

**NATIONAL MISSION FOR CLEAN GANGA (NMCG)**  
**MINISTRY OF JAL SHAKTI DEPARTMENT OF WATER RESOURCES,  
RIVER DEVELOPMENT & GANGA REJUVENATION, GOVT. OF INDIA**



सत्यमेव जयते

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

**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**

**APRIL - 2020**



**Executing Agency**  
Uttar Pradesh Jal  
Nigam  
Benajhabar Road,  
Kanpur  
Uttar Pradesh -  
208002



**Funding Agency**  
National Mission for  
Clean Ganga  
MoWR, River  
Development & Ganga  
Rejuvenation,  
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**Project Engineer**  
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**Concessionaire**  
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**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

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## 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)

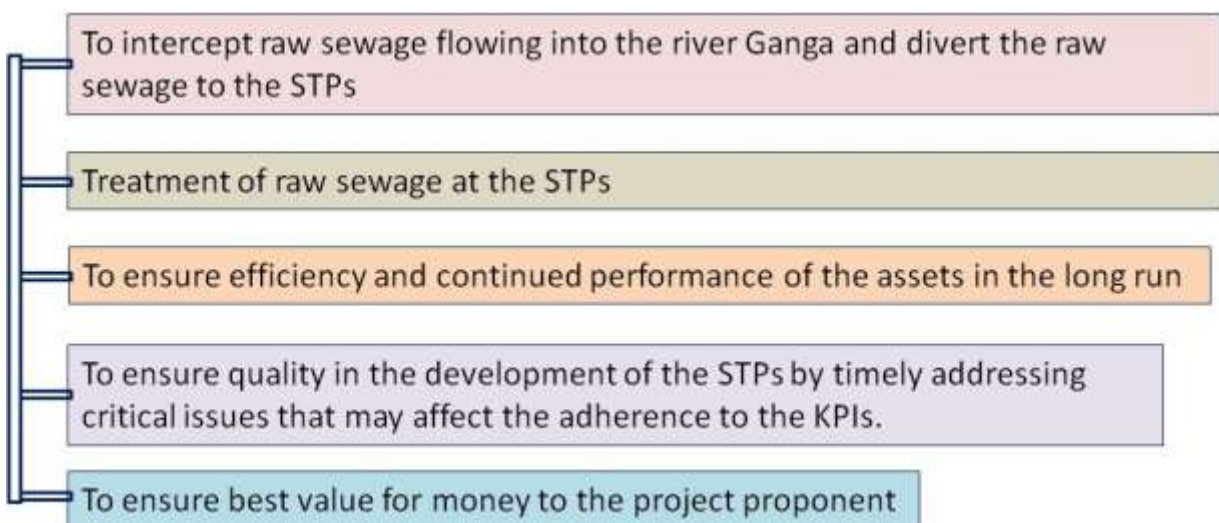
Government of India has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga and Yamuna. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga and Yamuna, various interventions are planned such as Interception & 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 4<sup>th</sup> February 2019 and agreement signed between the parties on 12<sup>th</sup> 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**

| Particulars                              | Description  |
|--|--|
| <b>Name of Project</b>                   | : 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)   |
| <b>Client</b>                            | : National Mission for Clean Ganga (NMCG), New Delhi and UP Jal Nigam  |
| <b>Execution Agency</b>                  | : Uttar Pradesh Jal Nigam (UPJN)   |
| <b>Consultant</b>                        | : Shah Technical Consultants (P) Ltd. as <b>‘Project Engineer’</b>   |
| <b>Agreement &amp; LOA</b>               | : STC Agreement dated 12.04.2019 &<br>LOA: Pr-12012/41/2018-PPP/NMCG dated 04.02.2019  |
| <b>Concessionaire</b>                    | : Kanpur River Management Private Limited (KRMPL) an SPV of Shapoorji Pallonji & Company Private Limited, Mumbai   |
| <b>Concessionaire’s Agreement</b>        | : 14/GM/2018-19 dated 21.12.2018   |
| <b>Cost of Project (CAPEX+OPEX)</b>      | : ₹ 816.24 Cr  |
| <b>Effective Date</b>                    | : 11.10.2019   |
| <b>Completion date (as per contract)</b> | : 24 Months from effective date<br>(21 months construction + 3 months trial run)   |
| <b>O&amp;M period</b>                    | : 15 years after last Commercial Operation Date (COD)  |
| <b>Description of Work</b>               | : <ul style="list-style-type: none"> <li>➤ 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&amp;M;</li> <li>➤ Rehabilitation of 130 MLD (Phase-I) STP at Jajmau with construction of 200 MLD TEPS and 173 MLD CCT at Jajmau with O&amp;M for 15 years;</li> <li>➤ O&amp;M of 43 MLD (Phase-II) Jajmau facilities, O&amp;M of 210 MLD Bingawan facilities and O&amp;M of 42 MLD Sajari facilities for 15 years;</li> </ul> |

## 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.<br>/size | No. of<br>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                | 2.771km                |
|      |  | 400 mm-φ               | 1.359km                |
|      |  | 450 mm-φ               | 1.272km                |
|      |  | 500 mm-φ               | 1.243km                |
|      |  | 600 mm-φ               | 1.778km                |
|      |  | 700 mm-φ               | 1.487km                |
|      |  | 800 mm-φ               | 1.012km                |



|             |                           |                            |                      |
|-------------|---------------------------|----------------------------|----------------------|
|             |                           | 900 mm-φ                   | 2.170km              |
|             |                           | 1200 mm-φ                  | 3.634km              |
|             |                           | 1600 mm-φ                  | 1.596km              |
|             |                           | 2000 mm-φ                  | 1.948km              |
| <b>1.14</b> | <b>Milestones</b>         | <b>Date</b>                | <b>Amount in Rs.</b> |
|             | 1 <sup>st</sup> Milestone | 12-Oct-2019 to 25-Apr-2020 | 1248,39,750          |
|             | 2 <sup>nd</sup> Milestone | 26-Apr-2020 to 10-Jul-2020 | 1248,39,750          |
|             | 3 <sup>rd</sup> Milestone | 11-Jul-2020 to 24-Sep-2020 | 1248,39,750          |
|             | 4 <sup>th</sup> Milestone | 25-Sep-2020 to 09-Dec-2020 | 1248,39,750          |
|             | 5 <sup>th</sup> Milestone | 10-Dec-2020 to 13-Feb-2021 | 1248,39,750          |
|             | 6 <sup>th</sup> Milestone | 14-Feb-2021 to 21-Apr-2021 | 1248,39,750          |
|             | 7 <sup>th</sup> Milestone | 22-Apr-2021 to 22-Jun-2021 | 1248,39,750          |
|             | 8 <sup>th</sup> 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/<br>dia. /size | No. of units/length |
|-------------|--|---|-------------------------|---------------------|
|             | Date of Start- Effective Date (11.10.2019)         | Scope of Work- New Construction and O&M |                         |                     |
| <b>1.1</b>  | STP  |   | 15 MLD                  | 1                   |
| <b>1.2</b>  | Sump cum Pump house (MPS)                          |   | 40 MLD                  | 1                   |
| <b>1.3</b>  | Trunk Sewer  |   | 1200mm φ                | 3.2Km               |
| <b>1.4</b>  | I&D works (Nala tapping)                           |   | 40 MLD                  | 1                   |
| <b>1.5</b>  | Trash screen                                       |   | 7m-1.7m<br>x 0.8m       | 1                   |
| <b>1.6</b>  | Grit chamber                                       |   | 12m-4m x<br>1m          | 2                   |
| <b>1.7</b>  | Collection chamber                                 |   | 3.4m-6.2m<br>x 3m       | 1                   |
| <b>1.8</b>  | Rising main (MPS to STP)                           |   | 750mm φ                 | 100m                |
| <b>1.9</b>  | Rising main (bypass)                               |   | 750mm φ                 | 100m                |
| <b>1.10</b> | Effluent distribution chamber                      |   | -                       | 1                   |
| <b>1.11</b> | Effluent gravity channel (STP to discharge point ) |   | 1.5m x<br>1.0m          | 300m                |
| <b>1.12</b> | Effluent disposal drains                           |   | -                       | 500m                |
| <b>1.13</b> | <b>Milestones</b>                                  | <b>Date</b>                             | <b>Amount in Rs.</b>    |                     |
|             | 1 <sup>st</sup> Milestone                          | 12-Oct-2019 to 24-Feb-2020              | 478,36,250              |                     |
|             | 2 <sup>nd</sup> Milestone                          | 25-Feb-2020 to 15-May-2020              | 478,36,250              |                     |
|             | 3 <sup>rd</sup> Milestone                          | 16-May-2020to 30-Jul-2020               | 478,36,250              |                     |

|                           |                            |            |
|---------------------------|----------------------------|------------|
| 4 <sup>th</sup> Milestone | 30-Jul-2020to 14-Oct-2020  | 478,36,250 |
| 5 <sup>th</sup> Milestone | 15-Oct-2020to 24-Dec-2020  | 478,36,250 |
| 6 <sup>th</sup> Milestone | 10-Dec-2020 to 01-Mar-2021 | 478,36,250 |
| 7 <sup>th</sup> Milestone | 02-Mar-2021 to 05-May-2021 | 478,36,250 |
| 8 <sup>th</sup> 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 $\phi$               | 50m                 |
| 1.7  | Rising main (bypass)                       | 500mm $\phi$               | 50m                 |
| 1.8  | Retaining wall                             |                            | 1                   |
| 1.9  | Effluent channel (STP to discharge point ) | 1.5m x1m                   | 100m                |
| 1.10 | <b>Milestones</b>                          | <b>Land not finalized*</b> |                     |

