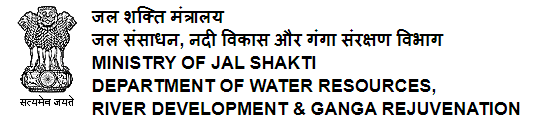
**NATIONAL MISSION FOR CLEAN GANGA (NMCG)**

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

****

**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**

**March - 2020**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | stc_logo | download4 |
| **Executing Agency**  Uttar Pradesh Jal Nigam  Benajhabar Road, Kanpur  Uttar Pradesh -208002 | **Funding Agency**  National Mission for Clean Ganga  MoWR, River Development & Ganga Rejuvenation,  New Delhi | **Project Engineer**  Shah technical Consultants Pvt. Ltd.  117/426 14-O block, Geeta Nagar  Kanpur  Uttar Pradesh - 208025 | **Concessionaire**  Kanpur River Management Pvt. Ltd.  Flat no 101,  1st Floor, 3/83, Vishnupuri,  Kanpur, Uttar Pradesh -208002 |

Table of Contents

[MONTHLY PROGRESS REPORT – HAM KANPUR 5](#_Toc47098420)

[1 INTRODUCTION 5](#_Toc47098421)

[2 HYBRID ANNUITY MODEL (HAM) 6](#_Toc47098422)

[3 OBJECTIVES 6](#_Toc47098423)

[4 HAM KANPUR PROJECT AT A GLANCE 7](#_Toc47098424)

[5 PROJECT WISE DETAILS OF COMPONENTS UNDER HAM KANPUR PROJECT 8](#_Toc47098425)

[5.1 PANKHA FACILITIES 8](#_Toc47098426)

[5.2 UNNAO FACILITIES 9](#_Toc47098427)

[5.3 SHUKLAGANJ STP FACILITIES 10](#_Toc47098428)

[5.4 JAJMAU FACILITIES 10](#_Toc47098429)

[5.5 43 MLD JAJMAU PHASE II STP FACILITY 11](#_Toc47098430)

[5.6 BINGAWAN FACILITIES 11](#_Toc47098431)

[5.7 SAJARI FACILITIES 12](#_Toc47098432)

[6 PHYSICAL PROGRESS OF WORK 13](#_Toc47098433)

[6.1 MILESTONE WISE ACTIVITIES AND PROGRESS: PANKHA STP FACILITIES 14](#_Toc47098434)

[6.2 MILESTONE WISE ACTIVITIES AND PROGRESS: UNNAO STP 17](#_Toc47098435)

[7 PROGRESS/STATUS OF OTHER STP FACILITIES UNDER HAM PROJECT KANPUR 22](#_Toc47098436)

[7.1 5 MLD SHUKLAGANJ STP 22](#_Toc47098437)

[7.2 REHABILITATION OF 130 MLD JAJMAU STP PHASE I 22](#_Toc47098438)

[7.3 43 MLD JAJMAU STP PHASE II 22](#_Toc47098439)

[7.4 210 MLD BINGAWAN STP 22](#_Toc47098440)

[7.5 42 MLD SAJARI STP 23](#_Toc47098441)

[8 STATUS OF BEP& OTHER DETAILS 25](#_Toc47098442)

[9 MEETINGS HELD / MINUTES OF MEETING 26](#_Toc47098443)

**LIST OF TABLES**

Table 2.1 : HAM Kanpur Project at a Glance (Page no.)

