Column & Beam		-	50%	4,61,175.00	50%	4,61,175.00
	Ground floor Slab		-		-		-
	Column & Beam		-		-		-
	Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
4	**Sludge Thickener Area**				-		-
	CIVIL WORK				-		-
	Site Clearance	100%	1,00,000.00		-		-
	Excavation	100%	7,37,880.00		-		-
	PCC	100%	11,06,820.00		-		-
	RCC Foundation wall/base slab		-	100%	36,89,400.00		-
	Wall 50% of total lift work		-	100%	27,67,050.00		-
	Walls (balance 50% of Total Lift work)		-		-	60%	16,60,230.00
	Finishing Work		-		-		-
5	**Inlet / Stilling Chamber Area**				-		-
	Site Clearance		-	100%	50,000.00		-
	Excavation		-	100%	2,45,960.00		-
	PCC		-	100%	3,68,940.00		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	RCC Foundation/Column footing		-	100%	12,29,800.00		-
	Column & Beam		-		-	100%	9,22,350.00
	RCC Slab		-		-		-
	RCC Wall		-		-		-
	Final finishing including Staircases,Railing,Shade,Painting, etc.		-		-		-
6	**Manual & Mechanical Fine Bar Screen Chamber Area**				-		-
	Site Clearance		-		-	100%	50,000.00
	Excavation		-		-	100%	2,45,960.00
	PCC		-		-	100%	3,68,940.00
	RCC Foundation		-		-	100%	12,29,800.00
	Column & Beam		-		-		-
	RCC Slab		-		-		-
	RCC Wall		-		-		-
	Walkway/Platform		-		-		-
	Finishing Work		-		-		-
7	**Grit Chamber (Mechanical Cleaned) & (Manually Cleaned)**				-		-
	Site Clearance		-		-	100%	50,000.00
	Excavation		-		-	100%	2,45,960.00
	PCC		-		-	100%	3,68,940.00
	RCC Foundation		-		-	100%	12,29,800.00
	Column & Beam		-		-		-
	RCC Slab		-		-		-
	RCC Wall		-		-		-
	Walkway/Platform		-		-		-
	Finishing Work		-		-		-
8	**Flow Measurement Channel Area**				-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Site Clearance		-		-	100%	50,000.00
	Excavation		-		-	100%	2,45,960.00
	PCC		-		-	100%	3,68,940.00
	RCC Foundation		-		-	100%	12,29,800.00
	Column & Beam		-		-		-
	RCC Slab		-		-		-
	RCC Wall		-		-		-
	Walkway/Platform		-		-		-
	Finishing Work		-		-		-
9	**Admin Bldg Area**				-		-
	Site Clearance	100%	1,00,000.00		-		-
	Excavation	100%	3,68,940.00		-		-
	PCC	100%	5,53,410.00		-		-
	Column footings/Foundation		-	100%	18,44,700.00		-
	Column & Beam		-		-	80%	14,75,760.00
	Ground Floor Slab		-		-		-
	1st Floor Slab		-		-		-
	Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
					-		-
10	**Air Blower Room Area**				-		-
	Site Clearance		-		-		-
	Excavation		-		-		-
	PCC		-		-		-
	Column footings/Foundation		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Column & Beam		-		-		-
	RCC Ground Floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
11	**Staff Quarter Area**				-		-
	Site Clearance		-		-		-
	Excavation		-		-		-
	PCC		-		-		-
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground Floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Electrical work		-		-		-
	Finishing Work		-		-		-
12	**Guard Room Area**				-		-
	Site Clearance		-		-		-
	Excavation		-		-		-
	PCC		-		-		-
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground Floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Electrical work		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Finishing Work		-		-		-
13	**Sludge Dewatering System Area (Centrifuge Pump House, Sludge sump & Poly dosing tank)**				-		-
	Site Clearance		-		-	100%	1,00,000.00
	Excavation		-		-	100%	6,14,900.00
	PCC		-		-	100%	9,22,350.00
	RCC Foundation		-		-		-
	1st Column & Beam		-		-		-
	Ground Floor Slab		-		-		-
	2nd Column & Beam		-		-		-
	RCC Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
14	**Supernatant Recirculation Sump Area**				-		-
	Site Clearance		-		-		-
	Excavation		-		-		-
	PCC		-		-		-
	RCC Foundation wall/base slab		-		-		-
	Wall 50% of total lift work		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Final finishing including Staircases,Railing,Shade,Painting etc.		-		-		-
					-		-
15	**Transformer Yard Area**				-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	Foundation Work		-		-		-
	Finishing Work		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
16	**DG Area**				-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	Foundation Work		-		-		-
	Finishing Work		-		-		-
17	**Sludge Storage Platform**				-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	Foundation Work		-		-		-
	Finishing work		-		-		-
18	**EXTERNAL DEVELOPMENT**				-		-
A.	Roads, Storm Water Drain & Miscellaneous work		-		-		-
B.	**Compound Wall with Gate**		-		-		-
	Excavation & PCC	40%	24,59,600.00	20%	12,29,800.00	20%	12,29,800.00
	RCC Column footing	40%	24,59,600.00	20%	12,29,800.00	20%	12,29,800.00
	RCC Column & Beam	40%	24,59,600.00	20%	12,29,800.00	20%	12,29,800.00
	Brickwork & Plaster		-	20%	12,29,800.00	20%	12,29,800.00
	Finishing Work		-		-		-
19	**MPS-2 (115MLD)**				-		-
	CIVIL		-		-		-
A	**Construction of Raw Sewage Sump**		-		-		-
	Site Clearance	100%	1,50,000.00		-		-
	Excavation	15%	5,17,760.10	85%	29,33,973.90		-
	PCC		-	100%	23,01,156.00		-
	RCC Foundation/Raft		-	50%	28,76,445.00	50%	28,76,445.00
	Wall 50% of total lift work		-		-	100%	38,35,260.00

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Column & Beam		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Ground Floor Slab		-		-		-
	Finishing Work		-		-		-
B	**Construction of Inlet Chamber & Screen Channel**		-		-		-
	Site Clearance	100%	50,000.00		-		-
	Excavation		-		-	100%	6,81,824.00
	PCC		-		-	100%	10,22,736.00
	RCC Foundation/Raft		-		-		-
	Wall 50% of total lift work		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Walkway/Platform		-		-		-
C	**Construction of Raw Sewage Pump House**		-		-		-
	Column & Beam		-		-		-
	Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
D	**MECHANICAL WORK**		-		-		-
20	**ICI Nala IPS**				-		-
	CIVIL		-		-		-
A	**Construction of Raw Sewage Sump**		-		-		-
	Site Clearance	100%	1,50,000.00		-		-
	Excavation		-	100%	15,33,600.00		-
	PCC		-	100%	10,22,400.00		-
	RCC Foundation/Raft		-	50%	12,78,000.00	50%	12,78,000.00
	Wall 50% of total lift work		-		-	100%	25,56,000.00

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Column & Beam		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Ground Floor Slab		-		-		-
	Finishing Work		-		-		-
B	**Construction of Inlet Chamber & Screen Channel**		-		-		-
	Site Clearance		-		-	100%	50,000.00
	Excavation		-		-	40%	1,36,320.00
	PCC		-		-		
	RCC Foundation/Raft		-		-		-
	Wall 50% of total lift work		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Walkway/Platform		-		-		-
	Finishing work		-		-		-
C	**Construction of Raw Sewage Pump House**		-		-		-
	Column & Beam		-		-		-
	Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
D	**Construction of Office Room**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brick work & Plaster		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Electrification, plumbing, fixtures		-		-		-
	Finishing work		-		-		-
E	**Construction of Guard Room**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brick work & Plaster		-		-		-
	Electrification, plumbing, fixtures		-		-		-
	Finishing work		-		-		-
F	**Transformer Yard,DG Yard**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	Foundation Work		-		-		-
	Finishing Work		-		-		-
I	**Construction of Boundary wall & Internal Road**		-		-		-
	Site Clearance		-		-	100%	-
	Excavation & PCC		-		-		-
	RCC Column footing		-		-		-
	RCC Column & Beam		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing		-		-		-
	Construction of Internal road		-		-		-
21	**IPS-6 (Sundar Nagar- 20 MLD)-Pankha Area**				-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	CIVIL		-		-		-
A	**Construction of Raw Sewage Sump**		-		-		-
	Site Clearance	100%	1,50,000.00		-		-
	Excavation	11%	1,68,696.00	89%	13,64,904.00		-
	PCC		-	100%	10,22,400.00		-
	RCC Foundation/Raft		-		-	100%	25,56,000.00
	Wall 50% of total lift work		-		-	100%	25,56,000.00
	Column & Beam		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Ground Floor Slab		-		-		-
	Finishing Work		-		-		-
B	**Construction of Inlet Chamber & Screen Channel**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-	70%	2,98,200.00
	RCC Foundation/Raft		-		-		-
	Wall 50% of total lift work		-		-		-
	Walls (balance 50% of Total Lift work)		-		-		-
	Walkway/Platform		-		-		-
	Finishing work		-		-		-
C	**Construction of Raw Sewage Pump House**		-		-		-
	Column & Beam		-		-		-
	Roof Slab		-		-		-
	Brickwork & Plaster		-		-		-
	Finishing Work		-		-		-
D	**Construction of Office Room**		-		-		-
	Site Clearance		-		-	100%	-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Excavation & PCC		-		-	100%	2,13,000.00
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brick work & Plaster		-		-		-
	Electrification, plumbing, fixtures		-		-		-
	Finishing work		-		-		-
E	**Construction of Guard Room**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-	100%	2,13,000.00
	RCC Foundation/column footing		-		-		-
	Column & Beam		-		-		-
	RCC Ground floor Slab		-		-		-
	RCC Roof Slab		-		-		-
	Brick work & Plaster		-		-		-
	Electrification, plumbing, fixtures		-		-		-
	Finishing work		-		-		-
F	**Transformer Yard,DG Yard**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-
	Foundation Work		-		-		-
	Finishing Work		-		-		-
I	**Construction of Boundary wall & Internal Road**		-		-		-
	Site Clearance		-		-		-
	Excavation & PCC		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	RCC Column footing		-		-		-
	RCC Column & Beam		-		-		-
	Brickwork & Plaster		-		-		-
	Construction of Internal road		-		-		-
	Finishing		-		-		-
22	**I&D Works**				-		-
A	**ICI Nala**		-		-		-
	Construction Work		-	13%	2,89,120.00	67%	14,90,080.00
	Tapping of Nallahs		-		-		-
	Electro-Mechanical work		-		-		-
	Testing		-		-		-
B	**Thermal Nala -A**		-		-		-
	Construction Work		-	13%	2,89,120.00	35%	7,78,400.00
	Tapping of Nallahs		-		-		-
	Electro-Mechanical work		-		-		-
	Testing		-		-		-
C	**Thermal Nala -B**		-		-		-
	Construction Work		-	14%	3,11,360.00		-
	Tapping of Nallahs		-		-		-
	Electro-Mechanical work		-		-		-
	Testing		-		-		-
23	**Rising Main Works**				-		-
A	**ICI Nala Area**		-		-		-
	Site Cleance from Client		-		-		-
	Supply of Pipes		-		-		-
	Excavation,Laying & backfilling of Pipes		-		-		-

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Testing		-		-		-
B	**Sundar Nagar IPS Area**		-		-		-
	Site Cleance from Client		-		-		-
	Supply of Pipes		-		-		-
	Excavation,Laying & backfilling of Pipes		-		-		-
	Testing		-		-		-
24	**Sewer System Area (RCC Pipes-NP3 Types)**				-		-
	Site Clearance		-		-		-
	Supply of pipes	16%	256,70,093.90	25%	401,13,568.00	29%	465,31,738.88
	Excavation and Laying of pipes including bed preperation & backfilling		-		-	16%	16,04,542.72
	Manholes		-		-		-
	Testing		-		-		-
	Road Restoration work		-		-		-
25	**Design ,Supply,Testing & Commissioning of Sewer line (crossing National Highway-2 & Railway Track)**				-		-
	Statutory approvals from Railway & Road dept		-		-		-
	Supply of Carrier & Casing Pipes		-		-		-
	Construction of Pit		-		-		-
	Excavation & Laying of Pipes thru Jack push method		-		-		-
	Testing		-		-		-
26	**Design ,Supply,Testing & Commissioning of Treated Effulent line from STP to River Pandu**				-		-
	Site Clearance		-		-		-
	Construction of Effluent line from STP to River Pandu		-		-		-
	Testing		-		-		-
	TRIAL RUN & COMMISSIONING						
	Trial Run & Commissioning						

SN	Description of Items	Milestone-1 (From 26th Nov.'19 to 25th Sep'20)		Milestone-2 (From 25th Sep'20 to 25th Nov'20)		Achieved against 3rd Milestone (From 25th Nov'20 to 28th Feb'21)	
		%	Amount(Rs.)	%	Amount	%	Amount
	Total Amount		**1248,39,750.00**		**1248,39,750.00**		**1029,62,261.60**
	Total Progress		**12.5%**		**12.5**		**10%**

***Note:**

i. *3rd milestone (12.5%) completion was due on 25.01.2021 but due to some hindrances in highway road cutting and sewer laying permissions; only 10.0% work could be completed till 28.02.2021.*

ii. *The Concessionaire was asked to complete the milestone by completing other works of 4th/5th milestones and submit a revised construction plan for the same.*

iii. *Total Progress till 28th February 2021 (including some works of 4th and 5th milestone) is 38.40% against 43.25%*

PHOTOGRAPHS OF PANKHA STP SITE

MPS work

PTU

Sundar Nagar IPS Wall casting

MPS receiving chamber raft casting

Chlorination house

SBR Wall Shuttering

6.2 MILESTONE WISE ACTIVITIES AND PROGRESS: UNNAO STP

Milestone wise activities and their progress of work for Unnao STP are given in table 6.2.

TABLE 6.2: UNNAO FACILITIES (DISTRICT UNNAO)

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
I	**Design & Drawing & STP & Sewer Laying works**							
1	On approval of BEP	100%	191,34,500.00					
2	On approval of design & drawings for Civil & Sewerage works	25%	47,83,625.00	75%	143,50,875.00			
II	**CONSTRUCTION**							
A	**UNNAO STP (15 MLD)**							
i)	**SBR Basin Area**							
1	Site Clearance	100%	5,00,000.00					
2	Excavation wall footing	100%	22,46,137.60					
3	PCC wall footing	100%	27,46,137.60					
4	RCC Foundation/Raft of wall		-	100%	54,92,275.20			
5	Wall 50% of total up to base slab		-	20%	10,98,455.04	100%	80%	43,93,820.16
6	Walls (balance 50% of up to base slab)		-			100%	100%	54,92,275.20
7	PCC Base Slab		-					
8	RCC Foundation base slab		-					
9	Wall 50% of total lift work		-					
10	Walls (balance 50% of Total Lift work)		-					
11	Walkway/Platform		-					
12	Piping & fitting works		-					
13	Testing /Finishing works		-					

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
ii	**Sludge Thickener Area**							
1	Site Clearance	100%	1,50,000.00					
2	Excavation	100%	3,64,900.80					
3	PCC	50%	2,57,450.40	50%	2,57,450.40			
4	RCC Foundation Wall/base slab		-	50%	3,43,267.20			
5	Wall 50% of total lift work		-	100%	6,86,534.40			
6	Walls (balance 50% of Total Lift work)						50%	1,89,267.10
7	Testing /Finishing works							-
iii	**Supernatant Sump Area**							
1	Site Clearance	100%	1,00,000.00					
2	Excavation	100%	1,14,422.40					
3	PCC	100%	1,14,422.40					
4	RCC Foundation wall/base slab	100%	1,28,844.80					
5	Wall 50% of total lift work		-	100%	1,43,044.80			
6	Walls (balance 50% of Total Lift work)		-	0%				
7	Testing /Finishing works		-			100%	100%	85,800.00
iv	**Chlorination Tank Area**							
1	Site Clearance	100%	1,50,000.00					
2	Excavation	100%	4,22,112.00					
3	PCC	100%	5,72,112.00					
4	RCC Foundation/Raft	100%	9,15,000.00					
5	Wall 50% of total lift work		-	100%	8,58,168.00			
6	Walls (balance 50% of Total Lift work)		-			100%		8,58,168.00
7	Baffle Walls work		-			100%		3,44,336.00
8	Testing /Finishing works		-					

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
v	**Air Blower Room Area**							
1	Site Clearance	100%	2,50,000.00					
2	Excavation	100%	3,43,267.20					
3	PCC	100%	3,43,267.20					
4	RCC Foundation/column footing		-	100%	6,86,534.40			
5	Column & Beam		-	100%	6,29,801.60			
6	RCC Roof Slab		-			100%		
7	Cable Trench Work		-					
8	RCC Ground floor Grade Slab		-					
9	Brick work		-					
10	Plaster		-					
11	Testing/Finishing work		-					
vi	**Staff Quarter Area (G+1)**							
1	Site Clearance	100%	50,000.00					
2	Excavation	100%	71,000.00					
3	PCC	100%	71,000.00					
4	RCC Foundation/column footing	100%	92,000.00					
5	Column & Beam		-	100%	92,000.00			
6	RCC Ground floor Slab		-	100%	92,000.00			
7	RCC 1st floor Slab		-			100%	100%	92,000.00
8	RCC Roof Slab		-				100%	92,000.00
9	Brick work		-					
10	Plaster		-					
11	Plumbing, fixtures , sanitary works, AC work		-					
12	Electrification work		-					

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
13	Finishing works		-					
vii	**Guard Room Area**							
1	Site Clearance	100%	50,000.00					
2	Excavation	100%	82,211.20					
3	PCC	100%	82,211.20					
4	RCC Foundation/column footing	100%	1,14,422.40					
5	Column & Beam	100%	1,14,422.40					
6	RCC Ground floor Slab	100%	1,14,422.40					
7	RCC Roof Slab		-	100%	1,14,422.40			
8	Brick work		-	100%	1,14,422.40			
9	Plaster		-	0%				
10	Plumbing, fixtures		-			100%		-
11	Sanitary works, AC work		-					-
12	Electrification work		-					-
13	Finishing works		-					-
viii	**Chlorination Room Area**							
1	Site Clearance	100%	1,50,000.00					
2	Excavation	100%	4,57,689.60					
3	PCC	50%	2,28,844.80	50%	2,28,844.80			
4	RCC Foundation/Column footing		-	100%	4,57,689.60			
5	Column & Beam		-	100%	4,57,689.60			
6	Ground floor Slab		-	18%	1,25,704.45	35%	35%	2,40,287.04
7	Roof Slab		-			100%	50%	2,43,267.20
8	Brickwork		-					-
9	Plaster		-					-

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
10	Testing/Finishing works		-					-
ix	**Admin Bldg Area (G+1)**							
1	Site Clearance		-			100%	100%	-
2	Excavation		-			100%	100%	78,958.70
3	PCC		-			100%	100%	78,958.70
4	Column footings/Foundation		-					-
5	Column & Beam up to First Floor		-					-
6	1st Floor Slab		-					-
7	Column & Beam First Floor to Roof Slab		-					-
8	Roof Slab							
9	Ground Floor Slab							
10	Brickwork							
11	Plaster							
12	Electrification, plumbing, fixtures , sanitary works, AC work							
13	Finishing works							
x	**Sludge Dewatering System Area (Centrifuge Pump House, Sludge sump & Poly dosing tank)**							
1	Site Clearance			100%	1,50,000.00	100%		
2	Excavation					100%	100%	1,84,788.00
3	PCC					100%	100%	1,84,788.00
4	RCC Foundation					100%	100%	3,69,576.00
5	Column & Beam Upto First Floor					100%	100%	3,69,576.00
6	First Floor Slab							-
7	Column & Beam First Floor to Roof Slab							-
8	Roof Slab							-

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
9	Ground floor Slab							-
10	Brickwork							-
11	Plaster							-
12	Piping & fittings Work							-
13	Testing/Finishing works							-
xi	**Inlet Chamber Area**							
1	Site Clearance		-	100%	1,50,000.00			
2	Excavation & PCC		-			100%	50%	1,04,608.80
3	RCC Foundation/Column footing		-			100%	0%	-
4	Column & Beam		-					-
5	RCC Slab		-					-
6	RCC Wall		-					
7	Testing/Finishing works		-					-
xii	**Manual & Mechanical Fine Bar Screen Chamber Area**							
1	Site Clearance			100%	1,50,000.00			
2	Excavation					100%	100%	1,21,633.60
3	PCC					100%	0%	-
4	RCC Foundation							
5	Column & Beam							
6	RCC Slab							
7	RCC Wall							-
8	Walkway/Platform							
9	Testing/Finishing works							
xiii	**Grit Chamber Area**							
1	Site Clearance			100%	1,50,000.00			

