

**National Mission for Clean Ganga (NMCG)
Ministry of Water Resources, River
Development & Ganga Rejuvenation,
Govt. of India**

**The development of sewage treatment
plant and associated infrastructure
under Hybrid Annuity based PPP mode
at Varanasi in the State of Uttar Pradesh**

(LoA File Number: Rd-63014/1/2017/PPP/NMCG)

**Monthly Progress Report
of
Project Engineer**

May - 2019



Executing Agency

**Uttar Pradesh Jal
Nigam,
Varanasi - 221 005**



Funding Agency

**National Mission for
Clean Ganga
MoWR, River
Development & Ganga
Rejuvenation,
New Delhi - 110002**

Mahindra
Consulting Engineers

Project Engineer

**Mahindra Consulting
Engineers Limited
Mahindra Towers, No.
17/18, Pattullous Road,
Chennai - 600 002,
Tamil Nadu, India**



Concessionaire

**Varanasi STP Project
Private Limited
6th Floor, Plot No. 19,
Film City, Sector 16 A,
Gautam Buddha Nagar,
Noida,
Uttar Pradesh - 201 301**

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MONTHLY PROGRESS REPORT

1.0. INTRODUCTION

The Gol, 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 Gol approved the flagship Namami Gange programme for cleaning, rejuvenation, and protection of the river Ganga. In January 2016, the Gol 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 Gol 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.

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

The Uttar Pradesh Jal Nigam (Jal Nigam) is a statutory body constituted under the Uttar Pradesh Water Supply and Sewerage Act, 1975, and has the power to develop, maintain and regulate water supply and sewerage works in Uttar Pradesh. With a view to implement the Namami Gange programme and the Ganga 2016 Order, the Jal Nigam, in association with the NMCG, has decided to undertake the development of an STP with a proposed capacity of 50 MLD along with other Facilities and Associated Infrastructure at Varanasi on a PPP basis, through a hybrid annuity model. 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.

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

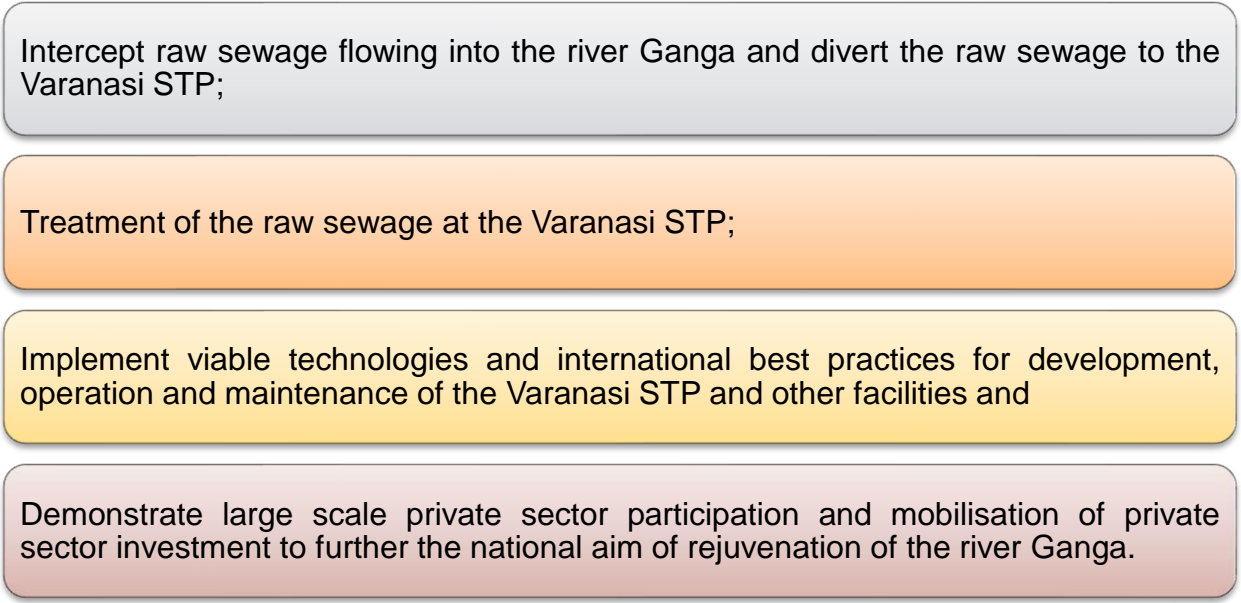


Figure 1: Objectives of NMCG and UP JAL NIGAM

Government of India has approved the Namami Gange program as an integrated approach for effective abatement of pollution in river Ganga. As part of this and to ensure that no untreated domestic sewage flow into the river Ganga, 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, operate and transfer the asset (STP) to the Project Executing Agency/Jal Nigam/Jal Sansthan / Urban Local body at the end of the Concession Period (say 15 years). 40% of the Capital cost will be paid to the developer during construction of the STP. Balance 60% along with Operation & Maintenance (O&M) cost will be paid over the Concession Period on achievement of key performance indicators as per the contract. Entire cost of development and operation of the STPs will be 100% funded by the Government of India as central sector scheme. It is also envisaged to explore the possibility of recycle/ reuse of the treated waste water for non-potable purpose.

NMCG & UPJN appointed M/s. Mahindra Consulting Engineers Limited, Chennai as Project Engineer for this project through tendering process. Letter of Award is issued dated 5th January 2018 and agreement signed between the parties on 16th February 2018.

1.1. Project components

1.1.1. New construction units

- Inlet structure
- Grit chambers & Parshall flume
- SBR tanks
- Chlorine contact tank
- Overhead treated water tank
- Air blower room
- Belt filter press building
- Chlorination building
- Electrical building and control room
- Admin building, laboratory room
- Transformer yard, internal roads & drainage
- Treated water pump house
- Treated effluent disposal line
- Bund wall
- Staff quarters with 25KLD OHT
- Approach road

1.1.2. Rehabilitation works

- Rehabilitation of Main Pumping Station (MPS)
- Construction of Weir
- Strengthening & Pipe protection of Rising main
- Construction of Control room
- Rerouting the raising main near Samne Ghat

1.2. Executing agency

- Uttar Pradesh Jal Nigam (UPJN)

1.3. Implementation agency

- Uttar Pradesh Jal Nigam (UPJN)

1.4. Consulting services

- **Project Engineer**
 - Mahindra Consulting Engineers Ltd, Chennai

1.5. Concessionaire

- Varanasi STP Project Private Limited

2.0. STATUS OF PROJECT

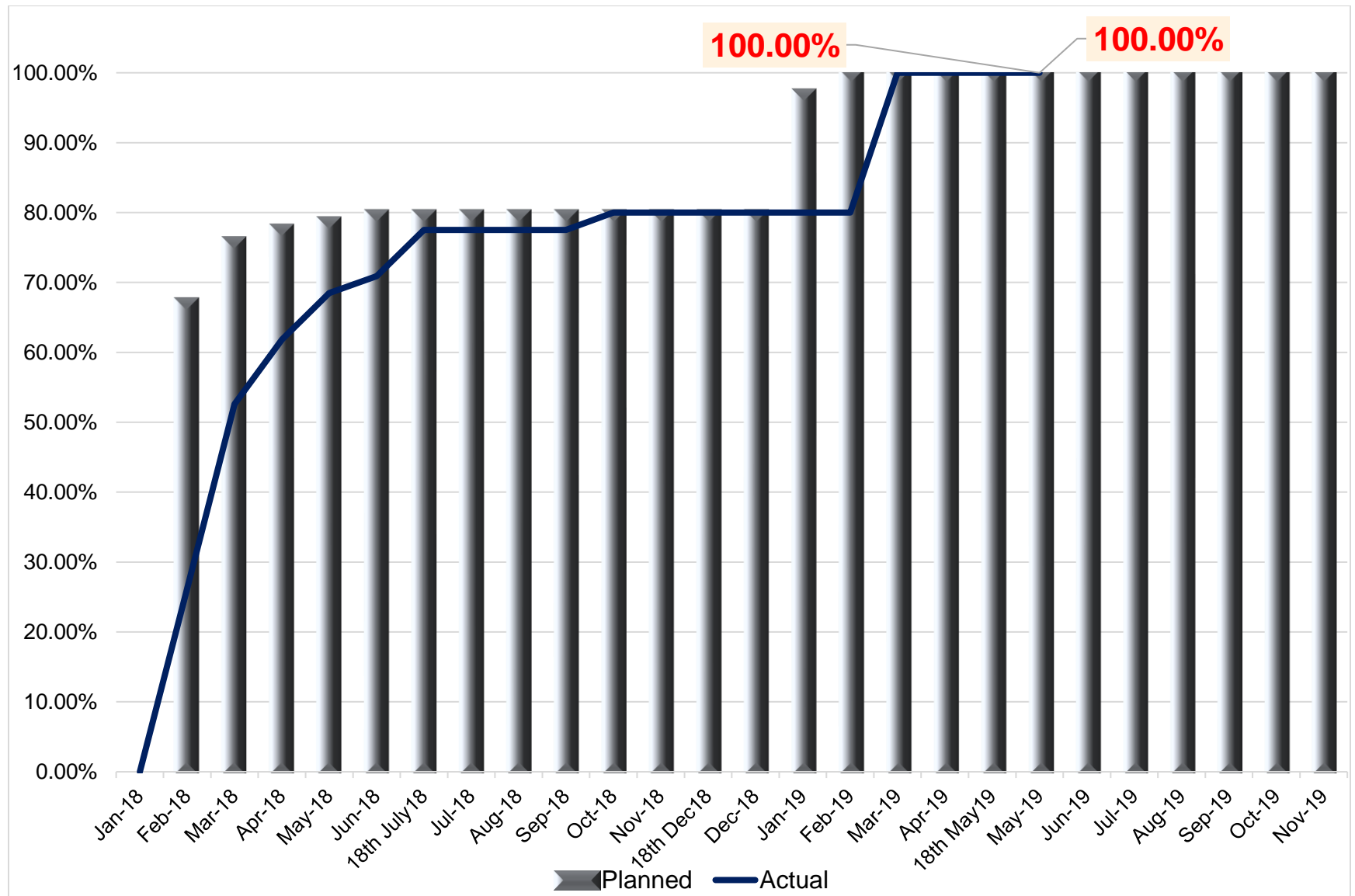
| | | |
|---------------------------------------|---|----------------------------------|
| STATUS | : | CONSTRUCTION STAGE |
| Concessionaire Contract Agreement No. | : | SUBIN-DLDDL80840374672746341531P |
| Name of the Concessionaire | : | Varanasi STP Project Pvt. Ltd. |
| Commencement date | : | 19 th February 2018 |
| Completion date (as per contract): | : | 18 th November 2019 |

2.1. Physical status

2.1.1. Pre-execution activities

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Pre - Execution Activities | 12-Oct-17 | 04-Feb-19 | 100% | 100% | | 100% |
| Temporary Power Connection (During Construction Period) | 12-Oct-17 | 30-Apr-18 | 100% | 100% | | 100% |
| Permanent Power Connection | 06-Jan-18 | 04-Feb-19 | 100% | 100% | | 100% |
| Submission of Resource Plan including Mobilization plan | 12-Oct-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Setting up of temporary site office | 11-Nov-17 | 18-Feb-18 | 100% | 100% | | 100% |
| Removal of debris & Shrubs | 11-Nov-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Bore well construction | 11-Nov-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Other temporary execution | 20-Feb-18 | 11-Mar-18 | 100% | 100% | | 100% |
| Topographical / Soil Investigation | 11-Nov-17 | 20-Dec-17 | 100% | 100% | | 100% |
| Condition Precedent required to be satisfied by Concessionaire | 12-Oct-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Condition Precedent required to be satisfied by Jal Nigam | 12-Oct-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Condition Precedent required to be satisfied by NMCG | 12-Oct-17 | 19-Feb-18 | 100% | 100% | | 100% |
| Appointment of Design Consultant | 12-Oct-17 | 09-Jan-18 | 100% | 100% | | 100% |
| Submission & Approval of Sub Contracts from UPJN | 01-Feb-18 | 30-Jun-18 | 100% | 100% | | 100% |

2.1.2. Pre-execution activities - Physical progress graph



2.1.3. Design detailed engineering

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Design Detailed Engineering | 11-Oct-17 | 30-Oct-18 | 100% | 96.39% | 1.34% | 97.73% |
| PHASE-1 Design, drawings and documentation for basic engineering package | 11-Oct-17 | 07-Feb-18 | 100% | 100% | | 100% |
| Basic engineering package | 11-Oct-17 | 08-Jan-18 | 100% | 100% | | 100% |
| Approval (BEP) | 09-Jan-18 | 07-Feb-18 | 100% | 100% | | 100% |
| Topographical / soil investigation | 11-Nov-17 | 20-Dec-17 | 100% | 100% | | 100% |
| Phase-II D&E (civil, mechanical, electrical, inst. drawings) | 10-Jan-18 | 25-Sep-18 | 100% | 99.20% | 0.40% | 99.60% |
| Plant layout / site layout | 11-May-18 | 23-May-18 | 100% | 100% | | 100% |
| Disposal pipe layout plan | 02-Feb-18 | 20-Mar-18 | 100% | 100% | | 100% |
| Bund Wall | 10-Jan-18 | 18-Feb-18 | 100% | 100% | | 100% |
| Inlet chamber with fine screens, grit removal and Parshall flume | 20-Mar-18 | 08-Apr-18 | 100% | 100% | | 100% |
| Administrative & security building | 09-Apr-18 | 13-May-18 | 100% | 100% | | 100% |
| Air blower & MCC room | 15-Mar-18 | 02-Jun-18 | 100% | 100% | | 100% |
| Staff quarters | 09-Apr-18 | 23-May-18 | 100% | 100% | | 100% |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| SBR basins & SBR outlet chamber | 05-Mar-18 | 29-Mar-18 | 100% | 100% | | 100% |
| Chlorine contact tank & treated water collection tank | 25-Mar-18 | 25-Apr-18 | 100% | 100% | | 100% |
| Treated water overhead tank | 04-Apr-18 | 28-May-18 | 100% | 100% | | 100% |
| Sludge treatment building / BFP | 10-Sep-18 | 25-Sep-18 | 100% | 100% | | 100% |
| Weir across Assi Nalla | 05-Mar-18 | 14-Mar-18 | 100% | 60% | 20% | 80% |
| Final outfall chamber | 01-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Raw water receiving chamber | 01-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Electrical control room | 01-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Structural drawings submissions & approvals | 02-Feb-18 | 30-Sep-18 | 100% | 99.20% | 0.40% | 99.60% |
| Disposal pipe layout plan | 02-Feb-18 | 20-Mar-18 | 100% | 100% | | 100% |
| Inlet chamber with fine screens, grit removal and Parshall flume | 20-Mar-18 | 08-Apr-18 | 100% | 100% | | 100% |
| Administrative & security building | 09-Apr-18 | 13-May-18 | 100% | 100% | | 100% |
| Air blower & MCC room | 15-Mar-18 | 02-Jun-18 | 100% | 100% | | 100% |
| Staff quarters | 09-Apr-18 | 23-May-18 | 100% | 100% | | 100% |
| SBR basins & SBR outlet chamber | 05-Mar-18 | 29-Mar-18 | 100% | 100% | | 100% |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