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

# 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.

# Hybrid Annuity Model (HAM)

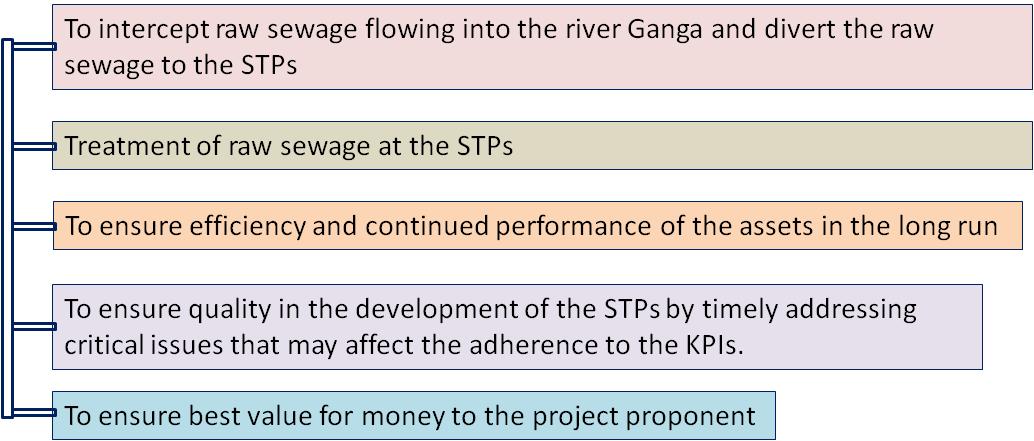
Government of India has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga and Yamuna. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga and Yamuna, various interventions are planned such as Interception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

# 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**

# 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**

|  |  |  |
| --- | --- | --- |
| Particulars |  | Description |
| 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) | : | ₹ 816.24 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; |

# 

# 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.

## 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-ф | 6.91km |
| 1.10 | Rising main (Sundar Nagar IPS to collection chamber) | | 800mm-ф | 0.651km |
| 1.11 | Gravity main (Thermal Nala B Tapping to common collection chamber) | |  |  |
| 1.12 | Common Gravity main (collection chamber to MPS) | | 2000mm- ф | 1.948Km |
| 1.13 | Sewage network | | 350mm-ф  400 mm-ф  450 mm-ф  500 mm-ф  600 mm-ф  700 mm-ф  800 mm-ф  900 mm-ф  1200 mm-ф  1600 mm-ф  2000 mm-ф | 2.771km  1.359km  1.272km  1.243km  1.778km  1.487km  1.012km  2.170km  3.634km  1.596km  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 |

## 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 ф | 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 ф | 100m |
| 1.9 | Rising main (bypass) | | 750mm ф | 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 |

## 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 ф | 50m |
| 1.7 | Rising main (bypass) | 500mm ф | 50m |
| 1.8 | Retaining wall |  | 1 |
| 1.9 | Effluent channel (STP to discharge point ) | 1.5m x1m | 100m |
| 1.10 | **Milestones** | **Land not finalized\*** |  |

*\*ABOVE PROPOSALS ARE UNDER REVISION*

## Jajmau 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 | Guptar Ghat IPS | - | 1 |
| 1.8 | Jajmau CSPS | - | 1 |
| B | **Phase-II** | **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 |

## 43 MLD 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 | Khalasi lane IPS | - | 1 |
| 1.4 | Jajmau MPS | - | 1 |

## 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 | Shisamau Nala (tapping) | 8MLD | 1 |

## 

## 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 |

# 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 has been divided in eight milestones each having progress of 12.5%. Therefore month wise schedule of progress is divided equally in the tenure of the milestones. For example; first milestones tenure is 5 months i.e. from 26th November 2019 to 25th April 2020 and per month progress works out to 2.5% per month (12.5% ÷ 5 months). In the same way overall progress has been derived by assigning equal weight to each activity as shown in the following graphs.