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
2	Excavation					100%	100%	2,23,844.80
3	PCC					100%	0%	-
4	RCC Foundation							
5	Column & Beam							
6	RCC Slab							
7	RCC Wall							-
8	Walkway/Platform							
9	Testing/Finishing works							
xiv	**Parshall Flume Channel Area**							
1	Site Clearance			100%	1,50,000.00			
2	Excavation					100%	100%	2,43,267.20
3	PCC					100%	0%	-
4	RCC Foundation							
5	Column & Beam							
6	RCC Slab							
7	RCC Wall							-
8	Walkway/Platform							
9	Piping & fitting Work							
10	Testing							
xv	**Sludge Storage Platform Area**							
1	Site Clearance			100%	1,00,000.00			
2	Excavation							
3	PCC							
4	Foundation Work							
5	Finishing work							

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
xvi	**Transformer Yard Area**							
1	Site Clearance							
2	Excavation							
3	PCC							
4	Foundation Work							
xvii	**DG Shed Area**							
1	Site Clearance							
2	Excavation							
3	PCC							
4	Foundation Work							
xviii	**EXTERNAL DEVELOPMENT**							
	Boundary Wall with Gate							
1	Site Clearance	100%	-					
2	Excavation	40%	1,33,900.00	50%	1,67,375.00	10%	0%	
3	PCC	40%	2,00,850.00	45%	2,25,956.25	15%	0%	
4	RCC Column footing	40%	2,00,850.00	45%	2,25,956.25	15%	0%	
5	RCC Column & Beam	40%	2,00,850.00	25%	1,25,531.25	35%	20%	1,00,425.00
6	Brickwork	15%	75,318.75	35%	1,75,743.75	50%	20%	1,00,425.00
7	Plaster		-			15%	0%	
8	Retaining wall		-			50%	0%	
9	Finishing Work							
	Earth filling, Internal Roads ,Landscaping							
1	Earth filling, Internal Roads ,Landscaping							
B	**I & D Work**							
(i)	**Approach Channel**							

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
1	Excavation		-					
2	PCC		-					
3	RCC Foundation/Raft		-					
4	wall							
5	Testing/Finishing work							
(ii)	**Inlet Chamber**							
1	Excavation		-					
2	PCC		-					
3	RCC Foundation/Raft		-					
4	wall							
5	Testing/Finishing work							
(iii)	**Screen Channel**							
1	Excavation		-					
2	PCC		-					
3	RCC Foundation/Raft		-					
4	wall		-					-
5	Testing/Finishing work		-					-
(iv)	**Grit Chamber**							
1	Excavation		-					
2	PCC		-					
3	RCC Foundation/Raft		-					
4	wall		-					-
5	Testing/Finishing work		-					-
(v)	**Collection Chamber**							
1	Excavation		-					

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
2	PCC		-					
3	RCC Foundation/Raft		-					
4	wall		-					-
5	Testing/Finishing work		-					-
C	**MPS-40 MLD**							
	Civil Work							
i	**Construction of Raw Sewage Sump**							
1	Site Clearance	100%	5,00,000.00					
2	Excavation		-	30%	4,77,444.00	50%	60%	9,54,888.00
3	PCC		-					
4	RCC Foundation/Raft		-					-
5	Wall 50% of total lift work		-					-
6	Walls (balance 50% of Total Lift work)		-					-
7	Column & Beam		-					-
8	Ground Floor Slab							
9	Testing/Finishing work							
ii	**Construction of Raw Sewage Pump House**							
1	Column & Beam							
2	Roof Slab							
3	Brickwork							
4	Plaster							
iii	**Construction of Inlet Chamber & Screen Channel**							
1	Site Clearance	100%	1,50,000.00					
2	Excavation		-				100%	1,84,837.50
3	PCC		-					

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
4	RCC Foundation/Raft		-					-
5	Wall 50% of total lift work		-					-
6	Walls (balance 50% of Total Lift work)							-
7	Column & Beam							-
8	Ground Floor Slab		-					-
9	Walkway/Platform							
10	Testing/Finishing work							
D	**SEWER SYSTEM AREA (3.2 Km)**							
1	Site Clearance	100%	-					
2	Supply of pipes	20%	110,60,057.85	35%	193,59,095.70	37%	37%	204,65,329.74
3	Excavation and Laying of pipes including bed preparation & backfilling		-			40%	40%	22,12,468.08
4	Manholes		-			40%	40%	14,74,978.72
5	Flow/Hydraulic Testing					38%	38%	28,02,459.57
6	Road restoration work		-			38%	38%	7,00,614.89
E	**RISING MAIN PIPING WORK (100 m)**							
1	Site Clearance							
2	Supply of pipes							
3	Cutting, Excavation, Laying of Pipes, backfilling							
4	Testing							
F	**EFFLUENT DISPOSAL SYSTEM**							
1	Site Clearance							

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
2	Construction of Effluent Channel from Distribution Chamber to Agriculture Land							
3	Construction of Rectangular Channel from STP to Distribution Chamber							
4	Construction of Distribution Chamber							
G	**ELECTRO-MECHANICAL WORK**							
i)	**A. DECANTERS**							
	On supply & Installation - Decanter Equipment		-					-
ii)	**B. DIFFUSERS**							
	On supply & Installation - Diffuser		-					-
iii)	**C. RAS & SAS PUMPS**							
	On supply & Installation - RAS Pump, SAS Pump		-					-
iv)	**D. CHAIN PULLEY BLOCK**							
	On supply & Installation - Chain Pulley Block		-					-
v)	**SLUDGE THICKENER MECHANISM**							
	Supply & Installation - Sludge Thickener		-					-
vi)	**AIR BLOWER(PUMP)**							
	A. Supply & Installation - Blower		-					-
	B. Supply & Installation - Hoist Work		-					-
vii)	**CHLORINATION SYSTEM**							
	A. Supply & Installation - Chlorination system(Dosing pumps, chlorinators, Tonnes, Chemicals & Piping work		-					-

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
	B. Supply & Installation - Chlorine Neutralisation tank							
	C. Supply & Installation - Hoist Work							
viii)	**ADMN BUILDING**							
	A.PMCC work							
	Supply & Installation - PMCC work							-
	B.PLC/SCADA WORK							
	Supply & Installation - PLC/SCADA Automation of MPS,STP,D.G set)							
ix)	**CENTRIFUGE UNIT**							
	On supply & Installation -Centrifuge & Feed Pump							-
x)	**A.MECHANICAL & MANUAL FINE SCREEN**							
	On supply & Installation -Fine Screen							
xi)	**D. GRIT MECHANISM**							
	On supply & Installation - Grit Scraper Mechanism							
xii)	**TRANSFORMER**							
	Supply & Installation - Transformer							
xiii)	**DG SET**							
	Supply & Installation - DG							
xiv)	**PUMP HOUSE**							
a.	**Coarse Screen mechanical & manual**							
	(i)Supply & Installation - Screen							

Sr. No.	Description of Items	Milestone-1 Achieved (From 11th Oct.'19 to 25th Sept'20)		Milestone-2 achieved (From 25th Sept'20 to 25th Nov'20)		Milestone-3 Achieved (From 25th Novt'20 till 28.02.2021)		
		%	Amount	%	Amount	Target	Achieved	Amount
	(ii)Supply & Installation - Hoist							
b.	**GATE, VALVES & INSTRUMENTS**							
	i)Supply & Installation - Gate & Valves(MPS)							
	ii)Supply & Installation - Instruments(like flow meter, Gauges, level, Transmitter)							
xv)	**Gate Work**							
	Supply & Installation - Gate & Valves							-
xvi)	**Pumps**							
	Supply & Installation - Pumps & Motors							
xvii)	Testing of E&M Equipment for STP & MPS							
III	**TRIAL RUN & COMMISSIONING**							
1	Trial Run & Commissioning							
	Total Amount		**478,36,250.00**		**478,36,281.49**			**429,87,647.0**
	Total progress in %		**12.5**		**12.5**			**11.23**

Note:

i. 3rd milestone (12.5%) completion was due on 25.01.2021 but due to land acquisition issue of proposed I&D works; only 11.23% work could be completed till due date.

ii. The Concessionaire was asked to complete the milestone by completing other works of 4th/ 5th milestones and submit a revised construction plan for the same.

iii. Total Progress till 28th February 2021 is 36.23% out of target 37.5%.

PHOTOGRAPHS OF UNNAO STP SITE

Sludge Thickener

MPS excavation work

1200mm sewer laying work

Excavation for 1200mm sewer laying work

Staff Quarter

SBR filling, levelling & compacting

Centrifuge Building Curing

SBR Concrete work

6.3 WORK PROGRESS AT SHUKLAGANJ STP

- CTE from the UPPCB has been received on 10.07.2020 (Ref No. - 97724/UPPCB/Unnao (UPPCBRO)/CTE/UNNAO/2020 Dated 07/07/2020).
- Site clearance has been done on 18.01.2020.
- Excavation works related to the boundary wall of proposed STP has been started;
- Footing marking completed SBR side;
- BEP vetting and approval is in progress.

Boundary Wall excavation work

Fencing of the STP site

Geo Tech Survey work

7 PRESENT STATUS AND ISSUES OF HAM PROJECT KANPUR

7.1 PANKHA 30 MLD STP FACILITIES

- Total 50-60 nos. of manpower / workers were deployed at the site. The number of workers should be increased about 100-120 to achieve further targets / milestones on time.
- 1st and 2nd milestone works have been completed on 25.09.2020 and 25.11.2020 respectively.
- 3rd milestone completion date was due on 25.01.2021 but 3rd milestone was not completed due to hindrance in sewer laying and highway road cutting works. Total progress of work is 38.40 % out of 50.0% till 28.02.2021.
- Raft concreting of I/D work at ICI Nala has been completed.
- Raft casting of IPS at ICI Nala is also completed. 2 lift wall also completed.
- Sunder Nagar IPS raft concreting has been completed, 3 lift wall also completed. IPS Excavation area slope cutting to be done or shoring as per norms shall be provided and soil heaps to be kept away from the excavated pit).
- MPS – 85% of work of wall (50% of total lift work) has been completed
- SBR baffle wall casting is under progress.
- CCT wall casting work is in progress.
- Sludge Thickener raft casting has been done, 2 lift wall also completed.
- 1.9 Km sewer has been laid out of 16.62KM.
- Overall work progress is slow and need to be expedited.
- The Concessionaire shall ensure availability of test reports for construction material and approved drawings along with construction material test lab facility on the site.
- Concessionaire also needs to - “Develop the site, landscaping, arboriculture, and horticulture etc. at the STP Site.” (CA schedule 1, part B, point (d)).
- Access to CCTVs facility established by concessionaire, should also be given to STC.
- Workman insurance policies to be taken by KRMPL (only insurance in the name of M/S Shapoorji has been taken, which is not effective enough).

7.2 UNNAO 15 MLD STP FACILITIES

- 1st and 2nd milestone works have been completed on 25.09.2020 and 25.11.2020 respectively.
- Total 55-60 nos. of manpower / workers were deployed at the site. The number of workers should be increased about 100-120 to achieve further targets / milestones on time.
- Till date only 37% works against the target of 50% have been completed by the Concessionaire as per approved construction plan.
- KRMPL has started sewer laying from tail end i.e. inside the STP premise from MPS side. Approx 30m sewer has been laid.
- Presently, 1200mm dia sewer laying works is in progress and it was observed that workers / visitors have to descend down using a ladder which is very dangerous and accident may

happen. It is advised that proper ramp formation from ground level to the bottom of the MPS shall be done immediately. Also hard barricading all around the excavated structures shall be installed without delay.

- MPS excavation approx 90% completed (out of 16000 cum, 14400 cum completed).
- Staff quarter first floor slab and roof slab in progress.
- Compound wall – approx 60% work of compound work has been completed. Brickwork, plaster, retaining wall works and finishing works are in progress.
- In SBR – out of 5 walls, 2 wall shuttering and casting completed.
- Centrifuge building – Sludge Sump, poly dosing tank, has been completed. Centrifuge pump house RCC wall completed, column and roof slab work in progress. In Centrifuge house, foundation and column up to tie beam completed.
- Sludge thickener – Up to base slab complete. RCC wall and steel binding in progress.
- Supernatant sump – RCC 100% complete. Hydro testing work is in progress.
- CCT – up to base slab completed. Wall steel binding in progress.
- CCT building – 1st floor column in progress.
- Air blower room – roof slab in progress.
- For Guard room, Floor slab casting and Plaster work on 2 outer side walls completed.
- Entrance gates (1 main gate + 1 alternate), Internal roads, staff quarter and labour huts with all basic facilities need to be established by the Concessionaire on urgent basis.
- Number of CCTVs units need to be increased from at present 2 nos. to minimum 4 nos. access to these CCTVs should also be provided to STC.
- Concessionaire needs to - "Develop the site, landscaping, arboriculture, and horticulture etc. At the STP Site." (CA schedule 1, part B, point (d)). The Concessionaire should submit a plan in accordance to the above clause and provide the necessary arrangement for greenery and plantation in the STP area.

7.3 SHUKLAGANJ 05 MLD STP FACILITIES

- Site clearance work completed. STP boundary area barricaded.
- Boundary wall excavation work is in progress.

7.4 JAJMAU (PHASE – 1) 130 MLD STP AND IPS REHABILITATION

- Recommended for approval for submission of GA, Datasheet, BOM, Wiring diagram and QAP of 1600 KVA and 630 KVA transformer for 130 MLD STP and CSPS resp. vide STC letter no. 701 dated 16.02.2021 after compliance submitted by KRMPL vide their letter no. 910 dated 04.02.2021.
- A letter regarding the pending drawing of the 130 MLD STP Jajmau has been sent vide STC letter no. 703 dated 18.02.2021 and same has been endorsed by UPJN vide their letter no. 591/w-3/32 dated 25.02.2021.

- It is directed to KRMPL to submit the comprehensive proposal for the rehabilitation of the pumping stations especially Nawabganj P.S 1&2 by UPJN vide their letter no. 378/w-20/32 dated 16.02.2021.
- **Handover of 130 MLD STP Jajmau Ph-I:**
- Handover date of the 130 MLD STP Jajmau has been scheduled as 01.03.2021.

7.5 43 MLD JAJMAU PHASE II

- Handover of the 43 MLD STP Jajmau Ph-II is pending and will be handover after compliance of Joint inspection report submitted by KRMPL vide letter no. 854 dated 11.01.2021.

7.6 42 MLD SAJARI STP

42 MLD Sajari facilities were handed over to KRMPL on 29/05/2019 but as per CA schedule handing over date for Sajari Facilities is Effective Date i.e. 11/10/2019. Therefore, ultimate handing over date of Sajari has been treated as effective date i.e. 11.10.2019. Till Dec. 2019 KPIs (especially COD) of treated effluent was not under control and KRMPL was asked by NMCG to suggest improvements for COD to be within prescribed limit. KRMPL proposed to add one additional Aeration Tank.

Mr. Madhav Kumar NMCG requested Mr. S. Kamaraju, Process Expert STC to visit the Sajari Plant to give his recommendations. Mr. S. Kamaraju Process Expert visited the Sajari Plant on 27-28 Dec 2019 and concluded that the Sajari Plant is designed for all 12 aerators to run without any standby but the plant was being run with 8 aerators only keeping 4 aerators as stand by. All the 12 aerators got functional on 04/01/2020 in the presence of Mr. J. P. Tripathi, O & M Engineer STC. After that it has been observed that since 04/01/2020 all the parameters of treated effluent are within prescribed limits except for the days when parameters of raw sewage are above the prescribed limits for which concessionaire is not responsible. Hence there is no need for any improvement in the plant as suggested by KRMPL.

Commercial Operation Date was declare as 20.06.2020 vide UPJN letter no. 1545/w-20/127 dated 17.06.2020,andagain revised as 11.10.2019 i.e. effective date of the CA by UPJN vide their letter no. 2574/w-20/267 dated 26.09.2020.O&M charges from 11.10.2019 to sept.2020 have been paid to the concessionaire.

Following points are to be addressed by the KRMPL:-

i. **Compliance of Inspection Reports**
Compliance report of Inspection done on 22.01.2021 and inspection report issued on 25.01.2021 has been submitted by the concessionaire on 18.02.2021. PE & UPJN inspected 42 MLD STP Sajari on 23.02.2021 and issued inspection note on 27.02.2021 (Inspection report enclosed). Rectification of defects indicated in different inspection reports from the start of the project has not been done by the KRMPL and they are extending dates continuously every month.

ii. O&M Manual

O&M Manual already approved by UP Jal Nigam.

iii. Insurance Policies

Even after instructions by ED (Project) NMCG and by SMCG. KRMPL has not submitted Insurance Policies as per article 11.2 except All Risk Industrial Insurance Policy. KRMPL is required to submit all 5 insurance policies as per article 11.2.

iv. Performance of Plant

All KPIs are within prescribed limit since 04.01.2020 except the dates when the parameters of raw sewage are beyond prescribed limit for which concessionaire is not responsible. Performance Report of February 2021 enclosed.

v. Mechanical Screens (Coarse & Fine Screens)

Auto System of both Mechanical Screens still not repaired.

vi. Gas Generators

Out of total 3 no's of Gas Generators installed, 2 nos. are in working condition and remaining 1 no. is still under maintenance.

vii. Sludge Digester

Out of 2 nos. sludge digester mixers installed, 01 no. is not in working condition since June 2020. Also, EMF at the outlet of the digester installed are not in working condition.

viii. Joint Sampling and Testing by IIT Kanpur

It was decided in the meeting of GM GPCU UPJN on 16-12-2019 (MOM issued vide letter no 3847/M-2A/116 dated 18-12-2019) that atleast once in a month joint sampling of raw sewage and treated effluent will be done by UPJN and KRMPL and testing to be done by IIT Kanpur. KRMPL has took the sample jointly on 13.02.2021 and sent it for testing. Testing reports from NABL accredited Laboratory Spectro Research Lab Ventures (P) Ltd of joint samples taken on 18.08.2020, 15.09.2020, 19.10.2020, 20.01.2021 & 13.02.2021 has not been received yet.

ix. Power backup and Online Monitoring System

DG set for power backup has been made operational by UPJN on 14.07.2020. RTOLMS has been installed and calibrated.

Outlet Analyser Panel with sensor installed at site and synchronised with RTOLMS.

x. Work plan For Sludge Disposal

KRMPL had submitted the work plan for sludge disposal but not following it on site.

xi. Submission of Schedule Maintenance Programme

KRMPL has not done any schedule maintenance works as per approved O&M manual for the first year and submission of schedule maintenance programmes for the next year is still pending from the Concessionaire.

xii. KPIs Adherence Report

KPIs Adherence Report for the month of December 2020 has been submitted by PE vide letter no.670 dated 27.01.2021. Online Analyser report up to January month has been submitted by concessionaire.

7.7 210 MLD BINGAWAN FACILITIES

The schedule date of handover of 210 MLD Bingawan Facilities as per CA was 01/04/2019 but actually could be handed over on 08/07/2019. From handover date itself it was observed and informed from time to time to Concessionaire that the operation and maintenance of the plant was not up to the mark. Commercial Operation Date of Bingawan facility declared by UPJN as 10.08.2020 vide their letter no. 2324/w-37/100 dated 10.09.2020. O&M bill for Bingawan for 1st quarter i.e. from 10th Aug. 2020 to Oct. 2020 has been submitted by KRMPL and it is under process for payment.

Renovation (installation of RTLOMS and rectification of pumps) completion certificate have been issued by UPJN as 10.08.2020 vide their letter no. 2033/w-37/67 dated 18.08.2020 but calibration certificate with witness certificate is yet to be submitted by KRMPL. Out of 2 nos. electro-magnetic flow meters in inlet, 01 no. has been installed at site and it has been synchronised with RTLOMS. It is not calibrated. Need to be provided calibration report. Another 2nd no. electro -magnetic flow meters has not been installed yet.