\*ABOVE PROPOSALS ARE UNDER REVISION

### 5.4 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                   |

|            |   |                           |                            |
|------------|---|---------------------------|----------------------------|
| <b>1.7</b> | GuptarGhat IPS                                | -                         | 1                          |
| <b>1.8</b> | Jajmau CSPS                                   | -                         | 1                          |
| <b>B</b>   | <b>Phase-II</b>                               |                           |                            |
|            | Schedule Handing Over Date- 01.10.2019        | <b>Capacity/dia./size</b> | <b>No. of units/length</b> |
|            | Scope of Work- O&M                            |                           |                            |
| <b>1.1</b> | STP 2 on ASP technology with power Generation | 43 MLD                    | 1                          |
| <b>1.2</b> | Sanjaypuram IPS                               | -                         | 1                          |
| <b>1.3</b> | Khalisa lane IPS                              | -                         | 1                          |
| <b>1.4</b> | Jajmau MPS                                    | -                         | 1                          |

### 5.5 43 MLD JAJMAU PHASE II STP FACILITY

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

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

### 5.6 BINGAWAN FACILITIES

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

**Table 5.5: Bingawan Facilities**

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

## 5.7 SAJARI FACILITIES

Project wise component detail of Sajari is given in table 5.6

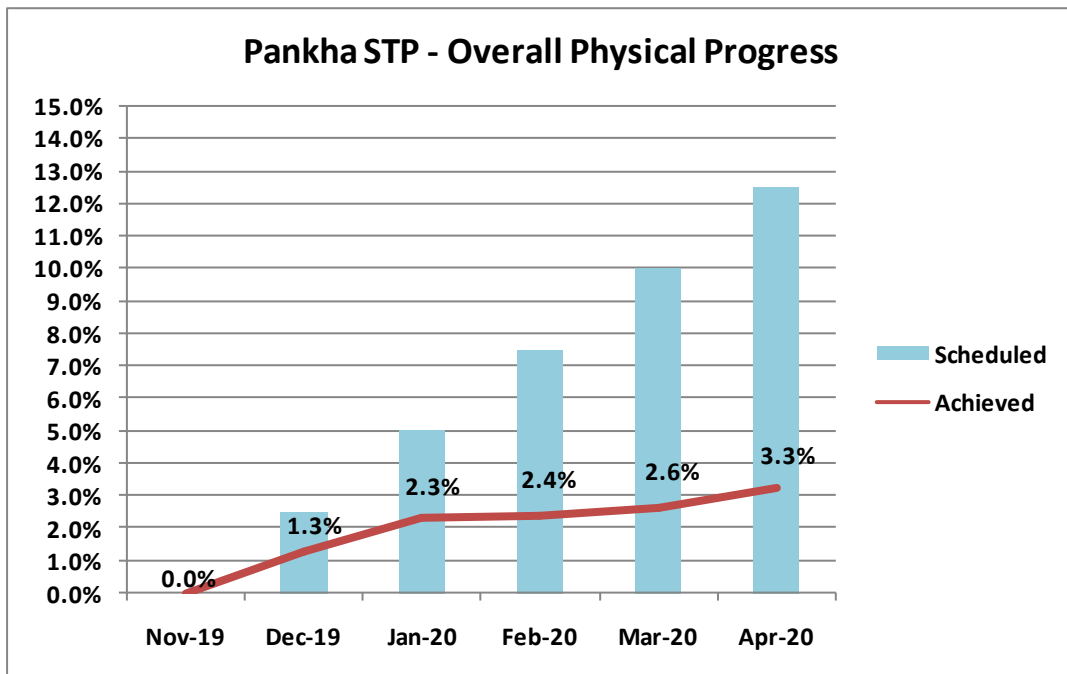
**Table 5.6: Sajari Facilities**

| SN  | STP Facilities                         | Capacity/dia.<br>/size | No. of<br>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 19<sup>th</sup> April 2019. Effective date for work execution under HAM Kanpur project was declared on 11<sup>th</sup> 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 26<sup>th</sup> November 2019 to 25<sup>th</sup> 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.



### 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        | Activity Name                     | Duration | Start     | Finish    | 1st Milestone targets (due on 25.04.2020) | Proportionate Targets (as on 30.04.2020) 2 <sup>nd</sup> Milestone (due on 10.07.2020) | Achieved            | Backlog                | Remarks  |
|-----------|-----------------------------------|----------|-----------|-----------|---|--|---------------------|------------------------|--|
| <b>A</b>  | <b>STP (30 MLD)</b>               |          |           |           |   |  |                     |                        |  |
| <b>1</b>  | <b>SBR Basin Area</b>             |          |           |           |   |  |                     |                        |  |
|           | 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%                                    | 79%  | 0%                  | 79%                    | Work stop due to lockdown  |
| <b>2</b>  | <b>SBR Splitter Box Area</b>      |          |           |           |   |  |                     |                        |  |
|           | Site Clearance                    | 1        | 17-Feb-20 | 17-Feb-20 | 100%                                      | 100%   | 100%                | 0%                     | Completed  |
|           | Excavation & PCC                  | 34       | 18-Feb-20 | 23-Mar-20 | 100%                                      | 100%   | 0%                  | 100%                   | Work stop due to lockdown  |
|           | RCC Foundation/Raft               | 69       | 24-Mar-20 | 01-Jun-20 | 44.93%                                    | 54%  | 0%                  | 54%                    | Work stop due to lockdown  |
| <b>3</b>  | <b>Chlorine Contact Tank Area</b> |          |           |           |   |  |                     |                        |  |
|           | Site Clearance                    | 1        | 09-Mar-20 | 09-Mar-20 | 100%                                      | 100%   | 0%                  | 100%                   | Work stop due to lockdown  |
|           | Excavation & PCC                  | 69       | 10-Mar-20 | 18-May-20 | 65.22%                                    | 74%  | 0%                  | 74%                    | Work stop due to lockdown  |
| <b>4</b>  | <b>Chlorination House Area</b>    |          |           |           |   |  |                     |                        |  |
|           | Site Clearance                    | 1        | 03-Apr-20 | 03-Apr-20 | 100%                                      | 100%   | 0%                  | 100%                   | Work stop due to lockdown  |
|           | Excavation & PCC                  | 52       | 04-Apr-20 | 26-May-20 | 38.46%                                    | 50%  | 0%                  | 50%                    | Work stop due to lockdown  |
| <b>5</b>  | <b>Sludge Thickener Area</b>      |          |           |           |   |  |                     |                        |  |
|           | Site Clearance                    | 1        | 18-Apr-20 | 18-Apr-20 | 100%                                      | 100%   |                     |                        |  |
| <b>19</b> | <b>EXTERNAL DEVELOPMENT</b>       |          |           |           |   |  |                     |                        |  |