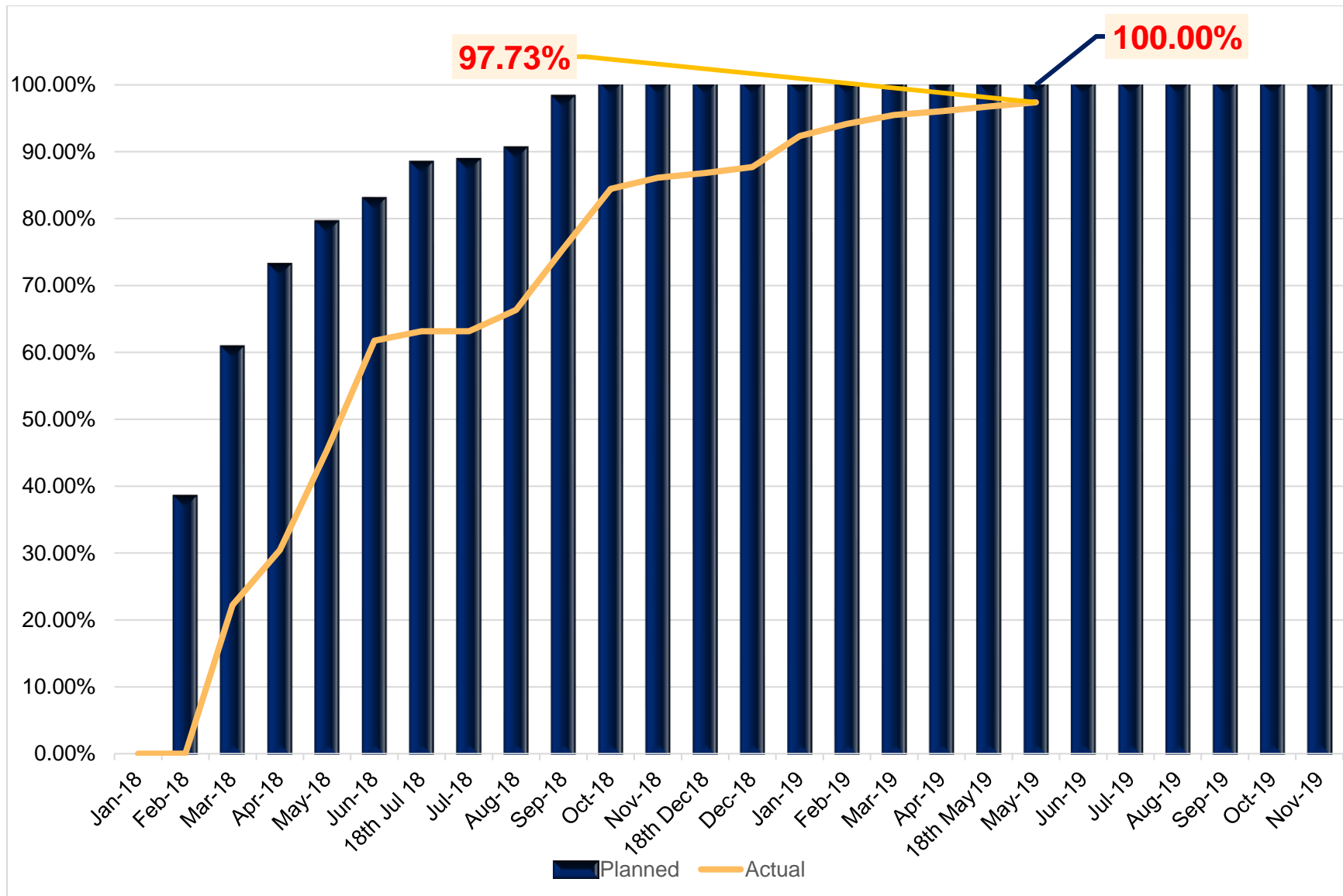
| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Chlorine contact tank & treated water collection tank | 25-Mar-18 | 25-Apr-18 | 100% | 100% | | 100% |
| Treated water overhead tank | 04-Apr-18 | 28-May-18 | 100% | 100% | | 100% |
| Sludge treatment building / BFP | 10-Sep-18 | 30-Sep-18 | 100% | 100% | | 100% |
| Weir across Assi Nalla | 05-Mar-18 | 14-Mar-18 | 100% | 60% | 20% | 80% |
| Final outfall chamber | 01-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Raw water receiving chamber | 06-Sep-18 | 15-Sep-18 | 100% | 100% | | 100% |
| Electrical control room | 06-Sep-18 | 15-Sep-18 | 100% | 100% | | 100% |
| Design, drawings and documentation for mechanical GAD | 13-Feb-18 | 15-Sep-18 | 100% | 90.40% | 1.20% | 93.60% |
| Inlet chamber with fine screens, grit removal and Parshall flume | 23-Feb-18 | 19-Mar-18 | 100% | 100% | | 100% |
| SBR basins & SBR outlet Chamber | 13-Feb-18 | 04-Mar-18 | 100% | 100% | | 100% |
| Chlorine contact tank & treated water collection tank | 05-Mar-18 | 24-Mar-18 | 100% | 100% | | 100% |
| Treated water overhead tank | 15-Mar-18 | 03-Apr-18 | 100% | 80% | | 80% |
| Sludge treatment building / BFP | 28-Jul-18 | 16-Aug-18 | 100% | 100% | | 100% |
| Air blower & MCC room | 05-Sep-18 | 15-Sep-18 | 100% | 100% | | 100% |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Weir across Assi nalla | 13-Feb-18 | 04-Mar-18 | 100% | 60% | 20% | 80% |
| Final outfall chamber | 01-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Overall piping drawings | 30-May-18 | 05-Sep-18 | 100% | 40% | 20% | 60% |
| | | | | | | |
| Design, drawings and documentation for electrical & instrumentation works | 10-Mar-18 | 08-Oct-18 | 100% | 94% | 4% | 98% |
| Transformer | 10-Mar-18 | 08-Apr-18 | 100% | 100% | | 100% |
| DG set | 10-Mar-18 | 08-Apr-18 | 100% | 100% | | 100% |
| Electrical load list | 10-Mar-18 | 08-Apr-18 | 100% | 100% | | 100% |
| PCC MCC panels | 10-Mar-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Cables / earthing/ lightning - layout plan, sizing, schedule | 15-Sep-18 | 05-Oct-18 | 100% | 80% | 20% | 100% |
| Cable trays | 01-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Flow meters | 15-Sep-18 | 05-Oct-18 | 100% | 100% | | 100% |
| Analysers | 15-Sep-18 | 05-Oct-18 | 100% | 100% | | 100% |
| SLD | 19-Mar-18 | 18-Jun-18 | 100% | 100% | | 100% |
| Design calculation | 10-Mar-18 | 18-Jul-18 | 100% | 40% | 20% | 60% |
| Electrical & instrumentation control philosophy | 25-Sep-18 | 08-Oct-18 | 100% | 60% | 20% | 80% |

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Plant lighting layout plan | 25-Sep-18 | 05-Oct-18 | 100% | 100% | | 100% |
| Gauges | 25-Sep-18 | 05-Oct-18 | 100% | 100% | | 100% |
| Instrumentation document submissions & approvals | 01-Jun-18 | 30-Oct-18 | 100% | 85% | 5% | 90% |
| Instrument index / alarm list | 01-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Instrument hook - up diagram | 01-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |
| PLC - I/O list, loop wiring diagram, design of SCADA | 05-Oct-18 | 30-Oct-18 | 100% | 100% | | 100% |
| Cause & effect diagram | 01-Jun-18 | 18-Jul-18 | 100% | 40% | 20% | 60% |

2.1.4. Design detailed engineering - Physical progress graph



2.1.5. Equipment procurement, logistics and receipt of equipment at site

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Equipment Procurement, Logistics and receipt of equipment at Site | | | 72% | 54% | 9% | 63% |
| Fine Screen / Coarse Screen / Belt Conveyors | 24-May-18 | 18-Dec-18 | 100.0% | 62.5% | 37.5% | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 24-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 17-Sep-18 | 10-Dec-18 | 100% | 100% | | 100% |
| Inspection / Logistics | 08-Dec-18 | 10-Dec-18 | 100% | 50% | 50% | 100% |
| Receipt of equipment at site | 11-Dec-18 | 18-Dec-18 | 100% | | 100% | 100% |
| Grit Removal Mechanism | 24-May-18 | 10-Mar-19 | 100.0% | 18.0% | | 18.0% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 24-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Sep-18 | 10-Feb-19 | 100% | 33% | | 33% |
| Inspection / Logistics | 12-Feb-19 | 27-Feb-19 | 100% | | | |
| Receipt of equipment at site | 28-Feb-19 | 10-Mar-19 | 100% | | | |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| SBR System (Decanters) | 19-May-18 | 16-May-19 | 86.2% | 100.0% | | 100.0% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 19-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Sep-18 | 31-Mar-19 | 100% | 100% | | 100% |
| Inspection / Logistics | 01-Apr-19 | 16-Apr-19 | 100% | 100% | | 100% |
| Receipt of equipment at site | 17-Apr-19 | 16-May-19 | 45% | 100% | | 100% |
| Submersible (SAS / RAS/ Filtrate / BFP feed) | 31-May-18 | 18-Dec-18 | 100.0% | 100.0% | | 100.0% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 31-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 03-Sep-18 | 13-Dec-18 | 100% | 100% | | 100% |
| Inspection / Logistics | 01-Dec-18 | 10-Dec-18 | 100% | 100% | | 100% |
| Receipt of equipment at site | 14-Dec-18 | 18-Dec-18 | 100% | 100% | | 100% |
| Horizontal centrifugal pumps (Treated water pumps) | 31-May-18 | 18-Dec-18 | 100.0% | 62.5% | | 62.5% |
| Submission & Approval of Drgs / Docs & data sheets | 31-May-18 | 25-Jul-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| including release of purchase order | | | | | | |
| Manufacturing of Equipment | 10-Sep-18 | 15-Dec-18 | 100% | | | 100% |
| Inspection / Logistics | 01-Dec-18 | 10-Dec-18 | 100% | | | 50% |
| Receipt of equipment at site | 16-Dec-18 | 18-Dec-18 | 100% | | | |
| Air Blowers | 01-May-18 | 18-May-19 | 75.0% | 62.5% | 37.5% | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Sep-18 | 30-Mar-19 | 100% | 100% | | 100% |
| Inspection / Logistics | 31-Mar-19 | 29-Apr-19 | 100% | 50% | 50% | 100% |
| Receipt of equipment at site | 30-Apr-19 | 18-May-19 | 100% | | 100% | 100% |
| Chlorination System | 05-Sep-18 | 18-May-19 | 100% | 100.0% | | 100.0% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 05-Sep-18 | 29-Sep-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Oct-18 | 30-Mar-19 | 100% | 100% | | 100% |
| Inspection / Logistics | 01-Apr-19 | 11-May-19 | 100% | 100% | | 100% |
| Receipt of equipment at site | 12-May-19 | 18-May-19 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Sluice Gates | 05-Mar-18 | 18-Dec-18 | 100% | 63% | 37% | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 05-Mar-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 25-Sep-18 | 12-Dec-18 | 100% | 100% | | 100% |
| Inspection / Logistics | 01-Dec-18 | 10-Dec-18 | 100% | 50% | | 100% |
| Receipt of equipment at site | 13-Dec-18 | 18-Dec-18 | 100% | | 100% | 100% |
| MS/CS/SS/GI/CI/DI Piping | 01-Jan-19 | 12-Aug-19 | 31% | | | |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-Jan-19 | 15-Feb-19 | 100% | | | |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jul-19 | 52% | | | |
| Inspection / Logistics | 31-Jul-19 | 10-Aug-19 | | | | |
| Receipt of equipment at site | 11-Aug-19 | 12-Aug-19 | | | | |
| Valves | 01-Jan-19 | 12-Aug-19 | 31% | 0% | | 0% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-Jan-19 | 17-Jan-19 | 100% | 20% | | 20% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jul-19 | 60% | | | |
| Inspection / Logistics | 31-Jul-19 | 10-Aug-19 | | | | |
| Receipt of equipment at site | 11-Aug-19 | 12-Aug-19 | | | | |
| Motorized Gates at Inlet of SBR | 01-May-18 | 18-May-19 | 100% | 63% | 37% | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-May-18 | 30-Aug-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 11-Jan-19 | 05-Apr-19 | 100% | 100% | | 100% |
| Inspection / Logistics | 07-Apr-19 | 07-May-19 | 100% | 50% | 50% | 100% |
| Receipt of equipment at site | 08-May-19 | 18-May-19 | 100% | | 100% | 100% |
| Diffusers | 12-May-18 | 23-Apr-19 | 100% | 63% | | 63% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 12-May-18 | 14-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Sep-18 | 15-Feb-19 | 100% | 100% | | 100% |
| Inspection / Logistics | 16-Feb-19 | 02-Apr-19 | 100% | 50% | | 50% |
| Receipt of equipment at site | 03-Apr-19 | 23-Apr-19 | 100% | | | |
| | | | | | | |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Volute press | 15-Oct-18 | 13-Jul-19 | 43% | 50% | | 50% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 15-Oct-18 | 29-Nov-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 29-Dec-18 | 30-Jun-19 | 84% | 100% | | 100% |
| Inspection / Logistics | 30-May-19 | 28-Jun-19 | | | | |
| Receipt of equipment at site | 01-Jul-19 | 13-Jul-19 | | | | |
| PE Dosing Tanks | 15-Oct-18 | 13-Jul-19 | 43% | 1% | | 1% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 15-Oct-18 | 29-Nov-18 | 100% | 40% | | 40% |
| Manufacturing of Equipment | 29-Dec-18 | 30-Jun-19 | 84% | | | |
| Inspection / Logistics | 30-May-19 | 28-Jun-19 | 3% | | | |
| Receipt of equipment at site | 01-Jul-19 | 13-Jul-19 | | | | |
| Agitators | 01-May-18 | 23-Jul-19 | 49% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-May-18 | 18-Jul-18 | 100% | 80% | | 80% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Manufacturing of Equipment | 01-Sep-18 | 08-Jun-19 | 97% | | | |
| Inspection / Logistics | 09-Jun-19 | 08-Jul-19 | | | | |
| Receipt of equipment at site | 09-Jul-19 | 23-Jul-19 | | | | |
| Transformers | 02-Jul-18 | 21-Jul-19 | 46% | 100% | | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 02-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 19-Dec-18 | 15-Jun-19 | 92% | 100% | | 100% |
| Inspection / Logistics | 25-Jun-19 | 30-Jun-19 | | 100% | | 100% |
| Receipt of equipment at site | 01-Jul-19 | 21-Jul-19 | | 100% | | 100% |
| HT cables | 29-Sep-18 | 26-Jul-19 | 38.2% | 1.80% | | 1.80% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 29-Sep-18 | 09-Nov-18 | 100% | 80% | | 80% |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jun-19 | 75% | | | |
| Inspection / Logistics | 05-Jul-19 | 15-Jul-19 | | | | |
| Receipt of equipment at site | 16-Jul-19 | 26-Jul-19 | | | | |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| MCC panel | 23-Jun-18 | 16-Aug-19 | 42% | 50% | 13% | 63% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 23-Jun-18 | 27-Jul-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | 100% | | 100% |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | 50% | 50% |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| HT Panel | 07-Sep-18 | 16-Aug-19 | 42% | 100% | | 100% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | 100% | | 100% |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | 100% | | 100% |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | 100% | | 100% |
| PLC Panel | 07-Sep-18 | 16-Aug-19 | 42% | 60% | | 60% |
| Submission & Approval of Drgs / Docs & data sheets | 07-Sep-18 | 09-Nov-18 | 100% | 60% | | 60% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| including release of purchase order | | | | | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | 60% | | 60% |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | 60% | | 60% |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | 60% | | 60% |
| SCADA System | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 80% | | 80% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| MLDB, LDB & SLDBS | 07-Sep-18 | 16-Aug-19 | 42% | 50% | 13% | 63% |
| Submission & Approval of Drgs / Docs & data sheets | 07-Sep-18 | 09-Nov-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| including release of purchase order | | | | | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 66% | 100% | | 100% |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | 50% | 50% |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| Push Button Stations / Plant lighting / Buildings lighting | 07-Sep-18 | 16-Aug-19 | 42% | | 2% | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | | 80% | 80% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| Power, Control & lighting Cables | 07-Sep-18 | 16-Aug-19 | 42% | 1% | 1% | 2% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 50% | 30% | 80% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| | | | | | | |
| Cable trays/Lighting JB | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |

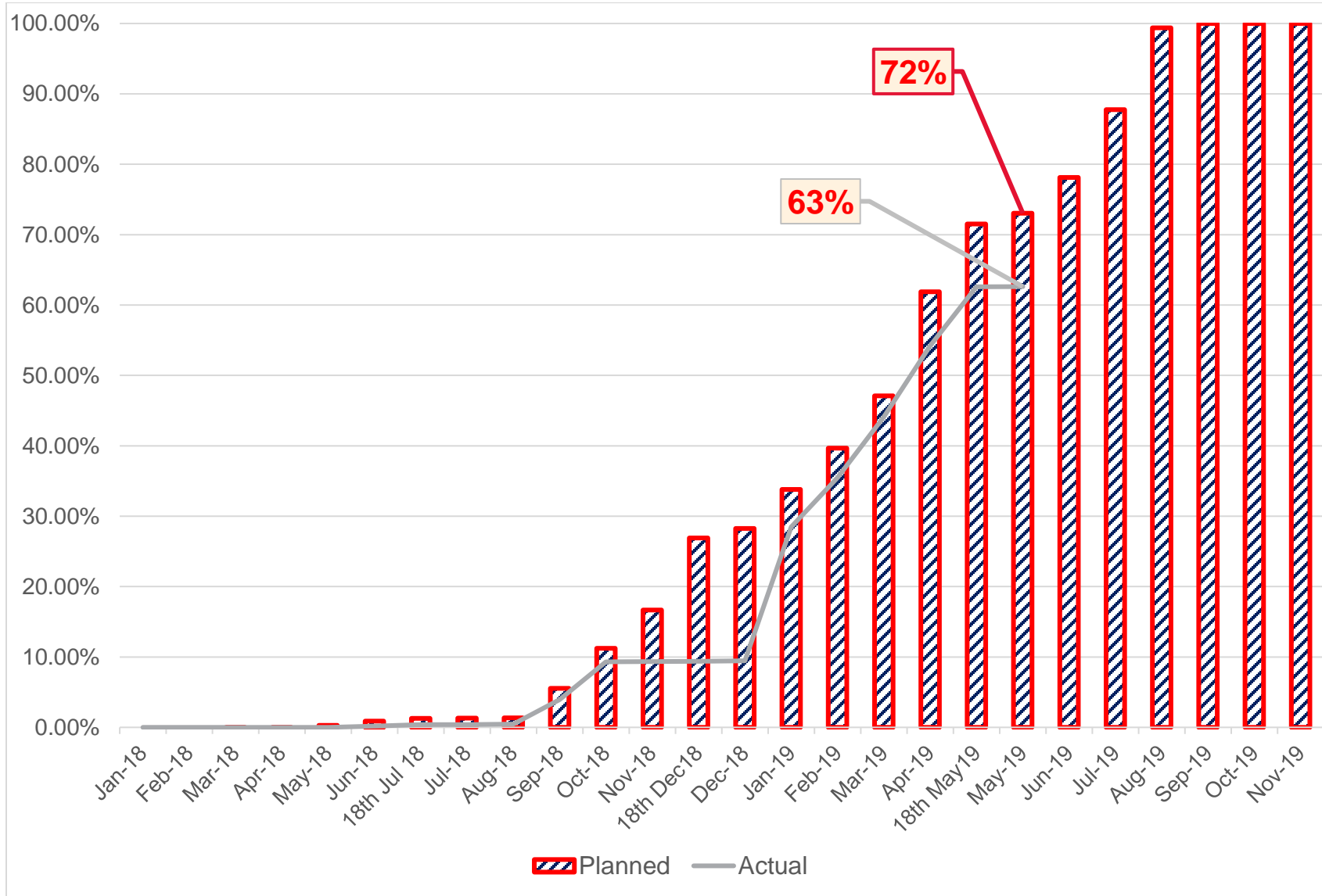
| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| DG Set | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| Plant Earthing | 07-Sep-18 | 16-Aug-19 | 44% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 01-Jan-19 | 20-Jun-19 | 88% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Instruments (Flow meter / Analyser) | 20-Nov-18 | 16-Aug-19 | 36% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 20-Nov-18 | 15-Dec-18 | 100% | 100% | | 100% |
| Manufacturing of Equipment | 18-Mar-19 | 30-Jun-19 | 71% | | | |
| Inspection / Logistics | 01-Jul-19 | 31-Jul-19 | | | | |
| Receipt of equipment at site | 01-Aug-19 | 16-Aug-19 | | | | |
| Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches) | 20-Nov-18 | 05-Sep-19 | 29% | 2% | | 2% |
| Submission & Approval of Drgs / Docs & data sheets | 20-Nov-18 | 15-Dec-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|-------------------------------------|-----------------|----------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| including release of purchase order | | | | | | |
| Manufacturing of Equipment | 18-Mar-19 | 30-Jul-19 | 55% | | | |
| Inspection / Logistics | 01-Aug-19 | 30-Aug-19 | | | | |
| Receipt of equipment at site | 31-Aug-19 | 05-Sep-19 | | | | |
| | | | | | | |

2.1.6. Equipment procurement, logistics and receipt of equipment at site - Physical progress graph

Procurement - Physical progress



2.1.7. New construction units

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Civil Executions | 19-Feb-18 | 16-Nov-19 | 85% | 79% | 0.2% | 79.2% |
| Bund Wall / Earthen Embankment | 19-Feb-18 | 30-Aug-19 | 87.5% | 86.6% | 0.3% | 86.9% |
| Excavation | 19-Feb-18 | 8-May-18 | 100% | 100% | | 100% |
| Filling & Compaction of Bund Wall up to 1.0 Mtr Height | 10-Apr-18 | 8-Jul-18 | 100% | 100% | | 100% |
| Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height | 9-Jul-18 | 25-Oct-18 | 100% | 100% | | 100% |
| Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height | 1-Oct-18 | 29-Nov-18 | 100% | 98% | 2% | 100% |
| Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height | 7-Nov-18 | 18-Dec-18 | 100% | 90% | | 90% |
| Stone Pitching work, Side Drain Work & Fencing work | 20-May-19 | 30-Aug-19 | | 4% | | 4% |
| Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR | 3-Jun-18 | 30-Jun-19 | 90.0% | 65.5% | | 65.5% |
| Excavation | 3-Jun-18 | 12-Jun-18 | 100% | 100% | | 100% |
| PCC & RCC of Footing | 13-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Inlet Chamber Slab with Column, Wall | 20-Sep-18 | 15-Dec-18 | 100% | 52% | | 52% |
| Grit Chamber Slab with Column | 1-Dec-18 | 28-Feb-19 | 100% | 9% | | 9% |
| Parshall flume slab with Column | 1-Mar-19 | 30-Mar-19 | 100% | 56% | | 56% |
| Hydrotesting including finishing works | 1-Jun-19 | 30-Jun-19 | | | | |
| SBR Basins & SBR outlet Chamber | 9-Apr-18 | 15-Jul-19 | 90.3% | 89.8% | | 89.8% |
| Excavation | 9-Apr-18 | 7-Jun-18 | 100% | 100% | | 100% |
| PCC & Raft RCC at 72.00 level | 10-Apr-18 | 29-Jul-18 | 100% | 100% | | 100% |
| Wall 1st Lift | 5-Jun-18 | 30-Aug-18 | 100% | 97% | | 97% |
| Wall 2nd Lift | 7-Jun-18 | 5-Sep-18 | 100% | 97% | | 97% |
| Wall 3rd Lift | 24-Sep-18 | 15-Jan-19 | 100% | 97% | | 97% |
| Wall Final Lift | 7-Feb-19 | 6-Apr-19 | 100% | 97% | | 97% |
| Walkways and Channels | 6-Apr-19 | 11-May-19 | 69% | 58% | | 58% |
| Hydrotesting | 20-May-19 | 15-Jul-19 | | 25% | | 25% |
| Construction of CCT including Chlorination room & Treated water pump House | 26-Apr-18 | 24-Aug-19 | 87.2% | 73.6% | 0.3% | 73.9% |
| Excavation | 26-Apr-18 | 4-Jul-18 | 100% | 100% | | 100% |
| PCC & Raft RCC | 15-May-18 | 25-Jul-18 | 100% | 100% | | 100% |
| 50% RCC of Structure | 20-Jun-18 | 10-Oct-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|--|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| 50% RCC of Structure | 20-Jan-19 | 18-May-19 | 100% | 54% | 1% | 55% |
| Completion of Brick work and Plaster | 6-Apr-19 | 30-Jul-19 | 37% | | | |
| Hydrotest including finishing works | 9-Aug-19 | 24-Aug-19 | | 100% | | 100% |
| Final Outfall Chamber | 19-May-19 | 3-Aug-19 | 12.1% | | | |
| Excavation, Dressing, Filling G & PCC | 19-May-19 | 23-May-19 | 100% | | | |
| Foundation and Raft | 29-May-19 | 17-Jun-19 | 11% | | | |
| Wall & Super Structure | 18-Jun-19 | 18-Jul-19 | | | | |
| Hydrotesting & finishing works | 19-Jul-19 | 3-Aug-19 | | | | |
| Overhead Treated Water Tank | 1-Jun-18 | 1-Aug-19 | 90% | 34.5% | | 34.5% |
| Excavation | 1-Jun-18 | 5-Jun-18 | 100% | 100% | | 100% |
| PCC & Raft RCC | 11-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |
| 50% RCC of Structure | 9-Oct-18 | 18-Dec-18 | 100% | 15% | | 15% |
| 50% RCC of Structure | 25-Feb-19 | 6-May-19 | 100% | | | |
| Finishing Works | 19-Jun-19 | 1-Aug-19 | | | | |
| Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | 15-Oct-18 | 13-Jul-19 | 92% | 47.5% | 0.8% | 48.3% |
| Excavation | 15-Oct-18 | 30-Oct-18 | 100% | 100% | | 100% |
| PCC & Raft RCC | 1-Nov-18 | 18-Dec-18 | 100% | 100% | | 100% |

| Item of work | As per schedule | | Physical status | | | |
|---|-----------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| 50% RCC of Structure | 18-Jan-19 | 18-Mar-19 | 100% | 70% | 3% | 73% |
| 50% RCC of Structure | 19-Mar-19 | 17-May-19 | 100% | | | |
| Completion of Brick work and Plaster | 19-Apr-19 | 18-May-19 | 100% | | | |
| Finishing Works | 20-May-19 | 13-Jul-19 | 20% | | | |
| Administrative Building including lab and workshop | 3-Feb-18 | 11-Jul-19 | 95.3% | 82.9% | | 82.9% |
| Excavation | 8-Jun-18 | 17-Jun-18 | 100% | 100% | | 100% |
| PCC & Raft RCC | 18-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |
| 50% RCC of Structure | 16-Oct-18 | 18-Dec-18 | 100% | 100% | | 100% |
| 50% RCC of Structure | 3-Feb-19 | 7-Apr-19 | 100% | 69% | | 69% |
| Completion of Brick work and Plaster | 8-Apr-19 | 17-May-19 | 100% | 43% | | 43% |
| Finishing Works | 28-May-19 | 11-Jul-19 | 7% | | | |
| Staff Quarters | 8-Jun-18 | 16-Nov-19 | 34.4% | 45.9% | 0.3% | 46.1% |
| Excavation | 8-Jun-18 | 17-Jun-18 | 100% | 100% | | 100% |
| PCC & Raft RCC | 11-Jun-18 | 18-Jul-18 | 100% | 100% | | 100% |
| 50% RCC of Structure | 20-May-19 | 9-Jul-19 | 22% | 68% | | 68% |
| 50% RCC of Structure | 9-Jul-19 | 28-Aug-19 | | | | |
| Completion of Brick work and Plaster | 28-Aug-19 | 27-Sep-19 | | 10% | 1% | 11% |

| Item of work | As per schedule | | Physical status | | | |
|--|-----------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Finishing Works | 27-Sep-19 | 16-Nov-19 | | | | |
| Roads, Drainage & Fire Fighting system | 3-Jun-19 | 31-Aug-19 | | | | |
| Roads work & Fire fighting | 3-Jun-19 | 1-Aug-19 | | | | |
| Drainage Works | 18-Jun-19 | 22-Aug-19 | | | | |
| Landscaping & Finishing | 18-Jun-19 | 31-Aug-19 | | | | |
| Construction of Blower room, HT, MCC, Transformer Yard, DG set Area | 3-Jun-18 | 29-Aug-19 | 90% | 66.4% | | 66.4% |
| Excavation | 3-Jun-18 | 2-Jul-18 | 100% | 100% | | 100% |
| PCC & RCC of Footing | 3-Jul-18 | 18-Jul-18 | 100% | 100% | | 100% |
| RCC up to Plinth | 15-Sep-18 | 11-Oct-18 | 100% | 100% | | 100% |
| RCC up to Lintel Beams | 15-Oct-18 | 15-Nov-18 | 100% | 100% | | 100% |
| RCC Roof Slab | 16-Nov-18 | 18-Dec-18 | 100% | 82% | | 82% |
| Brick Work | 1-Jan-19 | 21-Mar-19 | 100% | | | |
| Plastering | 22-Mar-19 | 15-May-19 | 100% | | | |
| Painting & Finishing | 15-Jun-19 | 29-Aug-19 | | | | |
| Mechanical Installation | 1-Aug-19 | 30-Aug-19 | | | | |
| Erection of Mechanical Equipment | 1-Aug-19 | 30-Aug-19 | | | | |
| Electrical & Instrumentation Installation | 1-Aug-19 | 31-Aug-19 | | | | |

| Item of work | As per schedule | | Physical status | | | |
|---------------------|-----------------|----------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Pre – Commissioning | 1-Sep-19 | 30-Sep-19 | | | | |
| Trail Run – COD | 1-Oct-19 | 21-Oct-19 | | | | |
| Commissioning | 21-Oct-19 | 18-Nov-19 | | | | |

2.1.8. New construction units - progress in terms of Physical Quantity

| Item of work | Estimate | | Physical status | | | |
|--|----------|------|---------------------------|------------------------------|------------------|-----------------------|
| | Quantity | Unit | Previous month completion | Completion during this month | Total completion | Total completion in % |
| Civil Executions | | | | | | |
| Bund Wall / Earthen Embankment | | | | | | |
| Excavation | 14182 | Cum | 14182 | | 14182 | 100% |
| Filling & Compaction of Bund Wall up to 1.0 Mtr Height | 24061 | Cum | 24061 | | 24061 | 100% |
| Filling & Compaction of Bund Wall from 1.0 to 2.0 Mtr Height | 22140 | Cum | 22140 | | 22140 | 100% |
| Filling & Compaction of Bund Wall from 2.0 to 3.0 Mtr Height | 19056 | Cum | 18644 | | 18644 | 100% |
| Filling & Compaction of Bund Wall from 3.0 to 4.5 Mtr Height | 16154 | Cum | 14467 | | 14467 | 90% |

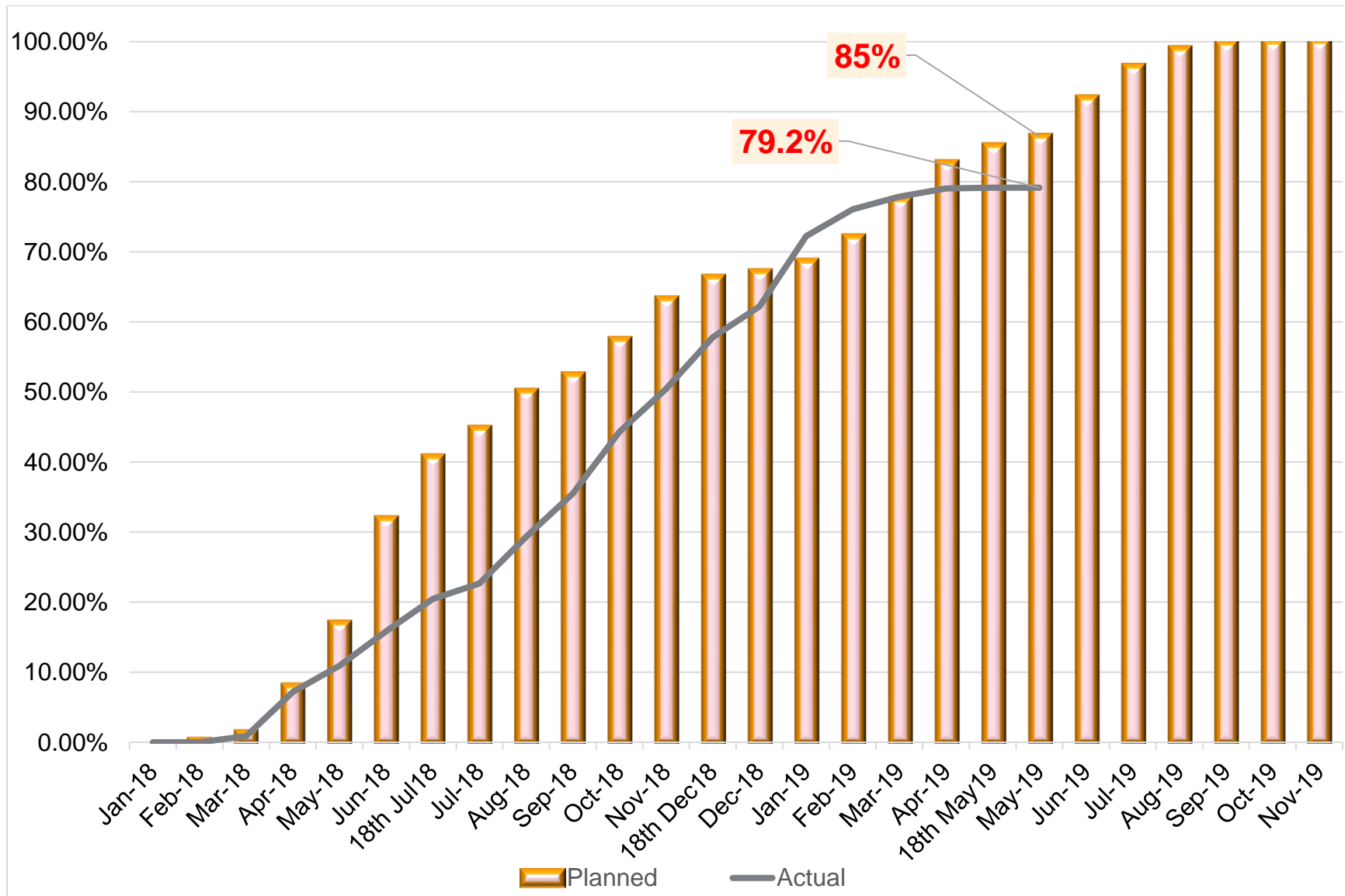
| Item of work | Estimate | | Physical status | | | |
|--|----------|------|---------------------------|------------------------------|------------------|-----------------------|
| | Quantity | Unit | Previous month completion | Completion during this month | Total completion | Total completion in % |
| Stone Pitching work, Side Drain Work & Fencing work | 6720 | Sqm | 426 | | 426 | 4% |
| Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR | | | | | | |
| Excavation | 600 | Cum | 600 | | 600 | 100% |
| PCC | 72 | Cum | 72 | | 72 | 100% |
| RCC for footing | 173 | Cum | 173 | | 173 | 100% |
| Inlet Chamber Slab with Column, Wall | 159 | Cum | 83 | | 83 | 52% |
| Grit Chamber Slab with Column | 159 | Cum | 14 | | 14 | 9% |
| Parshall flume slab with Column | 79 | Cum | 44 | | 44 | 56% |
| SBR Basins & SBR outlet Chamber | | | | | | |
| Excavation | 2210 | Cum | 2210 | | 2210 | 100% |
| PCC | 1424 | Cum | 1412 | | 1424 | 100% |
| Raft RCC | 4169 | Cum | 4169 | | 4169 | 100% |
| Wall 1st Lift | 560 | Cum | 538 | | 538 | 96% |
| Wall 2nd Lift | 390 | Cum | 373 | | 373 | 96% |
| Wall 3rd Lift | 291 | Cum | 281 | | 281 | 97% |