Following points need to be addressed:-

i. Compliance of Inspection Reports

PE inspected 210 MLD Bingawan STP on 21.10.2020, 12.11.2020 & 02.01.2021 and issued inspection reports on 23rd October 2020, 21st November 2020 & 19th January 2021. Compliance reports of inspection reports of 21.10.2020, 12.11.2020 & 19.01.2021 have not been submitted by KRMPL. Again Inspection done at 210 MLD Bingawan STP on 02.02.2021 & 15.02.2021 and issued inspection reports on 4th February 2021 & 17th February 2021. Compliance reports of inspection done on 23.01.2021 &15.02.2021 have been submitted by KRMPL vide their letter no. 945 dated 24.02.2021 and 946 dated 23.02.2021 but compliance report of inspection done on 02.02.2021 has not been submitted by KRMPL.

Since 28th January 2020 rectifications of defects indicated in different inspection reports have not been done by the KRMPL and they are extending dates continuously every month. Copy of Inspection reports submitted in the month of February 2021 of Bingawan site is enclosed.

ii. O&M Manual

Revised O&M manual of Bingawan has been approved by UPJN on 24.08.2020.

iii. Insurance Policies

Even after instructions by ED (Project) NMCG and by SMCG, KRMPL has not submitted Insurance Policies as per article 11.2 except All Risk Industrial Insurance Policy. KRMPL is required to submit all 5 insurance policies as per article 11.2.

iv. Cleaning and reactivation of UASB Reactors

All the KPIs are not being met during the month of February 2021. Out of 16 no's reactors, UASB reactor no. 1, 4 & 8 has been filled for reactivation after cleaning. Reactor no. 2 & 3 has been taken up for cleaning from 04.08.2020 & 20.08.2020 but not completed yet. The present conditions of all the 16 UASB reactors have been explained in detail in the inspection report of inspection done on 15/02/2021 (inspection report issued on

17/02/2021) which clearly indicates that no sludge blanket has been formed in the reactors nos. 1, 4 & 8, cleaned and refilled earlier. Reactors no. 2 & 3 are still open for cleaning since Aug. 2020 and KRMPL assured to get these 2 reactors operational after cleaning by 15.03.2021 & 31.03.2021 resp. Remaining 11 reactors are filled with sludge. The Concessionaire is immediately required to submit the action plan for cleaning and reactivation of remaining UASB reactors and take up the work of cleaning and reactivation on war footing. Performance report of February 2021 is enclosed.

v. Belt Filter Press

Out of 3nos. BFP installed in BFP building, 02 nos. are in working condition with 02 nos. trolleys available at site. BFP no.3 has been made operational by KRMPL but hydraulic oil leakage has been found and should be rectified immediately. Also, atleast 2 more trolleys are required at site. All 3 nos. poly dosing pumps installed, 1 no. is not in working condition due to diaphragm portion is fully damaged. This matter has been pending since 07.10.2020. During visit, only 1 no. filter press is found working but as per approved manual at least 2 nos. of Bed filter press are required under operational every time.

vi. Joint Sampling and Testing by IIT Kanpur

It was decided in the meeting of GM GPCU UPJN on 16-12-2019 (MOM issued vide letter no. 3847/M-2A/116 dated 18-12-2019) that at least once in a month joint sampling of raw sewage and treated effluent will be done by UPJN and KRMPL and testing to be done by IIT Kanpur. KRMPL has taken the sample jointly on 28.02.2021 for testing. Testing report from Spectra research Lab ventures (P) Ltd. of the Joint sample taken on 29.09.2020, 16.10.2020, 26.01.2021 and 28.02.2021 has not been submitted by concessionaire.

A grab sample has been collected on 03.02.2021 by UPJN & KRMPL representative jointly at Inlet & outlet and test result report of the same has been submitted vide UPJN letter no. 302/w-37/22 dated 04.02.2021.

(Copy of Test result report is enclosed).

vii. Gas Holder

Out of 2 nos. gas holder installed, both are not in working condition. Gas holder no.1 is under maintenance and gas holder no.2 was non functional during inspection of 16.02.2021. Alignment of both the Gas holder's cone is not proper. Gas from gas holder is not reaching up to DFG no.2, system is to be repaired.

viii. Schedule Maintenance Works for 1st year

Schedule maintenance works as per approved O&M manual were to be started from 1/08/2020, but not started yet.

ix. KPIs Adherence Report

A joint sampling for inflow and treated outflow has been carried out on 3rd Feb. 2021 and observed that the results are against the lab result submitted by KRMPL for the month of Nov. 2020 to Jan. 2021 and result from KRMPL lab are not reliable. Therefore, KPIs Adherence Report for the month of Nov. 2020 and Dec. 2020 sent by PE may be treated as cancelled and KPIs Adherence report for the month of Nov. 2020 to Jan. 2021 has been decided on the basic of Feb 2021 results which are acceptable with reference to joint

sampling test results. Online Monitoring Analyser Report up to January month has not been submitted by concessionaire.

8 STATUS OF BEP & OTHER DETAILS

Status of BEPs & other detail are given in following table 6.2:

Table 6.2: BEPs and other details

SN	Particulars	Status	
		Approved	**Pending**
1.	**BEPs (Process, Mechanical & Electrical)**	Recommended for approval for submission of GA, Datasheet, BOM, Wiring diagram and QAP of 1600 KVA and 630 KVA transformer for 130 MLD STP and CSPS resp. vide STC letter no. 701 dated 16.02.2021 after compliance submitted by KRMPL vide their letter no. 910 dated 04.02.2021.	Control Philosophy of 130 MLD STP Jajmau is still pending after many reminders to KRMPL.
2.	**BEP Structure Design & Drawings**	Sludge thickener of Shuklaganj 05 MLD STP is recommended for approval vide STC letter no. 679 dated 02.02.2021. Compound wall of 6m height of Shuklaganj is recommended for approval vide STC letter no. 678 dated 02.02.2021.	Acquisition of land for I&D works Unnao is under progress;
3.	**Construction Plan**	Revised construction plan Pankha-recommended for approval on Revised construction plan Unnao has been submitted by KRMPL vide letter no. 939 dated 23.02.2021 on which STC submitted its observation vide STC letter no. 716 dated 27.02.2021.	-
4.	**Sewer Network/Line Design**	Design and drawings of sewer work Pankha- recommended for approval On 10.02.20 Design and drawings of sewer work Unnao- recommended for approval On 20.02.20	-

Monthly QA/QC REPORT

FOR

FEBRUARY 2021

9 PROCEDURES BEING ADOPTED FOR QUALITY ASSURANCE

Quality Assurance / Quality Control for Civil & E & M Works

Quality control is part of quality management. This ensures that anything built will be usable by a client. Quality management measures the quality of a unit against the established standards to determine whether something is up to par. In order to ensure quality, companies use a variety of tests and inspection. Quality control managers work on more than just the material level. Inspectors or quality control officers can test quality at various levels of completion as well. Contractors can use this to ensure their work will pass inspection in the end and avoid expensive rework.

Contractors should always ensure they are using quality materials. This also prevents later rework since they can prove the materials weren't faulty, to begin with. It also can prevent expensive lawsuits due to any issues because of poor quality materials.

The final inspection that contractors and owners can do is at the end of the project. This determines whether the project is usable because it checks the finished product. The main issue with this is that if there are issues with a product or project, it is on the subcontractor to fix the issue. At this level, the repairs are more expensive because usually an entire section must be rebuilt. In order to prevent this, it is important to have some sort of construction quality control plan.

Laboratory Setup: Cube Testing Machine, Sieves, Slump Cone, Weighing Machine etc. relevant equipment's have been setup at all the new sites by the concessionaire.

9.1 QUALITY CONTROL

During progress of work all necessary precautions and quality related actions have been taken, as per the following;

i. Stage Passing Check before start of each stage of works has been ensured and record maintained at all the sites.
ii. Cubes have been prepared for 7 and 28 days test in case of both PCC & RCC as per requirement of IS 456-2000 and record maintained at sites.
iii. Slump Test has been carried out during progress of PCC & RCC works.
iv. Sieve Analysis Register for Fine Aggregates and Coarse Aggregates (for 10mm & 20mm) maintain at all sites.
v. Site Order Books have been maintained at all sites.
vi. Hindrance Registers have been maintained at all sites.

Site Meetings and its Minutes: During every site visit generally site meeting and discussions do take place with concern Project Managers of Concessionaire as part of site observations, discussions and suggestions.

QUALITY ASSURANCE PLAN (CIVIL WORK)

A periodic check carried out by site supervisor/ Project Engineer to ensure quality in the construction. The checks are carried out essentially at the following stages:

i. Start of every new item of work.
ii. Once every week for each relevant item. The Engineer in-charge may also decide to carry out the check at shorter interval.
iii. Apart from above, the supervisors / engineers follow the daily or routine supervision/ inspection/ site visits to ensure strict adherence for quality control measures.

9.2 TEST CONDUCTED AT SITE:

i. Fine Aggregate (Sieve Analysis) Test.
ii. Coarse Aggregate (Sieve Analysis) Test.
iii. Reinforcement Tests.
iv. Mix Design.
v. Slump Cone (Workability) Test.
vi. Cube Tests (Compressive Strength Test).

9.3 QUALITY REGISTERS MAINTAINING AT SITE:

i. Third Party Test Report of Soil.
ii. Fine Aggregate (Sieve Analysis) Test Register/ Reports.
iii. Coarse Aggregate (Sieve Analysis) Test Register / Reports.
iv. Cement test Report Register
v. Third Party Test Report.
vi. Mix Design Report
vii. Slump Cone (Workability) Test Register.
viii. Cube Tests (Compressive Strength Test) Register.

All the above quality control registers are duly maintained at site and inspected time to time.

10 QUALITY ASSURANCE / QUALITY CONTROL

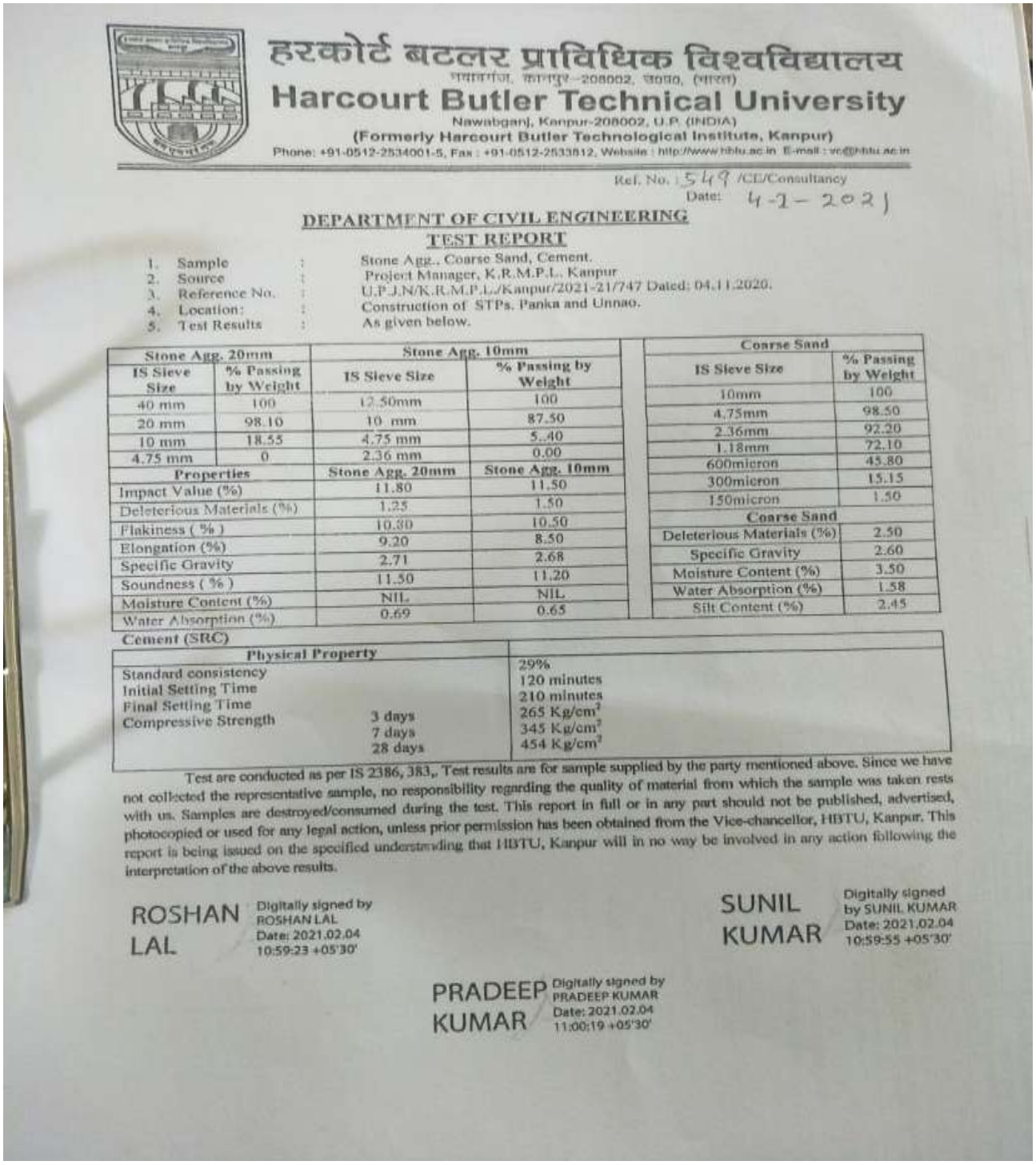
10.1 FOR 30 MLD STP SITE & IPS AT PANKHA KANPUR

Construction Unit (Primary Treatment Unit, SBR, CCT, Sludge Thickener, Blower Room/Panel Room, Staff Quarters, Administrative Buildings etc.)

SN	Description	Ref. IS Code	Upto Previous Month				During This Month				Remarks
			As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	
1	Water	IS 10500 :2012	1	1	1	0	No test required since the source is same				One test has been conducted from Green Enviro ,Pune before taking into use.
2	Mix Design (For M15,M-20,M25, M30, M-30 SRC)	IS 10262 :1986	5	5	5	0	0	0	0	0	This is required at commencement of the project
3	Determining of Safe Load Bearing Capacity of soil/ Sub-Stratum	IS 4968 : 1976 (Cone Penetration) & IS 1888 : 1982 (Plate Load Test)	1	4	4	0	0	0	0	0	This is required once at the stage of designing of the structures.
4	Calibration Test of Compression Testing Machine		One Test after every 12 month	1	1	N.A.					This test is required after every 12 months.
5	Cement (OPC)	IS 4031 -68 / IS 269 : 2015	N.A.	2	2	0	N.A.	0	0	0	
6	Concrete Cubes (15x15x15 cm)										
i	M 15	IS 456 : 2000	Min.3 cubes	45	45	0					(a set of 3 cubes)
ii	M-20	IS 456 : 2000		02	02	0		0	0	0	(a set of 3cubes)

iii	M 25	IS 456 : 2000	Min.3 cubes	112	112	0	-	09	09	0	(a set of 3 cubes)
iv	M 30	IS 456 : 2000	Min.3 cubes	83	83	0		08	08	0	(a set of 3cubes)
v	M-30 SRC	IS 456 : 2000		148	148	0		49	49	0	(a set of 3cubes)
.7	Coarse aggregate 20mm	IS 383 : 1970	1 set of test done for change of one quarry	04	03	1	1 set of test done for change of one quarry	1 sample	1 sample	0	
8	Coarse aggregate 10 mm	IS 383 : 1970	1 set of test done for change of one quarry	05	04	1	1 set of test done for change of one quarry	1 sample	1 sample	0	
9	Fine Aggregate	IS 383 : 1970	1 set of test done for change of one quarry	13	12	1	1 set of test done for change of one quarry	2 sample	2 sample	0	
10	Reinforcement Bars	IS 1786 : 2008	1 sample from each lot & size	3	3	0	1 sample from each lot &size	0	0	0	Tested at HBTU, Kanpur
11	Slump Test	IS 1199 - 1959		974	971	03		106	106	0	At Site

Quality Test Report and Third Party Lab Test Reports



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नवाबगंज, कानपुर–208002, उ0प्र0, (भारत)

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Phone: +91-0512-2534001-5, Fax : +91-0512-2533812, Website : http://www.hbtu.ac.in E-mail : vc@hbtu.ac.in

Ref. No. : 549 /CE/Consultancy
Date: 4-1-2021

DEPARTMENT OF CIVIL ENGINEERING

TEST REPORT

1. Sample : Stone Agg., Coarse Sand, Cement.
2. Source : Project Manager, K.R.M.P.L. Kanpur
3. Reference No. : U.P.J.N/K.R.M.P.L./Kanpur/2021-21/747 Dated: 04.11.2020.
4. Location: : Construction of STPs. Panka and Unnao.
5. Test Results : As given below.

Stone Agg. 20mm	
IS Sieve Size	% Passing by Weight
40 mm	100
20 mm	98.10
10 mm	18.55
4.75 mm	0

Stone Agg. 10mm	
IS Sieve Size	% Passing by Weight
12.50mm	100
10 mm	87.50
4.75 mm	5..40
2.36 mm	0.00

Properties	Stone Agg. 20mm	Stone Agg. 10mm
Impact Value (%)	11.80	11.50
Deleterious Materials (%)	1.25	1.50
Flakiness (%)	10.30	10.50
Elongation (%)	9.20	8.50
Specific Gravity	2.71	2.68
Soundness (%)	11.50	11.20
Moisture Content (%)	NIL	NIL
Water Absorption (%)	0.69	0.65

Coarse Sand	
IS Sieve Size	% Passing by Weight
10mm	100
4.75mm	98.50
2.36mm	92.20
1.18mm	72.10
600micron	45.80
300micron	15.15
150micron	1.50
Coarse Sand	
Deleterious Materials (%)	2.50
Specific Gravity	2.60
Moisture Content (%)	3.50
Water Absorption (%)	1.58
Silt Content (%)	2.45

Cement (SRC)

Physical Property		
Standard consistency		29%
Initial Setting Time		120 minutes
Final Setting Time		210 minutes
Compressive Strength	3 days	265 Kg/cm²
	7 days	345 Kg/cm²
	28 days	454 Kg/cm²

Test are conducted as per IS 2386, 383,. Test results are for sample supplied by the party mentioned above. Since we have not collected the representative sample, no responsibility regarding the quality of material from which the sample was taken rests with us. Samples are destroyed/consumed during the test. This report in full or in any part should not be published, advertised, photocopied or used for any legal action, unless prior permission has been obtained from the Vice-chancellor, HBTU, Kanpur. This report is being issued on the specified understanding that HBTU, Kanpur will in no way be involved in any action following the interpretation of the above results.