## 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** | **Activity Name** | **Duration** | **Start** | **Finish** | **1st Milestone targets**  **(due on 25.04.2020)** | **Proportionate Targets**  **(as on 31.03.2020)** | **Achieved** | **Backlog** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **STP (30 MLD)** |  |  |  |  |  |  |  |  |
| **1** | **SBR Basin Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 26-Nov-19 | 26-Nov-19 | 100% | 100% | 95% | 5% | Due to electric pole |
|  | Excavation & PCC | 69 | 27-Nov-19 | 04-Feb-20 | 100% | 100% | 95% excavation done | PCC & 5% of excavation | 5% excavation incomplete in the area where electrical poles are to be shifted. Firm estimate awaited |
|  | RCC Foundation/Raft | 107 | 05-Feb-20 | 22-May-20 | 73.83% | 51% | 0% | 51% | Delay at KRMPL Side |
| **2** | **SBR Splitter Box Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 17-Feb-20 | 17-Feb-20 | 100% | 100% | 100% | 0% | Work was not started. Delay at KRMPL Side |
|  | Excavation & PCC | 34 | 18-Feb-20 | 23-Mar-20 | 100% | 100% | 0% | 100% | Work was not started. Delay at KRMPL Side |
|  | RCC Foundation/Raft | 69 | 24-Mar-20 | 01-Jun-20 | 44.93% | 10% | 0% | 10% | Work was not started. Delay at KRMPL Side |
| **3** | **Chlorine Contact Tank Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 09-Mar-20 | 09-Mar-20 | 100% | 100% | 0% | 100% | Work was not started. Delay at KRMPL Side |
|  | Excavation & PCC | 69 | 10-Mar-20 | 18-May-20 | 65.22% | 30% | 0% | 30% | Work was not started. Delay at KRMPL Side |
| **4** | **Chlorination House Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 03-Apr-20 | 03-Apr-20 | 100% | - | - | - | - |
|  | Excavation & PCC | 52 | 04-Apr-20 | 26-May-20 | 38.46% | - | - | - | - |
| **5** | **Sludge Thickener Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 18-Apr-20 | 18-Apr-20 | 100% | - | - | - | - |
| **19** | **EXTERNAL DEVELOPMENT** |  |  |  |  |  |  |  |  |
|  | **Compound Wall with Gate** |  |  |  |  |  |  |  |  |
|  | Excavation & PCC | 539 | 26-Nov-19 | 18-May-21 | 27.83% | 23% | 23% | 0% | Excavation 450 m completed and 97 nos. PCC Completed |
|  | RCC Column footing (337No.) | 541 | 15-Jan-20 | 09-Jul-21 | 18.48% | 14% | 14% | 0% | 73 no. footings completed |
|  | RCC Column and Beam | 538 | 01-Feb-20 | 23-Jul-21 | 15.43% | 11% | 11% | 0% | 48 nos. columns completed. |
| **B** | **MPS-2 (11MLD)** |  |  |  |  |  |  |  |  |
| **20** | **CIVIL** |  |  |  |  |  |  |  |  |
| **20A** | **Construction of Raw Sewage Sump** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 15-Jan-20 | 15-Jan-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation & PCC | 69 | 16-Jan-20 | 25-Mar-20 | 100% | 100% | 10% excavation done. | 100%PCC & 90% of excavation | Delay at KRMPL Side |
|  | RCC Foundation/Raft | 69 | 26-Mar-20 | 03-Jun-20 | 42.03% | 7% | 0% | 7% | Delay at KRMPL Side |
| **C** | **ICI Nala IPS** |  |  |  |  |  |  |  |  |
| **22** | **CIVIL** |  |  |  |  |  |  |  |  |
| **22A** | **Construction of Raw Sewage Sump** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 01-Feb-20 | 01-Feb-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation & PCC | 68 | 03-Feb-20 | 11-Apr-20 | 100% | 84% | 0% | 84% | Delay at KRMPL Side |
|  | RCC Foundation/Raft | 68 | 13-Apr-20 | 20-Jun-20 | 16.18% | - | - | - | - |
| **D** | **IPS-6 (Sundar Nagar- 20MLD)** |  |  |  |  |  |  |  |  |
| **25** | **CIVIL** |  |  |  |  |  |  |  |  |
| **25A** | **Construction of Raw Sewage Sump** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 1 | 03-Feb-20 | 03-Feb-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation & PCC | 69 | 04-Feb-20 | 13-Apr-20 | 100% | 81% | 0% | 81% | Delay at KRMPL Side |
|  | RCC Foundation/Raft | 69 | 14-Apr-20 | 22-Jun-20 | 14.49% | - | - | - | - |
| **G** | **Sewer System Area (RCC Pipes-NP3 Types)** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 332 | 03-Feb-20 | 31-Dec-20 | 24.40% | 17% | 0% | 17% | Work was not started. Delay at KRMPL Side |
|  | Excavation and lying of RCC pipes including bed preparation & backfilling | 538 | 04-Feb-20 | 26-Jul-21 | 14.87% | 10% | 0% | 10% | Work was not started. Delay at KRMPL Side |
| **H** | **Design, Supply, Testing & Commissioning of Sewer line (crossing national highway-2 & railway track)** |  |  |  |  |  |  |  |  |
|  | Statutory approvals from Railway & Road Dept. | 104 | 03-Mar-20 | 15-Jun-20 | 50.00% | 27% | 0% | 27% | Work was not started. Delay at KRMPL Side |