| Item of work | Estimate | | Physical status | | | |
|---|----------|------|---------------------------|------------------------------|------------------|-----------------------|
| | Quantity | Unit | Previous month completion | Completion during this month | Total completion | Total completion in % |
| Wall Final Lift | 462 | Cum | 402 | | 402 | 97% |
| Walkways and Channels | 306 | Cum | 153 | | 153 | 55% |
| Construction of CCT including Chlorination room & Treated water pump House | | | | | | |
| Excavation | 1023 | Cum | 1023 | | 1023 | 100% |
| PCC | 140 | Cum | 140 | | 140 | 100% |
| Raft RCC | 266 | Cum | 266 | | 266 | 100% |
| 50% RCC of Structure | 146.50 | Cum | 146.50 | | 146.50 | 100% |
| 50% RCC of Structure | 146.50 | Cum | 81 | | 81 | 55% |
| Brick work | 71 | Cum | | | | |
| Plastering works | 1342 | Sqm | | | | |
| Overhead Treated Water Tank | | | | | | |
| Excavation | 549 | Cum | 549 | | 549 | 100% |
| PCC | 18 | Cum | 18 | | 18 | 100% |
| Raft RCC | 61 | Cum | 61 | | 61 | 100% |
| 50% RCC of Structure | 79 | Cum | 14 | | 14 | 15% |
| 50% RCC of Structure | 79 | Cum | | | | |
| Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | | | | | | |

| Item of work | Estimate | | Physical status | | | |
|---|----------|------|---------------------------|------------------------------|------------------|-----------------------|
| | Quantity | Unit | Previous month completion | Completion during this month | Total completion | Total completion in % |
| Excavation | 720 | Cum | 720 | | 720 | 100% |
| PCC | 39 | Cum | 39 | | 39 | 100% |
| Raft RCC | 167 | Cum | 167 | | 167 | 100% |
| 50% RCC of Structure | 194 | Cum | 141 | | 141 | 73% |
| 50% RCC of Structure | 194 | Cum | | | | |
| Brick work | 35 | Cum | | | | |
| Plastering work | 290 | Sqm | | | | |
| Administrative Building including lab and workshop | | | | | | |
| Excavation | 656 | Cum | 656 | | 656 | 100% |
| PCC | 27 | Cum | 27 | | 27 | 100% |
| Raft RCC | 101 | Cum | 101 | | 101 | 100% |
| 50% RCC of Structure | 107 | Cum | 107 | | 107 | 100% |
| 50% RCC of Structure | 107 | Cum | 73 | | 73 | 69% |
| Brick work | 172 | Cum | 138 | | 138 | 80% |
| Plastering work | 2230 | Cum | 131 | | 131 | 6% |
| Finishing Works | | | | | | |
| Staff Quarters | | | | | | |
| Excavation | 1502 | Cum | 1502 | | 1502 | 100% |
| PCC | 70 | Cum | 70 | | 70 | 100% |
| Raft RCC | 260 | Cum | 260 | | 260 | 100% |

| Item of work | Estimate | | Physical status | | | |
|--|----------|------|---------------------------|------------------------------|------------------|-----------------------|
| | Quantity | Unit | Previous month completion | Completion during this month | Total completion | Total completion in % |
| 50% RCC of Structure | 215 | Cum | 146 | | 146 | 68% |
| 50% RCC of Structure | 215 | Cum | | | | |
| Brick work | 551 | Cum | 119 | | 119 | 22% |
| Plastering work | | | | | | |
| Finishing Works | | | | | | |
| Construction of Blower room, HT, MCC, Transformer Yard, DG set Area | | | | | | |
| Excavation | 587 | Cum | 587 | | 587 | 100% |
| PCC | 39 | Cum | 39 | | 39 | 100% |
| RCC of Footing | 160 | Cum | 160 | | 160 | 100% |
| RCC up to Plinth | 35 | Cum | 35 | | 35 | 100% |
| RCC up to Lintel Beams | 35 | Cum | 35 | | 35 | 100% |
| RCC Roof Slab | 136 | Cum | 111 | | 111 | 82% |
| Brick Work | 165 | Cum | | | | |
| Plastering | 2000 | Sqm | | | | |
| Finishing works | | | | | | |

2.1.9. New construction units - Physical progress graph

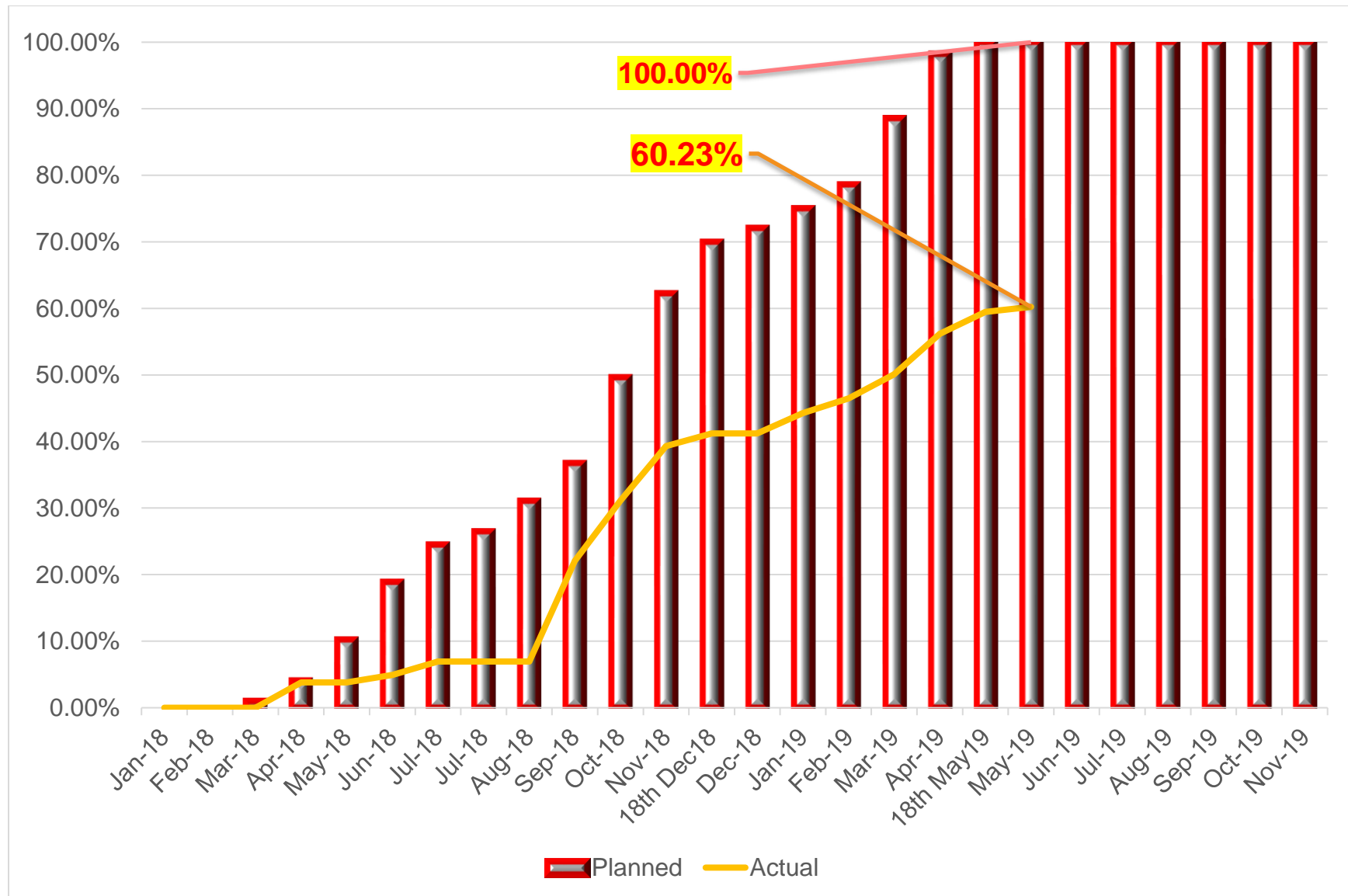


2.1.10. Associated works

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Associated | 20-Mar-18 | 18-May-19 | 100% | 56.18% | 4.05% | 60.23% |
| | | | | | | |
| MPS Pumping Station | 15-May-18 | 30-Apr-19 | 100.00% | 33.50% | | 33.50% |
| Rehabilitation of MPS | 15-May-18 | 30-Apr-19 | 100% | 52% | | 52% |
| Construction of Weir across Assi Nalla & Control room | 13-Oct-18 | 30-Jan-19 | 100% | | | |
| Desilting of the MPS | 15-May-18 | 28-Aug-18 | 100% | 75% | | 75% |
| Repair of Equipment | 1-Jan-19 | 30-Mar-19 | 100% | | | |
| Raising of height of Nalla tapping structure upto HFL | 1-Apr-19 | 30-Apr-19 | 100% | | | |
| Rising Main | 15-Jun-18 | 25-Mar-19 | 100.00% | 17.01% | 5.75% | 22.76% |
| Desilting & CCTV inspection | 15-Jun-18 | 18-Jul-18 | 100% | | 5% | 5% |
| Strengthening and Pipe protection of Rising main Extension of existing Rising main to the Inlet point at the STP site | 10-Oct-18 | 30-Jan-19 | 100% | | | |
| Shifting & laying of Pipe near Samne Ghat bridge | 13-Jul-18 | 15-Jan-19 | 100% | 49% | 15% | 64% |
| Hydrotesting of the PSC | 15-Feb-19 | 25-Mar-19 | 100% | | | |
| | | | | | | |

| Item of work | As per schedule | | Physical status | | | |
|---|------------------|------------------|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| | Proposed Date | Completed Date | Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
| Treated Effluent disposal line | 20-Mar-18 | 18-May-19 | 100% | 64.33% | 4.20% | 68.53% |
| Procurement - supply of pipes including inspection, transportation and delivery at site | 20-Mar-18 | 26-Dec-18 | 100% | 69% | 12% | 81% |
| Pipe laying - 20% including excavation and backfilling | 9-May-18 | 18-Jul-18 | 100% | 100% | | 100% |
| Pipe laying - 20% including excavation and backfilling | 25-Sep-18 | 5-Nov-18 | 100% | 100% | | 100% |
| Pipe laying - 20% including excavation and backfilling | 6-Nov-18 | 18-Dec-18 | 100% | 100% | | 100% |
| Pipe laying - 20% including excavation and backfilling | 20-Feb-19 | 29-Mar-19 | 100% | 34% | | 34% |
| Pipe laying - 20% including excavation and backfilling | 30-Mar-19 | 6-May-19 | 100% | | | |
| Hydrotesting & finishing works | 14-Jun-18 | 18-May-19 | 100% | 5% | | 5% |

2.1.11. Associated works - Physical progress graph



2.1.12. Overall physical progress : 64.76%

| Scheduled completion in % | Previous month completion in % | Completion during this month in % | Total completion in % |
|---------------------------|--------------------------------|-----------------------------------|-----------------------|
| 76.04% | 61.58% | 3.18% | 64.76% |

2.2. Financial status for construction work

- Contract amount : Rs. 153.15 crores (Rs. 102 crores for construction + Rs. 51.15 crores for O&M)

Financial progress in % as on 31.05.2019

| Scheduled / Planned completion as on April 2019 in % | Up to previous month (March 2019) completion in % | Completion during this month (April 2019) in % | Total completion up to April 2019 in % |
|--|---|--|--|
| 76.04% | 61.42% | 3.19% | 64.61% |

Status of financial expenditure as on 31.05.2019

| Sl. No | Description | Total expenditure incurred (NMCG & VSPPL) Rupees in crore | Expenditure incurred by VSPPL in Rupees in crore | Expenditure incurred by NMCG in Rupees in crore | Expenditure incurred as per site progress Rupees in crore |
|--------|--|---|--|---|---|
| 1 | Mobilization advance (10% of Rs.102 Cr) | 10.20 | | 10.20 | 65.90 |
| 2 | First mile stone payment (25% of Rs.110.47 Cr) as per price index | 27.62 | 16.57 | 11.05 | |
| 3 | Deduction of mobilization advance for first milestone (25% of mobilization of advance) | -2.55 | | -2.55 | |
| 4 | Deduction of interest on mobilization advance | -0.46 | | -0.46 | |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Sl. No | Description | Total expenditure incurred (NMCG & VSPPL) Rupees in crore | Expenditure incurred by VSPPL in Rupees in crore | Expenditure incurred by NMCG in Rupees in crore | Expenditure incurred as per site progress Rupees in crore |
|--------|--|---|--|---|---|
| | upto first milestone (25% of mobilization of advance) | | | | |
| 5 | Deduction of delay damage on first milestone | -0.89 | | -0.89 | |
| 6 | Second milestone payment (25% of Rs.110.16 Cr) as per price index | 27.54 | 16.52 | 11.02 | |
| 7 | Deduction of mobilization advance for second milestone (25% of mobilization of advance) | -2.55 | | -2.55 | |
| 8 | Deduction of interest on mobilization advance upto second milestone (25% of mobilization of advance) | -0.19 | | -0.19 | |
| 9 | Deduction of delay damage on second milestone | -0.49 | | -0.49 | |
| | Total | 58.23 | 33.09 | 25.13 | |

2.3. The issues, the action taken, and status are provided after obtaining the views from UPJN

2.3.1. Issues identified during this month

| S. No | Issues identified during this month | |
|--------------|--|--|
| 1. | MACE requested VSPPL to furnish the equipment inspection call / equipment procurement dates/ delivery of inspected items for the following: <ul style="list-style-type: none">• DG• Diffuser• Treated water pump• MCC Panel | |
| 2. | MACE informed that the manufacturing clearance yet to be obtained for Agitator which requires minimum delivery period of 5 to 6 months. Requested VSPPL to act on this on war footing basis. | |
| 3. | MACE informed to concentrate on the procurement of electrical and instrumentation system | |

2.3.2. Issues identified till last month

| S. No. | Issues identified till last month | Action Taken | Status |
|--------|--|---|---|
| 2 | 2nd Recovery plan submitted by the concessionaire on 12th February 2019 is not accompanying the resource plan (material, man power & machineries). Concessionaire agreed to submit the same on or before 28th February 2019. However, the same is pending for submission as on date. | Not yet submitted | Pending since February 2019 |
| 3 | Expedite the manufacturing and delivery of remaining treated effluent pipe of around 1400 m on or before 15th May 2019 | VSPPL assured that they will do the needful to increase the supply rate of PSC pipes. In the month, May 2019 procured 125m and expected around 500 m on or before 15 th June 2019 | Partially pending since February 2019 |
| 4 | Planning to expedite the pending order placement and completion of engineering activities | VSPPL informed inspection for the remaining items shall be issued upon receipt of further fund from lender. | Partially pending since February 2019 |
| 5 | Steps to complete the rising main strengthening and protection along the Ganga river on or before 31st May 2019 | Trenchless work is in progress. No action taken due to financial issues of their internal process | Partially pending since February 2019 VSPPL informed the work shall start from 3 rd June 2019 onwards |

| S. No. | Issues identified till last month | Action Taken | Status |
|---------------|--|--|--|
| 6 | Initiating the desilting and CCTV inspection of existing rising main within a week | Concessionaire informed that the desilting work is in progress and CCTV inspection work will start latest by 30 th June 2019. | Partially pending since February 2019 |
| 7 | VSPPL to provide the details for input consideration for finalizing the GST claim. A meeting is proposed to convene during next month to discuss and solve this | VSPPL submitted the requisite document and review in progress | In progress |
| 8 | As per the concession agreement the third milestone (At least 75% of both physical and financial progress) should have been achieved on or before 18 th May 2019. Concessionaire yet to initiate the activities in the MPS, rising main by deploying additional resources to achieve the third milestone within the targeted date including the delay occurred, same is not reflected in the field. | VSPPL informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. Due to fund problem VSPPL informed they will be able to achieve the third milestone only in the month of July 2019 | Partially initiated (trenchless pipe work) |
| 11 | Monthly Environmental Monitoring Reports to the Jal Nigam providing overview of compliance with EHS Plan. | In progress. | Due, till date |
| 14 | The achieved progress during last three months is 12.39% only as against planned progress of 17.46%. From 15 th April 2019, the site activities are almost nil due to their internal financial issues. Third milestone of 75% to be achieved as on 18 th May 2019 whereas only | VSPPL informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. | |