ROSHAN LAL — Digitally signed by ROSHAN LAL Date: 2021.02.04 10:59:23 +05'30'

SUNIL KUMAR — Digitally signed by SUNIL KUMAR Date: 2021.02.04 10:59:55 +05'30'

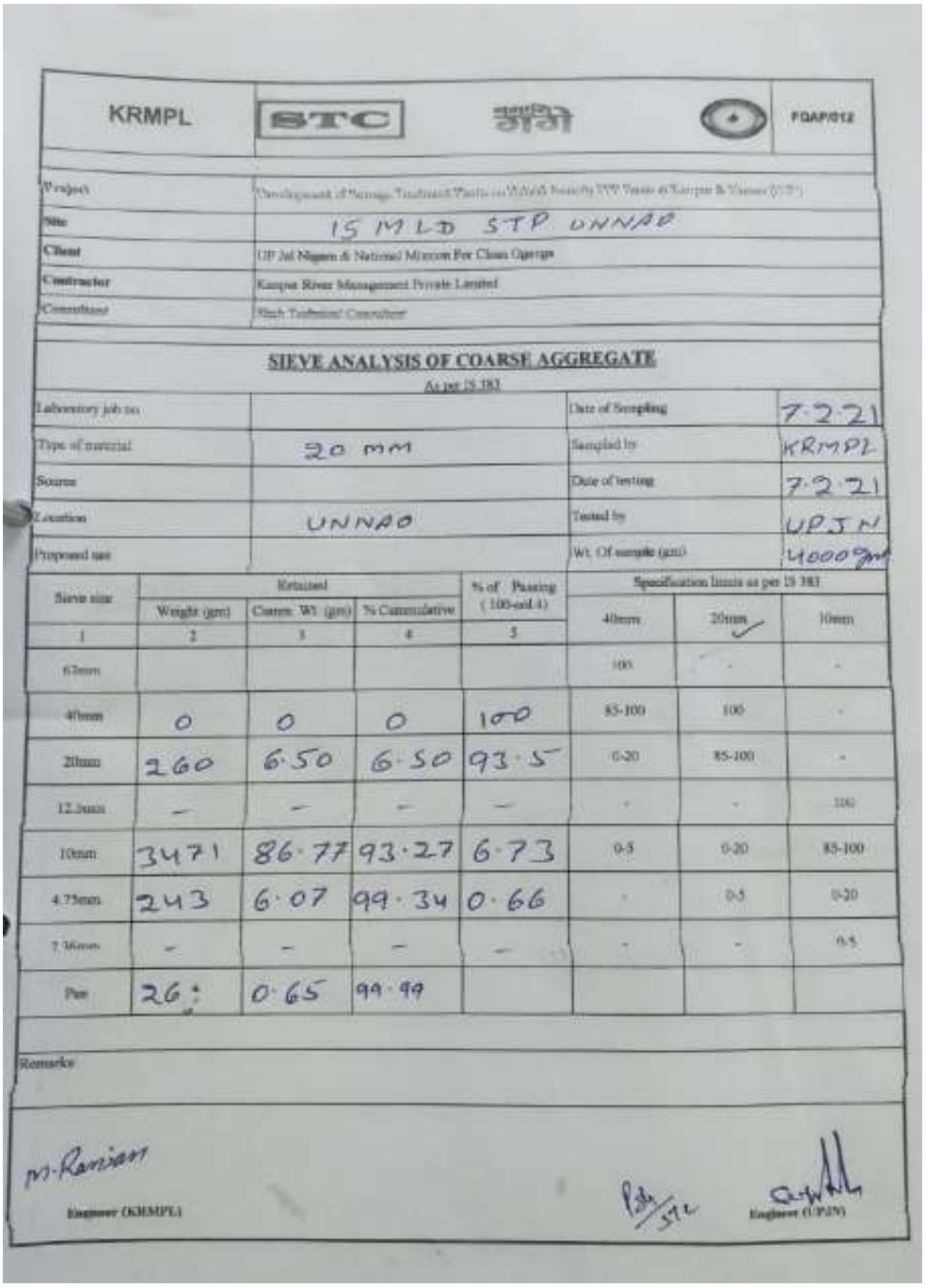
PRADEEP KUMAR — Digitally signed by PRADEEP KUMAR Date: 2021.02.04 11:00:19 +05'30'

10.2 FOR 15 MLD STP SITE & IPS AT UNNAO

Construction Unit (Primary Treatment Unit, SBR, CCT, Sludge Thickener, Blower Room/Panel Room, Staff Quarters, Administrative Buildings etc.)

Sl. No.	Description	Ref. IS Code	Upto Previous Month				During This Month				Remarks
			As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	
1	Water	IS 10500 :2012	1	1	1		No test required since the source is same				One test has been conducted from Green Enviro ,Pune before taking into use.
2	Mix Design (For M-20,M25, M30, M-30 SRC)	IS 10262 :1986	4	4	4	0	0	0	0	0	This is required at commencement of the project
3	Determining of Safe Load Bearing Capacity of soil/ Sub-Stratum	IS 4968 : 1976 (Cone Penetration) & IS 1888 : 1982 (Plate Load Test)	1	1	1		0	0	0	0	This is required once at the stage of designing of the structures
4	Calibration Test of Compression Testing Machine		1	1	1	NA	-	-	-	-	This test is required after every 12 months.
5	Cement	IS 4031 -68 / IS 269 : 2015	2	2	2	NA	-	-	-	-	
6	Concrete Cubes (15x15x15 cm)										
i	M 15	IS 456 : 2000		14	14	0	-	0	0	0	(a set of 3 cubes)
ii	M-20	IS 456 : 2000		33	33	0	-	0	0	0	(a set of 3 cubes)
iii	M 25	IS 456 : 2000		141	141	0	-	21	21	0	(a set of 3 cubes)
iii	M 30	IS 456 : 2000		109	109	0	-	34	34	0	(a set of 3 cubes)
.7	Coarse aggregate 20mm	IS 383 : 1970		15	15	0	-	3	3	0	
8	Coarse aggregate 10 mm	IS 383 : 1970		12	12	0	-	4	4	0	
9	Fine Aggregate	IS 383 : 1970		27	27	0	-	5	5	0	
10	Reinforcement Bars	IS 1786 : 2008		2	2	0	-	0	0	0	Tested at HBTU, Kanpur
11	Slump Test	IS 1199 - 1959		146	146	0	-	7	7	0	At Site

Photograph of Site Lab Test Report or Third Party Lab Test Report



KRMPL | STC | FQAP/012

Project: (Development of Sewage Treatment Plants on Hybrid Annuity PPP Basis at Kanpur & Unnao (U.P.))
Site: 15 MLD STP UNNAO
Client: UP Jal Nigam & National Mission For Clean Ganga
Contractor: Kanpur River Management Private Limited
Consultant: Stech Technical Consultant

SIEVE ANALYSIS OF COARSE AGGREGATE
As per IS 383

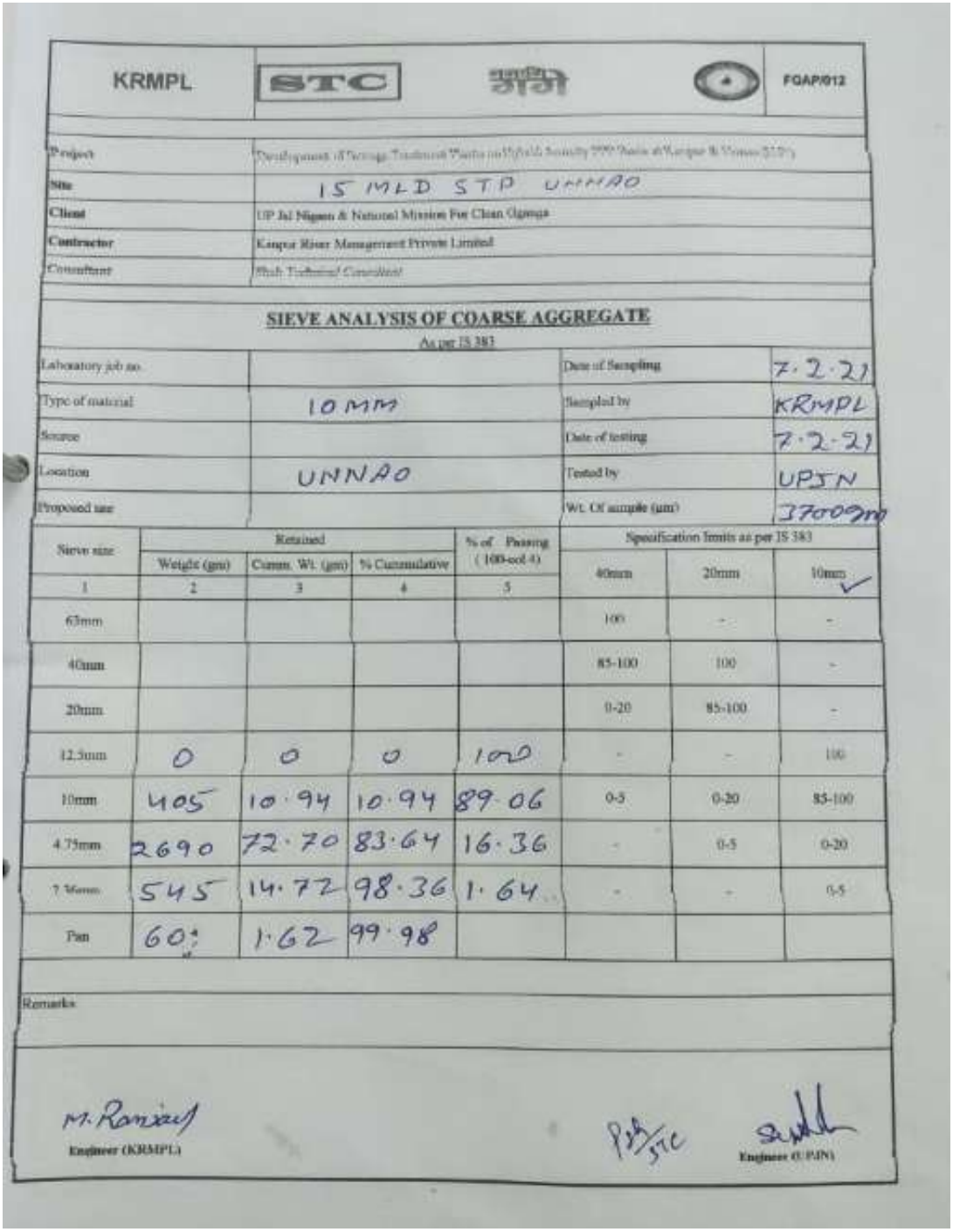
Laboratory job no.		Date of Sampling	7.2.21
Type of material	20 mm	Sampled by	KRMPL
Source		Date of testing	7.2.21
Location	UNNAO	Tested by	UPJN
Proposed use		Wt. Of sample (gm)	4000gm

Sieve size	Retained			% of Passing (100-col.4)	Specification limits as per IS 383		
	Weight (gm)	Cumm. Wt. (gm)	% Cummulative		40mm	20mm	10mm
1	2	3	4	5			
63mm					100	-	-
40mm	0	0	0	100	85-100	100	-
20mm	260	6.50	6.50	93.5	0-20	85-100	-
12.5mm	-	-	-	-	-	-	100
10mm	3471	86.77	93.27	6.73	0-5	0-20	85-100
4.75mm	243	6.07	99.34	0.66	-	0-5	0-20
2.36mm	-	-	-	-	-	-	0-5
Pan	26	0.65	99.99				

Remarks

M. Ranjan
Engineer (KRMPL)

Engineer (UPJN)



KRMPL	STC		FQAP/012
Project	Development of Sewage Treatment Plants on Hybrid Annuity PPP Basis at Kanpur & Unnao (UP)		
Site	15 MLD STP UNNAO		
Client	UP Jal Nigam & National Mission For Clean Ganga		
Contractor	Kanpur River Management Private Limited		
Consultant	Stuti Technical Consultant		

SIEVE ANALYSIS OF COARSE AGGREGATE

As per IS 383

Laboratory job no		Date of Sampling	7.2.21
Type of material	10 MM	Sampled by	KRMPL
Source		Date of testing	7.2.21
Location	UNNAO	Tested by	UPJN
Proposed use		Wt. Of sample (gm)	3700gm

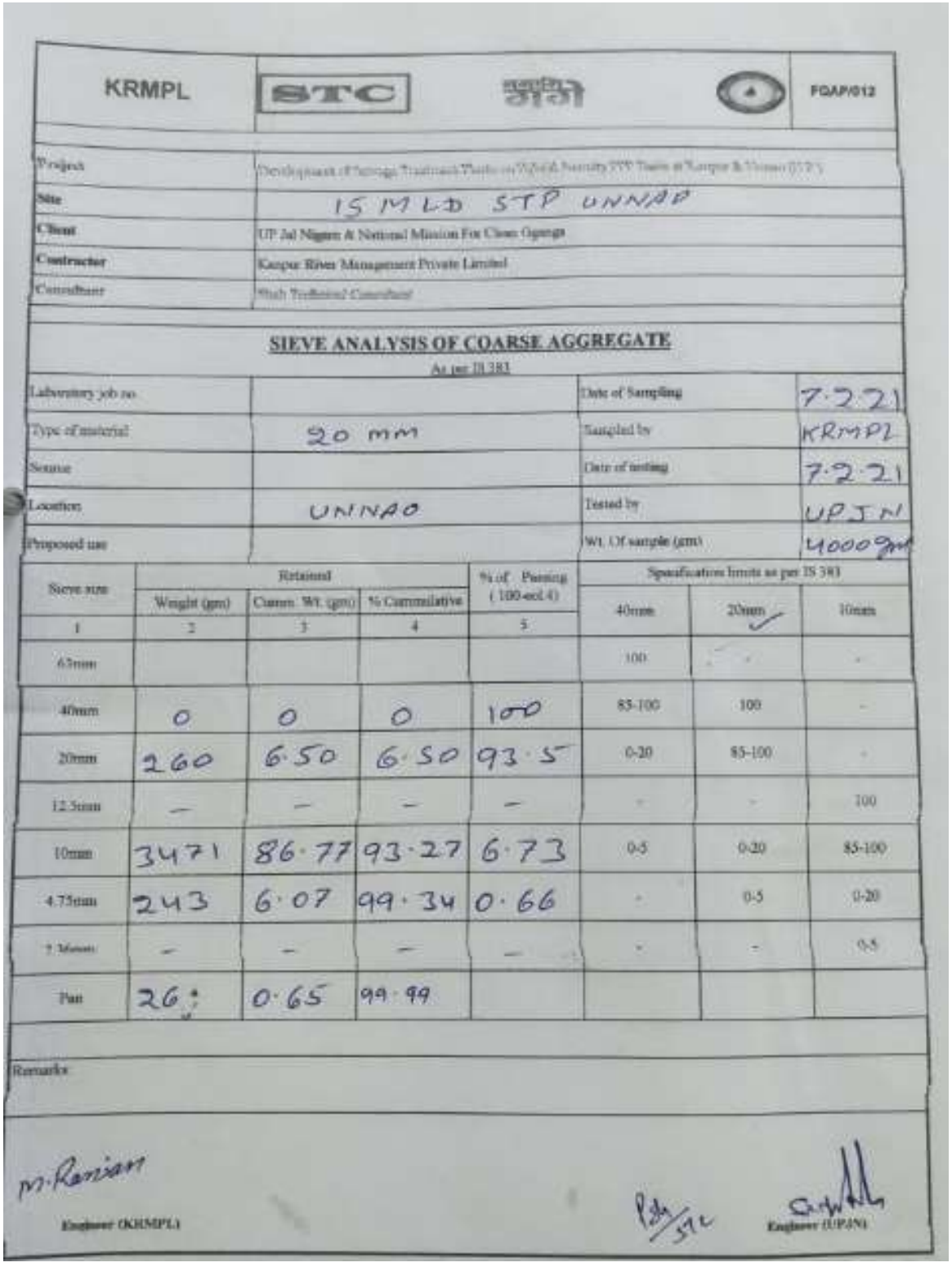
Sieve size	Retained			% of Passing (100-col 4)	Specification limits as per IS 383		
	Weight (gm)	Comm. Wt. (gm)	% Cummulative		40mm	20mm	10mm ✓
1	2	3	4	5			
63mm					100	-	-
40mm					85-100	100	-
20mm					0-20	85-100	-
12.5mm	0	0	0	100	-	-	100
10mm	405	10.94	10.94	89.06	0-5	0-20	85-100
4.75mm	2690	72.70	83.64	16.36	-	0-5	0-20
2.36mm	545	14.72	98.36	1.64	-	-	0-5
Pan	60	1.62	99.98				

Remarks

M. Ranjan
Engineer (KRMPL)

PSA/STC

Engineer (UPJN)



KRMPL	STC		FQAP/012
Project	Development of Sewage Treatment Plants on Hybrid Annuity PPP Basis at Kanpur & Unnao (U.P.)		
Site	15 MLD STP UNNAO		
Client	UP Jal Nigam & National Mission For Clean Ganga		
Contractor	Kanpur River Management Private Limited		
Consultant	Shah Technical Consultant		

SIEVE ANALYSIS OF COARSE AGGREGATE

As per IS 383

Laboratory job no		Date of Sampling	7.2.21
Type of material	20 mm	Sampled by	KRMPL
Source		Date of testing	7.2.21
Location	UNNAO	Tested by	UPJN
Proposed use		Wt. Of sample (gm)	4000gm

Sieve size	Retained			% of Passing (100-col 4)	Specification limits as per IS 383		
	Weight (gm)	Comm. Wt. (gm)	% Cummulative		40mm	20mm	10mm
1	2	3	4	5			
63mm					100	-	-
40mm	0	0	0	100	85-100	100	-
20mm	260	6.50	6.50	93.5	0-20	85-100	-
12.5mm	–	–	–	–	-	-	100
10mm	3471	86.77	93.27	6.73	0-5	0-20	85-100
4.75mm	243	6.07	99.34	0.66	-	0-5	0-20
2.36mm	–	–	–	–	-	-	0-5
Pan	26	0.65	99.99				

Remarks

M. Ranjan
Engineer (KRMPL)

Engineer (UPJN)

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नवाबगंज, कानपुर–208002, उ0प्र0, (भारत)

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Ref. No. : 549 /CE/Consultancy
Date: 4-2-2021

DEPARTMENT OF CIVIL ENGINEERING

TEST REPORT

1. Sample : Stone Agg., Coarse Sand, Cement.
2. Source : Project Manager, K.R.M.P.L. Kanpur
3. Reference No. : U.P.J.N/K.R.M.P.L./Kanpur/2021-21/747 Dated: 04.11.2020
4. Location: : Construction of STPs. Panka and Unnao.
5. Test Results : As given below.

Stone Agg. 20mm		Stone Agg. 10mm	
IS Sieve Size	% Passing by Weight	IS Sieve Size	% Passing by Weight
40 mm	100	12.50mm	100
20 mm	98.10	10 mm	87.50
10 mm	18.55	4.75 mm	5..40
4.75 mm	0	2.36 mm	0.00

Properties	Stone Agg. 20mm	Stone Agg. 10mm
Impact Value (%)	11.80	11.50
Deleterious Materials (%)	1.25	1.50
Flakiness (%)	10.80	10.50
Elongation (%)	9.20	8.50
Specific Gravity	2.71	2.68
Soundness (%)	11.50	11.20
Moisture Content (%)	NIL	NIL
Water Absorption (%)	0.69	0.65

Coarse Sand	
IS Sieve Size	% Passing by Weight
10mm	100
4.75mm	98.50
2.36mm	92.30
1.18mm	72.10
600micron	45.80
300micron	15.15
150micron	1.50
Coarse Sand	
Deleterious Materials (%)	2.50
Specific Gravity	2.60
Moisture Content (%)	3.50
Water Absorption (%)	1.58
Silt Content (%)	2.45

Cement (SRC)

Physical Property		
Standard consistency		29%
Initial Setting Time		120 minutes
Final Setting Time		210 minutes
Compressive Strength	3 days	265 Kg/cm^2
	7 days	345 Kg/cm^2
	28 days	454 Kg/cm^2

Test are conducted as per IS 2386, 383,. Test results are for sample supplied by the party mentioned above. Since we have not collected the representative sample, no responsibility regarding the quality of material from which the sample was taken rests with us. Samples are destroyed/consumed during the test. This report in full or in any part should not be published, advertised, photocopied or used for any legal action, unless prior permission has been obtained from the Vice-chancellor, HBTU, Kanpur. This report is being issued on the specified understanding that HBTU, Kanpur will in no way be involved in any action following the interpretation of the above results.

ROSHAN LAL — Digitally signed by ROSHAN LAL, Date: 2021.02.04 10:59:23 +05'30'

SUNIL KUMAR — Digitally signed by SUNIL KUMAR, Date: 2021.02.04 10:59:55 +05'30'

PRADEEP KUMAR — Digitally signed by PRADEEP KUMAR, Date: 2021.02.04 11:00:19 +05'30'

10.3 FOR 05 MLD STP SITE & IPS AT SHUKLAGANJ

Construction Unit (Primary Treatment Unit, SBR, CCT, Sludge Thickener, Blower Room/Panel Room, Staff Quarters, Administrative Buildings etc.)