| SN         | Activity Name                                  | Duration | Start     | Finish    | 1st Milestone targets (due on 25.04.2020) | Proportionate Targets (as on 30.04.2020)<br>2 <sup>nd</sup> Milestone (due on 10.07.2020) | Achieved             | Backlog                     | Remarks  |
|------------|--|----------|-----------|-----------|---|---|----------------------|-----------------------------|--|
|            | <b>Compound Wall with Gate</b>                 |          |           |           |   |   |                      |                             |  |
|            | Excavation & PCC                               | 539      | 26-Nov-19 | 18-May-21 | 27.83%                                    | 29%   | 29%                  | 0%                          | Excavation 450 m completed and 97 nos. PCC Completed |
|            | RCC Column footing (337No.)                    | 541      | 15-Jan-20 | 09-Jul-21 | 18.48%                                    | 20%   | 20%                  | 0%                          | 73 no. footings completed                            |
|            | RCC Column and Beam                            | 538      | 01-Feb-20 | 23-Jul-21 | 15.43%                                    | 17%   | 17%                  | 0%                          | 48 nos. columns completed.                           |
| <b>B</b>   | <b>MPS-2 (11MLD)</b>                           |          |           |           |   |   |                      |                             |  |
| <b>20</b>  | <b>CIVIL</b>                                   |          |           |           |   |   |                      |                             |  |
| <b>20A</b> | <b>Construction of Raw Sewage Sump</b>         |          |           |           |   |   |                      |                             |  |
|            | 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 | Work stop due to lockdown                            |
|            | RCC Foundation/Raft                            | 69       | 26-Mar-20 | 03-Jun-20 | 42.03%                                    | 51%   | 0%                   | 51%                         | Work stop due to lockdown                            |
| <b>C</b>   | <b>ICI Nala IPS</b>                            |          |           |           |   |   |                      |                             |  |
| <b>22</b>  | <b>CIVIL</b>                                   |          |           |           |   |   |                      |                             |  |
| <b>22A</b> | <b>Construction of Raw Sewage Sump</b>         |          |           |           |   |   |                      |                             |  |
|            | Site Clearance                                 | 1        | 01-Feb-20 | 01-Feb-20 | 100%                                      | 100%  | 100%                 | 0%                          | Completed  |
|            | Excavation & PCC                               | 68       | 03-Feb-20 | 11-Apr-20 | 100%                                      | 100%  | 0%                   | 100%                        | Work stop due to lockdown                            |
|            | RCC Foundation/Raft                            | 68       | 13-Apr-20 | 20-Jun-20 | 16.18%                                    | 25%   | 0%                   | 25%                         | Work stop due to lockdown                            |
| <b>D</b>   | <b>IPS-6 (Sundar Nagar- 20MLD)</b>             |          |           |           |   |   |                      |                             |  |
| <b>25</b>  | <b>CIVIL</b>                                   |          |           |           |   |   |                      |                             |  |
| <b>25A</b> | <b>Construction of Raw Sewage Sump</b>         |          |           |           |   |   |                      |                             |  |
|            | Site Clearance                                 | 1        | 03-Feb-20 | 03-Feb-20 | 100%                                      | 100%  | 100%                 | 0%                          | Completed  |
|            | Excavation & PCC                               | 69       | 04-Feb-20 | 13-Apr-20 | 100%                                      | 100%  | 0%                   | 100%                        | Work stop due to lockdown                            |
|            | RCC Foundation/Raft                            | 69       | 14-Apr-20 | 22-Jun-20 | 14.49%                                    | 23%   | 0%                   | 23%                         | Work stop due to lockdown                            |
| <b>G</b>   | <b>Sewer System Area (RCC Pipes-NP3 Types)</b> |          |           |           |   |   |                      |                             |  |

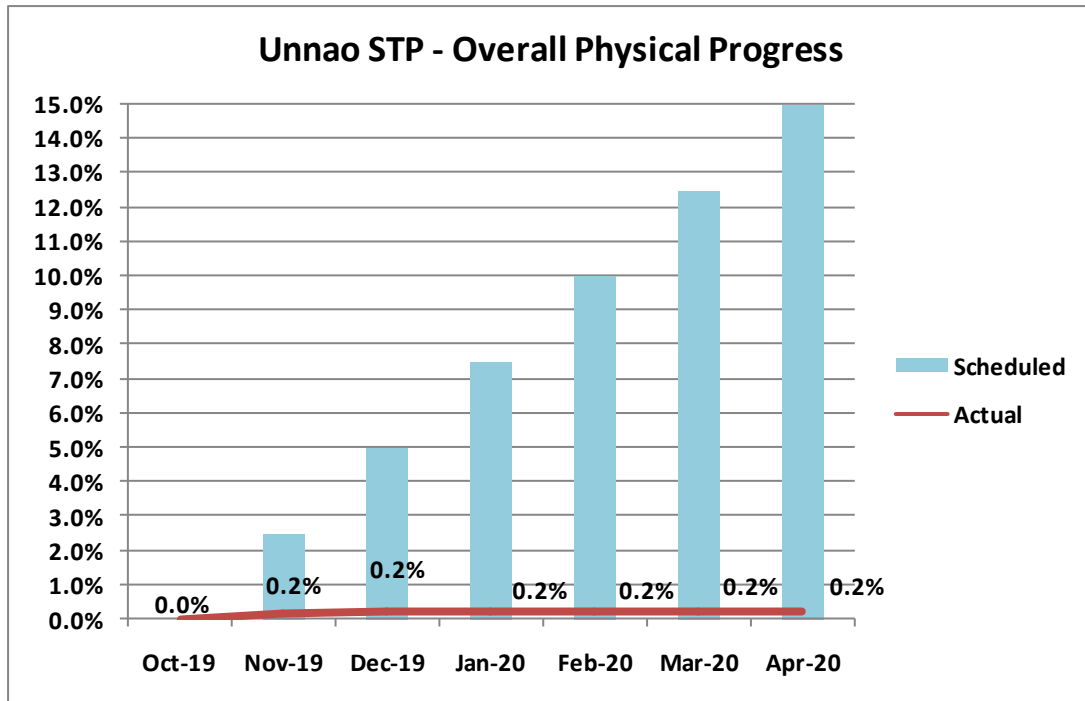
| SN       | Activity Name  | Duration | Start     | Finish    | 1st Milestone targets (due on 25.04.2020) | Proportionate Targets (as on 30.04.2020)<br>2 <sup>nd</sup> Milestone (due on 10.07.2020) | Achieved | Backlog | Remarks                   |
|----------|--|----------|-----------|-----------|---|---|----------|---------|---------------------------|
|          | Site Clearance   | 332      | 03-Feb-20 | 31-Dec-20 | 24.40%                                    | 26%   | 0%       | 26%     | Work stop due to lockdown |
|          | Excavation and laying of RCC pipes including bed preparation & backfilling   | 538      | 04-Feb-20 | 26-Jul-21 | 14.87%                                    | 16%   | 0%       | 16%     | Work stop due to lockdown |
| <b>H</b> | <b>Design, Supply, Testing &amp; Commissioning of Sewer line (crossing national highway-2 &amp; railway track)</b> |          |           |           |   |   |          |         |                           |
|          | Statutory approvals from Railway & Road Dept.  | 104      | 03-Mar-20 | 15-Jun-20 | 50.00%                                    | 56%   | 0%       | 56%     | Work stop due to lockdown |

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



## 6.2 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       | Description                                     | Duration (days) | Start Date | Finish Date | 2nd Milestone (due on 15.05.2020) | Proportionate Targets (as on 30.04.2020) | Achieved | Backlog | Remarks          |
|----------|---|-----------------|------------|-------------|-----------------------------------|--|----------|---------|------------------|
| <b>1</b> | <b>STP</b>                                      |                 |            |             |                                   |  |          |         |                  |
| <b>A</b> | <b>Inlet chamber Area</b>                       |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                  | 1               | 12-Oct-19  | 12-Oct-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation                                      | 70              | 26-Oct-19  | 04-Jan-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | PCC   | 121             | 06-Jan-20  | 06-May-20   | 100.00%                           | 88%                                      | 0%       | 88.00%  |                  |
| <b>B</b> | <b>Fine Screen Area</b>                         |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                  | 1               | 01-Nov-19  | 01-Nov-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation                                      | 69              | 02-Nov-19  | 10-Jan-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | PCC, raft with misc work                        | 122             | 11-Jan-20  | 12-May-20   | 100.00%                           | 90%                                      | 0%       | 90.00%  |                  |
| <b>C</b> | <b>Grit Chamber Area</b>                        |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                  | 1               | 11-Nov-19  | 11-Nov-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Civil work                                      | 104             | 12-Nov-19  | 24-Feb-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Supply and installation-grit scrapper mechanism | 86              | 25-Feb-20  | 21-May-20   | 93.00%                            | 76.00%                                   | 0%       | 76.00%  | Delayed at KRMPL |
| <b>D</b> | <b>Parshall Flume Channel Area</b>              |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                  | 1               | 28-Nov-19  | 28-Nov-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | PCC & Raft Work                                 | 104             | 29-Nov-19  | 12-Mar-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
| <b>E</b> | <b>SBR Basin Area</b>                           |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                  | 1               | 16-Dec-19  | 16-Dec-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | PCC & Raft Work                                 | 104             | 17-Dec-19  | 30-Mar-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Walls work                                      | 104             | 31-Mar-20  | 13-Jul-20   | 43.00%                            | 28%                                      | 0%       | 28%     | Delayed at KRMPL |