**Development of 50 MLD sewage treatment plant and
associated infrastructure on PPP basic at Ramana, Varanasi**

| S. No. | Issues identified till last month | Action Taken | Status |
|---------------|---|---|---------------|
| | 61.58% is achieved till this month and remaining 13.5% to be achieved within 18 days which is impossible considering the financial issues. | | |
| 15 | A meeting with VSPPL lender is scheduled during second week of May 2019 | Meeting completed, and fund flow initiated based on the outcome of the meeting. | Completed |
| 16 | VSPPL top management assured to discuss with their chairman for getting some fund from their other groups/projects as intermediate relief to keep the momentum of the project progress and also ensure to complete the work along with Ganga river before start of monsoon i.e 15 th June 2019 | Since fund from lender is initiated this may be dropped. | Completed |

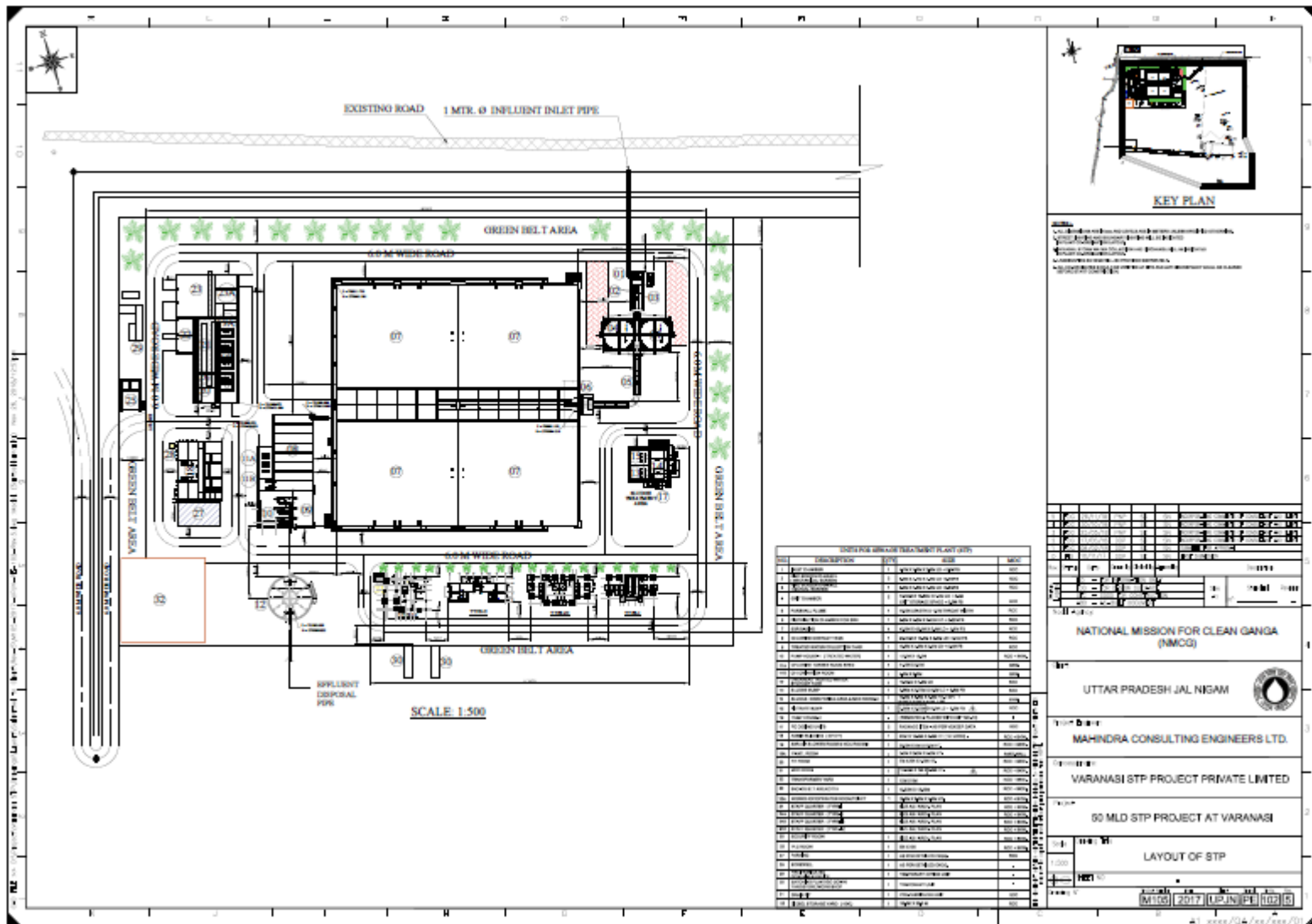


Figure 2: Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi

3.0. PROJECT ENGINEER ACTIVITIES

| Activities carried out as per TOR | | | | |
|-----------------------------------|--|---|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 4.1 (i) | Review, analysis and qualifying assessment of field investigations carried out and reported by the Concessionaire in respect of topographical surveys, hydraulic & hydrologic data verification, sub-surface investigation including laboratory testing and reports of geologists wherever applicable, investigation of construction material including lab testing. | Yes | Yes | Review of construction material testing |
| 4.1 (ii) | Review, analysis and qualifying assessment of design memorandums, specifications and construction drawings prepared and submitted by the concessionaire. | Yes | Yes | Review of construction drawings |
| 4.1 (iii) | Conduct kick off meetings | | | |
| 4.1 (iv) | Review of the submissions of the Concessionaire such as a. Work schedule b. Detailed survey report c. Basic engineering | Yes | <ul style="list-style-type: none"> • Observations indicated in CRS on Poly dosing system for STP, Rev.0 • Submission of Monthly progress report for the month of | <ul style="list-style-type: none"> • Delay analysis • Remaining GA & structural drawings of civil structures |

| Activities carried out as per TOR | | | | |
|-----------------------------------|--|---|---|---|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | d. Detailed design and drawings for i) Civil works 1. Geo-tech reports 2. Lab testing reports 3. Third Party Inspection report ii) Mechanical & Electrical Works iii) Automation & Instrumentation works iv) Any other allied works e. QA/QC plans f. Safety plan | | April 2019. • Observations on MS pipe thickness calculation (Rising main) – reg. • Recommendation for vendor approval for pressure gauge. • Submission of Monthly inspection report for the month of April 2019. • Recommended for giving dispatch clearance to Treated water pump – M/s. Kishor Pumps limited. • Recommended for approval with comments on structural drawing of weir across Assi Nalla. • Observations on MS pipe thickness | • QAP & data sheet for remaining mechanical, electrical & instrumentation items. • PSC pipe inspection • Mechanical and Electrical equipment inspection |

| Activities carried out as per TOR | | | | |
|-----------------------------------|--|---|---|-----------------------------------|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | | | calculation (Rising Main). <ul style="list-style-type: none"> • Observations indicated in CRS on data sheet of knife gate valves. • Observations on GA drawing of weir across Assi nalla • Recommended for approval on Poly dosing system for STP. • Submission of monthly inspection report for the month of May 2019. | |
| 4.1 (v) | Review of the drawings and documents | Yes | As mentioned above | As mentioned above |
| 4.1 (vi) | Identification of milestones & verifications | | Regular review and monitoring | Regular review and monitoring |
| 4.1 (vii) | To Assist NMCG for getting statutory permissions | | NA | NA |
| 4.1 (viii) | Ensure compliance with statutory provisions | | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | under various applicable laws | | | |
| 4.1 (ix) | Review, inspection, supervision and monitoring of construction works conducting tests on completion of construction and issuing completion / provisional certificate | Yes | Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts | Day to day monitoring of construction activities by site personnel and Monthly inspection by Key experts |
| 4.1 (x) | Review, inspection and monitoring of O&M | NA | NA | NA |
| 4.1 (xi) | Determining, as required under the Concession Agreement, the costs of any works or services and/or their reasonableness | NA | NA | NA |
| 4.1 (xii) | Determining, as required under the Concession Agreement, the period or any extension thereof, for performing any duty or obligation | NA | NA | NA |
| 4.1 (xiii) | Determining the events of default and guidance on consequent termination notices and payment as detailed in clauses 16.1 to 16.5 of the Concession Agreement | NA | NA | NA |

| Activities carried out as per TOR | | | | |
|--|--|--|--|---|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 4.1 (xiv) | Determine deficiencies in the commissioning & trial runs; prepare the final acceptance document for acceptance of commissioning & trial runs. Prepare & Issue Commercial Operation certificate through Uttar Pradesh Jal Nigam | NA | NA | NA |
| 4.1 (xv) | Any other matter which is not specified in ((vi), (vii), or (viii) above and which creates an obligation or liability on the Employer / NMCG beyond the provisions of the Concession Agreement | NA | NA | NA |
| 4.1 (xvi) | The Project Engineer shall submit regular periodic reports, as specified in the Concession Agreement to Uttar Pradesh Jal Nigam and NMCG, in respect of its duties and functions under the Concession Agreement | Monthly progress report | Monthly progress report | Preparation and review of monthly progress report |
| 4.1 (xvii) | The Project Engineer shall aid and advise the Employer on any proposal for variation under Article 20 of the Concession Agreement | NA | NA | NA |
| 4.1 (xviii) | Assisting the Parties in resolution of Disputes | NA | NA | NA |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 4.1 (xix) | Assisting the employer in the fulfilment of Hand back requirements as detailed in clause 19.3 of the Concession Agreement | | NA | NA |
| 4.1 (xx) | Undertaking all other duties and functions in accordance with this agreement | As mentioned above | As mentioned above | As mentioned above |
| 4.2 | The Project Engineer shall discharge its duties in an efficient manner, consistent with the highest standards of professionalism and Good Industry Practice | Yes | Yes | Yes |
| 4.3(i) | The Project Engineer must function in a manner to assist & equip the employer to ascertain that the Concessionaire shall operate and maintain the Facilities and the Associated Infrastructure in a manner that: Is in compliance with the Technical Specifications, Applicable Laws, Applicable Permits and Good Industry Practice; Results in the Facilities and the Associated Infrastructure achieving the KPIs as detailed in | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|-----------------------------------|---|---|---|-----------------------------------|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | schedule 10 of the Concession Agreement & certify within 7 days the KPI adherence Report as per clause 8.12 of the Concession Agreement; | | | |
| 4.3(ii) | Ensures that the Varanasi STP are capable of treating Sewage up to the Design Capacity on a daily basis; | Yes | Yes | Yes |
| 4.3(iii) | Ensures efficient treatment of Sewage and handling and disposal of STP By- Products and the Treated Effluent | NA | NA | NA |
| 4.3(iv) | STPs are safe and reliable, subject to normal wear and tear of the Facilities and the Associated Infrastructure; | NA | NA | NA |
| 4.3(v) | Is in compliance with the technology license agreement executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Facilities and/or the Associated Infrastructure | Yes | NA | NA |
| 4.3(vi) | Maintains the safety and security of personnel, material and property at the Site, in accordance with the approved EHS Plan, Applicable Laws | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|---|---|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | and Applicable Permits. | | | |
| 4.3(vii) | Ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the EHS Plan, Applicable Laws and Applicable Permits. | Yes | Yes | Yes |
| 4.4 | Overall, The Project Engineer shall assist the Uttar Pradesh Jal Nigam in supervising the construction, rehabilitation, operation & maintenance of the Facilities and the Associated Infrastructure and shall work closely with the Uttar Pradesh Jal Nigam and NMCG to monitor compliance with the KPIs. | Yes | Yes | Yes |
| 5.1 | During the Development Period, the Project Engineer shall undertake a detailed review of the basic engineering Designs, furnished by the Concessionaire along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from | Yes | Review of construction drawings submitted by concessionaire | Review of construction drawings submitted by concessionaire |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | borrow areas and quarry sites, topographical surveys and Sewage Flow Analysis. The Project Engineer shall complete such review and send its comments / observations to the NMCG / Name of the Employer (i.e. State Institution) and the Concessionaire within 10 (ten) days of receipt of such Drawings. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards | | | |
| 5.2 | The Project Engineer shall review and assist the (Name of the Employer) in approval of the submissions by the concessionaire relating to the “ design and Construction Plan ” so as to confirm to the scope as per Schedule 1 of the Concession Agreement. | Yes | Yes | Yes |
| 5.3 | The basic engineering drawings in the above case shall mean the designs and documents to be submitted by the Concessionaire & approved by the Uttar Pradesh Jal Nigam as a Condition | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | Precedent & shall include but not limited to: a) Conduct kick off meeting, scrutiny of contractors submittals b) Process description, process calculations and hydraulic calculations; c) List of design codes and standards; d) Master drawing schedule; e) Drainage design; f) STP Facilities layout; g) Process flow diagram; h) Hydraulic flow diagram; i) Mass balance diagram; j) Process and instrumentation diagram; k) Single line diagram; l) Electrical load list; and m) General arrangement diagrams of all units of facilities and associated infrastructure | | | |
| 5.4 | The project engineer shall review any modified Drawings or supporting documents sent to it by the Concessionaire and furnish its comments | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | within 10 (ten) days of receiving such drawings or documents. | | | |
| 5.5 | The project engineer shall review the detailed design, construction methodology, quality assurance procedures and the procurement, engineering and construction time schedule sent to it by the Concessionaire and furnish its comments within 10 (ten) days of receipt thereof. | Yes | Yes | Yes |
| 5.6 | Upon reference by the NMCG/Uttar Pradesh Jal Nigam, the Project Engineer shall review and; comment on the EPC Contract or any other contract for construction, operation and maintenance of the Project, and furnish its comments within 10 (ten) days from receipt of such reference from the NMCG/Uttar Pradesh Jal Nigam. | NA | NA | NA |
| 6.1 | In respect of the designs drawing & documents received by the project engineer for its review and comments during the construction period, the provisions of paragraph 4 shall also apply, | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | mutatis mutandis | | | |
| 6.2 | The Project Engineer shall review, and assist the Uttar Pradesh Jal Nigam in reviewing the submissions by the concessionaire, the Construction plan as defined in clause 7.3 of the Concession Agreement including Phase 1 and Phase II drawings, as well as the 'As Built' drawings on completion and EHS plans as defined in clause 7.4 of the Concession Agreement | Yes | Yes | Yes |
| 6.3 | The Project Engineer shall assist the Uttar Pradesh Jal Nigam submit their comments on effectiveness or otherwise of the Work plan submitted for meeting the specified payment milestones and completion of the work on or before the scheduled construction completion date | Yes | Yes | Yes |
| 6.4 | The Project Engineer shall review, in particular, the submissions by the Concessionaire as per Schedule 1 of the Concession Agreement, and | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|-----------------------------------|---|---|--|-----------------------------------|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | assist Uttar Pradesh Jal Nigam in assessing the effectiveness them | | | |
| 6.5 | The Project Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report | Yes | Concessionaire not yet submitted progress report for the month of May 2019. However, the report was prepared by Project Engineer | Yes |
| 6.6 | The Project Engineer shall inspect the Construction Works and the Project as and when necessary and submit a report of such inspection (the “Inspection Report”), preferably after receipt of the monthly progress report from the Concessionaire, but before the 20th (twentieth) day of each month in any case. The report shall contain, an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works with the Scope of the | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | Project and the Specifications and Standards. In a separate section of the Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction of the Project. The Project Engineer shall send a copy of its Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 3 (three) days of the inspection | | | |
| 6.7 | However serious lapses, defects and/or deficiencies shall be reported to the Uttar Pradesh Jal Nigam/NMCG immediately without waiting for the monthly progress submissions as mentioned in the previous paragraph | Yes | Yes | Yes |
| 6.8 | For determining that the Construction Works conform to Specifications and Standards, the Project Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Project Engineer in accordance | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | with approved norms/Good Industry Practice for quality assurance. The Project Engineer shall issue necessary directions to the Concessionaire for ensuring that the tests are conducted in a fair and efficient manner, and shall monitor and review the results thereof | | | |
| 6.9 | The timing of tests referred to in Paragraph 6.8, and the criteria for acceptance/ rejection of their results shall be determined by the Project Engineer in accordance with the norms /rules and Good Industry Practice. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice | Yes | Yes | Yes |
| 6.10 | In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Project Engineer shall require the Concessionaire to carry out, or | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | cause to be carried out, tests to determine that such remedial works have brought the Construction Works into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests | | | |
| 6.11 | In the event that the Concessionaire fails to achieve any of the Project Milestones, the Project Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Project Engineer identifies that completion of the Project is not feasible within the time specified in the Concession Agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which COD shall be achieved. Upon receipt of a report from the Concessionaire, the Project Engineer shall review the same and send its comments to the | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire forthwith. | | | |
| 6.12 | If at any time during the construction period, the Project Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers and common public in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers and the common public, it shall make a recommendation to the NMCG/ Uttar Pradesh Jal Nigam forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof. | NA | NA | |
| 6.13 | In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works and common public, it may, by notice in writing, require the Project Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Project Engineer shall | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | inspect the suspended works and make a report to the NMCG/ Uttar Pradesh Jal Nigam forthwith, recommending whether or not such suspension may be revoked by the NMCG/ Uttar Pradesh Jal Nigam. | | | |
| 6.14 | If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Project Engineer shall determine the extension of dates set forth in the project completion schedule, to which the Concessionaire is reasonably entitled, and shall notify the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire of the same | NA | NA | |
| 6.15 | Upon reference from the NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services and certify the reasonableness of such costs for payment by the NMCG/ Uttar Pradesh Jal Nigam to the Concessionaire | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 6.16 | The Project Engineer shall aid and advise the Concessionaire in preparing the Operation & Maintenance Manual | NA | NA | |
| 6.17 | Upon reference from the NMCG/ Uttar Pradesh Jal Nigam the Project Engineer shall undertake the assessment of cost of civil works, as per applicable schedule of rates, for the reduction of Scope of work if any as per Article 20. | NA | NA | |
| 6.18 | The Project Engineer shall review the construction progress as per payment milestones proposed by the concessionaire and provide necessary recommendation/s to Uttar Pradesh Jal Nigam for issuance of 'Milestone Construction Certificates' | Yes | NA | |
| 6.19 | The Project Engineer shall support the employer in ensuring that the provisions specified in Clause 7, of the Concession Agreement including those for liquidated damages and Bonus, are being complied with | Yes | NA | |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 6.20 | On completion of construction and at behest of Employer, the Project Engineer may review the work done as per 'as built' drawings and identify defects and suggest changes as per clause 7.13(v) of the Concession Agreement | NA | NA | |
| 6.21 | Similarly, the Project Engineer may inspect the trial process and may point out the defects and cause changes or retrial of the process as per clause 7.14(d) of the Concession Agreement | NA | NA | |
| 7.1 | In respect of the Designs, Drawings, and Documents received by the Project Engineer for its review and comments during the Operation Period, the provisions of Paragraph 4 shall apply, mutatis mutandis | NA | NA | |
| 7.2 | The Project Engineer shall review the O&M Manual (Clause 8.2) and the Scheduled Maintenance Programme submitted by the concessionaire and provide its recommendations on the same, including suggestions for change, if any. The O&M Manual shall cover: | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | a) O&M Procedures; b) O&M Plan; c) Provision of Spare Parts; d) Sampling and Testing Methodologies; e) Storage and control of Inventory; f) Arrangements for data security and Integrity; g) Procedures for recording and disposal of complaints; h) Operational Contingencies Plans; i) Human Resources Plans; j) EHS Plans; k) Emergency procedures; l) Management of Assets Plans. And m) Annual Scheduled Maintenance programme. | | | |
| 7.3 | The Project Engineer shall review the annual Maintenance Program furnished by the Concessionaire and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | Concessionaire within 10 (ten) days of receipt of the Maintenance Program | | | |
| 7.4 | The Project Engineer shall review the reports generated from online monitoring systems to assess adherence to KPIs and submit the monthly KPI Adherence Report to Uttar Pradesh Jal Nigam | NA | NA | |
| 7.5 | The Project Engineer shall verify the daily reports submitted by the concessionaire regarding the volume of sewage and its quality re influent standards and monitor and record the same on regular basis | NA | NA | |
| 7.6 | The Project Engineer shall monitor, review and advise the Uttar Pradesh Jal Nigam on the reports submitted by the concessionaire as per clause 8.8(b)(iii) (A) to (G) of the Concession Agreement | NA | NA | |
| 7.7 | The Project Engineer shall regularly verify the report submitted by the concessionaire on the tests conducted at the Inlet Point, the Outlet | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | Point or at any other point at the Varanasi STP for the Digested Sludge. Separately, the Project Engineer shall also have the right to take random samples of the incoming Sewage, the Digested Sludge and the Treated Effluent at any time during the O&M Period to test compliance with the Influent Standards and the Discharge Standards. | | | |
| 7.8 | The Project Engineer shall review the monthly status report furnished by the Concessionaire (as required under clause 812(c)) of the Concession Agreement) and send its comments thereon to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of receipt of such report | NA | NA | |
| 7.9 | The Project Engineer shall inspect the Project once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case and make out an O&M Inspection Report setting forth an overview of | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | the status, quality and safety of O&M including its conformity with the Maintenance Requirements and Safety Requirements. In a separate section of the O&M Inspection Report, the Project Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M of the Project. The Project Engineer shall send a copy of its O&M Inspection Report to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 7 (seven) days of the inspection | | | |
| 7.10 | The Project Engineer may inspect the project more than once in a month, if any lapses, defects or deficiencies require such inspections. | NA | NA | |
| 7.11 | The Project Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the project is in conformity with the Maintenance Requirements. It shall monitor and review the | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf. | | | |
| 7.12 | The Project Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Concession Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the NMCG/ Uttar Pradesh Jal Nigam for such delay. | NA | NA | |
| 7.13 | The Project Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire. | NA | NA | |
| 7.14 | In the event that the Concessionaire notifies the Project Engineer of any modifications that it proposes to make to the project, the Project Engineer shall review the same and send its comments to the NMCG/ Uttar Pradesh Jal Nigam and the Concessionaire within 15 (fifteen) days of receiving the proposal. | NA | NA | |
| 7.15 | The Project Engineer shall undertake sewage | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | flow sampling, as and when required by the NMCG/ Uttar Pradesh Jal Nigam, under and in accordance with the provisions of this agreement | | | |
| 7.16 | The Project Engineer shall review and report to the employer on all the reports (Daily, Monthly, Quarterly and Annual), including monthly Environmental Monitoring Reports as detailed in Schedule 11(Part G) of the Concession Agreement. | NA | NA | |
| 7.17 | The Project Engineer shall provide necessary training/capacity building to the operators/technicians of the STP, as and when required, so as to address the gap in skill sets of the manpower deployed by the Concessionaire | NA | NA | |
| 9.1 | The Project Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Concession Agreement | NA | NA | |
| 9.2 | The Project Engineer shall determine the period, or any extension thereof, that is required to be | NA | NA | |