Sl. No.	Description	Ref. IS Code	Upto Previous Month				During This Month				Remarks
			As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	
1	Water	IS 10500 :2012									
2	Mix Design (For M15,M-20,M25, M30, M-30 SRC)	IS 10262 :1986									
3	Determining of Safe Load Bearing Capacity of soil/ Sub-Stratum	IS 4968 : 1976 (Cone Penetration) & IS 1888 : 1982 (Plate Load Test)	0	0	0	0	1	7	7	0	This is required once at the stage of designing of the structures.
4	Calibration Test of Compression Testing Machine										
5	Cement (OPC)	IS 4031 -68 / IS 269 : 2015									
6	Concrete Cubes (15x15 x15 cm)										
	M 15	IS 456 : 2000									
	M-20	IS 456 : 2000									
	M 25	IS 456 : 2000									
	M 30	IS 456 : 2000									
	M-30 SRC	IS 456 : 2000									
.7	Coarse aggregate 20mm	IS 383 : 1970									
8	Coarse aggregate 10 mm	IS 383 : 1970									
9	Fine Aggregate	IS 383 : 1970									
10	Reinforcement Bars	IS 1786 : 2008									
11	Slump Test	IS 1199 - 1959									

Third Party (HBTU) Test Result of Geotechnical Investigation Report (Bore Hole)

Table-3 Calculation Results

Bore No.	Name of structure	Type of footing	Depth of footing	Method of analysis: Net safe allowable bearing capacity (t/m²)		
				Shear failure criteria (F.S.=3.0)	50 mm settlement: By Teng's analysis	50 mm settlement: By Meyerhof's analysis
B1	Raw Sewage Sump	Raft	6.0M	36.08	28.28	21.25
B2	Sludge Thickener	Raft	3.0M	6.73	6.34	7.67
B3	PTU Area	Isolated	1.5M	5.91	14.17	13.25
B4	CCT	Raft	3.0M	6.41	6.8	7.95
B5	Office Lab.	Isolated	1.5M	6.64	16.2	14.54
B6	SBR Basin	Raft	1.5M	5.0	Result inconsistent	6.24
B7	Staff Quarter	Isolated	1.5M	7.45	18.22	15.87

11 CONSTRUCTION RUNNING MATERIAL /EQUIPMENTS

Sl. No.	Description	Ref. IS Code	Upto Previous Month				During This Month				Remarks
			As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	As per IS No. of Test	No. of Test Conducted	No. of Acceptance	No. of Rejects	
1	Cube Testing Machine	IS 516 - 2001	Yearly Once	2	2	0	NA				Not required in this month
2	Laboratory weighing machine	IS460 - 1980	Yearly Once	2	2	0					
3	Ready Mix Concrete Plant	IS 4926-2013	Whenever Required	2	2	0					

ANNEXURE

ANNEXURE 1: Progress of Work – HAM Project Kanpur

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
01.02.2021	Project Review meeting with NMCG on video conference		01.02.2021	-	-	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh Lokesh Preetam Ajay Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1+1	-	-	-	All site related issues have been discussed in the meeting and resolved.
02.02.2021	Submission of RCC design and drawing for Compound Wall of Shuklaganj STP.	31.01.21 K-905	02.02.2021 S-678	02	20	-	-	C.M.Dimri O.P.Asati Satendra Priyesh Preetam Kapil L.K.Rao	1+1+1+ 1+1+1+ 1	-	-	-	Reviewed and recommended for approval.

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
02.02.2021	Submission of RCC design and drawing for Sludge Thickener of Shuklaganj STP.	31.01.21 K-903	02.02.2021 S-679	2	20	-	-	C.M.Dimri O.P.Asati Priyesh Preetam Lokesh Ajay Kapil L.K.Rao	1+1+1+ 1+1+1+ 1+1	-	-	-	Reviewed and recommended for approval.
02.02.2021	Civil structural drawing for 30 MLD STP Pankha facilities.	29.01.21 K-895	02.02.2021 S-680	4	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati L.K.Rao Satendra Preetam Ajay Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Vetted & recommended for approval
03.02.2021	Submission of revised manhole drawing considering precast and cast in situ for Ham project Kanpur & Lucknow project.	02.02.21 K-724	03.02.2021 S-681	1	20	-	-	C.M.Dimri O.P.Asati Satendra Priyesh Lokesh Preetam Ajay L.K.Rao Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Vetted & recommended for approval
04.02.2021	Cost Implication due to change in	22.12.20 K-820	04.02.2021 S-682 & S-	44	20			C.M.Dimri O.P.Asati	1+1+1+ 1+1+1+	-	-	-	Observation has been submitted

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	FoS for design, drawing of bedding for sewerage network for 30 MLD STP Pankha facilities as per clause No. 20 of CA.		667 23.01.2021					L.K.Rao Anil seth Satendra Preetam Vikas Ajay Kapil Mahendra	1+1+1+1				after vetting and requested UPJN to direct KRMPL to submit the compliances.
04.02.2021	Bedding Calculation: Regarding Jal Nigam Schedule of rates.	-	04.02.2021 S-683 & S-667 23.01.2021	-	20	-	-	C.M.Dimri O.P.Asati Preetam Vikas Ajay Kapil Rahul Mahendra	1+1+1+1+1+1+1+1	-	-	-	Requested UPJN to furnish the Jal Nigam schedule of rates.
04.02.2021	Inspection Report of 210 MLD Bingawan Facilities, inspection done on 02.02.2021		04.02.2021 S-684	-	20	-	-	J.P.Tripathi O.P.Asati L.K.Rao lokesh Vikas Ajay Rahul	1+1+1+1+1+1+1+1	-	-	-	Requested UPJN to direct KRMPL to submit the compliance report at the earliest.
05.02.2021	Inclusion of Inflow parameters in the daily report of Sajari & Bingawan facilities.		05.02.2021 S-685	-	20	-	-	J.P.Tripathi O.P.Asati lokesh Vikas Ajay Rahul	1+1+1+1+1+1	-	-	-	Instructed KRMPL to include the inflow parameters in the daily report of Sajari & Bingawan.
05.02.2021	Environmental and Social Impact Assessment	18.01.21 K-852	05.02.2021 S-686	18	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati	1+1+1+1+1+1+1+1+1	-	-	-	Requested UPJN to direct to inspect all the plants by KRMPL

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	progress (ESIA) Report of Quarter 1, 2, 3 &4- 1) (Jan. to March 2020- 2) (April to June 2020- 3) (July to September 2020- 4) October to December 2020.							Satendra Lokesh Vikas Ajay Rahul L.K.Rao Kapil Mahendra	1+1				expert, STC safety Expert and GM, UPJN.
06.02.2021	Submission of RCC design and drawing of Compound wall for 5 MLD Shuklaganj STP.	31.01.21 K-905	06.02.2021 S-687	6	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Preetam Priyesh lokesh Vikas L.K.Rao Ajay Kapil	1+1+1+ 1+1+1+ 1+1+1+ 1+1	-	-	-	Requested UPJN to send 2 copies back to this office after approval
07.02.2021	Sunday												
08.02.2021	Submission of internal illumination drawing for Guard Room and staff Quarter for 30MLD Pankha facility.	29.01.21 K-897	-	-	20	-	-	C.M.Dimri J.P.Tripathi A.K.Seth lokesh Vikas Rahul Mahendra	1+1+1+ 1+1+1+ 1	-	-	-	Under Review
09.02.2021	Submission of internal illumination drawing for Guard	29.01.21 K-897	-	-	20	-	-	C.M.Dimri J.P.Tripathi Priyesh A.K.Seth	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Under Review.

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Room and staff Quarter for 15 MLD Unnao facility.							lokesh Vikas Rahul Kapil Mahendra					
10.02.2021	Pending drawing of 30 MLD Pankha STP.	-	10.02.2021 S-689	-	20	-	-	C.M.Dimri O.P.Asati Satendra Priyesh lokesh Preetam J.P.Tripathi Vikas L.K.Rao Ajay A.K.Seth Rahul Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Requested UPJN to direct KRMPL to submit the pending drawings at the earliest.
10.02.2021	Bedding Calculation: Regarding Jal Nigam schedule of rates.	05.02.21 J-310/M-9/01	10.02.2021 S-690	05	-	-	-	C.M.Dimri O.P.Asati Satendra Priyesh Vikas Preetam J.P.Tripathi Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Requested UPJN to furnish the soft copy of the Jal Nigam Schedule of rates.
10.02.2021	Unnao STP site inspection of Dated 9th February, 2021.	-	10.02.2021 S-691	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Inspection report for inspection dated 09.02.2021 has been submitted of Unnao

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
								Priyesh L.K.Rao lokesh Vikas Preetam Kapil					site.
10.02.2021	Submission of internal illumination drawing for Guard Room and staff Quarter for 30MLD Pankha facility.	29.01.21 K-897	10.02.2021 S-692	12	20	-	-	C.M.Dimri J.P.Tripathi Priyesh lokesh A.K.Seth Vikas Rahul Mahendra	1+1+1+ 1+1+1+ 1+1	-	-	-	Vetted and recommended for approval.
10.02.2021	• Submission of internal illumination drawing for Guard room and staff Quarter for 15 MLD Unnao facility	15.01.21 K-869	23.01.2021 S-665 10.02.2021 S-694	-	20	-	-	C.M.Dimri J.P.Tripathi Satendra Priyesh lokesh A.K.Seth Vikas Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Vetted and recommended for approval.
10.02.2021	Inspection notes of Pankha STP and associates IPS Sunder Nagar on dated 08th February 2021.	-	10.02.2021 S-695	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh Vikas L.K.Rao Ajay	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Inspection done on 08.02.2021 and inspection report submitted on 10.02.2021

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
								Kapil Mahendra					
10.02.2021	Inspection notes of Pankha STP and facilities dated 04th February, 2021.	-	10.02.2021 S-696	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Preetam Priyesh Vikas L.K.Rao Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Inspection done on 04.02.2021 and inspection report submitted on 10.02.2021
11.02.2021	Pending drawing of 15MLD Unnao STP.	-	11.02.2021 S-693	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh lokesh A.K.Seth Vikas Preetam Ajay Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Requested UPJN to direct KRMPL to submit the pending drawings at the earliest.
12.02.2021	Observation on submission of revised construction plan for 15 MLD STP	12.02.21 K-924	12.02.2021 S-697	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1	-	-	-	Reviewed and observation has been submitted.

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Facilities at Unnao.							lokesh Vikas A.K.Seth L.K.Rao Rahul Kapil Mahendra					
12.02.2021	Pankha- Revised construction Plan.	12.02.21 K-923	12.02.2021 S-698	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh Lokesh Preetam Vikas L.K.Rao Ajay Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1	-	-	-	Reviewed and observation has been submitted.
13.02.2021	Second Saturday												
14.02.2021	Sunday												
15.02.2021	Submission of G.A, Datasheet, BOM, Wiring diagram and QAP of 1600 KVA transformer for 30 MLD STP Pankha.	04.02.21 K-910	-	-	20	-	-	C.M.Dimri Satendra Priyesh lokesh A.K.Seth Rahul Mahendra	1+1+1+ 1+1+1+ 1	-	-	-	Under Vetting
16.02.2021	Submission of G.A, Datasheet, BOM, Wiring diagram	04.02.21 K-910	16.02.2021 S-699	12	20	-	-	C.M.Dimri Priyesh lokesh	1+1+1+ 1+1+1	-	-	-	Vetted and recommended for conditional

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	and QAP of 1600 KVA transformer for 30 MLD STP Pankha.							A.K.Seth Rahul Mahendra					approval.
16.02.2021	Submission of G.A, Datasheet, BOM, Wiring diagram and QAP of 1600 KVA and 630 KVA transformer for 130 MLD STP and CSCP Jajmau respectively.	04.02.21 K-910	16.02.2021 S-701	12	20	-	-	C.M.Dimri O.P Asati lokesh A.K.Seth Vikas Rahul Kapil	1+1+1+ 1+1+1+ 1+1	-	-	-	Vetted and recommended for conditional approval.
16.02.2021	Submission of G.A, Datasheet, BOM, Wiring diagram and QAP of 800 KVA transformer for 15 MLD STP Unnao.	04.02.21 K-910	16.02.2021 S-702	12	20	-	-	C.M.Dimri Satendra Priyesh lokesh A.K.Seth Ajay Kapil Rahul Mahendra	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Vetted and recommended for conditional approval.
17.02.2021	Submission of Civil GAD for 5MLD Shuklaganj STP.	17.02.21 K-929	-	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh lokesh Vikas L.K.Rao Ajay Kapil	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1	-	-	-	Under Review

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
								Rahul Mahendra					
18.02.2021	Monthly activity reports of 42 MLD Sajari facilities and 210 MLD Bingawan facilities for the month of Jan 2021.	-	18.02.2021 S-700	-	20	-	-	J.P.Tripathi O.P.Asati lokesh Vikas L.K.Rao Ajay Prasoon Rahul	1+1+1+ 1+1+1+ 1+1	-	-	-	Instructed KRMPL to submit the monthly performance report of Bingawan & Sajari plant on time as per CA.
18.02.2021	Pending drawing of 130 MLD Jajmau STP.	-	18.02.2021 S-703	-	20	-	-	J.P.Tripathi O.P.Asati Satendra Priyesh lokesh Vikas Ajay Rahul Mahendra	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Direct KRMPL to submit the pending drawings at the earliest.
19.02.2021	Submission of Civil GAD for 5MLD Shuklaganj STP.	17.02.21 K-929	19.02.2021 S-704	2	20	-	-	C.M.Dimri J.P.Tripathi Satendra Priyesh Lokesh L.K.Rao Vikas Ajay Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Reviewed and recommended for approval.
19.02.2021	Submission of Transformer sizing calculation,	-	19.02.2021 S-707	-	20	-	-	C.M.Dimri Satendra Priyesh	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Requested UPJN to furnish the approved copy the

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	datasheet, Load list for the 15 MLD Unnao Facility.							Lokesh O.P.Asati A.K.Seth Rahul Kapil Mahendra					same.
20.02.2021	Inspection of Online Monitoring System for 210 MLD STP Bingawan Facilities.	-	20.02.2021 S-708	-	20	-	-	J.P.Tripathi Satendra Lokesh L.K.Rao Vikas Ajay Rahul	1+1+1+ 1+1+1+ 1	-	-	-	Requested UPJN to direct concessionaire to submit the compliance report of the same.
21.02.2021	Sunday												
22.02.2021	Approval of Equipment specification for 5 MLD STP Shuklaganj.	19.02.21 k-953	23.11.2020 S-601 22.02.2021 S-705	03	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh lokesh Vikas A.K.seth L.K.Rao Ajay Prasoon Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1+1+1+ 1+1	-	-	-	Requested UPJN, Lucknow to submit the instruction letter for further vetting process.
22.02.2021	Submission Of Civil GAD for 5MLD Shuklaganj STP.	19.02.21 K-929	22.02.2021 S-709	03	20	-	-	C.M.Dimri J.P.Tripathi Satendra Priyesh	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Reviewed and recommended for approval.

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
								lokesh Vikas Ajay Kapil Mahendra					
22.02.2021	Submission of Transformer sizing calculation, datasheet, Load list & SLD for the 15 MLD Unnao Facility.	19.02.21 K-934	22.02.2021 S-710	03	20	-	-	C.M.Dimri J.P.Tripathi Satendra O.P.Asati Priyesh A.K.Seth L.K.Rao Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Requested to direct KRMPL to submit the support docs, QAP and other related docs for early delay.
22.02.2021	Unnao STP Site Inspection report dated 17.02.2021	-	22.02.2021 S-710A	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh Vikas L.K.Rao Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Requested to direct KRMPL to submit the compliance of inspection dated 17.02.2021.
23.02.2021	Cost Implication due to change in FoS for design, drawing of bedding for sewerage network for 30 MLD STP Pankha	-	23.02.2021 S-711	-	20	-	-	C.M.Dimri J.P.Tripathi Satendra L.K.Rao Vikas Rahul Kapil	1+1+1+ 1+1+1+ 1+1	-	-	-	Reminder letter has been submitted to submit the compliances of the observation submitted vide STC letter no.682 dated

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	facilities as per clause No. 20 of CA.							Mahendra					04.02.2021.
23.02.2021	Recommendation for Approval of GA & data sheet along with QAP for Agitator for 15 MLD STP Unnao.	06.02.21 257/m-47/8	-	-	20	-	-	C.M.Dimri J.P.Tripathi O.P.Asati Satendra Priyesh lokesh L.K.Rao Rahul Mahendra	1+1+1+ 1+1+1+ 1+1+1	-	-	-	Under review.
24.02.2021	Recommendation for Approval of GA & data sheet along with QAP for Agitator for 15 MLD STP Unnao.	06.02.21 257/m-47/8	24.02.2021 S-713	17	20	-	-	C.M.Dimri J.P.Tripathi Satendra Priyesh L.K.Rao Ajay A.K.Seth Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1+1+ 1	-	-	-	Reviewed and recommended for approval.
25.02.2021	Observation on Monthly Activity Report of 210 MLD Bingawan facilities for January 2021.	18.02.21 K-931	25.02.2021 S-714	06	20	-	-	J.P.Tripathi O.P.Asati lokesh Prasoon Ajay Rahul Mahendra	1+1+1+ 1+1+1+ 1	-	-	-	Observations have been submitted for KRMPL to submit compliance of the same.
26.02.2021	KPIs adherence report for O&M bill of Bingawan	18.02.21 K-931	26.02.2021 S-715	07	20	-	-	J.P.Tripathi O.P.Asati lokesh	1+1+1+ 1+1+1	-	-	-	Observations have been made on the basis of Joint

Date	Name of Activity#	Date of Receipt	Date of Approval (Vet/ Comment)	No. of day taken	Time as per contract (days)	Delay if any (No. of days) [7=6-5]	Reason for delay*	Key Personnel deployed	Man-days of each Key Personnel	Delay by Concessionaire	Reason for delay	Step taken by PE to avoid such delays	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	facilities for non complaint the STP during II quarter (01.11.2020 to 31.01.2021).							Ajay Rahul Mahendra					sampling at Inflow and effluent.
27.02.2021	Observation on submission of revised construction plan for 15MLD STP facilities at Unnao	23.02.21 K-939	27.02.2021 S-716	04	20	-	-	C.M.Dimri J.P.Tripathi Satendra Priyesh lokesh Rahul Kapil Mahendra	1+1+1+ 1+1+1+ 1+1	-	-	-	Observations have been submitted on the revised construction plan.
28.02.2021	Sunday												
Total									28+28+ 28+15+ 24+03+ 12+28+ 28+28+ 28+28+ 27+28+ 28				

Note: Man-days and respective inputs of experts for the month of December 2020 are:

SN	Name	Designation	Total Man-days	Input
1.	Mr. Chandra Mauleshwar Dimri	Senior Civil Engineer	28	Timesheet attached
2.	Mr. Jai Prakash Tripathi	O&M Engineer	28	Timesheet attached
3.	Mr. O.P Asati	O&M Engineer	28	Timesheet attached
4.	Mr. Anil Kumar	Sr. Electrical Engineer	15	Timesheet attached
5.	Mr. Linga Krishna Rao	Safety expert	24	Timesheet attached
6.	Mr. Preetam Walunjkar	Sr. Structural Engineer	12	Timesheet attached
7.	Mr. Sunil Basutkar	Senior Mechanical Engineer	00	-
8.	Mr. Prasoon Bhardwaj	Instrumentation Engineer	03	Timesheet attached
9.	Mr. S. Kamaraju	Sr. Process Expert	00	-

Annexure 2: Timesheets of Experts

Mr. C.M. Dimri (Senior Civil Engineer)

Project Engineer	Shah Technical Consultants Pvt Limited	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name :	Chandra Mauleshwar Dimri	Month/Year:
Position:	SENIOR CIVIL ENGINEER / Team Leader i/c	Feb-21
Date	Description	Location
1	Video Conferencing by NMCG New Delhi - Attended in GM office	Kanpur
2	MoM of NMCG meeting Dated 1st Feb 2021 prepared & sent to NMCG	Kanpur
3	Construction Plan of Pankha & Unnao facilities appraised	Kanpur
4	Office General Works and discussion with VP Jaipur office about internet connection etc.	Kanpur
5	ESIA report by KRMPL to be sent actual as per site and daily report of Sajari appraisal for incoming prmt.	Kanpur
6	Discussion at office with Mr. Jha and Mr.S.Katiyar of KRMPL about revised construction plan.	Kanpur
7	SUN DAY	Kanpur
8	Office general works and discussion with Support Staff about CP and CA	Kanpur
9	Visited Unnao facilities	Kanpur
10	Office general works regarding hiring of Vehicle	Kanpur
11	CP of Unnao and Pankha discussion with Support staff	Kanpur
12	Discussion with Support staff about Constructin plan of Unnao & Pankha facilities	Kanpur
13	SECOND SATURDAY	Kanpur
14	SUNDAY	Kanpur
15	Discussion with PM III about boundary wall of Pankha near Pandu River	Kanpur
16	Office general works and discussion with Senior Engineer Electrical about pendency of various BEPs	Kanpur
17	Inspection of Unnao STP	Kanpur
18	Inspection of Pankha sewer network and discussion on mile stone 3rd and 4th	Kanpur
19	Inspection of Pankha facilities and network near STP	Kanpur
20	Inspection of Pankha facilities and network near STP	Kanpur
21	SUN DAY	Kanpur
22	General office work and discussion with PM E&M Kanpur about RTOLMS in Bingawan	Kanpur
23	Review of cost implications of bedding of Pankha sewer facilities & discussion with VP about office	Kanpur
24	Inspection of Pankha STP facilities	Kanpur
25	Review meeting with staff about RTOLMS Bingwan & Sajari and UPPCB/ CPCB criteria	Kanpur
26	Discussion with GM GPCU UPJN Kanpur about general problems	Kanpur
27	Meeting with GM UPJN Kanpur about HAM kanpur progress and with EE UPJN Unnao	Kanpur
28	SUN DAY	Kanpur

I hereby certify that the time report above is a true and complete statement of my working time for the payroll period.