| SN       | Description  | Duration (days) | Start Date | Finish Date | 2nd Milestone (due on 15.05.2020) | Proportionate Targets (as on 30.04.2020) | Achieved | Backlog | Remarks          |
|----------|--|-----------------|------------|-------------|-----------------------------------|--|----------|---------|------------------|
| <b>F</b> | <b>Chlorination Tank Area</b>                      |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                     | 1               | 25-Dec-19  | 25-Dec-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | PCC & Raft Work                                    | 86              | 26-Dec-19  | 21-Mar-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Foundation (columns and wall work)                 | 112             | 23-Mar-20  | 22-Jul-20   | 47.00%                            | 34.00%                                   | 0%       | 34.00%  | Delayed at KRMPL |
| <b>G</b> | <b>Sludge Thickener Area</b>                       |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                     | 1               | 25-Dec-19  | 25-Dec-19   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | PCC & Raft Work                                    | 86              | 26-Dec-19  | 21-Mar-20   | 100.00%                           | 100%                                     | 0%       | 100.00% | Delayed at KRMPL |
|          | Sludge Raft Work                                   | 112             | 23-Mar-20  | 22-Jul-20   | 47.00%                            | 34.00%                                   | 0%       | 34.00%  | Delayed at KRMPL |
| <b>H</b> | <b>Supernatant Sump Area</b>                       |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                     | 1               | 03-Jan-20  | 03-Jan-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | PCC & Raft Work                                    | 70              | 04-Jan-20  | 13-Mar-20   | 100.00%                           | 100%                                     | 0%       | 100.00% | Delayed at KRMPL |
|          | Sump Raft Work                                     | 157             | 14-Mar-20  | 18-Aug-20   | 40.00%                            | 30.00%                                   | 0%       | 30.00%  | Delayed at KRMPL |
| <b>I</b> | <b>Sludge Sump Area</b>                            |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                                     | 1               | 13-Jan-20  | 13-Jan-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Civil work   | 121             | 14-Jan-20  | 14-May-20   | 100.00%                           | 88%                                      | 0%       | 88.00%  | Delayed at KRMPL |
| <b>J</b> | <b>Centrifuge House &amp; Feed Pump House Area</b> |                 |            |             |                                   |  |          |         |                  |
|          | Excavation   | 39              | 27-Jan-20  | 06-Mar-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Column footing                                     | 87              | 07-Mar-20  | 02-Jun-20   | 79.00%                            | 62.00%                                   | 0%       | 62.00%  | Delayed at KRMPL |
| <b>K</b> | <b>Air Blower Room Area</b>                        |                 |            |             |                                   |  |          |         |                  |
|          | Excavation   | 35              | 08-Feb-20  | 14-Mar-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Column footing                                     | 88              | 16-Mar-20  | 12-Jun-20   | 68.00%                            | 51.00%                                   | 0%       | 51.00%  | Delayed at KRMPL |

| SN       | Description                     | Duration (days) | Start Date | Finish Date | 2nd Milestone (due on 15.05.2020) | Proportionate Targets (as on 30.04.2020) | Achieved | Backlog | Remarks          |
|----------|---------------------------------|-----------------|------------|-------------|-----------------------------------|--|----------|---------|------------------|
| <b>L</b> | <b>Chlorination Room Area</b>   |                 |            |             |                                   |  |          |         |                  |
|          | Excavation                      | 87              | 21-Feb-20  | 18-May-20   | 97.00%                            | 79.00%                                   | 0%       | 79.00%  | Delayed at KRMPL |
| <b>M</b> | <b>Admin Bldg Area (G+1)</b>    |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                  | 1               | 29-Feb-20  | 29-Feb-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation                      | 68              | 02-Mar-20  | 09-May-20   | 100.00%                           | 87.00%                                   | 0%       | 87.00%  | Delayed at KRMPL |
| <b>N</b> | <b>Staff Quarter Area (G+1)</b> |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                  | 1               | 13-Mar-20  | 13-Mar-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation, columns footing     | 52              | 14-Mar-20  | 05-May-20   | 100.00%                           | 90.00%                                   | 0%       | 90.00%  | Delayed at KRMPL |
| <b>O</b> | <b>Guard Room Area</b>          |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                  | 1               | 13-Mar-20  | 13-Mar-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation, columns footing     | 52              | 14-Mar-20  | 05-May-20   | 100.00%                           | 90.00%                                   | 0%       | 90.00%  | Delayed at KRMPL |
| <b>P</b> | <b>Transformer Yard Area</b>    |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                  | 1               | 23-Mar-20  | 23-Mar-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation & foundation         | 121             | 24-Mar-20  | 23-Jul-20   | 43.00%                            | 30.00%                                   | 0%       | 30.00%  | Delayed at KRMPL |
| <b>Q</b> | <b>DG Shed Area</b>             |                 |            |             |                                   |  |          |         |                  |
|          | Site Clearance                  | 1               | 01-Apr-20  | 01-Apr-20   | 100.00%                           | 100.00%                                  | 100.00%  | 0%      | Completed        |
|          | Excavation & foundation         | 133             | 02-Apr-20  | 13-Aug-20   | 32.00%                            | 21%                                      | 0%       | 21.00%  | Delayed at KRMPL |
| <b>R</b> | <b>External Development</b>     |                 |            |             |                                   |  |          |         |                  |
|          | Boundary Wall                   | 434             | 12-Oct-19  | 19-Dec-20   | 50%                               | 46.00%                                   | 10.00%   | 36.00%  | Delayed at KRMPL |
| <b>2</b> | <b>I &amp; D WORK</b>           |                 |            |             |                                   |  |          |         |                  |
|          | Construction of I& D Work       | 87              | 21-Feb-20  | 18-May-20   | 97.00%                            | 79.00%                                   | 0%       | 79.00%  | Delayed at KRMPL |

| SN       | Description  | Duration (days) | Start Date | Finish Date | 2nd Milestone (due on 15.05.2020) | Proportionate Targets (as on 30.04.2020) | Achieved | Backlog | Remarks          |
|----------|--|-----------------|------------|-------------|-----------------------------------|--|----------|---------|------------------|
|          | / Tapping of Drain   |                 |            |             |                                   |  |          |         |                  |
| <b>3</b> | <b>MPS-40 MLD</b>  |                 |            |             |                                   |  |          |         |                  |
| <b>S</b> | <b>CIVIL</b>   |                 |            |             |                                   |  |          |         |                  |
|          | Construction of Inlet Chamber                              | 139             | 12-Dec-19  | 29-Apr-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |
|          | Construction of Screen Channels                            | 139             | 26-Mar-20  | 12-Aug-20   | 36.00%                            | 25.00%                                   | 0%       | 25%     | Delayed at KRMPL |
| <b>4</b> | <b>SEWER SYSTEM AREA (3.2 Km)</b>                          |                 |            |             |                                   |  |          |         |                  |
| <b>U</b> | <b>LAYING OF PIPELINES</b>                                 |                 |            |             |                                   |  |          |         |                  |
|          | Cutting, Excavation, Laying of Pipes, backfilling (3.2 Km) | 291             | 27-Dec-19  | 13-Oct-20   | 48.00%                            | 43.00%                                   | 0%       | 43.00%  | Delayed at KRMPL |
|          | Manholes   | 290             | 18-Feb-20  | 04-Dec-20   | 30.00%                            | 25.00%                                   | 0%       | 25.00%  | Delayed at KRMPL |
| <b>V</b> | <b>RISING MAIN PIPING WORK (100 m)</b>                     |                 |            |             |                                   |  |          |         |                  |
|          | Cutting, Excavation, Laying of Pipes, backfilling          | 103             | 06-Jan-20  | 18-Apr-20   | 100.00%                           | 100.00%                                  | 0%       | 100.00% | Delayed at KRMPL |

*\*The Concessionaire made unnecessary delay in performing Geo-tech investigation. In meeting with Er. M.I. Ansari SE 3<sup>rd</sup> 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.*

## 7 PROGRESS/STATUS OF OTHER STP FACILITIES UNDER HAM PROJECT KANPUR

### 7.1 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.

### 7.2 REHABILITATION OF 130 MLD JAJMAU STP PHASE I

- i. This plant could not be handed over due to existing labour problems. UPJN and KRMLPL need to sort the issue in consultation with NMCG.
- ii. 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 KRMLPL/ IITR on 130 MLD STP have been replied by letter no. 3979/W-20/536 dated 31-12-2020.
- iii. The recommendation was turned down and requested to act as per CA.