| Activities carried out as per TOR | | | | |
|-----------------------------------|---|---|---|-----------------------------------|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | determined by it under the Concession Agreement | | | |
| 10.1 | When called upon by either Party in the event of any Dispute, the Project Engineer shall mediate and assist the Parties in arriving at an amicable settlement | NA | NA | |
| 10.2 | In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Concession Agreement, the Project Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature | NA | NA | |
| 11.0 | As and when requested by NMCG/ Uttar Pradesh Jal Nigam, the Project Engineer shall provide its opinion and assessment on the events related to Emergency, Change in Law, Force Majure, Minor or total Casualties, Variation and unforeseen Site conditions etc | NA | NA | |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 12.1 | The Project Engineer shall notify its programme of inspection to the NMCG/ Uttar Pradesh Jal Nigam and to the Concessionaire, who may, in their discretion, depute their respective representatives to be present during the inspection. | Yes | Yes | Yes |
| 12.2 | A copy of all communications, comments, instructions, Drawings or Documents sent by the Project Engineer to the Concessionaire pursuant to this TOR, and a copy of all the test results with comments of the Project Engineer thereon shall be furnished to the NMCG/ Uttar Pradesh Jal Nigam forthwith. | Yes | Yes | Yes |
| 12.3 | The Project Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody. | Yes | Yes | Yes |
| 12.4 | Upon completion of its assignment hereunder, the Project Engineer shall duly classify and list | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | all Drawings, Documents, results of tests and other relevant records, and hand them over to the NMCG/ Uttar Pradesh Jal Nigam or such other person as the NMCG/ Uttar Pradesh Jal Nigam may specify and obtain written receipt thereof. Two copies of the said documents shall also be furnished in their editable digital format or in such other medium or manner as may be acceptable to the NMCG/Uttar Pradesh Jal Nigam | | | |
| 12.5 | Wherever no period has been specified for delivery of services by the Project Engineer, the Project Engineer shall act with the efficiency and urgency necessary for discharging its functions in accordance with Good Industry Practice. | Yes | Yes | Yes |
| 12.6 | Project Engineers shall be expected to fully comply with all the provisions of the “Terms of Reference”, and shall be fully responsible for supervising the Design, Construction and | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| | <p>maintenance and operation of the Facility in accordance with the provisions of the Concession Agreement and other schedules. Any failure of the Project Engineer in notifying to the Employer and the Concessionaire on non-compliance of the provisions of the Concession Agreement and other schedules by the Concessionaire, non-adherence to the provision of this ToR and non-adherence to the time schedule prescribed under this ToR shall amount to non-performance.</p> | | | |
| 12.7 | <p>The project Engineer shall develop & maintain a project website and with the approval of NMCG/UPJN post from time to time, information (textual and Audio- Visual) on project progress on a continuous basis. On completion of services as per this RFP document, the website with all necessary technical information shall be handed over to UPJN.</p> | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|---|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 14.1 | Uttar Pradesh Jal Nigam may review with the Project Engineer, any or all of the documents and advice forming part of the Consultancy, in meetings and conferences which will be held at the office of the Uttar Pradesh Jal Nigam / NMCG. Uttar Pradesh Jal Nigam / NMCG may, in its discretion, require the Project Engineer to participate in extended meetings and/ or work from the offices of Uttar Pradesh Jal Nigam /NMCG and the Project Engineer shall, on a best endeavor basis and without unreasonable delay, provide such services at the offices of the Uttar Pradesh Jal Nigam/NMCG. | Yes | Yes | Yes |
| 15.1 | The Project Engineer may prepare Issue Papers highlighting issues that could become critical for the timely completion of the Project and that require attention from Uttar Pradesh Jal Nigam/NMCG. The Project Engineer shall report to UPJN for routine activities and deliverables. All major and critical issues shall be reported to NMCG and UPJN simultaneously. | Yes | Yes | Yes |

| Activities carried out as per TOR | | | | |
|--|--|--|--|--|
| Clause as per TOR | Scope | Period: April 2019 to June 2019 | | |
| | | Undertaken till previous month – April 2019 | Undertaken during this month – May 2019 | Expected for next month June 2019 |
| 15.2 | The Project Engineer will make a presentation on the inception report for discussion with the Uttar Pradesh Jal Nigam / NMCG at a meeting. This will be a working document. Regular communication with Uttar Pradesh Jal Nigam / NMCG is required in addition to all key communications. This may take the form of telephone/ teleconferencing, emails, and occasional meetings. | Yes | Yes | Yes |
| 15.3 | The Deliverables will be submitted as per schedule provided in this RFP | Yes | Yes | Yes |

4.0. MEETINGS

Project Engineer undertaken and planned services.

| Sl. No. | Services | Undertaken by | Period: May 2019 | Period: June 2019 |
|---------|----------------------------|--|---------------------------|-----------------------------------|
| | | | Description | Expected for next month |
| 1 | Monthly review of progress | 1) Mr. S. K. Barman, Project Manager, GPPD, Varanasi 2) Mr. A. Srinivasan, General Manager, MACE 3) Mr. T. Sathyamoorthy, Senior Manager, MACE | 25 th May 2019 | Progress review & site inspection |

5.0. STAFF DEPLOYMENT

The work had commenced on 15.02.2018 the same has been communicated to NMCG vide letter number P968:8230 dated 05.03.2018.

The Project Engineer office shifted on 20/06/2018 at the following address in Varanasi:

Mahindra Consulting Engineers Limited

"K Lion Enclave",
"A "Block,
Flat No: 118, 1st Floor,
Opposite to Vishal Mega Mart,
Nevada, Sundarpur,
Varanasi – 221005,
Uttar Pradesh.

The position of staff deployment since beginning of the project till end of April 2019 is given in the following table:

| Staff deployed on site at Ramana, Varanasi | | | Date of deployment | |
|--|---------------------|---|--------------------|------------|
| Sl. No. | Designation | Name of staff | From | To |
| 1 | Team Leader | Jiut Bundhan Rai (Additional deployment) | 07/05/2018 | |
| 2 | Project Manager | G. Sathiskumar (As per agreement) | 19/02/2018 | 21/05/2018 |
| 3 | Civil Engineer | M. Sivapriyan (Additional deployment) | 15/02/2018 | |
| 4 | Civil Engineer | T. Sathyamoorthy (As per agreement) | 20/04/2018 | 07/05/2018 |
| 5 | Civil Engineer | P. Ramasubramanian (Additional deployment) | 20/04/2018 | 27/11/2018 |
| 6 | Civil Engineer | Imran Khadhar Mohideen (Additional deployment) | 20/04/2018 | |
| 7 | Structural Engineer | S. Varun Athithiya (Additional deployment) | 20/04/2018 | |
| 8 | Senior Engineer | R. Satish | 20/04/2018 | 28/05/2018 |

**Development of 50 MLD sewage treatment plant and
associated infrastructure on PPP basic at Ramana, Varanasi**

| Staff deployed on site at Ramana, Varanasi | | | Date of deployment | |
|--|--------------------------------|--|--------------------|------------|
| Sl. No. | Designation | Name of staff | From | To |
| | (Electrical & Instrumentation) | (As per agreement) | 04/03/2019 | |
| 9 | Structural Engineer | M. Vishnukumar (As per agreement) | 24/09/2018 | |
| 10 | Electrical Engineer | K.Ganesh (As per agreement) | 11/10/2018 | 13/10/2018 |
| 11 | Liaison Officer | O. B. Shivakumar (Additional deployment) | 20/04/2018 | 08/07/2018 |
| 12 | QA QC Expert /Safety | L. Selva Kumar (Additional deployment) | 29/05/2018 | 07/04/2019 |

ANNEX - 1

PROJECT PROGRESS (PHYSICAL)

ANNEX 1 - PROJECT PROGRESS (PHYSICAL)

| Sl. No. | Component / Package | Physical Progress in Percentage | | | | Remarks |
|---------|---|--|----------------------|--------------|--------|---|
| | | Scheduled till 31 st May 2019 | Up to Previous month | During month | Total | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Development of sewage treatment plant and associated infrastructure under Hybrid Annuity based PPP mode at Varanasi | 76.04% | 61.58% | 3.18% | 64.76% | Since the due date are third milestone already passed away and VSPPL could not achieve the target due to their internal financial problem, VSPPL assured to achieve the third milestone completion before end of July 2019. Agreed to submit recovery plan towards the same |

ANNEX - 2

FINANCIAL STATEMENTS

ANNEX 2 - FINANCIAL STATEMENTS

| Item of work | Scheduled expenditure in Rs | Completed amount till previous month in Rs | Completed amount during this month in Rs | Total completed amount in Rs |
|--|-----------------------------------|---|---|---------------------------------------|
| Design detailed engineering | | | | |
| Phase - I D&E (BEP) | 76,50,000 | 76,50,000 | - | 76,50,000 |
| Phase - II D&E (Civil, Mechanical, Electrical, Inst. drawings) | 5,100,000 | 5,059,200 | 20,400 | 5,079,600 |
| Topographical / Soil Investigation | 51,00,000 | 51,00,000 | - | 51,00,000 |
| Structural drawings submissions & approvals | 12,750,000 | 12648000 | 51000 | 12,69,900 |
| Mechanical & piping drawings submissions & approvals | 10,200,000 | 9,220,800 | 2,04,000 | 95,47,200 |
| Electrical drawings submissions & approvals | 2,550,000 | 2,397,000 | 91,800 | 24,88,800 |
| Instrumentation document submissions & approvals | 2,550,000 | 2,167,500 | 1,27,500 | 22,95,000 |
| Associated | | | | |
| MPS pumping station | 10,200,000 | 3,417,000 | - | 3,417,000 |
| Rising Main | 15,300,000 | 2,602,530 | 9,33,147 | 35,35,677 |
| Treated Effluent disposal line | 102,000,000 | 65,612,566 | 42,84,000 | 65,612,566 |
| Equipment procurement, logistics and receipt of equipment at Site | | | | |
| Fine Screen / Coarse Screen / Belt Conveyors | 10,200,000 | 6,375,000 | 38,25,000 | 10,200,000 |
| Grit Removal Mechanism | 10,200,000 | 2,26,667 | - | 2,26,667 |
| SBR System (Decanters) | 43,965,517 | 51,000,000 | - | 51,000,000 |
| SAS / RAS pumps/booster pumps / treated water pumps / drain pumps | 10,200,000 | 10,200,000 | - | 10,200,000 |
| Horizontal centrifugal pumps (Treated water pumps) | 20,400,000 | 12,750,000 | - | 12,750,000 |