MDimri

Signature of Employee

MDimri 12/03/21

Signature of Team Leader

Mr. J. P. Tripathi (O&M Engineer)

Project Engineer	Shah Techanical Consultants Pvt Limited	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name :	JAI PRAKASH TRIPATHI	Month/Year:
Position:	O & M ENGINEER	Feb-21
Date	Description	Location
1	Attended NMCG review Zoom meeting in the office of GM GPCU UPJN Kanpur	Kanpur
2	Corrected MOM of NMCG review meeting dated 01/02/2021	Kanpur
3	Prepared Time sheet and Invoice of January 2021	Kanpur
4	Wrote letter to GM GPCU UPJN Kanpur forwading the inspection report of 210 MLD Bingawan facilities done on 02/02/2021	Kanpur
5	Wrote letter to GM GPCU UPJN Kanpur regarding inclusion of inflow parameters in the daily reports of Bingawan and Sajari facilities	Kanpur
6	Reveiwed compliance report submitted by KRMPL on the MOM of SMCG meeting dated 28/12/2021	Kanpur
7	Sunday	
8	Discussed with PM (E & M) GPCU UPJN Kanpur regarding trial run of DFG at Bingawan STP	Kanpur
9	Discussed with PM (E & M) GPCU UPJN Kanpur regarding Energy payment Bills for Sajari Facilities	Kanpur
10	Helped in Preparation of MPR of Bingawan and Sajari for the month of Jan 2021	Kanpur
11	Discussed with PM 2 GPCU UPJN Kanpur regarding performance of Sajari STP as per instructions given by CE during his visit of Sajari STP on 22/01/2021	Kanpur
12	corrected and finalized MPR for the month of Jan 2021	Kanpur
13	Second Saturday	
14	Sunday	
15	Discussed with PM III GPCU UPJN Kanpur regarding performance of Bingawan STP	Kanpur
16	Discussed with PM (E & M) GPCU UPJN Kanpur regarding trial run of DFG at Bingawan STP	Kanpur
17	Discussed with PM (E & M) GPCU UPJN Kanpur regarding trial run of Gas generators at Sajari STP	Kanpur
18	Wrote letter to GM GPCU UPJN Kanpur regarding non submission of monthly activity reports of 210 MLD Bingawan and 42 MLD Sajari facilities fo the month of Jan 2021	Kanpur
19	Visited and inspected Bingawan STP along with CE UPJN, GM GPCU Kanpur	Kanpur
20	Wrote letter to GM GPCU UPJN Kanpur forwading the inspection report of RTOLMS of 210 MLD Bingawan facilities done on 31/001/2021	Kanpur
21	Sunday	
22	Forwarded draft inspection report of RTLOMS of Bingawan done on 31/01/2021 to PM (E&M) GPCU UPJN Kanpur	Kanpur
23	Discussed with PM (E & M) GPCU UPJN Kanpur regarding inspection of Gas generators at Sajari STP	Kanpur
24	Forwarded draft inspection report of Sajari done on 23/02/2021 to PM (E&M) GPCU UPJN Kanpur	Kanpur
25	Wrote 2 letters to GM GPCU UPJN Kanpur regarding obsevations on Activity reports of 210 MLD Bingawan and 42 MLD Sajari facilities submitted by KRMPL for the month of Jan 2021	Kanpur
26	Wrote letter to GM GPCU UPJN Kanpur regarding KPIs adherance reports for Bingawan STP for the quarter from Nov 2020 to Jan 2021.	Kanpur
27	Prepared current status of HAM project Kanpur for NMCG review meeting proposed on 04/03/2021	Kanpur
28	Sunday	

I hereby certify that the time report above is a true and complete statement of my working time for the payroll

Signature of Employee **Signature of Team Leader** 12/03/21

Mr. A. K. Seth (Senior Electrical Engineer)

Project Engineer	Shah Technical Consultants Pvt Limited	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name : AK Seth		Month/Year: Feb-21
Position: Senior Electrical Expert		Location
Date	Description	
1		Kanpur
2		Kanpur
3		Kanpur
4		Kanpur
5	Reviewed Internal Electrification of Guard room & Staff quarter PANKHA	Kanpur
6	Reviewed Internal Electrification of Guard room & Staff quarte PANKHA	Kanpur
7	Sunday	Kanpur
8	Reviewed Internal Electrification of Guard room & staff quarte Unnao	Kanpur
9	Reviewed Internal Electrification of Guard room & Staff quarte Unnao	Kanpur
10	Recommendation made for Internal Electrification Guard room & staff	Kanpur
11	quarte for PANKHA & UNNAO.	Kanpur
12	- Review transformer Submission for Pankha STP 30 MLD - Review transformer Submission for Unnao STP 15 MLD	Kanpur
13	Second Saturday	Kanpur
14	Sunday	Kanpur
15	- Review Transformer Submission for Jajmau STP.	Kanpur
16	- Recommendation made for transformer of PANKHA STP.	Kanpur
17	- Recommendation made for tranforms of Unnao STP	Kanpur
18	- Recommendation made for Tranformers Jajmau STP	Kanpur
19	- Recommendation made for Tranform Jajmau STP- replacement	Kanpur
20	- letter made for approval of transformers Pankha, Unnao & Jajmau to UPPCL & other recommendations of Unnao.	Kanpur
21	Sunday	Kanpur
22	- letter issued for firm RRMPL for submission of complete set for Unnao Load list calculation transformer & SLD.	Kanpur
23	- Review the pendency of Electrical submissions & disposals.	Kanpur
24		Kanpur
25		Kanpur
26		Kanpur
27		Kanpur
28	Sunday	Kanpur

I hereby certify that the time report above is a true and complete statement of my working time for the payroll period.

Signature of Employee

Signature of Team Leader 12/03/21

Mr. P Walunjkar (Structure Engineer)

Project Engineer	Shah Techanical Consultants Pvt Limited

NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode

Daily Report

Name :	Preetam Walunjkar	Month/Year:
Position:	Senior Structural Engineer	Feb-21
Date	**Description**	**Location**
1	Attend GM office UP Jal Nigam VC meeting & Unnao EE Meeting for Shuklaganj Boundary Wall Issue	Kanpur
2	Design Review of ICI Nilla Office Build. Design Review of Sundarnagar Guard Room & Office Build.	Kanpur
3	Design Review of Precast Manhole Design & CV Preparation for Kota Project	Kanpur
4	Site Visit to Pankha,Visit Admin Build, SBR,CCT,Boundary Wall,Sundarnagar IPS NalaThermal Nala & IPS Nalla	Kanpur
5	Preparation of Pankha STP Site Visit Report & Preparation of CV for Kota Project as per correction	Kanpur
6	Study Kota Project Bid Documents Vol I & II	Kanpur
7	Sunday Holiday	Kanpur
8	Study Kota Project Bid Documents Vol I & II & Dicuss SBC with Support Engg Kota	Kanpur
9	Site Visit Unnao 15 MLD STP	Kanpur
10	Review Kota 50 MLD Sluge Sump Structural Drawing with SBC Report	Kanpur
11	Review Kota 50 MLD Sluge Thickner Structural Drawing with Staad File	Kanpur
12	Travel Kanpur to Nagaur	Kanpur

I hereby certify that the time report above is a true and complete statement of my working time for the payroll period.

P. Walunjkar P.M.

Signature of Employee

27/02/21

Signature of Team Leader

Mr. O.P. Asati (O&M Engineer)

Project Engineer	**Shah Technical Consultants Pvt Limited**	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name :	**O.P. Asati**	**Month/Year:**
Position:	**Senior Engineer Civil**	**Feb-21**
Date	**Description**	**Location**
1	Attended Review meeting of NMCG dated 01.02.2021 regarding progress of HAM Kanpur project.	Kanpur
2	Took follow up from Support Engineer Mr. Vikas Sharma regarding the status of the both 68 and 14 MLD STP.	Kanpur
3	Reviewed the basic structure of the inspection report inspection done at Haridwar project by Support Engineer Mr. Vikas Sharma.	Kanpur
4	Giving inputs on the topic regarding the cost implication in bedding and Schedule rates of UPJN.	Kanpur
5	Assist Support Engineers in preparing the Bingawan & Sajari Note for the MPR for the month of January 2021.	Kanpur
6	Review the Bingawan & Sajari note for MPR for the month of January 2021 for HAM Kanpur.	Kanpur
7	**Sunday**	Kanpur
8	Review of UP Jal Nigam letters regarding schedule rates, sewerage network pankha.	Kanpur
9	Review the Jajmau Approved documents.	Kanpur
10	Review the 130 & 43 MLD STP, Jajmau note for the MPR of January 2021 and a letter regarding Jal Nigam schedule rates.	Kanpur
11	Discussion with Support Engineers regarding the drawing of the transformer for 130 MLD STP Jajmau and meeting with CE at Jal nigam office regarding Pankha Sewerage Network.	Kanpur
12	Assist in checking of revised construction plan of the Pankha site as per direction by TL.	Kanpur
13	**Second Saturday**	Kanpur
14	**Sunday**	Kanpur
15	Review of the inspection report for 14 MLD STP, Sarai, Haridwar after modifications.	Kanpur
16	Assist in drafting the letters regarding GA, Datasheet and QAP of the tranformer for different facilities.	Kanpur
17	Discussion with Team Leader regarding the pankha sewerage system (Trunk Sewer).	Kanpur
18	Review the approved GA & RCC drawings of the TEPH & CCT for 130 MLD STP Jajmau.	Kanpur
19	Assist in drafting letter regarding Transformer sizing calculation of 15 MLD STP Unnao.	Kanpur
20	Discussion regarding handover of 130 MLD STP Jajmau with Team Leader.	Kanpur
21	**Sunday**	Kanpur
22	Assist in drafting letter regarding Equipment specification for the 05 MLD STP Shuklaganj facility.	Kanpur
23	Input in Bedding calculation of the pankha site (Reminder letter).	Kanpur
24	Review the approved Retrofit report for 130 MLD STP Jajmau.	Kanpur
25	Review of Revised Construction Plan for 30 MLD Pankha.	Kanpur
26	Review Revised Construction Plan for Pankha and Unnao site.	Kanpur
27	Visit UPJN In meeting with GM to discuss regarding the construction plan of Pankha and Jajmau Status.	Kanpur
28	**Sunday**	Kanpur

I hereby certify that the time report above is a true and complete statement of my working time for the payroll period.

Signature of Employee 15/3/2021

Signature of Team Leader 15/03/2021

Mr. L.K. Rao (Safety Expert)

Project Engineer	Shah Technical Consultants Pvt Limited	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name :	Linga Krishna Rao	Month/Year:
Position:	Safety Expert	Feb-21
Date	Description	Location
2	Office work attended, Review of pending works related to Pankha, Unnao, Shuklagung, Sajari, Bingawan and Jajmau plants.	Kanpur
3	Office work attended, Review of Project EHS (Environmental, Health and Safety) Plan of Bingawan 210 MLD (O&M) Plant.	Kanpur
4	Office work attended, Reviewd the last month correspondence received from KRMPL.	Kanpur
5	Office work attended, Review of Ref: UPJN/KRMPL/Kanpur/2020-21/852 Date: 11th January, 2021 and Reply sent ot UPJN,NMCG and KRMPL.	Kanpur
6	Office work attended, Review of Environmental and Scocial Impact Assessment (ESIA) Report of construction projects Panka, Unnao and Shuklagunj & O&M	Kanpur
7	SUNDAY	Kanpur
8	Office work attended, Panka 30 MLD Project site inspection along with civil support engineers Mr.Satendra kumar sharma & Mr.Dubey.	Kanpur
9	Office work attended, Unnao 15 MLD Project site inspection along with TL & Structural Engineer	Kanpur
10	Office work attended, Unnao 15 MLD Project inspection report prepared and sent to the concerned NMCG,UPJN and KRMPL personnel.	Kanpur
11	Office work attended, Pankha 30 MLD Project inspection report prepared and sent to the concer5ned NMCG,UPJN and KRMPL personnel.	Kanpur
12	Office work attended, Review of Project EHS (Environmental, Health and Safety) Plan of Unnao 15 MLD Construction site.	Kanpur
13	Second Saturday	Kanpur
14	SUNDAY	Kanpur
15	Office work attended, Bingawan 210 MLD O&M Plant inspection done along with Support Engineers Mr.Khandelwale, Mr.Ajit Goyal and Mr.Rohit.	Kanpur
16	Office work attended, Bingawan 210 MLD O&M Plant inspection report prepared along with Support Engineers and sent to the concerned NMCG, UPJN and KRMPL.	Kanpur
17	Office work attended, Unnao 15 MLD Project site inspection along with TL & Support Engineers Mr.Priyesh Shukla and Mr.Kapil Bansil.	Kanpur
18	Office work attended, Unnao 15 MLD Project inspection report prepared and sent to the concerned NMCG,UPJN and KRMPL personnel.	Kanpur
19	Office work attended, Bingawan 210 MLD Project inspection report purpose visited along with Mr.Tripati (STC), Mr.Ajay Goyal (STC) & CE (UPJN), GM (UPJN), PM 1 & 2 (UPJN) and UPJN field staff. Due to non availability of KRMPL Representatives the inspection is not accepted by CE-UPJN. As advised by CE(UPJN) we have joined for meeting in the office of the CE-UPJN.	Kanpur
20	Office work attended, Review of Project EHS (Environmental, Health and Safety) Plan of Sajari 42 MLD O&M Plant.	Kanpur
21	SUNDAY	Kanpur
22	Office work attended, Review of Project ESHS (Environmental, Safety and Health System) Plan of BINGAWAN 210 MLD (O&M)	Kanpur
23	Office work attended, Sajari 42 MLD O&M Plant inspection done along with Support Engineers Mr.Ajay Goyal and Mr.Rohit. Support Engineers Mr.Ajay Goyal and Mr.Rohit.	Kanpur
24	Office work attended, Sajari 42 MLD O&M Plant inspection report prepared along with along with Support Engineers Mr.Ajay Goyal and Mr.Rohit and sent to the concerned NMCG, UPJN and KRMPL.	Kanpur
25	Office work attended, All paper work and pending works related to inspections and correspondence done during these days done and time sheet prepared for the month of February, 2021.	Kanpur

Signature of Employee

Signature of Team Leader 12/03/21

Mr. Prasoon Bharadwaj (Instrumentation Engineer)

...gineer	**Shah Techanical Consultants Pvt Limited**	
NMCG-STP Projects at Kanpur under Hybrid Annuity based PPP Mode		
Daily Report		
Name :	Prasoon Bhardwaj	Month/Year:
Position:	Instrumentation Engineer	Feb-21
Date	Description	Location
1		
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18	Review and inspection of RTOLMS for 210 MLD STP at Bingawan, Kanpur through video conferencing.	Jaipur(W/H)
19		
20		
21		
22	Review and inspection report on RTOLMS for 210 MLD STP at Bingawan, Kanpur.	Jaipur(W/H)
23		
24		
25	Response to the concessionaire letter on PLC & RTOLMS related issues.	Jaipur(W/H)
26		
27		
28		

I hereby certify that the time report above is a true and complete statement of my working time for the payroll period.

Signature of Employee

Signature of Team Leader, 02/03/2021

Annexure 3: Monthly Performance Report of Sajari for Feb. 2021

42 MLD SEWAGE TREATMENT PLANT, SAJARI,KANPUR

MONTHLY FLOW & LAB REPORT

Feb-2021

Date	INLET FLOW in MLD	Plant Run in HRS	RAW SEWAGE						FINAL OUTLET						Aeration	POWER SHUTDOWN	REMARK
			Temp	TSS	PH (7-8)	COD (450 mg/l)	BOD (250 mg/l)	TDS (600 mg/l)	Temp	TSS	PH (7-8)	COD (<250mg/l)	BOD (<30mg/l)	TDS (<1500mg/l)	DO		
			°c	ppm		ppm	ppm	ppm	°c	ppm		ppm	ppm	ppm	ppm	HRS	
1-Feb	21.04	24.00	24	1390	7.5	428	168	293	24	910	7.9	92	24	34	1.6	0	2 STREAM IS UNDER OPERATION
2-Feb	21.20	24.00	24	1250	7.6	440	170	315	24	896	7.9	96	23	36	1.5	0	2 STREAM IS UNDER OPERATION
3-Feb	21.37	24.00	24	1410	7.6	520	170	315	24	927	7.9	104	26	33	1.4	0	2 STREAM IS UNDER OPERATION
4-Feb	21.53	24.00	24	1498	7.5	624	182	317	24	955	7.8	112	25	35	1.3	0	2 STREAM IS UNDER OPERATION
5-Feb	20.54	24.00	24	1360	7.6	416	154	294	24	886	7.9	96	23	34	1.5	4.5	2 STREAM IS UNDER OPERATION
6-Feb	21.35	24.00	24	1352	7.5	384	146	273	24	827	7.9	90	21	31	1.6	0	2 STREAM IS UNDER OPERATION
7-Feb	21.12	24.00	24	1405	7.6	544	165	320	24	916	7.9	104	22	34	1.3	0	2 STREAM IS UNDER OPERATION
8-Feb	21.20	24.00	24	1460	7.5	576	180	325	24	936	7.9	112	25	37	1.5	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
9-Feb	20.87	24.00	24	1448	7.5	560	176	322	24	918	7.9	110	23	34	1.4	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
10-Feb	20.96	24.00	24	1380	7.5	512	172	294	24	897	7.9	104	22	32	1.5	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
11-Feb	20.29	24.00	24	1405	7.5	576	180	320	24	920	7.9	112	24	36	1.3	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
12-Feb	20.63	24.00	24	1367	7.5	448	165	297	24	869	7.9	96	23	34	1.5	0	2 STREAM IS UNDER OPERATION
13-Feb	20.46	24.00	24	1405	7.5	540	178	315	24	920	7.9	104	25	36	1.6	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
14-Feb	20.21	24.00	24	1390	7.5	416	146	290	24	886	7.9	96	22	31	1.5	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
15-Feb	19.88	24.00	24	1425	7.5	576	174	319	24	942	7.9	112	24	38	1.2	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
16-Feb	19.55	24.00	24	1390	7.5	512	168	295	24	891	7.9	104	23	33	1.5	5.7	2 STREAM IS UNDER OPERATION
17-Feb	20.13	24.00	24	1340	7.5	432	154	286	24	857	7.9	92	21	32	1.6	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
18-Feb	19.90	24.00	24	1396	7.5	528	178	311	24	918	7.9	104	24	34	1.5	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
19-Feb	19.72	24.00	24	1402	7.5	448	152	305	24	912	7.9	96	23	31	1.6	0	2 STREAM IS UNDER OPERATION
20-Feb	19.47	24.00	24	1390	7.5	544	180	315	24	908	7.9	110	25	35	1.2	0	2 STREAM IS UNDER OPERATION
21-Feb	19.72	24.00	24	1340	7.5	432	158	297	24	886	7.9	92	22	32	1.4	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
22-Feb	19.38	24.00	24	1396	7.5	528	175	318	24	908	7.9	104	26	34	1.2	0	2 STREAM IS UNDER OPERATION
23-Feb	19.14	24.00	24	1460	7.5	608	188	322	24	942	7.9	112	25	36	1.1	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
24-Feb	19.05	24.00	24	1210	7.5	432	164	295	24	860	7.9	96	22	31	1.3	0	2 STREAM IS UNDER OPERATION
25-Feb	19.31	24.00	24	1396	7.5	540	178	310	24	910	7.9	104	24	34	1.3	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
26-Feb	18.98	24.00	24	1318	7.5	416	152	292	24	857	7.9	92	21	31	1.6	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
27-Feb	18.64	24.00	24	1290	7.5	448	160	310	24	828	7.9	96	23	35	1.7	0	2 STREAM IS UNDER OPERATION Found Dye color in Raw Sewage
28-Feb	19.71	24.00	24	1314	7.5	464	175	294	24	886	7.9	104	25	32	1.5	0	2 STREAM IS UNDER OPERATION
TOTAL	565.93																
AVG	20.21	24.00	24.00	1.385	7.51	497	168.14	306	24.00	899	7.90	102	23.4	34	1.4	10.13 Hrs	

Note : There is ingress of Industrial Waste water (coloured) at STP from Sarigawan area, which was experienced on dates of 3,4, 7, 8, 9, 10, 11, 13, 15, 16, 18, 20, 22, 23, 25, 28 Feb. 2021.