### 7.3 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.

### 7.4 210 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:

#### i. Compliance of Inspection Report

Compliance report of inspection done on 29.02.2020 by PE has been submitted by the Concessionaire on dated 07.04.2020 without any further improvement from the previous month.

#### ii. O&M Manual

Revised O&M manual of Bingawan incorporating the points decided in the meeting 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

#### iii. Insurance Policies

Only All Risk Industrial Insurance Policy has been submitted remaining policies are not submitted after so many reminders. Comprehensive General Liability Policies submitted by concessionaire is not acceptable.

#### iv. Performance of Plant

##### a. Cleaning and reactivation of UASB Reactors

All the KPIs are not being met during the month of April 2020. Concessionaire has not submitted the action plan to clean and reactivate UASB reactors and took up the

work on war footing. Only reactor no. 8 has been taken for cleaning by the concessionaire and assured to complete by the end of April 2020. Performance report of April 2020 enclosed.

**b. BFP:** Only one filter press is operational, remaining two are not in working order.

**v. Joint Sampling and Testing by IIT Kanpur**

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 testing to be done by IIT Kanpur. But KRMPL has not complied yet.

**7.5 42 MLD SAJARI STP**

As per CA, Schedule Handing over date for Sajari is effective date (11.10.2019) but plant was handing over to the KRMPL on 29.05.2019. O&M expenditure from 29.05.2019 until effective date 11.10.2019 has been paid to KRMPL separately which is not covered under CA. 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 on 07.12.2019.

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. He submitted calculations for available aeration on dated 28.12.2019 (in discussion with GM, UPJN Kanpur) and found that sufficient aeration is available to reduce COD from 250 to 100. Therefore there is no need for any improvement as suggested by KRMPL. Following Points needs to be addressed:

**i) Compliance of Inspection Report**

Compliance reports of the Inspections done by PE STC on 04.01.2020 and 29.02.2020 have not been submitted by KRMPL yet after rectifying the defects and deficiencies indicated in the inspection reports.

**ii) O&M Manual**

O&M Manual already approved by UP Jal Nigam.

**iii) Insurance Policies**

Only All Risk Industrial Insurance Policy has been submitted and remaining policies are not submitted after so many reminders. Comprehensive General Liability Policies submitted by concessionaire is not acceptable.

**iv) Performance of Plant:**

All KPIs are within prescribed limit for the month of April 2020 except the dates when the parameters of raw sewage are beyond prescribed limit for which concessionaire is not responsible. Performance Report of April 2020 Enclosed.

**a) Installation of Safety shower**

No Safety Shower installed yet as instructed in the Inspection Report of 29.02.2020.

**b) Mechanical Screens**

Auto System of Both Mechanical Screens still not repaired.

**c) Gas Holders**

The leakage of gas detected between Sludge Digester and Gas Holder during last inspection on 29.02.2020 is still not arrested.

**v) Joint Sampling and Testing by IIT Kanpur**

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 testing to be done by IIT Kanpur. But Concessionaire has not complied yet.

**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.



## 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. | <b>BEPs (Process, Mechanical &amp; Electrical)</b> | <p>GA, Data Sheet and QAP of centrifuge, submersible pump and mechanical grid collection system, Unnao-reviewed &amp; recommended for approval on 25.02.2020</p> <p>GA, Data Sheet and QAP of centrifuge, submersible pump and mechanical grid collection system, Pankha-reviewed &amp; recommended for approval on 28.02.2020</p>   | <p>BEP of Jajmau STP rehabilitation, waiting for KRMPPL compliance</p> <p>BEP of Jajmau IPS rehabilitation, waiting for KRMPPL compliance</p>                                |
| 2. | <b>BEP Structure Design &amp; Drawings</b>         | <p>Guard Room design, Unnao-recommended for approval on 01.04.20</p> <p>SBR REV-RCC design drawing, Unnao-recommended for approval on 11.04.20</p> <p>PTU Rev Structural design drawing, Unnao- recommended for approval on 11.04.20</p> <p>Staff Quarters Revised RCC design of Unnao STP-recommended for approval on 15.04.20</p> <p>Rev Structure design of Blower Room of Unnao STP-recommended for approval on 16.04.20</p> <p>ADMIN build drawing, Unnao-recommended for approval on 10.04.20</p> <p>Sludge thickener &amp; Sludge re-circulation Sump Rev. Structural drawing, Unnao- recommended for approval on 11.04.20</p> <p>CCT Rev Structure design drawing, Unnao- recommended for approval on 10.04.20</p> <p>Blower Room Structure drawing and design of Pankha STP- recommended for approval on 30.04.20</p> <p>structure drawing of CCT &amp; TEPH,</p> | <p>RCC drawing 20MLD, IPS Sundar Nagar, Pankha. Geo tech report is not proper.</p> <p>RCC drawing 25 MLD IPS ICI Nala, Pankha. KRMPPL is not compliance to STC comments.</p> |

|    |  |   |   |
|----|--|---|---|
|    |  | <p>Jajmau- recommendations for approval on 06.03.2020</p> <p>Electrical drawing, Pankha- recommendations for approval on 17.03.2020</p> <p>Structure drawing, Unnao MPS- recommended for approval on 29.02.2020</p> <p>Revised drawing of boundary wall, Unnao- recommended for approval on 29.02.2020</p>    |   |
| 3. | <b>Construction Plan</b>                   | Revised construction plan Pankha- recommended for approval on 04.01.20  |   |
| 4. | <b>Sewer Network/Line Design</b>           | <p>Design and drawings of sewer work Pankha- recommended for approval On 10.02.20</p> <p>Design and drawings of sewer work Unnao- recommended for approval On 20.02.20</p>  |   |
| 5. | <b>Topo, Geo tech &amp; survey reports</b> |   | <p>Geo tech report for Unnao STP (except BW&amp; MPS) is rejected by STC/UPJN. <b>KRMPL need to obtained new SBC report from HBTU</b></p> |
| 6. | <b>ESHS Plan</b>                           | ESHS approval-Already vetted by STC. Approved by UPJN on 26.09.19   |   |
| 7. | <b>O&amp;M</b>                             | <p>Bingawan RTOLMS - Reviewed &amp; found in order. Recommended for approval on 03.12.19</p> <p>RTU Bingawan - Reviewed &amp; found in order. Recommended for approval on 19.12.19</p> <p>Level transmitter &amp; flow metre - vetted &amp; approved on 27.12.19</p> <p>Sajari, O&amp;M manual – Approved</p> |   |

## 9 MEETINGS HELD / MINUTES OF MEETING

- i. Video conference meeting was held by NMCG on dated 08.04.2020 to discuss progress of HAM Project Kanpur during nationwide lockdown due to COVID-19 pandemic.

- ii. Internal meeting with PE STC and staff was held on dated 10.04.2020 through video conference to discuss action plan for HAM project work progress during lockdown.

# 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)  |
| 01.04.20 | Guidelines for implementation of HAM projects during lockdown period | NMCG Mail Dated 28.03.20 | S-mail dated 01.04.20                      | 4                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | CM<br>JP<br>1+1+1+1+1+1        | -                       | -                | -                                     | Asked UPJN to direct KRMPL to follow some of the points of action   |
| 01.04.20 | Revised RCC drawings for 15MLD_STP_UNN AO                            | K-mail dated 01.04.20    | -  | -                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | CM<br>JP<br>1+1+1+1+1+1        | -                       | -                | -                                     | Rev.RCC Design and drawing for Unnao STP<br>1.Sludge thickeners and recirculation Sump<br>2. CCT are under review |
| 01.04.20 | Unnao STP; Guard Room design   | K-mail dated 21.03.20    | S-mail dated 01.04.20                      | 10               | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | CM<br>JP<br>1+1+1+1+1+1        | -                       | -                | -                                     | The Guard Room design and drawing has been vetted and found OK.   |
| 02.04.20 | Location for display of on line display: RTOLMS Bingawan             | K-mail dated 02.04.20    | S-mail dated 02.04.20<br>S-345<br>04.03.20 | 1                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao             | CM<br>JP<br>1+1+1+1+1+1        | -                       | -                | -                                     | Advised KRMPL that Online display is required at following places also.<br>1.Lab Bingawan Plant                   |