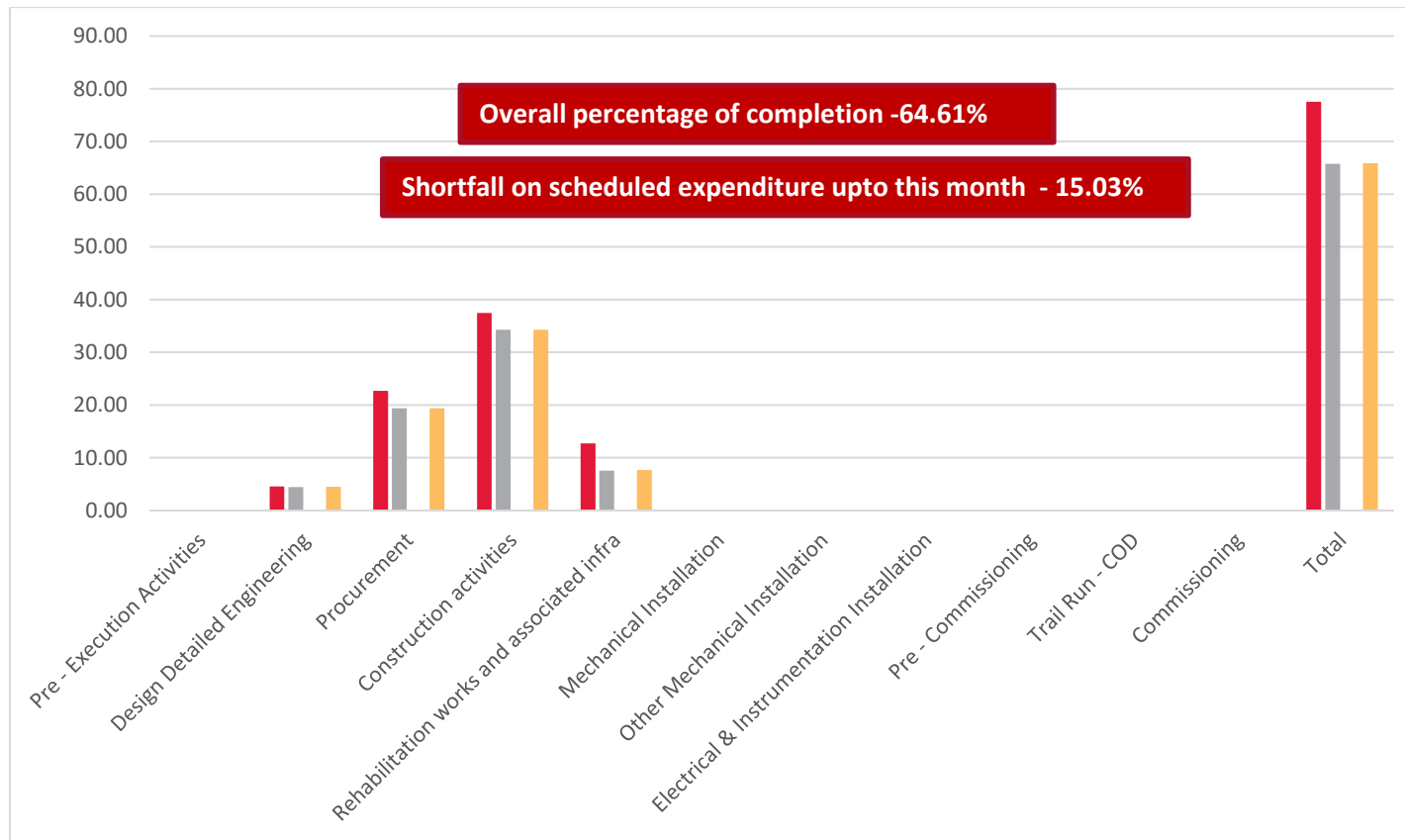
Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled expenditure in Rs | Completed amount till previous month in Rs | Completed amount during this month in Rs | Total completed amount in Rs |
|--|------------------------------------|---|---|-------------------------------------|
| Air blowers | 40,800,000 | 25,500,000 | 15,30,000 | 40,800,000 |
| Chlorination system | 10,200,000 | 10,200,000 | - | 10,200,000 |
| Sluice Gates | 5,100,000 | 3,187,500 | 19,12,500 | 5,100,000 |
| MS/CS/SS/GI/CI/DI Pipping | 3,163,576 | | | |
| Valves | 3,163,576 | 45,333 | | 45,333 |
| Motorized Gates at Inlet Of SBR | 10,200,000 | 6,375,000 | 38,25,000 | 10,200,000 |
| Diffusers | 10,200,000 | 6,375,000 | - | 6,375,000 |
| Volute press | 43,89,024 | 5,100,000 | | 5,100,000 |
| PE Dosing Tanks | 868,889 | 22,667 | | 22,667 |
| Agitators | 37,20,571 | 136,000 | - | 136,000 |
| Transformers | 23,44,663 | 5,100,000 | - | 5,100,000 |
| HT cables | 9,72,934 | 45,333 | | 45,333 |
| MCC panel | 21,43,889 | 2,550,000 | 6,37,500 | 31,87,500 |
| HT Panel | 5,100,000 | 5,100,000 | - | 5,100,000 |
| PLC Panel | 91,80,000 | 9,180,000 | - | 9,180,000 |
| SCADA System | 42,87,778 | 181,333 | - | 181,333 |
| MLDB, LDB & SLDBS | 21,43,889 | 2,550,000 | 6,37,500 | 31,87,500 |
| Push Button Stations/Plant lighting / Buildings lighting | 10,71,944 | - | 45,333 | 45,333 |
| Power, Control & lighting Cables | 21,43,889 | 56,667 | 34,000 | 90,667 |
| Cable trays/Lighting JB | 10,71,944 | 56,667 | - | 56,667 |
| DG Set | 21,43,889 | 113,333 | - | 113,333 |
| Plant Earthing | 11,61,337 | 56,667 | - | 56,667 |
| Instruments (Flow meter / Analyzer) | 27,70,663 | 170,000 | - | 170,000 |
| Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches) | 21,88,433 | 170,000 | - | 170,000 |
| | | | | |

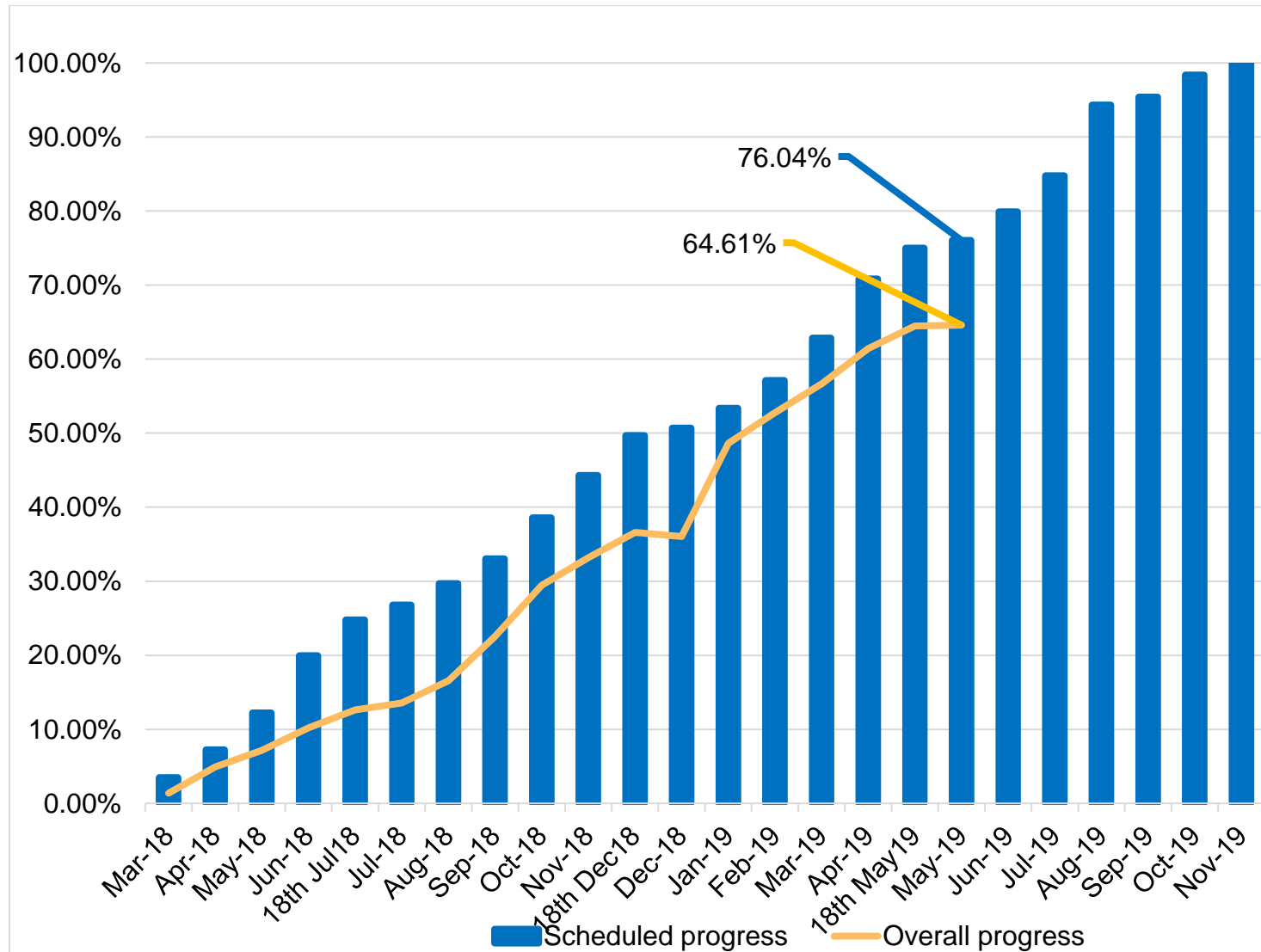
Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled expenditure in Rs | Completed amount till previous month in Rs | Completed amount during this month in Rs | Total completed amount in Rs |
|---|---|---|---|-------------------------------------|
| Civil Executions | | | | |
| Bund Wall / Earthen Embankment | 72,500,000 | 70,652,850 | 2,55,000 | 709,07,850 |
| Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR | 22,950,000 | 16,696,763 | - | 16,696,763 |
| SBR Basins & SBR outlet Chamber | 212,105,357 | 201,483,660 | | 201,483,660 |
| Construction of CCT including Chlorination room & Treated water pump House | 26,675,217 | 22,522,824 | 76,500 | 22,599,324 |
| Final Outfall chamber | 3,08,684 | | | |
| Overhead Treated Water Tank | 22,95,000 | 880,541 | - | 880,541 |
| Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | 93,87,778 | 4,849,590 | 76,500 | 49,26,090 |
| Administrative Building including lab and workshop | 97,24,773 | 8,451,924 | | 8,451,924 |
| Staff Quarters | 52,63,200 | 7,026,117 | 35,700 | 70,61,817 |
| Construction of Blower room, HT, MCC, Transformer Yard, DG set Area | 13,770,000 | 10,165,687 | | 10,165,687 |
| Total | 77,56,13,862 | 626,522,618 | 32,494,781 | 65,90,17,399 |
| | Percentage completion of overall project | | 64.61% | |

Financial status for the month of May 2019



Progress status scheduled vs Actual - May 2019



ANNEX - 3

QUALITY ASSURANCE / QUALITY CONTROL

ANNEX 3 - QUALITY ASSURANCE / QUALITY CONTROL

1. Bund wall

| S. No. | Description | IS Code | Up to Previous Month | | | | During this month (May 2019) | | | | Remarks |
|--------|---|----------------|-------------------------------|-----------------------|-------------------|----------------|---------------------------------|-----------------------|-------------------|----------------|---|
| | | | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | |
| 1 | Soil compaction test at source (Barrow pit) - MDD, OMC & Soil characteristics | 2720 Part VIII | 22 | 22 | 12 | 0 | - | - | - | - | 10 sample taken and sent to third party testing and waiting for their report. |
| 2 | Soil compaction test at Site - OMC & Degree of compaction | 2720 Part II | 1363 | 1363 | 1215 | 146 | 100 | 100 | 95 | 5 | 151 Rectification suggested for re-compaction & retesting as per relevant code. |

2. New construction units

| Sl. No. | Description | IS Code | Till previous month | | | | May 2019 | | | | Remarks |
|---------|---|-------------|-------------------------------|----------------------|------------------|---------------|-------------------------------|-----------------------|-------------------|----------------|---|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | |
| 1 | Coarse - aggregate 20mm down | IS 383-2001 | 52 | 96 | 79 | 17 | - | - | - | - | 17 rejects (oversize) removed from site. |
| 2 | Coarse - aggregate 10mm down | IS 383-2001 | 40 | 56 | 51 | 5 | - | - | - | - | 5 rejects (undersize) removed from site. |
| 3 | Fine aggregate 4.75 mm down | IS 383-2001 | 36 | 55 | 50 | 5 | | | | - | 5 rejects (undersize) removed from site. |
| 4 | Combined Grading as per approved IIT Mix design | IS 383-2001 | Whenever required | 4 | 4 | - | Whenever required | - | - | - | As per approved mix 60% of 20mm and 40% of 10mm being used. |
| 5 | Hardened | IS 516 | Every | 1099 | 1099 | - | Every | | | - | Third party test |

| Sl. No. | Description | IS Code | Till previous month | | | | May 2019 | | | | Remarks |
|---------|-------------------------------|--|------------------------------------|----------------------|------------------|---------------|------------------------------------|-----------------------|-------------------|----------------|--|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | |
| | concrete Compressive strength | & IS 456 | 50m ³ or part thereof | | | | 50m ³ or part thereof | | | | report available. |
| 6 | OPC Cement 43 Grade | IS 8112-2013 | Every batch | 1 | 1 | Every batch | - | - | - | Every batch | UltraTech MTC |
| 7 | Reinforcement TMT Bars | IS 456-2000, IS 1786 - 1987 & IS 800 -2007 | One sample for each size per 50 MT | 51 | 51 | - | One sample for each size per 50 MT | - | - | - | TATA Steel MTC / Third party report for all consignment. |
| 8 | Admixture | IS 9103 - 1979 | Every new lot | 1 | 1 | - | Every new lot | - | - | - | FOSROC Conplast / MTC available for all consignment. |
| 9 | Water | IS 456 -2001 | Once in six | 3 | 2 | 0 | Once in six | - | - | - | 1 sample sent to IIT BHU on |

| Sl. No. | Description | IS Code | Till previous month | | | | May 2019 | | | | Remarks |
|---------|--|------------------------|-------------------------------------|-------------------------|---------------------------------------|---------------|-------------------------------------|-------------------------|---------------------------------------|----------------|---|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | |
| | | | months | | | | months | | | | 28/03/2019. Awaiting report. |
| 10 | Mix design | IS 10262-2000 | Whenever source of material changes | M10, M15, M20, M25, M30 | Approved IIT BHU & accepted by client | | Whenever source of material changes | M10, M15, M20, M25, M30 | Approved IIT BHU & accepted by client | | As per approved mix 60% of 20mm and 40% of 10mm being used. |
| 11 | Field control test: Slump /Concrete temperature/ unit weight | IS 456, SP 23 & IS 516 | Every alternate truck | 495 | 482 | 13 | Every alternate truck | | | - | 13 rejects were realtered and found acceptable. |

| Sl. No. | Description | IS Code | Till previous month | | | | May 2019 | | | | Remarks |
|---------|-------------|-------------------|--|----------------------|------------------|---------------|--|-----------------------|-------------------|----------------|--|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No. of Test conducted | No. of Acceptance | No. of Rejects | |
| 12 | Bricks | IS 1077 & IS 5454 | 20nos to be selected from a lot of 2000-10000. | 40 | 40 | - | 20nos to be selected from a lot of 2000-10000. | - | - | - | 20 nos tested as site laboratory & 20 nos sent to third party testing. Results were found acceptable |

3. Treated Effluent disposal line

| Sl. No | Description | IS Code | Till previous month | | | | May 2019 | | | | Remarks |
|--------|--|------------------|-------------------------------|----------------------|------------------|---------------|-------------------------------|----------------------|------------------|---------------|---|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | |
| 1 | PSC Pipes 1200mm dia – characteristics Test (Dimension, Straightness, Thickness, Hydrostatic & Permeability) | IS 784 & IS 3597 | 707 | 707 | 677 | 30 | 80 | 80 | 75 | 5 | 35 nos pipes are rectified retested and found acceptable. |
| 2 | Soil Test – SBC of soil | IS 6403 | 4 | 4 | 4 | - | - | - | - | - | |
| 3 | EPDM Gasket | IS 5389-1979 | 663 | 663 | 663 | - | 20 | 20 | 20 | | |