*\*Note: Delay at the KRMPL side due to less deployment of labours*

## Milestone wise activities and progress: Unnao STP

**Progress of 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)**

| **SN** | **Activity Name** | **Duration** | **Start** | **Finish** | **2nd Milestone (due on 15.05.2020)** | **Proportionate Targets (as on 31.03.2020)** | **Achieved** | **Backlog** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **STP** |  |  |  |  |  |  |  |  |
| **A** | **Inlet chamber Area** |  |  |  |  |  |  |  |  |
|  | Excavation | 70 | 26-Oct-19 | 04-Jan-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | PCC | 121 | 06-Jan-20 | 06-May-20 | 100% | 70% | 0% | 70.00% | Delayed at KRMPL |
| **B** | **Fine Screen Area** |  |  |  |  |  |  |  |  |
|  | Excavation | 69 | 02-Nov-19 | 10-Jan-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | PCC, raft with misc work | 122 | 11-Jan-20 | 12-May-20 | 100% | 66% | 0% | 66.00% | Delayed at KRMPL |
| **C** | **Grit Chamber Area** |  |  |  |  |  |  |  |  |
|  | Civil work | 104 | 12-Nov-19 | 24-Feb-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | Supply and installation- grit scrapper mechanism | 86 | 25-Feb-20 | 21-May-20 | 93.02% | 41% | 0% | 41.00% | Delayed at KRMPL |
| **D** | **Parshall Flume Channel Area** |  |  |  |  |  |  |  |  |
|  | Civil Work | 104 | 29-Nov-19 | 12-Mar-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
| **E** | **SBR Basin Area** |  |  |  |  |  |  |  |  |
|  | PCC & Raft Work | 104 | 17-Dec-19 | 30-Mar-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | Walls (50 % of Total Lift ) work | 104 | 31-Mar-20 | 13-Jul-20 | 43.27% | 0% | - | - | - |
| **F** | **Chlorination Tank Area** |  |  |  |  |  |  |  |  |
|  | PCC & Raft Work | 86 | 26-Dec-19 | 21-Mar-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | Foundation (columns and wall work) | 121 | 23-Mar-20 | 22-Jul-20 | 43.80% | 7% | 0% | 7.00% | Delayed at KRMPL |
| **G** | **Sludge Thickener Area** |  |  |  |  |  |  |  |  |
|  | PCC & Raft Work | 86 | 26-Dec-19 | 21-Mar-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | Sludge Raft Work | 121 | 23-Mar-20 | 22-Jul-20 | 43.80% | 7% | 0% | 7.00% | Delayed at KRMPL |
| **H** | **Supernatant Sump Area** |  |  |  |  |  |  |  |  |
|  | PCC & Raft Work | 69 | 04-Jan-20 | 13-Mar-20 | 100% | 100% | 0% | 100.00% | Delayed at KRMPL |
|  | Sump Raft Work | 157 | 14-Mar-20 | 18-Aug-20 | 39.49% | 11% | 0% | 100.00% | Delayed at KRMPL |
| **I** | **Sludge Sump Area** |  |  |  |  |  |  |  |  |
|  | Civil work | 121 | 14-Jan-20 | 14-May-20 | 100% | 64% | 0% | 70.00% | Delayed at KRMPL |
| **J** | **Centrifuge House & Feed Pump House Area** |  |  |  |  |  |  |  |  |
|  | Excavation | 39 | 27-Jan-20 | 06-Mar-20 | 100% | 100% | 0% | 100% | Delayed at KRMPL |
|  | Column footing | 87 | 07-Mar-20 | 02-Jun-20 | 79.31% | 28% | 0% | 28% | Delayed at KRMPL |