| 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)  |
|          |                                       |                       |                                 |                  |                             |                                    |                   | Mr Vivek  |                                |                         |                  |                                       | 2. PM III GPCU UPJN Office<br>3. CE Ganga UPJN Lucknow                        |
| 03.04.20 | ADMIN build design, Unnao             | K-mail dated 03.04.20 | -                               | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | RCC drawing for Admin Building is under review                                |
| 04.04.20 | SBR REV-RCC design drawing, UNNAO     | K-mail dated 03.04.20 | S-mail dated 04.04.20           | 1                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | comments of our Senior Structure Engineer sent to KRMPL for compliance        |
| 05.04.20 | Sunday                                |                       |                                 |                  |                             |                                    |                   |   |                                |                         |                  |                                       |   |
| 06.04.20 | Performance of 210 MLD Bingawan Plant | -                     | S-mail dated 06.04.20           | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | Draft a letter to GM written to KRMPL regarding Performance of Bingawan Plant |
| 07.04.20 | BEP rehabilitation, Jajmau STP        | -                     | S-mail dated 07.04.20           | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi   | 1+1+1+1+1+1                    | -                       | -                | -                                     | Sent a Reminder on reply to comment's on BEP rehabilitation,                  |

| 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)   |
|          |   |                        |                                 |                  |                             |                                    |                   | Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek                                    |                                |                         |                  |                                       | Jajmau   |
| 08.04.20 | Pankha structure drawing -25 MLD IPS ICI Nala& Sunder Nagar | K-mail dated: 30.03.20 | S-mail dated 08.04.20           | 9                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | comments of our Senior Structure Engineer and mechanical engineer are sent to KRMPL for compliance |
| 09.04.20 | Structure drawing designs status, Unnao                     | -                      | S-mail dated 09.04.20           | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | Sent a detailed status of Structure designs and drawing to EE, Unnao                               |
| 09.04.20 | Geo-tech Survey for IPS Sundar Nagar, Panka                 | K-mail dated 09.04.20  | -                               | -                |                             | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr LK Rao<br>Mr Vivek | 1+1+1+1+1+1                    | -                       | -                | -                                     | Report of Geo-tech Survey for IPS Sundar Nagar, Panka is under review                              |
| 10.04.20 | PTU Rev Structural DrgUnnao                                 | K-mail dated 03.04.20  | S-mail dated 10.04.20           | 7                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh   | 1+1+1+1+1+1                    | -                       | -                | -                                     | comments of our Senior Structure Engineer sent to KRMPL for compliance                             |

| 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)  |
|          |   |                       |                                 |                  |                             |                                    |                   | Mr.Satendra<br>Mr LK Rao<br>Mr Vivek   |                                |                         |                  |                                       |   |
| 11.04.20 | Second Saturday   |                       |                                 |                  |                             |                                    |                   |  |                                |                         |                  |                                       |   |
| 12.04.20 | Sunday  |                       |                                 |                  |                             |                                    |                   |  |                                |                         |                  |                                       |   |
| 13.04.20 | Design & Drawing approval status of all construction facilities | -                     | S-mail dated 13.04.20           | -                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Sent a detailed status of Structure designs and drawing to GM, UPJN   |
| 13.04.20 | Revised BEP of sewerage network Unnao                           | -                     | S-mail dated 13.04.20           | -                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Sent a reminder to KRMPL to provide the revised BEP, of sewerage network Unnao after correcting the calculation errors. |
| 14.04.20 | BLOWER ROOM Structure design, PANKHA                            | K-mail dated 14.04.20 | -                               | -                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Pankha Blower Room drawing is under review  |
| 14.04.20 | Status of approval 130 MLD STP Jajmau                           | -                     | S-mail dated 14.04.20           | -                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Sent a detailed Status of approval 130 MLD STP Jajmau to GM, UPJN   |



| 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)  |
| 15.04.20 | Staff Quarters Revised RCC design of Unnao STP | K-mail dated 21.03.20 | S-mail dated 15.04.20 & 11.04.20 | 25               | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | Waiting for separate SBC report for Staff Quarter unit | After discussion with KRMPPL Structure engineer it was found that in absence of SBC reports of the location they were design on the basis of minimum SBC available | Staff Quarters Revised RCC design of Unnao STP has been vetted and recommended for approval by this office on the basis of decision taken on minimum SBC. |
| 16.04.20 | Performance of 210 MLD Bingawan Plant          | -                     | S-mail dated 16.04.20            | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -  | -  | Draft a letter to GM written to KRMPPL regarding Performance of Bingawan Plant  |

| 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)   |
| 17.04.20 | Insurances during O&M Period for Sajari and Bingawan Facilities | -                     | S-mail dated 17.04.20            | -                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr. Priyesh<br>Mr. Satendra<br>Mr. Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Draft a letter to GM written to KRMPL regarding Insurances during O&M Period |
| 18.04.20 | centrifuge building drawing, Unnao                              | K-mail dated 17.04.20 | -                                | -                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr. Priyesh<br>Mr. Satendra<br>Mr. Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | centrifuge building drawing, Unnao is under review                           |
| 19.04.20 | Sunday  |                       |                                  |                  |                             |                                    |                   |   |                                |                         |                  |                                       |  |
| 20.04.20 | Pankha ;Soil Test report IPS Sundar Nagarawaited                | -                     | S-mail dated 20.04.20 & 10.04.20 | -                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr. Priyesh<br>Mr. Satendra<br>Mr. Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Asked UPJN to direct KRMPL to send Pankha IPS Sundar Nagar soil test report. |
| 21.04.20 | Design & Drawing approval status of Unnao                       | -                     | S-mail dated 21.04.20            | -                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. Tripathi<br>Mr. Priyesh<br>Mr. Satendra<br>Mr. Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Sent approved design and drawing of Unnao to UPJN                            |
| 22.04.20 | centrifuge building drawing, Unnao                              | K-mail dated 17.04.20 | S-mail dated 22.04.20            | 5                | 20                          | -                                  | -                 | Mr. Dimri<br>Mr. JP   | 1+1+1+1+1                      | -                       | -                | -                                     | centrifuge building drawing, Unnao is rejected by our                        |

| 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)  |
|          |   |                       |                                 |                  |                             |                                    |                   | Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek                              |                                |                         |                  |                                       | Structure Engineer and asked KRMPL to redesign it as per SBC report or revives SBC report from HBTU accordingly.              |
| 23.04.20 | Structure design IPS ICI nala& sunder nagarnala, Pankha | K-mail dated 22.04.20 | S-mail dated 23.04.20           | 1                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | As per discussion with PM III UPJN. It was decided to go ahead with the soil test reports sent by KRMPL for Sundar Nagar IPS. |
| 24.04.20 | Payment of Interim O&M,Bingawan                         | K-mail dated 23.04.20 | S-mail dated 24.04.20           | 1                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Our comments on Payment of Interim O&M,Bingawan Sent to GM.   |
| 25.04.20 | centrifuge building drawing, Unnao                      | K-mail dated 17.04.20 | -                               | -                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | centrifuge building drawing, Unnao is under review  |
| 26.04.20 | Sunday  |                       |                                 |                  |                             |                                    |                   |  |                                |                         |                  |                                       |   |
| 27.04.20 | Structure design IPS ICI nala& sunder nagarnala, Pankha | K-mail dated 25.04.20 | S-mail dated 27.04.20           | 2                | 20                          | -                                  | -                 | Mr. CM<br>Dimri<br>Mr. JP<br>Tripathi  | 1+1+1+1+1                      | -                       | -                | -                                     | Structure design approved by this office with the condition that  |

| 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)  |
|              |   |                       |  |                  |                             |                                    |                   | Mr Priyesh<br>Mr.Satendra<br>Mr Vivek                                    |                                |                         |                  |                                       | before construction, KRMPL will do soil test  |
| 28.04.20     | Sundernagar IPS Structure drawing, Pankha   | -                     | S- Camp-16 Dated 28.04.20 &Camp-13 Dated: 23/04/20 | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Requested GM, UPJN to release the condition of testing of the soil before the start of work.                      |
| 29.04.20     | REVISED RCC DESIGN_15 MLD STP Unnao by IITR | J-mail dated 28.04.20 | S-mail dated 29.04.20                              | -                | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Comments by IITR on REVISED RCC DESIGN_15 MLD STP Unnao is reviewed   |
| 30.04.20     | PANKHA BLOWER ROOM Structure design         | K-mail dated 14.04.20 | S-mail dated 30.04.20                              | 16               | 20                          | -                                  | -                 | Mr. CM Dimri<br>Mr. JP Tripathi<br>Mr Priyesh<br>Mr.Satendra<br>Mr Vivek | 1+1+1+1+1                      | -                       | -                | -                                     | Blower Room Structure drawing and design of Pankha STP, sent by KRMPL has been vetted by this office and found OK |
| <b>Total</b> |   |                       |  |                  |                             |                                    |                   |  | <b>30+30+30+30+12</b>          |                         |                  |                                       |   |