Annexure 4: Site Inspection Report for the Month of Feb. 2021 (Sajari)

1122

Inspection report of 42 MLD STP, Sajari

The Operation & Maintenance works of 42 MLD STP Sajari Kanpur were inspected on dated 23.02.2021 & following officers/Employee were present during the Inspection :

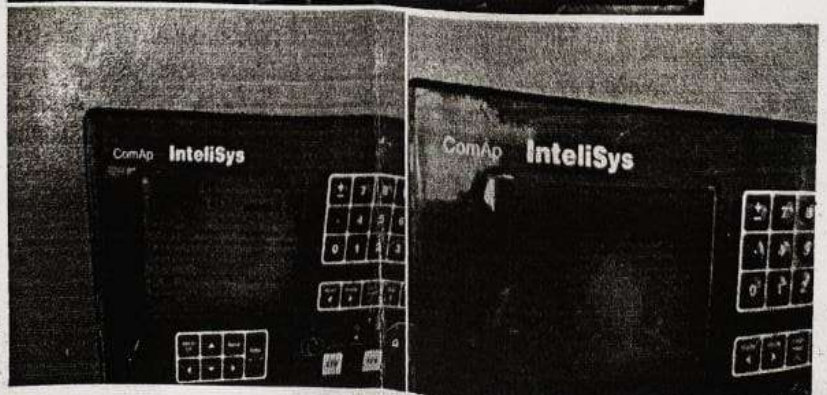
1. Mr.M.Maaz ,PM(P&M),UPJN
2. Mr.Rajesh ,AE , UPJN
3. Mr.Linga Krishna ,Expert safety ,STC
4. Mr.Ajay Kumar Goyal , Support Engineer (Mech.), STC
5. Mr. Rahul, Support Engineer(Ele.), STC
6. Mr. Ram Khilawan, lab Chemist, KRMPL

42 MLD STP Sajari/MPS Jointly inspected on 23.02.2021 and following points are observed :

1. It was informed that separate Plant in -charge for Sajari facilities has been appointed and expected to join shortly. It is more than 08 months passed, but still separate plant in-charge for Sajari facilities is available at site.
2. **Collection chamber**
   - 2 nos. of Manual screens are in working condition.
   - 2 nos. of Mechanical screens are in working condition. But Auto system of both mechanical screens is not rectified. The matter has still not taken up by KRMPL even after clear instructions by CE UPJN at site on 22/01/2021.
   - **Electrical Defects:-**
   - Mechanical screen panel no.02 indicator is not in working and voltmeter, Ammeter missing in the panel.
3. **Main Pumping Station**
   - All 5 sewage transfer pumps found in working condition.
   - 3nos. of discharge line pressure gauge are not in working condition.
   - **Electrical Defects:-**
   - Junction Box for 70KW motor stop/start push button not working.
4. **Inlet Chamber**
   - 2 nos. of Manual screen are found in working condition.
   - 2 nos. of Mechanical fine screens are in working condition.
   - Auto systems of both mechanical screens are not rectified.
   - Screen panel earthing not done.
5. **Grit Separator**
   - 2 no's of Mechanical grit removal system are in working condition.
6. **Primary clarifier**
   - 2 no's of Primary clarifier mechanism are in working condition.
7. **Aeration system**
   - Out of 12 nos. of aerators are installed, 11 nos. are in working condition. And 01 no. (Aerator no.11) aerator is not in working condition.
8. **Secondary clarifier**
   - 2 nos of Secondary clarifier mechanism are in working condition.

09. **Chlorination system**
   - Out of 6 no's of tonners 3 nos has been installed, 2 nos tonners are not connecting with supply line of chlorine. And remaining 3 nos has been sent to refilling of chlorine gas.

10. **Primary Sludge pump**
    - 02 nos. of screw pump checked and found in running condition.
11. **Thickener Sludge pump**
    - 2 no's screw pump checked and found in running condition.
12. **Return Sludge pump**
    - Out 3 nos. of submersible pumps are in working condition.
    - 1no. pressure gauge is not working condition. Display glass of all pressure gauges to be changed with glasses for proper visibility. This matter is pending from the last inspection on 21.09.2020.
    - Electrical Defects:-
    - Panel no. 2 main door damage.
    - Panel no.01 is found defective.
13. **Digester**
    - Out of 2 nos. of Sludge digester mixers installed, 01 no is not in working condition. This matter is pending since June 2020.
    - EFM at outlet of digester was installed, but not working due to calibration.
14. **Gas Holder/Gas Scrubber/Gas flaring units**
    - Out of 3 nos of Gas engine installed, 02 nos have been rectified and now are in working condition but following works are still to be completed
    - Self flame torch is not available at flare unit.
    - Controller display of all control panels are not working properly at Gas Gen set.
    - Control monitor not working on the Gas Gen set control panel-A.
    - Synchronization work of all Gas Gen Set control panel still pending.



15. On-Line Monitor System (Done by UPJN)

- Inlet Analyser panel with censer installed at site. It has been synchronised with RTOLMS. Analyser results are found at site (PH-7.86 COD-545 mg/l, BOD-167 mg/l, TSS- 294 mg/l).
- Out let Analyser panel with censer installed at site. It has been synchronised g/l. With RTOLMS. Analyser results are found at site (PH-8.08, COD-73.7 m BOD-15.9 mg/l, TSS- 25.5 mg/l)

16. DG Set for Power Backup

- DG set has been procured, installed and put to use by UPJN. Handed over to KRMPL on 18/10/2020 for operation.

17. Miscellaneous

- Plant area housekeeping and grass cutting work are in progress.
- Monthly performance report of Sajari Facilities not being sent by KRMPL by 7th date of every month regularly.
- Transformer Breather silica gel in pink colour is to be replaced.
- All locations cable trays are found rusted.
- All street light pole junction boxes are found rusted.
- Voltmeter/Ammeter not working in Gas gen set panel.

EHS Related points:

1. **COVID 19 precautions followed at site:** availability of thermal screening, Sanitizer and Face masks is followed. Disinfection spray fogging is being done in labour camps; personal screening and awareness programme are implemented.
2. **COVID 19 precautions to be followed at site:** PPE's Ear Plugs, Goggles, Hand gloves not provided to the workers, staff and visitors. These safety
   Precautionary measures are needed to be ensured and available at site.
3) In plant area number of safety caution boards and safety slogans to be increased.
4) Dry gross to be removed from site area safety without any fire hazard.
5) In this plant fire hydrant system is required for preventing and controlling fires like dry grass and for running plant.
6) chlorine emergency kit training to be given to all the workers in batch wise, such Training records with photos to be submitted to STC/UPJN/NMCG. Once in a month Chlorine mock drills, fire mock drills and environmental mock drills to be conducted.
7) Vehicles parking area to be developed at site entrance. At present vehicles are parking near the chlorine plant.
8) PTU (Primary Treatment Unit) area lubrication oil leakage to be avoided, so that slippery area can be avoided and good housekeeping can be maintained.
9) Since starting of work it was observed & instructed verbally and in writing to KRMPL and through UPJN about the mobilization of separate site safety officer in Sajari and Bingawan. At present the site in charge of both sites are looking by one person. Now it is requested to KRMPL through UPJN to mobilize the one more new site safety officer.
10) Potable drinking water to be arranged for workers, staff and visitors.
11) STOP mobile for all workers in safety point of view. May be allowed only for key persons.
12) Hand tools condition to be maintained in safe, it condition to be updated by periodical safety checks and replacement of spare parts.

13) Electrical safety, welding and Cutting safety to be maintained well.

14) Workers health checks to be getting it done by qualified doctor immediately and such report copies to be sent to client and consultant.

15) At office and worker area housekeeping and hygienic to be improved.

16) EHS trainings to be conducted regularly and periodically. Tool box talks and EHS Induction to be given to workers regularly and periodically and such report copies to be submitted to Client and Consultant. Covid-19 awareness training to be given to workers on regular basis.

17) It was told by few workers snakes are roaming in the plant. So it is required to arrange carbolic acid in different places, also the grass has to be removed and trip periodically for avoiding snakes to some extent. Anti snake venom to be arranged in refrigerator and one first aid persons to be available during working hours.

18) In case of emergency purpose hotter/siren to be arranged at the security area or administrative building area and chlorine building area. It is also required to conduct mock drills periodically as above said.

19) Periodical safety check lists checking, safety audits and safety inspections by KRMPL site in charge along with KRMPL site safety officer to be done and such reports of compliance to be sent to Jal Nigam and STC.

(Mohd. Maaz)
Project Manager (E/M)

OFFICE OF THE PROJECT MANAGER (E&M), GANGA POLLUTION CONTROL UNIT, U.P. JAL NIGAM, KANPUR

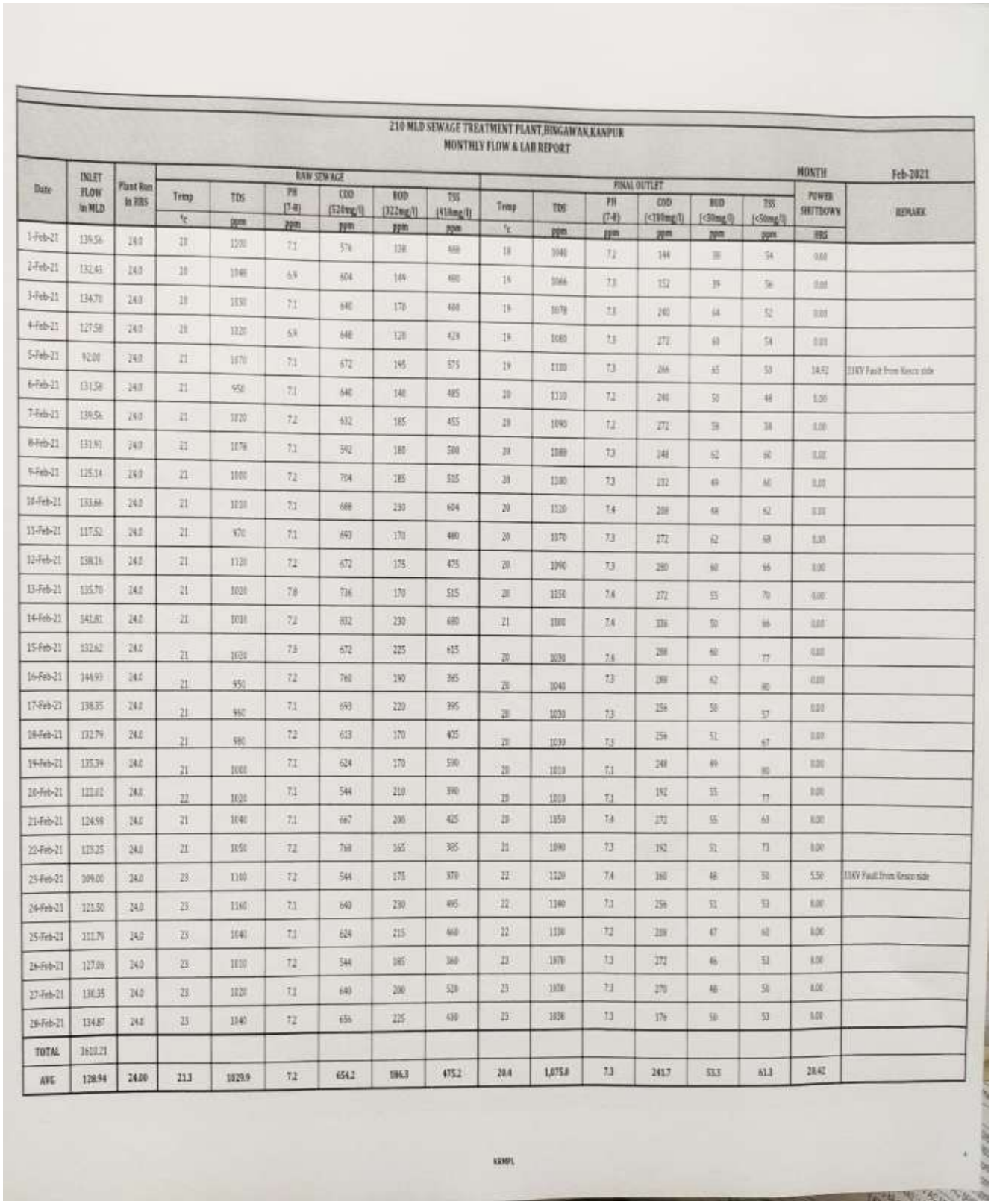
Letter No. : 599 / M-7 / 18 **Date :** 27/02/2021

Copy to the following for information & necessary action please

1. Chief Engineer (Kanpur Zone), U. P. Jal Nigam, Kanpur.
2. General Manager, Ganga Pollution Control Unit, U.P. Jal Nigam, Kanpur.
3. Mr. Madhava Kumar R, Sr. Eco. Fin. Expert, NMCG, New Delhi.
4. Project Manager (II), Construction Unit, Munsipurwa SPS, U.P. Jal Nigam, Kanpur.
5. Project Engineer, Mr. C. M. Dimri, Shah Technical Consultant, Kanpur.
6. M/S Kanpur River Management Private Limited, Flat no 101, 1st Floor, 3/83, Vishnupuri, Kanpur.
7. Project Engineer Shri Rajesh Kumar.

Project Manager (E&M)

Annexure 5: Monthly Performance Report of Bingawan for Feb. 2021



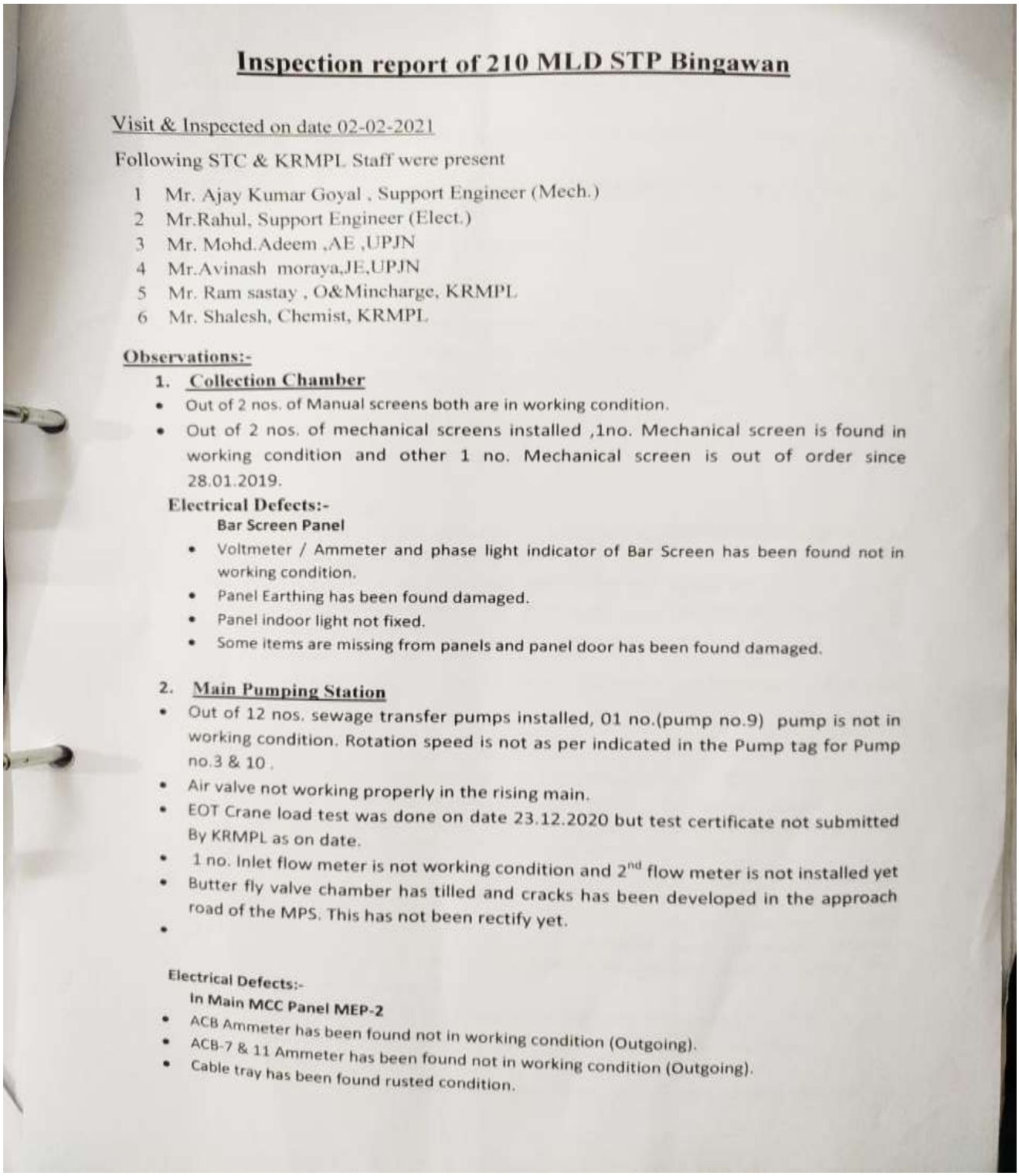
210 MLD SEWAGE TREATMENT PLANT,BINGAWAN,KANPUR
MONTHLY FLOW & LAB REPORT

MONTH Feb-2021

Date	INLET FLOW in MLD	Plant Run in HRS	RAW SEWAGE						FINAL OUTLET						POWER SHUTDOWN	REMARK
			Temp °c	TDS ppm	PH (7-8) ppm	COD (520mg/l) ppm	BOD (322mg/l) ppm	TSS (410mg/l) ppm	Temp °c	TDS ppm	PH (7-8) ppm	COD (<100mg/l) ppm	BOD (<30mg/l) ppm	TSS (<50mg/l) ppm	HRS	
1-Feb-21	139.56	24.0	20	1100	7.1	576	320	460	18	1040	7.2	144	38	54	0.00	
2-Feb-21	132.45	24.0	20	1040	6.9	604	349	480	19	1066	7.3	152	39	56	0.00	
3-Feb-21	134.70	24.0	20	1050	7.1	640	370	488	19	1078	7.3	240	64	52	0.00	
4-Feb-21	127.58	24.0	20	1020	6.9	640	320	428	19	1080	7.3	272	69	54	0.00	
5-Feb-21	92.00	24.0	21	1070	7.1	672	395	575	19	1100	7.3	266	65	53	14.92	33KV Fault from Kanpur side
6-Feb-21	131.58	24.0	21	950	7.1	640	340	485	20	1110	7.2	240	50	48	0.00	
7-Feb-21	139.56	24.0	21	1020	7.2	632	385	455	20	1090	7.2	272	59	58	0.00	
8-Feb-21	131.93	24.0	22	1078	7.1	592	380	500	20	1089	7.3	248	62	60	0.00	
9-Feb-21	125.14	24.0	21	1000	7.2	704	385	505	20	1100	7.3	232	69	60	0.00	
10-Feb-21	133.66	24.0	21	1010	7.1	688	230	604	20	1120	7.4	208	68	62	0.00	
11-Feb-21	117.52	24.0	21	970	7.1	693	370	480	20	1070	7.3	272	62	68	0.00	
12-Feb-21	138.16	24.0	21	1120	7.2	672	375	475	20	1090	7.3	280	60	66	0.00	
13-Feb-21	135.70	24.0	21	1020	7.0	736	370	515	20	1150	7.4	272	55	70	0.00	
14-Feb-21	141.81	24.0	21	1010	7.2	832	230	680	21	1100	7.4	336	50	66	0.00	
15-Feb-21	132.62	24.0	21	1020	7.3	672	225	615	20	1030	7.4	288	60	77	0.00	
16-Feb-21	144.93	24.0	21	950	7.2	760	190	395	20	1040	7.3	288	62	80	0.00	
17-Feb-21	138.35	24.0	21	960	7.1	693	220	395	20	1020	7.3	256	50	57	0.00	
18-Feb-21	132.79	24.0	21	980	7.2	613	170	405	20	1030	7.3	256	51	67	0.00	
19-Feb-21	135.39	24.0	21	1000	7.1	624	170	590	20	1010	7.1	248	69	80	0.00	
20-Feb-21	122.62	24.0	22	1020	7.2	544	210	590	20	1010	7.3	192	55	77	0.00	
21-Feb-21	124.98	24.0	21	1040	7.1	667	200	425	20	1050	7.4	272	55	63	0.00	
22-Feb-21	125.25	24.0	21	1050	7.2	768	165	395	21	1040	7.3	192	51	73	0.00	
23-Feb-21	109.00	24.0	23	1100	7.2	544	175	370	22	1120	7.4	160	48	50	5.50	33KV Fault from Kanpur side
24-Feb-21	121.50	24.0	23	1160	7.1	640	230	495	22	1140	7.3	256	53	53	0.00	
25-Feb-21	111.79	24.0	23	1040	7.1	624	215	460	22	1130	7.2	208	47	60	0.00	
26-Feb-21	127.09	24.0	23	1030	7.2	544	165	360	23	1070	7.3	272	46	53	0.00	
27-Feb-21	130.35	24.0	23	1020	7.2	640	200	520	23	1050	7.3	270	48	58	0.00	
28-Feb-21	134.87	24.0	23	1040	7.2	656	225	430	23	1030	7.3	176	50	53	0.00	
TOTAL	3610.23															
AVG	128.94	24.00	21.3	1029.9	7.2	654.2	286.3	475.2	20.4	1,075.0	7.3	243.7	53.3	61.3	28.42	

KKMPL

Annexure 6: Site Inspection Reports for the Month of Feb. 2021 (Bingawan)



Inspection report of 210 MLD STP Bingawan

Visit & Inspected on date 02-02-2021

Following STC & KRMPL Staff were present

1 Mr. Ajay Kumar Goyal , Support Engineer (Mech.)
2 Mr.Rahul, Support Engineer (Elect.)
3 Mr. Mohd.Adeem ,AE ,UPJN
4 Mr.Avinash moraya,JE,UPJN
5 Mr. Ram sastay , O&Mincharge, KRMPL
6 Mr. Shalesh, Chemist, KRMPL

Observations:-

1. **Collection Chamber**

- Out of 2 nos. of Manual screens both are in working condition.
- Out of 2 nos. of mechanical screens installed ,1no. Mechanical screen is found in working condition and other 1 no. Mechanical screen is out of order since 28.01.2019.