| **K** | **Air Blower Room Area** |  |  |  |  |  |  |  |  |
|  | Excavation | 35 | 08-Feb-20 | 14-Mar-20 | 100% | 100% | 0% | 100% | Delayed at KRMPL |
|  | Column footing | 88 | 16-Mar-20 | 12-Jun-20 | 68.18% | 17% | 0% | 17% | Delayed at KRMPL |
| **L** | **Chlorination Room Area** |  |  |  |  |  |  |  |  |
|  | Excavation | 87 | 21-Feb-20 | 18-May-20 | 96.55% | 45% | 0% | 45% | Delayed at KRMPL |
| **M** | **Admin Bldg Area (G+1)** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 0 | 29-Feb-20 | 29-Feb-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation | 68 | 02-Mar-20 | 09-May-20 | 100% | 43% | 0% | 43% | Delayed at KRMPL |
| **N** | **Staff Quarter Area (G+1)** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 0 | 13-Mar-20 | 13-Mar-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation, columns footing | 52 | 14-Mar-20 | 05-May-20 | 100% | 33% | 0% | 33% | Delayed at KRMPL |
| **O** | **Guard Room Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 0 | 13-Mar-20 | 13-Mar-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation, columns footing | 52 | 14-Mar-20 | 05-May-20 | 100% | 33% | 0% | 33% | Delayed at KRMPL |
| **P** | **Transformer Yard Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 0 | 23-Mar-20 | 23-Mar-20 | 100% | 100% | 100% | 0% | Completed |
|  | Excavation & foundation | 121 | 24-Mar-20 | 23-Jul-20 | 42.98% | 6% | 0% | 6% | Delayed at KRMPL |
| **Q** | **DG Shed Area** |  |  |  |  |  |  |  |  |
|  | Site Clearance | 0 | 01-Apr-20 | 01-Apr-20 | 100% | - | - | - | - |
|  | Excavation & foundation | 133 | 02-Apr-20 | 13-Aug-20 | 32.33% | - | - | - | - |
| **R** | **External Development** |  |  |  |  |  |  |  |  |
|  | Boundary Wall | 434 | 12-Oct-19 | 19-Dec-20 | 49.77% | 39% | 10.00% | 29.00% | Delayed at KRMPL |
| **2** | **I & D WORK** |  |  |  |  |  |  |  |  |
|  | Construction of I& D Work / Tapping of Drain | 87 | 21-Feb-20 | 18-May-20 | 96.55% | 45% | 0% | 45% | Delayed at KRMPL |
| **3** | **MPS-40 MLD** |  |  |  |  |  |  |  |  |
| **S** | **CIVIL** |  |  |  |  |  |  |  |  |
|  | Construction of Inlet Chamber | 139 | 12-Dec-19 | 29-Apr-20 | 100% | 79% | 0% | 79% | Delayed at KRMPL |
|  | Construction of Screen Channels | 139 | 26-Mar-20 | 12-Aug-20 | 35.97% | 4% | 0% | 4% | Delayed at KRMPL |
| **4** | **SEWER SYSTEM AREA (3.2 Km)** |  |  |  |  |  |  |  |  |
| **U** | **LAYING OF PIPELINES** |  |  |  |  |  |  |  |  |
|  | Cutting, Excavation, Laying of Pipes, backfilling (3.2 Km) | 291 | 27-Dec-19 | 13-Oct-20 | 48.11% | 33% | 0% | 33% | Delayed at KRMPL |
|  | Manholes | 290 | 18-Feb-20 | 04-Dec-20 | 30.00% | 14% | 0% | 14% | Delayed at KRMPL |
| **V** | **RISING MAIN PIPING WORK (100 m)** |  |  |  |  |  |  |  |  |
|  | Cutting, Excavation, Laying of Pipes, backfilling | 103 | 06-Jan-20 | 18-Apr-20 | 100% | 83% | 0% | 83% | Delayed at KRMPL |