### Annexure 2: Monthly Performance Report of Bingawan

| 210 MLD SEWAGE TREATMENT PLANT, BINGAWAN, KANPUR |                   |                  |             |              |            |               |               |               |              |              |            |                |               |               |                   |      |                                     |
|--|-------------------|------------------|-------------|--------------|------------|---------------|---------------|---------------|--------------|--------------|------------|----------------|---------------|---------------|-------------------|------|-------------------------------------|
| MONTHLY FLOW & LAB REPORT                        |                   |                  |             |              |            |               |               |               |              |              |            |                |               |               |                   |      |                                     |
| Date   | INLET FLOW in MLD | Plant Run in HRS | RAW SEWAGE  |              |            |               |               |               | FINAL OUTLET |              |            |                |               |               | MONTH: APRIL-2020 |      | REMARK                              |
|  |                   |                  | Temp        | TDS          | PH (7-8)   | COD (523mg/l) | BOD (322mg/l) | TSS (418mg/l) | Temp         | TDS          | PH (7-8)   | COD (<100mg/l) | BOD (<30mg/l) | TSS (<50mg/l) | POWER SHUTDOWN    |      |                                     |
|  |                   |                  | °c          | ppm          | ppm        | ppm           | ppm           | ppm           | °c           | ppm          | ppm        | ppm            | ppm           | ppm           | HRS               | MINS |                                     |
| 1-Apr-20   | 121.80            | 24.0             | 24          | 700          | 7.6        | 520           | 180           | 400           | 24           | 730          | 8.1        | 104            | 30            | 56            |                   |      |                                     |
| 2-Apr-20   | 119.02            | 24.0             | 25          | 704          | 7.5        | 528           | 170           | 370           | 25           | 728          | 8.0        | 112            | 37            | 54            |                   |      |                                     |
| 3-Apr-20   | 129.64            | 24.0             | 24          | 720          | 7.7        | 532           | 166           | 378           | 25           | 732          | 8.1        | 104            | 36            | 52            |                   |      |                                     |
| 4-Apr-20   | 128.96            | 24.0             | 26          | 712          | 7.6        | 528           | 172           | 300           | 26           | 738          | 7.9        | 104            | 38            | 58            |                   |      |                                     |
| 5-Apr-20   | 113.36            | 24.0             | 25          | 705          | 7.5        | 488           | 178           | 378           | 25           | 728          | 8.0        | 96             | 39            | 56            |                   |      |                                     |
| 6-Apr-20   | 125.13            | 24.0             | 25          | 718          | 7.7        | 496           | 170           | 380           | 25           | 738          | 8.1        | 112            | 38            | 54            |                   |      |                                     |
| 7-Apr-20   | 118.28            | 24.0             | 24          | 715          | 7.5        | 512           | 176           | 390           | 24           | 730          | 7.9        | 112            | 39            | 58            |                   |      |                                     |
| 8-Apr-20   | 124.08            | 24.0             | 24          | 726          | 7.5        | 520           | 180           | 388           | 24           | 732          | 7.9        | 112            | 36            | 54            |                   |      |                                     |
| 9-Apr-20   | 120.64            | 24.0             | 25          | 724          | 7.6        | 504           | 175           | 366           | 25           | 724          | 7.9        | 112            | 37            | 50            |                   |      |                                     |
| 10-Apr-20  | 125.13            | 24.0             | 25          | 724          | 7.6        | 504           | 175           | 366           | 25           | 724          | 7.9        | 112            | 37            | 50            |                   |      |                                     |
| 11-Apr-20  | 123.76            | 24.0             | 25          | 724          | 7.6        | 504           | 175           | 366           | 25           | 724          | 7.9        | 112            | 37            | 50            |                   |      |                                     |
| 12-Apr-20  | 123.76            | 24.0             | 25          | 724          | 7.6        | 504           | 175           | 366           | 25           | 724          | 7.9        | 112            | 37            | 50            |                   |      |                                     |
| 13-Apr-20  | 119.60            | 24.0             | 25          | 735          | 7.6        | 532           | 165           | 387           | 25           | 740          | 8.0        | 120            | 35            | 56            |                   |      |                                     |
| 14-Apr-20  | 126.71            | 24.0             | 25          | 730          | 7.7        | 528           | 150           | 376           | 25           | 740          | 8.0        | 104            | 36            | 54            |                   |      |                                     |
| 15-Apr-20  | 127.21            | 24.0             | 25          | 720          | 7.5        | 480           | 162           | 370           | 25           | 728          | 8.0        | 96             | 37            | 58            |                   |      |                                     |
| 16-Apr-20  | 123.48            | 24.0             | 25          | 722          | 7.6        | 488           | 170           | 374           | 25           | 728          | 7.9        | 104            | 38            | 52            |                   |      |                                     |
| 17-Apr-20  | 124.85            | 24.0             | 25          | 728          | 7.5        | 476           | 167           | 370           | 25           | 730          | 8.0        | 96             | 37            | 50            |                   |      |                                     |
| 18-Apr-20  | 130.52            | 24.0             | 25          | 718          | 7.6        | 488           | 160           | 368           | 25           | 727          | 7.8        | 96             | 36            | 52            |                   |      |                                     |
| 19-Apr-20  | 125.13            | 24.0             | 25          | 729          | 7.5        | 531           | 170           | 376           | 25           | 729          | 7.9        | 104            | 37            | 54            |                   |      |                                     |
| 20-Apr-20  | 133.45            | 24.0             | 25          | 720          | 7.6        | 520           | 168           | 370           | 25           | 738          | 8.0        | 96             | 36            | 52            |                   |      |                                     |
| 21-Apr-20  | 120.64            | 24.0             | 25          | 724          | 7.9        | 504           | 175           | 366           | 25           | 724          | 7.9        | 112            | 37            | 50            |                   |      |                                     |
| 22-Apr-20  | 127.21            | 24.0             | 24          | 727          | 7.6        | 515           | 173           | 378           | 24           | 732          | 8.0        | 104            | 34            | 52            |                   |      |                                     |
| 23-Apr-20  | 126.88            | 24.0             | 24          | 720          | 7.6        | 496           | 170           | 370           | 24           | 730          | 7.8        | 96             | 36            | 54            |                   |      |                                     |
| 24-Apr-20  | 132.68            | 24.0             | 25          | 728          | 7.4        | 520           | 172           | 388           | 25           | 735          | 7.4        | 112            | 35            | 52            |                   |      |                                     |
| 25-Apr-20  | 126.06            | 24.0             | 26          | 722          | 7.6        | 504           | 158           | 360           | 26           | 727          | 7.9        | 104            | 36            | 54            |                   |      |                                     |
| 26-Apr-20  | 125.32            | 24.0             | 26          | 729          | 7.5        | 512           | 165           | 360           | 26           | 738          | 8.0        | 120            | 34            | 52            | 1                 | 15   | 33kV HT feeder fault from Keso side |
| 27-Apr-20  | 125.48            | 24.0             | 25          | 720          | 7.6        | 528           | 160           | 366           | 25           | 728          | 7.9        | 96             | 36            | 50            |                   |      |                                     |
| 28-Apr-20  | 113.86            | 24.0             | 26          | 732          | 7.7        | 496           | 170           | 388           | 26           | 732          | 7.7        | 104            | 37            | 52            |                   |      |                                     |
| 29-Apr-20  | 131.04            | 24.0             | 26          | 720          | 7.5        | 504           | 175           | 374           | 26           | 730          | 7.9        | 96             | 38            | 54            |                   |      |                                     |
| 30-Apr-20  | 147.34            | 24.0             | 25          | 722          | 7.4        | 496           | 178           | 370           | 25           | 728          | 8.0        | 104            | 37            | 52            |                   |      |                                     |
| 31-Apr-20  | 140.40            | 24.0             | 24          | 727          | 7.5        | 488           | 174           | 376           | 24           | 732          | 7.8        | 96             | 35            | 58            |                   |      |                                     |
| <b>TOTAL</b>                                     | 3807.56           |                  |             |              |            |               |               |               |              |              |            |                |               |               |                   |      |                                     |
| <b>AVG</b>                                       | <b>126.92</b>     | <b>24.00</b>     | <b>24.9</b> | <b>720.9</b> | <b>7.6</b> | <b>510.2</b>  | <b>169.0</b>  | <b>378.6</b>  | <b>24.9</b>  | <b>731.8</b> | <b>7.9</b> | <b>104.5</b>   | <b>36.7</b>   | <b>53.3</b>   |                   |      |                                     |