Electrical Defects:-

Bar Screen Panel

- Voltmeter / Ammeter and phase light indicator of Bar Screen has been found not in working condition.
- Panel Earthing has been found damaged.
- Panel indoor light not fixed.
- Some items are missing from panels and panel door has been found damaged.

2. **Main Pumping Station**

- Out of 12 nos. sewage transfer pumps installed, 01 no.(pump no.9) pump is not in working condition. Rotation speed is not as per indicated in the Pump tag for Pump no.3 & 10 .
- Air valve not working properly in the rising main.
- EOT Crane load test was done on date 23.12.2020 but test certificate not submitted By KRMPL as on date.
- 1 no. Inlet flow meter is not working condition and 2nd flow meter is not installed yet
- Butter fly valve chamber has tilled and cracks has been developed in the approach road of the MPS. This has not been rectify yet.
-

Electrical Defects:-

In Main MCC Panel MEP-2

- ACB Ammeter has been found not in working condition (Outgoing).
- ACB-7 & 11 Ammeter has been found not in working condition (Outgoing).
- Cable tray has been found rusted condition.

3. **Inlet chamber:-**

- All 3nos of Mechanical fine screens are in working condition .Oil leakage has been found in mechanical screen no.2.
- 01 no. Sampling pump is in working condition. Cabin/cover for sampling pump is not available since 28.01.2019.
- Auto systems of all mechanical screens are not rectified. This matter is pending since 28.01.2019.
- Existing flow meter not in working condition.
- Cracks found in civil structure.
- **Electrical defects:-**
- In Inlet Control Panel indicators have been found not working in condition.
- Classifier Drive –MCC Panel (Main drive -1) Ammeter has been found not working
- In Inlet control panel ON/OFF push button, Rotary switch of screen no.2 has been found not working condition.
- Cable tray has been found in rusted condition.
- 8 nos. lights have been found in damaged condition.

4. **Grit removal assembly**

- Out of 4 nos. of Mechanical grit removal systems installed, 01 no. Mechanical grit removal system is not in working condition.
- Out of 04 agitators installed, 01 no. agitator is not in working condition.
- All Coupling guards & Chain covers are to be provided as per specification. This matter is pending since 28.01.2019.

Electrical defects:-

- Out of 4 nos. of Mechanical grit removal systems installed, 2 nos. Mechanical grit earthing has been found damaged.

5. **UASB reactor**

- Out of 16 nos reactors, only Reactors 3 nos. (Reactor no. 1, 4 & 8) had been cleaned and filled for reactivation from 19.12.2019 till date. Reactor no. 2&3 are open for cleaning from 04.08.2020 and 20.08.2020 respectively. There is no any improvement in cleaning & reactivation activity of reactors since 20.08.2020.
- The current status of all the 16 reactors has been explain in detail in the inspection report done on 23.1.2021 (inspection report sent on 29.1.2021) indicating that the UASB process is completely collapse but KRMPL has not submitted schedule Programme for cleaning & reactivation of remaining 11nos. reactors yet. KRMPL is required to take-up the work of cleaning of remaining reactors at war footing. This matter is pending since 28.01.2019.
- Reactor inlet pipes are not fixed on Concrete block in Reactorno.02
- Reactor no. 9 to 16 inlet pipes have broken from joint and flanged joints.

6. **Aeration pond**.

- Out of 18 nos. aerators installed, 2 nos. (aerator no.-8 & 18) are not in working condition.

- Painting of panels and hand railing is required to be taken up immediately.
- Most of the cable trays are in corroded condition. Need to be replaced.
- CC Road damaged by KRMPL.

Electrical defects:-

- **Aerator Panel Room**
- APFC meter showing alarm error.
- Capacitor bank no.9 Push button cover missing & Ammeter has been found not working condition.
- Panel of Alarm Annunciators has been found not working condition.
- Main Light Distribution box ammeter has been found not working condition.
- Out of 35 nos. Aeration Area Lights, 25 nos. are in working and other 10 Aeration Area Lights is found defective.

7. **Chlorination Building**

- Out of 20 nos. chlorine tonners, only 17 nos. tonners are available in the chlorine room KRMPL people could not reply about 3 nos missing chlorine tonner. should be arrange properly,
- Only 2 nos. chlorine tonners found connected with the system.
- 1 no. tonner has been found in filled condition.
- 1 week stock is required to be available all the time.
- 1 no. pressure gauge is not in working condition.
- **Electrical defects:-**
- Halogen light lamp damage 2 no. in Chlorination room.
- RTU Power supply Panel earthing not done.

8. **Gas holder**

- Both gas holders are not in working condition. This matter is pending since 28.01.2019.
- No gas flaring at the time of inspection.
- **Electrical defects:-**
- Bio gas flair Panel has been found damage condition.

9. **DFG**

- Out of 2 nos. DFG installed, 1 no. has been repaired by UPJN and is under trail run . System to supply gas from gas holder to DFG is not working and gas is not breaching upto DFG. KRMPL has promised in the NMCG review meeting held on 01.02.2021 that gas will be supply to DFG for trail run on 07.02.2021.

10. **Thicken sludge transfer pump house**

- Out of 3 nos. sludge transfer pump installed, 01 no. is not in working condition.

11. **Belt filter press system**

- All 3 nos. Belt filter press systems have been mad functional by KRMPL but only 1 BFP is being used at a time it is not educated for the current in –flow. At least 2nos bFP are adequated .

required to be operated together. Hydraulic oil leakage has been found in Belt filter press no. -3 . Immediate rectification is required.

- Out of 3 nos. poly dosing pump installed, leakage found from inbuilt diaphragm portion of 1no. Dosing pump. This matter pending since 07.10.2020.
- 02 Nos. trolley Available at site for sludge disposal but not enough, as site requirement 04 nos. trolleys required for sludge disposal.
- Sludge disposal record has been found at site. As per sludge disposal record available at site it has been found that 20 trolleys sludge has been disposed on 01.2.2021.weight per trolley is about 1.5 MT ,thus 30 MT/ per day sludge is being disposed of which is not educate for the current in flow its s shows that sludge extraction from the reactors is not proper
- Sludge testing arrangement is not available in the Laboratory.
- Belt filter press no.1& 2 fan blade, cover of motors has been found damaged.
- **Electrical defects:-**
- Belt filters Press panel no.3, Voltmeter & EM Push button; Panel door cover has been found damage.

14. Online Monitoring System:-

- Calibration certificate with witness certificate still not submitted by KRMPL. On 02.02.2021 it was found there is too much difference in the reading of RTLOMS and laboratory results of produced data as shown in the below:-

Analyser Inlet Reading	COD =619.1 mg/l	TSS =514.3 mg/l
Analyser outlet Reading	COD=320 mg/l	TSS =50mg/l
Laboratory Inlet Reading	COD=640 mg/l	TSS= 510 mg/l
Laboratory outlet reading	COD=136 mg/l	TSS= 48 mg/l

The above results shown in the table show that lab outlet results are on lower side higher own higher side.

- Out of 2 no's Electro-Magnetic Flow meters in inlet, 1 no. has been installed at site and it has been synchronised with RTOLMS. It is not calibrated. Another 2nd no. Electro-Magnetic Flow meters has not been installed yet. Need to be providing calibration report.
- Online monitoring system, RTU, DNP & UPS installed at Inlet & Outlet, and it has been synchronised with RTOLMS and testing results (COD, BOD & TSS) are changing for every 15 minutes. Calibration certificates (Inlet & Outlet analyser) are not found yet.
- It is also necessary to update the proper power consumption and timing of both Power supply and Power backup (DG set) in RTOLMS.
- Electromagnetic flow meter for treated effluent has not been installed yet. Installation of Flow meter at the Treated effluent channel of the STP is necessary and should be synchronised with RTOLMS.
- The Cable laying and termination of sampling pumps has been found in haphazard manner.
- The internal panel wiring has not been dressed properly.
- The sampling pumps are not maintained properly and cooling fan of pumps has also been broken condition.
- The CCTV system installed is not functional and DVR system, router and related accessories have been place on table in an unorganized manner.
- The flow meter showing erratic reading and flow does not match the discharge of running pumps. Further the flow meter has been installed on the common header of only one

stream of pump i.e pumps 1 to 6, the concessionaire has not installed the flow meter on the other stream of pumps 7 to 12.

- The parameter value shown on the local display of the analyzer do not match with the parameter value as shown on the IOT portal and beyond the limit as specified in the concessionaire agreements.

15. **Miscellaneous:-**
    - KRMPL had Total Sludge is dumped in the Plant .It's not Good Practice By KRMPL.
    - Balance boundary wall work is to be completed by UPJN.
    - MPS outlet valve chamber wall has been found collapsed due to earth pressure. Cracks have been also developing in the road leading to MPS this to be repaired urgently.
    - In Main LT Panel capacitor bank 800KVAR Transformer 1, no. voltmeter not working
    - Sodium Light lamp 9 no. & some street lighting not fixed.
    - Street Light Junction boxes have loose mounting & are damage, some junction box is missing.
    - All Rusted junction boxes & Panels are to be painted.
    - Daily, Monthly /Quarterly and Annual Maintenance record not maintain in register.
    - Transformer no.1 breather silica gel in pink colour to be replaced & Transformer no.2 Breather damage.
    - Street light around the substation has been found damage.
    - HT power cable laying work not done.
    - Transformer -1 incomer panel Voltmeter/Ammeter has been found not working in MCC-1 Room.

Mr. Ajay Kumar Goyal

Support Engineer(Mechanical)

Mr.Rahul

Support Engineer(Ele.)

1082

Joint Inspection Report of 210 MLD Bingawan STP under O&M Er. M.Ahsan, Project Manager, Ganga Pollution Control Unit-III, U.P. Jal Nigam, Kanpur and Er. Mohd. Maaz, Project Manager (E&M), Ganga Pollution Control Unit, U.P. Jal Nigam, Kanpur on 15/ 02/ 2021

Visited and Inspected 210 MLD Bingawan STP site which is being operated and maintained by M/s Kanpur River Management Pvt. Ltd. (KRMPL), Kanpur-a SPV formed by M/s Sapoorji Pallonji Pvt. Ltd. under HAM-PPP project on 15/02/2021.

Following UPJN, and KRMPL officials were present at Bingawan STP site:

1. Mr.Shailesh kumar – Lab chemist – KRMPL
2. Mr. Avinash Maurya, Astt. Project Engineer, GPCU, U.P. Jal Nigam, Kanpur
3. Shri Mahipal Singh, APE, GPCU (E&M), U.P. Jal Nigam, Kanpur.
4. Shri Ajay Kumar Pal, Mech. Engineer, STC.
5. Shri Rahul Kumar Elect. Engineer, STC.

Mr Ajay

20/02

Observations:

This plant along with all related pumping stations and I & D works has been handed over to M/s KRMPL by UPJN on 08.07.2019. Following observations were made during inspection.

COD Nala Screen:

One person was available for screen cleaning. The pounding of water after the weir clearly indicating the overflowing during the night. The observation supports the letter wirtten by Shri Avinash Maurya, APE on dt. 12/02/2021 **(Annexure-1)**

Main receiving chamber: One of the Mechanical screen system for floating material is non functional since long time out of two nos. installed.

MPS:

- Only 10 pumping plants out of 12 pumping plants installed at MPS found in working condition. Nos. of defect like, Connection Plate of Motor No.-10, ATS of starter of pumps -9, UPD of starter no.3, 5, 7, ARV of Pump No. 12 found defective and none functioning.
- KRMPL officials are instructed to keep all the 12 Pumping Plants in working condition for 100% availability of MPS.

Inlet Chamber:

Following items were found non functional :

- Inlet flow meter
- Mechanical Screen Bar – 1 No. out of 3 Nos.
- Grit Scraper – 1 No.
- Rack Classifier non functional since last long time.

UASB Reactors:

There are 18 reactors in the STP, The situation of every reactor found in worst condition. Observations are detailed as under:

Reactor No. 1 : KRMPL Rep. informed that this reactor had been cleaned before some time, but it has observed that prima facia out fall sewage quality is very poor. The colour of effluent is blackish.

Reactor No. 2 & 3 : It is informed that the renovation work is under process since last 6 months, means not working. The progress of work is very-very slow.

Reactor No. 4 : Seems some satisfactory condition.

Reactor No. 5 : Not working properly huge quantity of sludge found in the influent discharge.

Reactor No. 7,9,10,11,12,13,14,15 : The sludge level of all reactors seems to be filled beyond the limit and discharge of inflow of sewage found over flow in the chamber instead of down side flow in the reactors.

It is also observed that cleaning and sweeping of layer over the sewage in the reactor is completely insufficient, very thick layer over the sewage found on the top of sewage level in the reactors which clearly shows the insufficient manpower deployment for maintenance purpose of the reactor.

Finally it is concluded that the sludge blanket layer approximately in every reactor has not either formed or broken due to insufficient withdrawal of sludge and improper maintenance of whole of STP. Similarly observations are also recorded by STC inspection note dated 23.01.2021 (Annexure-2).

Sludge removal belt filter press mechanism:

- Only one sludge belt filter press found in working among 3-Nos. of belt filter press installed. It is told that one no. is completely out of order.
- As per estimation of sludge production from incoming sewage quantity, at least two belt filter press are required under operation every time. The possibility of

sludge deposition, and damaging the sludge blanket in the reactors can not be denied, if sludge extraction is insufficient through the belt filter press.

- At present approximate 130 mld sewage is coming at the STP, the sludge generated app. 150 trolly per day, According to the KRMPL representative only 20-25 trolly per day sludge withdrawal is being done, which clearly shows insufficient withdrawal of generated sludge.

Aeration Tanks:

- One No. out of 18 Aerators found not working, informed that, it is under repair. Necessary action to repair the aerator is to be taken immediately to avoid formation of stagnation zone in that area.

  It is told by STC representative that the aeration tank is also filled up with sludge as they measured during their inspection (Annexure -2).

Joint sampling for testing of effluent characteristics from IIT:

- One of the random sample collected jointly and sent to the departmental lab Jajmau for testing.

Performance of the Plant:

(a) The recorded result of laboratory shown that, performance of the plant not up to the mark. Guaranteed characteristics of treated effluent (COD < 100, BOD < 30, TSS < 50) is not meeting upto the prescribed level. Latest result in register for dated 11.02.2021 observed as following BOD : 62 mg/l., COD : 272 mg/l., TSS : 68 mg/l. The reason for higher BOD is that UASB reactors poor performance due to insufficient withdrawal of sludge from inflow pipes and reactors. The photo copy of the laboratory register enclosed herewith Annexure-3.

(b) The pollution control board has also been conducted the testing of the effluent characteristics which clearly shows that the parameters of effluent are not meeting the Std. required for the disposal in the stream. Some of the test reports as well as the letter written to the KRMPL enclosed here with Annexure-3,4,5,6.

(c) One of test report provided by the KRMPL of Spectrolab, Kanpur also contained that parameters are not up to the desired level (Annexure-7).

Instructions:

Officials of M/s KRMPL are instructed to rectify all the shortcomings as mentioned above and take necessary action to improve the performance of the STP to meet the effluent parameters according to the norms of pollution control board, the following measures but not limited are required to immediate effect :

1- Cleaning and rectification of all reactors.
2- All the belt filter press must be operational for withdrawal processing of sludge.
3- All the diffusers should be operative every time.
4- Immediate removal of the person concern (Project Manager Maintenance) responsible for non compliant of the STP.
5- To deploy the sufficient staff for O&M, not found according to list provided by the KRMPL representative (Annexure-8).

Final Remark:

Observing the worst condition of STP operation and maintenance condition of reactors, press filter belt, Aerator Lagoons, polishing ponds, various test reports, inspection report of the STC and letters by related APE, all the payments against the maintenance of the STP shall remain suspended as circulated vide letter No. 375/W-37/26 dt. 15-02-2021, till the STP is found to be complaint the norms (Annexure-9).

(M. Maaz)
Project Manager (E/M)

(M.Ahsan)
Project Manager (Civil)

OFFICE OF THE GENERAL MANAGER, GPCU, U.P. JAL NIGAM, KANPUR

Letter No. 396 / M-15-A / 22 **Dated:** 17/02/2021

Copy to following for information and necessary action:-

1. Director General, NMCG, New Delhi.
2. Executive Director (Projects), NMCG, New Delhi.
3. Project Director, SMCG UP, Lucknow.
4. Chief Engineer (Ganga), U.P. Jal Nigam, Lucknow.
5. Secretary (Management), U.P. Jal Nigam, Lucknow.
6. General Manager, Ganga Pollution Control Unit, U.P. Jal Nigam, Kanpur, for compliance.
7. Project Manager (E/M), GPCU, U.P. Jal Nigam, Kanpur
8. Team Leader, Shah Technical Consultants Pvt. Ltd., House No-117/231, O-Block, Geeta Nagar Near, Ram Leela ground, Kanpur-208002
9. M/s. KRMPL, Head Office: SP Centre, 41/44, Minoo Desai Marg, Colaba, Mumbai – 400 005.
10. Project Manager, KRMPL with remark to file the compliance at the earliest.

Project Manager

Annexure 7: Test Result of Grab Sampling Report of Influent & Treated Effluent (Bingawan)

Subject: Joint Sampling & Testing: Bingawan STP Joint Sampling & Testing of Sewage Water by KRMPL & UPJN

SAMPLE TEST REPORT

The Grab water Sampling of Inlet Raw sewage, After Reactor & Treated Outlet is done jointly by KRMPL & UP Jal nigam on Dated 03rd Feb 2021. The Grab Sample taken 11.45am of UP Jal Nigam Representative Mr.Ajay Kanauji,(Chemist) Mr. Awinash Chandra Maurya(A.P.E) & KRMPL Representative Mr. Shriram Saste(Plant Incharge), Mr. Shailesh kumar Yadav(Lab Chemist).

The Observed Parameter are Given Below:

INLET			AFTER REACTOR (65% Removal)			FINAL OUTLET		
COD (520mg/l)	BOD (320mg/l)	TSS (600mg/l)	COD	BOD	TSS	COD (100mg/l)	BOD (30mg/l)	TSS (50mg/l)
640	-	385	400	-	215	320*	-	50

Note: BOD 27°C for 3-Days.

* It May be not representative.

UP JAL NIGAM

Awinash 03/02/2021
Awinash Chandra Maurya(A.P.E)

03/02/21
Ajay Kanauji,(Chemist)

KRMPL

Shriram Saste(Plant Incharge)

Shailesh kumar Yadav(Lab Chemist)