*\*The Concessionaire made unnecessary delay in performing Geo-tech investigation. In meeting with Er. M.I. Ansari SE 3rd UPJN Lucknow dated 14.06.2019 he clearly directed the Concessionaire to check / review Geo-tech testing from any Gov organisation e.g. HBTU / IITK. But they took more than 5 months in compliance for which they are on fault.*

# Progress/Status of other STP facilities under HAM project kanpur

## 5 MLD Shuklaganj STP

Site selection for the proposed STP is under progress. For previously selected site, UPPCB has not given CTE for the proposed site for the project.

## Rehabilitation of 130 MLD Jajmau STP Phase I

1. This plant could not be handed over due to existing labour problems. UPJN and KRMPL need to sort the issue in consultation with NMCG.
2. Earlier, Prof. Kazmi, IITR through E-mail dated 24-10-2019 recommended to construct a new plant on SBR /MLE Process to satisfy the latest NGT standards. Queries raised by KRMPL/ IITR on 130 MLD STP have been replied by letter no. 3979/W-20/536 dated 31-12-2020.
3. The recommendation was turned down and requested to act as per CA.

## 43 MLD Jajmau STP Phase II

It is under testing and trial run and handing over is to be done by UPJN after completion of trial run.

## 210 MLD Bingawan STP

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. Following points need to be addressed:

1. **Compliance of inspection report**

Inspection done by CE Kanpur Zone and PE, STC on dated 28.01.2020 and inspection done by 29.02.2020. Compliance report of inspection report on 28.01.2020 by CE Kanpur UPJN and PE STC and inspection done on 29.02.2020 by PE not submitted by the Concessionaire after rectifying the defects and deficiencies indicated in the inspection reports. Inspection reports of 28.01.2020 and 29.02.2020 are enclosed.

1. **O&M Manual**

Revised O&M manual of Bingawan incorporating the points decided in the meeting of dated 16.12.2019 have not been submitted by the Concessionaire After so many reminders and discussions with CE, Kanpur Zone dated 05.02.2020

1. **Insurance Policies**

Only all risk industrial insurance policy has been submitted remaining policies are not been submitted after so many reminders.

1. **Performance of Plant**

All the KPIs are not being met during the month of March the Concessionaire has not submitted the action plan to clean and reactivate USAB reactors and took up the work of wall footing. Only reactor no. 8 has been taken for cleaning by the concessionaire. Performance report if March 2020 enclosed.

1. **Cleaning and reactivation**

Performance report is attached in annexure. Plant is not meeting KPIs. Concessionaire need to submit compliance of inspection report.

1. **DFP:** Only one filter press is operational, remaining two are not in working order.
2. **Joint sampling and testing by IITK**

It was decided in the meeting of GM GPCU UPJN on 16-12-2020 (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 tested by IITK. But not complied by the Concessionaire yet.

## 42 MLD Sajari STP

For Sajari plant, 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.

A joint inspection report submitted (Inspection done on 29-02-2020) to GM office with a Copy to KRMPL vide letter no STC/342 dated 02/03/2020 and observed some defects and deficiencies like Auto system of both mechanical screens was not found working, leakage of gas detected between digester and gas Holder, No safety showers were installed near chlorination room and requested UPJN to direct KRMPL to submit the compliance report after removing all the defects & deficiencies indicated in the inspection report but no compliances have been received.

A letter in reply of KRMPL letter no 367 dated 09-03-2020 regarding Non compliance of Monthly report of Sajari facility for February 2020 month submitted vide STC letter no. 352 dated 17-03-2020. In this letter, some comments were submitted regarding reminder of STC letter no 279 & 342 dated 06.01.2020 & 02.03.2020 respectively. Also It was decided in the meeting of GM GPCU UPJN on 16-12-2020 (MOM Issued by his letter no 3847/M-2A/116 dated 18-12-2019) to perform joint sampling of raw sewage and treated effluent to be done by KRMPL & UPJN and testing to be done by IIT Kanpur.

It was also instructed to KRMPL regarding submission of Insurance during O&M period for 42 MLD Sajari facility vide STC letter no 357 dated 19-03-2020. Concessionaire has submitted Industrial All Risk insurance policies and comprehensive General Liability Insurance Policy referred to S.No. i and iii respectively which were reviewed and comments have already been sent vide STC letter no 294 dated 24-01-2020 and 335 dated 28-02-2020. Insurance policies against SI. ii, iv & v has been awaited from the concessionaire and instructed to submit the same immediately.