**Annexure 3: Summary of Monthly Performance Report of Sajari**

| 42 MLD SEWAGE TREATMENT PLANT, SAJARI, KANPUR |                      |                     |            |      |       |            |            |              |      |      |       |            |                   |           |        |          |  |  |
|---|----------------------|---------------------|------------|------|-------|------------|------------|--------------|------|------|-------|------------|-------------------|-----------|--------|----------|--|--|
| MONTHLY FLOW & LAB REPORT                     |                      |                     |            |      |       |            |            |              |      |      |       |            |                   |           |        |          |  |  |
| Date  | INLET FLOW<br>in MLD | Plant Run<br>in HRS | RAW SEWAGE |      |       |            |            | FINAL OUTLET |      |      |       |            | Month: APRIL 2020 |           | REMARK |          |  |  |
|   |                      |                     | Temp       | TSS  | PH    | COO        | BOD        | TSS          | Temp | TSS  | PH    | COO        | BOD               | TSS       |        | Aeration | PUMPS<br>SHUTDOWN  |  |
|   |                      |                     | °C         | ppm  | (7-9) | (450 mg/l) | (250 mg/l) | (400 mg/l)   | °C   | ppm  | (7-9) | (100 mg/l) | (20 mg/l)         | (50 mg/l) |        | DO       | HRS  | MIN  |
| 1-Apr-20                                      | 14.85                | 15.0                | 25         | 128  | 7.5   | 372        | 146        | 254          | 25   | 891  | 7.3   | 88         | 25                | 23        | 1.3    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 2-Apr-20                                      | 12.87                | 13.0                | 25         | 1391 | 7.5   | 408        | 162        | 291          | 25   | 930  | 7.3   | 96         | 23                | 26        | 1.8    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 3-Apr-20                                      | 14.52                | 15.0                | 25         | 1276 | 7.5   | 434        | 155        | 297          | 25   | 836  | 7.9   | 88         | 21                | 24        | 2.1    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 4-Apr-20                                      | 14.85                | 15.0                | 25         | 1315 | 7.5   | 386        |            | 286          | 25   | 892  | 7.9   | 89         |                   | 21        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 5-Apr-20                                      | 14.27                | 14.0                | 25         | 1381 | 7.5   | 408        | 158        | 302          | 25   | 902  | 7.9   | 95         | 22                | 27        | 1.7    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 6-Apr-20                                      | 15.84                | 16.0                | 25         | 1254 | 7.5   | 340        | 140        | 261          | 25   | 896  | 7.3   | 90         | 21                | 25        | 1.1    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 7-Apr-20                                      | 16.80                | 17.0                | 25         | 1281 | 7.5   | 366        | 142        | 273          | 25   | 918  | 7.9   | 92         | 21                | 28        | 1.7    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 8-Apr-20                                      | 14.85                | 15.0                | 25         | 1168 | 7.5   | 354        | 135        | 249          | 25   | 824  | 7.9   | 80         | 20                | 26        | 2.2    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 9-Apr-20                                      | 15.35                | 15.0                | 25         | 1229 | 7.5   | 408        | 150        | 277          | 25   | 931  | 7.9   | 96         | 22                | 29        | 1.6    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 10-Apr-20                                     | 15.40                | 16.1                | 25         | 1341 | 7.5   | 402        | 162        | 316          | 25   | 930  | 7.9   | 87         | 19                | 25        | 1.6    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 11-Apr-20                                     | 15.18                | 15.0                | 25         | 1197 | 7.5   | 339        | 138        | 246          | 25   | 885  | 7.3   | 72         | 21                | 21        | 1.1    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 12-Apr-20                                     | 15.84                | 16.0                | 25         | 1319 | 7.5   | 448        | 165        | 306          | 25   | 961  | 7.9   | 96         | 24                | 27        | 1.7    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 13-Apr-20                                     | 15.84                | 16.0                | 25         | 1415 | 7.5   | 464        | 164        | 315          | 25   | 990  | 7.9   | 104        | 22                | 29        | 1.6    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 14-Apr-20                                     | 16.83                | 17.0                | 25         | 1431 | 7.5   | 486        | 162        | 302          | 25   | 1019 | 7.9   | 110        | 21                | 27        | 1.8    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 15-Apr-20                                     | 14.85                | 15.0                | 25         | 1261 | 7.5   | 348        | 154        | 284          | 25   | 913  | 7.9   | 96         | 24                | 24        | 1.7    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 16-Apr-20                                     | 15.84                | 16.0                | 25         | 1316 | 7.5   | 372        | 146        | 286          | 25   | 994  | 7.9   | 90         | 21                | 26        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 17-Apr-20                                     | 16.34                | 16.0                | 25         | 1408 | 7.5   | 486        | 168        | 313          | 25   | 1005 | 7.9   | 110        | 26                | 28        | 1.4    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 18-Apr-20                                     | 16.83                | 17.0                | 25         | 1381 | 7.5   | 388        | 152        | 291          | 25   | 1030 | 7.9   | 96         | 22                | 26        | 1.6    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 19-Apr-20                                     | 15.84                | 16.0                | 25         | 1266 | 7.5   | 408        | 165        | 303          | 25   | 917  | 7.9   | 90         | 24                | 23        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 20-Apr-20                                     | 16.34                | 16.0                | 25         | 1431 | 7.5   | 348        | 140        | 279          | 25   | 1062 | 7.9   | 96         | 23                | 26        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 21-Apr-20                                     | 13.86                | 14.0                | 25         | 1256 | 7.5   | 418        | 135        | 294          | 25   | 962  | 7.9   | 88         | 24                | 26        | 2.1    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 22-Apr-20                                     | 14.85                | 15.0                | 25         | 1316 | 7.5   | 448        | 154        | 316          | 25   | 1011 | 7.9   | 96         | 21                | 28        | 1.8    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 23-Apr-20                                     | 16.34                | 16.0                | 25         | 1402 | 7.5   | 456        | 168        | 337          | 25   | 1053 | 7.9   | 104        | 25                | 27        | 1.4    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 24-Apr-20                                     | 13.86                | 14.0                | 25         | 1316 | 7.5   | 386        | 152        | 319          | 25   | 984  | 7.9   | 82         | 22                | 26        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 25-Apr-20                                     | 16.83                | 17.0                | 25         | 1289 | 7.5   | 428        | 165        | 294          | 25   | 973  | 7.9   | 96         | 21                | 28        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 26-Apr-20                                     | 14.83                | 15.0                | 25         | 1387 | 7.5   | 468        | 158        | 319          | 25   | 1014 | 7.9   | 112        | 24                | 30        | 1.6    | 3        | 8  | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |
| 27-Apr-20                                     | 20.79                | 21.0                | 25         | 1092 | 7.5   | 304        | 134        | 246          | 25   | 821  | 7.9   | 88         | 21                | 26        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 28-Apr-20                                     | 16.50                | 17.0                | 25         | 1257 | 7.5   | 406        | 142        | 291          | 25   | 818  | 7.9   | 92         | 25                | 28        | 1.6    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| 29-Apr-20                                     | 14.85                | 15.0                | 25         | 1372 | 7.5   | 456        | 165        | 298          | 25   | 912  | 7.9   | 104        | 23                | 26        | 1.7    |          | 2 STREAM IS UNDER OPERATION<br>Found Dye Color in Raw Sewage |  |
| 30-Apr-20                                     | 15.84                | 16.0                | 25         | 1290 | 7.5   | 408        | 154        | 273          | 25   | 857  | 7.9   | 88         | 21                | 23        | 1.9    |          | 2 STREAM IS UNDER OPERATION                                  |  |
| TOTAL   | 667.16               |                     |            |      |       |            |            |              |      |      |       |            |                   |           |        |          |  |  |
| AVG   | 15.60                | 15.79               | 25         | 1310 | 7.5   | 406.7      | 153.9      | 289.9        | 25   | 940  | 7.9   | 93.1       | 22.2              | 26.1      | 1.8    |          |  |  |

Note: There is ingress of Industrial Waste water (coloured) at STP from Saigawan area, which was experienced on dates of 13, 14, 17, 21, 26, 29 April 2020