**Further following points need compliance by the concessionaire immediately:**

1. During the month of February, Project Engineer inspected 42 MLD STP Sajari STP along with PE CU-II, GPCU, UPJN and inspection report was sent to UPJN vide STC letter no. 342 dated 02-03-2020 with a copy to KRMPL. But no compliance report has been submitted by the concessionaire even after repeated reminders.
2. Concessionaire suggested to perform Testing of samples by Spectro Lab vide KRMPL letter no 348 dated 17-02-2020 which is not accepted by STC and directed to perform a joint sampling at least once in a month by IIT (As per MOM issued by GM vide his letter no. 3847/M-2A/116 dated 18-12-2020).
3. Concessionaire instructed to submit all the remaining insurance policies for the Both Bingawan & Sajari facilities immediately.

**GENERAL ISSUES:**

1. Power Back- up to be provided at all locations as per Article 8.7 (b) which is not being accepted by KRMPL.
2. As per Article 8.8 (a): At each STP/Pumping Station (new or existing) of all locations, the Concessionaire shall install and maintain an online monitoring system, in accordance with the Technical Specifications and Applicable Laws (including specifically, the EPA) to monitor the volume, specifications and characteristics of the incoming Sewage and the Treated Effluent, as applicable.
3. As per Article 11.2: During the O&M Period of the Facilities, the Concessionaire shall obtain and maintain insurance policies including but not limited to the following:

(i) Loss, damage or destruction of the Facilities, at replacement value;

(ii) Comprehensive third party liability insurance including injury to or death of personnel of the Jal Nigam or NMCG or others caused by the Project;

(iii) The Concessionaire's general liability arising out of the Project;

(iv) Liability to third parties for goods or property damage;

(v) Workmen’s compensation insurance; and

(vi) any other insurance that may be necessary to protect the Facilities, the Concessionaire and its employees, including for all Force Majeure Events that are insurable at commercially reasonable premiums and not otherwise covered in items (i) to (v) above.

Performance report of the plant for the month of February is attached in annexure 3.

# 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)** | GA, Data Sheet and QAP of centrifuge, submersible pump and mechanical grid collection system, Unnao- reviewed & recommended for approval on 25.02.2020  GA, Data Sheet and QAP of centrifuge, submersible pump and mechanical grid collection system, Pankha- reviewed & recommended for approval on 28.02.2020 | BEP of Jajmau STP rehabilitation, waiting for KRMPL compliance  BEP of Jajmau IPS rehabilitation, waiting for KRMPL compliance |
| **2.** | **BEP Structure Design & Drawings** | structure drawing of CCT & TEPH, Jajmau- recommendations for approval on 06.03.2020  Electrical drawing, Pankha- recommendations for approval on 17.03.2020  Structure drawing, Unnao MPS- recommended for approval on 29.02.2020  Revised drawing of boundary wall, Unnao- recommended for approval on 29.02.2020 | PTU, C-Tech basin, CCT, Sludge Thickener, Supernatant sump, Centrifuge building, admin building, Staff quarters, Guard room **pending due to SBC issue. KRMPL need to pursue**  RCC drawing 20MLD, IPS Sundar Nagar, Pankha. Geo tech report is not proper.  RCC drawing 25 MLD IPS ICI Nala, Pankha. KRMPL is not compliance to STC comments. |
| **3.** | **Construction Plan** | Revised construction plan Pankha-recommended for approval on 04.01.20 |  |
| **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 |  |
| **5.** | **Topo, Geo tech & survey reports** |  | Geo tech report for Unnao STP (except BW& MPS) is rejected by STC/UPJN. **KRMPL need to obtained new SBC report from HBTU** |
| **6.** | **ESHS Plan** | ESHS approval-Already vetted by STC. Approved by UPJN on 26.09.19 |  |
| **7.** | **O&M** | Bingawan RTOLMS - Reviewed & found in order. Recommended for approval on 03.12.19  RTU Bingawan - Reviewed & found in order. Recommended for approval on 19.12.19  Level transmitter & flow metre - vetted & approved on 27.12.19  Sajari, O&M manual – Approved |  |

# Meetings held / Minutes of Meeting

A Meeting was held by UPJN, Kanpur about safety aspect at Bingawan STP, on dated 4.03.20;

On dated 16.03.20, a meeting was held at CE Kanpur, UPJN in his chamber for discussion about Jajmau STP;

Meeting was held by UPJN, Kanpur about progress of work on construction sites, on dated 17.03.20.

**ANNEXURE**