4. Raising main

| S. No. | Description | IS Code | Up to Previous Month | | | | During this month (May 2019) | | | | Remarks |
|--------|---|---------------|-------------------------------|----------------------|---------------------|---------------|-------------------------------|----------------------|------------------|---------------|---|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | |
| 1 | MS Pipes 1000mm dia - characteristics Test (Dimension, Thickness, Hydro testing, Epoxy coating, Anti corrosive coating & Marking) | IS 3589:2001 | 246.72 Mtr (48 nos) | 246.72 Mtr (48 nos) | 246.72 Mtr (48 nos) | - | - | - | - | - | Factory inspection done along with client at Bamrah pipes, Noida |
| 2 | Dye penetration test Cleaner- CL 96 Penetrator – PT97 Developer – DL 98 Mode of application – Spray | IS 23277:2015 | 29 | 29 | 29 | - | 12 | 12 | 12 | - | Lighting equipment-laser Dwell time – 2 to 5 min Developing time 10 to 15 min |

5. Construction Running Materials / Equipment's

| S. No. | Description | IS Code | Up to Previous Month | | | | During this month (May 2019) | | | | Remarks |
|--------|---|--------------|-------------------------------|----------------------|------------------|---------------|-------------------------------|----------------------|------------------|---------------|--|
| | | | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | As per IS No of test required | No of Test conducted | No of Acceptance | No of Rejects | |
| 1 | Auto level (SBR / Pipe lines / bund wall) | BIS 1492 | Yearly once | 3 | 3 | | Yearly once | | | | Verification done for all instruments / tools & CTM Site lab recalibration certificates found ok, Recalibration done for RMC plant on 27.12.18 |
| 2 | Cube testing Machine | IS 516-2001 | Yearly once | 2 | 2 | | Yearly once | | | | |
| 3 | Laboratory weighing machine | IS 460-1980 | Yearly once | 2 | 2 | | Yearly once | | | | |
| 4 | Ready Mix Concrete plant | IS 4926-2013 | Whenever required | 3 | 3 | | Whenever required | | | | |

ANNEX - 4 PHOTOGRAPHS

SBR & CCT



Overall site





SBR and CCT

Bund wall





Stone pitching on Northern side

Administrative Building



SBR air blower room, HT room, MCC room, Transformer Yard & DG set area



Staff Quarters



Type -I



Type - II

Staff Quarters





Type - III

Staff Quarters



Type - IV

| | |
|--------------------|--|
| <p>Rising Main</p> |  <p>Trenchless M.S. Pipe laying</p> |
| <p>Rising Main</p> |  |

Equipment reached site



Air blower





Screen & Gates

Site visit & Meeting



BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank



| | |
|--|---|
| <p>Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for</p> |  |
| <p>OHT</p> |  |

ANNEX - 5
OUTWARD CORRESPONDENCE LIST
OF MAY 2019

ANNEX 5 - OUTWARD CORRESPONDENCE LIST OF MAY 2019

| S. No. | Document No. | Date | To (Organization) | Copies To | Subject File No. | Subject |
|--------|------------------|-------------|-------------------|----------------|------------------|--|
| 1 | MACE: P968:9125 | 03-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Observations indicated in CRS on Poly dosing system for STP, Rev.0 |
| 2 | MACE: P968:9126 | 03-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Submission of Monthly progress report for the month of April 2019. |
| 3 | MACE: P968: 9139 | 06-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Observations on MS pipe thickness calculation (Rising main) – reg. |
| 4 | MACE: P968: 9144 | 07-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Recommendation for vendor approval for pressure gauge. |
| 5 | MACE: P968: 9145 | 07-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Submission of Monthly inspection report for the month of April 2019. |
| 6 | MACE: P968: 9168 | 13-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Recommended for giving dispatch clearance to Treated water pump – M/s. Kishor Pumps limited. |
| 7 | MACE: P968: 9177 | 15-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Recommended for approval with comments on structural drawing of weir across Assi Nalla. |
| 8 | MACE: P968: 9178 | 15-May-2019 | GM, UPJN | NMCG, PM, | NA | Observations on MS pipe |

| S. No. | Document No. | Date | To (Organization) | Copies To | Subject File No. | Subject |
|--------|------------------|-------------|-------------------|----------------|------------------|--|
| | | | | UPJN | | thickness calculation (Rising Main). |
| 9 | MACE: P968: 9235 | 22-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Observations indicated in CRS on data sheet of knife gate valves. |
| 10 | MACE: P968: 9246 | 24-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Observations on GA drawing of weir across Assinalla |
| 11 | MACE: P968: 9251 | 25-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Recommended for approval on Poly dosing system for STP. |
| 12 | MACE: P968: 9267 | 28-May-2019 | GM, UPJN | NMCG, PM, UPJN | NA | Submission of monthly inspection report for the month of May 2019. |

ANNEX - 6
INWARD CORRESPONDENCE LIST OF
MAY 2019

ANNEX 6 - INWARD CORRESPONDENCE LIST OF MAY 2019

| Sl. No. | Document No | Letter Date | From | | Attachments | | Subject |
|---------|-----------------------|-------------|--------------|-----------------|-------------|-----|---|
| | | | Organization | Writer | Y/N | No. | |
| 1. | EIL/VSPPL/2019-20/464 | 01-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 3 | Submission of Mechanical Document of volute press local control panel (wiring diagram, GA & QAP) Rev-1 |
| 2. | EIL/VSPPL/2019-20/465 | 02-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Submission of Civil Drawings of Thrust block for 1000mm Dia MS Pipe and CIVIL G.A and Reinforcement detail of thrust block. |
| 3. | EIL/VSPPL/2019-20/466 | 03-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 1 | Submission of GST Claim - Additional details. |
| 4. | EIL/VSPPL/2019-20/467 | 03-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Inspection Call for GA & SLD Drawing of 415 V PMCC, MCC, APFC Panel & PDB for STP & MPS |
| 5. | EIL/VSPPL/2019-20/468 | 06-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 5 | Submission of Layout and RCC Details of Interceptor Weir Assi Nala |
| 6. | EIL/VSPPL/2019-20/469 | 06-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 2 | Submission of Monthly Progress Report for the month of April' 2019 |
| 7. | EIL/VSPPL/2019-20/470 | 08-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 3 | Submission of electrical documents of earthing and lighting protection layout for STP, Rev.0 |
| 8. | EIL/VSPPL/2019-20/471 | 09-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Submission of Electrical documents of transformer yard & Switchgear room layout and cable routing layout |

| Sl. No. | Document No | Letter Date | From | | Attachments | | Subject |
|---------|-----------------------|-------------|--------------|-----------------|-------------|-----|--|
| | | | Organization | Writer | Y/N | No. | |
| | | | | | | | for MPS, Rev.0 |
| 9. | EIL/VSPPL/2019-20/472 | 09-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 3 | Submission of Mechanical G.A Drawing & QAP of Ball Valve |
| 10. | EIL/VSPPL/2019-20/473 | 09-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Submission of Mechanical datasheet of Knife Edge Gate Valves, Rev.01 |
| 11. | EIL/VSPPL/2019-20/474 | 10-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 6 | Submission of Electrical Documents of Earthing & Lightning Protection Layout and Power & Control Cable Schedule for MPS, Rev.0 |
| 12. | EIL/VSPPL/2019-20/475 | 10-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 3 | Request for Dispatch Clearance – For Treated Water Pump & Motor. |
| 13. | EIL/VSPPL/2019-20/476 | 14-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 6 | Submission of Electrical Documents of Earthing Details & Datasheet for STP & MPS, |
| 14. | EIL/VSPPL/2019-20/477 | 14-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 2 | Submission of Civil Drawings for Detail of M.S Rising Main on Pile. |
| 15. | EIL/VSPPL/2019-20/478 | 15-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Submission of Mechanical Document of Poly Dosing System with Compliance. |
| 16. | EIL/VSPPL/2019-20/479 | 21-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 1 | Request for Dispatch Clearance – For LT PANEL |
| 17. | EIL/VSPPL/2019-20/480 | 23-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 1 | Return of Amount paid to VSPPL & PWD |
| 18. | EIL/VSPPL/2019-20/481 | 23-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 4 | Submission of Instrumentation Documents for STP & MPS- |

| Sl. No. | Document No | Letter Date | From | | Attachments | | Subject |
|---------|-----------------------|-------------|--------------|-----------------|-------------|-----|---|
| | | | Organization | Writer | Y/N | No. | |
| | | | | | | | Datasheet for PLC & Hardware |
| 19. | EIL/VSPPL/2019-20/482 | 30-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 1 | Inspection I for PSC Pipe DN 1200 mm |
| 20. | EIL/VSPPL/2019-20/483 | 30-May-2019 | VSPPL / UPJN | Amit B Ghorpade | Y | 3 | Submission of Mechanical Document of Valve schedule |

ANNEX - 7

DELAY ANALYSIS & RECOVERY PLAN

ANNEX 7 – DELAY ANALYSIS & RECOVERY PLAN

Delay analysis and recovery plan:

The following activities are delayed as per the approved construction plan beyond 15 days from the targeted the completion date. The reason for the delay is analyzed in all aspects and the possible recovery plan also arrived to complete the pending activities within 30 days. It is to be noted that the recovery plan is provided only for the delayed activities and hence the concessionaire should plan and provide the additional manpower, Machinery and equipment in addition to the resources available at site for regular activities as per construction plan.

1. Summary of delay analysis

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Delay analysis | Recovery / Mitigation plan |
|-----------------------------|--|---|--|--|
| Design Detailed Engineering | 11-Oct-17 | 30-Oct-18 | Drawing submitted by the concessionaire after the due date, indicates the lack of planning. Approval from IIT is pending for some of the items. | However, concessionaire started the works |
| | | | <ul style="list-style-type: none"> • Mechanical drawing for overall piping • Instrumental for Cause & Effect Diagram | Concessionaire to plan for revised drawing & submission as per observation on or before 15 th June 2019 for the following. <ul style="list-style-type: none"> • Mechanical drawing for overall piping • Instrumental for Cause & Effect Diagram |
| Associated infrastructure | 20-Mar-18 | 18-May-19 | Delay in receipt for existing structure as | UPJN not provided existing |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Delay analysis | Recovery / Mitigation plan |
|--------------|--|---|---|--|
| works | | | built drawings. and delay in site investigation are the main reason | structure as built drawings Concessionaire to submit the condition assessment report along with drawings on or before 30 th May 2019 |
| | | | Concessionaire recently finalized the vendor for CCTV inspection of existing rising main | Concessionaire to expedite to start the same by 30 th June 2019 |
| | | | Manufacturing delay of PSC pipes for treated effluent disposal line. Only 3785 m of pipe inspection completed. | VSPPL assured that they will do the needful to increase the supply rate of PSC pipes and expected around 500 m on or before 15 th June 2019 |
| | | | Hydro testing of pipes already laid is delayed unduly due to lack of planning, manpower, equipment. | Concessionaire to plan to complete the hydro testing within 30 days from the date of laying. |
| | | | Strengthening the raising main including pile foundation | Concessionaire assured to complete the foundation works and up to high water level before rise of water level in the Ganga basin |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Delay analysis | Recovery / Mitigation plan |
|--|---|--|---|--|
| Equipment Procurement, Logistics and receipt of equipment at Site | 24-May-18 | 5-Sep-19 | Data sheet and GA drawings for the following items are pending due to lack of planning <ul style="list-style-type: none"> • MS/CS/SS/GI/CI/DI Piping • Valves • PLC panel (except SBR) | Concessionaire to expedite the Submission of the same by 15 th June 2019 |
| Civil Executions | | | | |
| Bund Wall / Earthen Embankment | 19-Feb-18 | 30-Aug-19 | Lack of planning and lack of full utilization of equipment & manpower | Full utilization of the available equipment shall increase the output and mitigate the delay occurred |
| Inlet Chamber Manual & Mechanical Screen Chamber, Grit Chamber & Outlet Channel of Grit Chamber & Parshall Flume (I) & Distribution Chamber of SBR Basin | 03-June-18 | 30-Jun-19 | Drawing submitted by the concessionaire after the due date indicates the lack of planning Delay occurred for getting from approval from IIT and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| SBR Basins & SBR outlet Chamber | 09-Apr-18 | 15-Jul-19 | Lack of planning and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Delay analysis | Recovery / Mitigation plan |
|--|---|--|--|--|
| | | | | and expected to start within two to three days |
| Construction of CCT including Chlorination room & Treated water pump House | 26-Apr-18 | 24-Aug-19 | Lack of planning and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| Final Outfall Chamber | 19-May-19 | 03-Aug-19 | Lack of planning and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| Overhead treated water tank | 1-Jun-18 | 1-Aug-19 | Concessionaire recently submitted structural drawing i.e after the target date. Delay occurred for getting from approval from IIT and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Delay analysis | Recovery / Mitigation plan |
|---|---|--|--|--|
| | | | | three days |
| Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | 15-Oct-18 | 13-Jul-19 | Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| Administrative Building including lab and workshop | 08-Jun-18 | 11-Jul-19 | Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| Construction of Blower room, HT, MCC, Transformer Yard, DG set Area | 03-Jun-18 | 29-Aug-19 | Drawing submitted by the concessionaire after the due date indicates the lack of planning. Delay occurred for getting from approval from IIT and lack of full utilization of equipment & manpower | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |

2. Recovery plan - Additional equipment, manpower and material required to meet the target within 30 days

| S. No. | Description | Status | Remarks |
|--------|---|---|--|
| 1 | Bund wall / earthen embankment | Due to Concessionaire internal financial crunch work has been stopped at site | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days |
| 2 | Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 3 | SBR basins & SBR outlet Chamber | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 4 | Chlorination building & Chlorine contact tank & Treated water collection tank treated water pumps | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 5 | Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 6 | Administrative Building | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 7 | Overhead tank for effluent disposal | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 8 | SBR air blower room, HT room, MCC room, Transformer yard & DG set area | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 9 | MPS, inlet structure, weir, control room and rising main | Due to Concessionaire internal financial crunch work has been stopped at site | |
| 10 | Staff quarters | Due to Concessionaire internal financial crunch work has been stopped at site | |

2.1. Inlet structure, SBR, CCT, Administrative building, Blower room, HT, MCC, Transformer Yard & DG set area, OHT and Staff quarters

| S. No. | Description | Estimate | | As per construction plan up to on 31 st May 2019 | | Actual work done up to on 31 st May 2019 | | Shortfall as on 31 st May 2019 | |
|--------|-------------|----------|------|---|------|---|------|---|------|
| | | Quantity | Unit | Quantity | Unit | Quantity | Unit | Quantity | Unit |
| 1 | PCC & RCC | 11636 | Cum | 11007 | Cum | 9965 | Cum | 1042 | Cum |

Due to Concessionaire internal financial crunch work has been stopped at site.

Concessionaire informed that they have received fund on 23rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days

2.2. Bund Wall / Earthen Embankment

| S. No. | Description | Estimate | | As per construction plan up to on 31 st May 2019 | | Actual work done up to on 31 st May 2019 | | Shortfall as on 31 st May 2019 | |
|--------|---|----------|------|---|------|---|------|---|------|
| | | Quantity | Unit | Quantity | Unit | Quantity | Unit | Quantity | Unit |
| 1 | Earth filling & Compaction of Bund Wall | 81411 | Cum | 81411 | Cum | 79678 | Cum | 1733 | Cum |

The following available equipment are sufficient however the same is not being utilised properly to increase the output. Concessionaire to plan to utilise the equipment to its full utilisation level to mitigate the delay.

| S. No. | Description | Quantity | Unit | Capacity | Unit |
|--------|--------------|----------|------|----------|--------|
| 1 | JCB | 1 | Nos | | |
| 2 | Tractor | 8 | Nos | 2.8 | Cum |
| 3 | Auto Level | 2 | | | |
| 4 | Water Tanker | 2 | Nos | 5000 | Liters |
| 5 | Grader | 1 | No | 17 | Ton |
| 6 | Roller | 1 | No | 11 | Ton |
| 7 | Engineer | 1 | No | | |
| 8 | Supervisor | 1 | No | | |
| 9 | Labour | 6 | Nos | | |

2.3. Treated Effluent disposal line

| S. No. | Description | Estimate | | As per construction plan up to on 31 st May 2019 | | Actual work done up to on 31 st May 2019 | | Shortfall as on 31 st May 2019 | |
|--------|-------------------------|----------|------|---|------|---|------|---|------|
| | | Quantity | Unit | Quantity | Unit | Quantity | Unit | Quantity | Unit |
| 1 | Procurement of PSC Pipe | 4200 | Mtr | 4200 | Mtr | 3415 | Mtr | 785 | Mtr |
| 2 | PSC pipe laying | 4200 | Mtr | 4200 | Mtr | 2805 | Mtr | 1395 | Mtr |

Note: Actual length as per site condition is 4200Mtr

Due to Concessionaire internal financial crunch work has been stopped at site. Concessionaire informed that they have received fund on 23rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days

1. Item wise Detailed analysis

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|---|--|
| Design Detailed Engineering | 11-Oct-17 | 30-Oct-18 | 100% | 96% | | |
| Civil GA | 10-Jan-18 | 25-Sep-18 | 100% | 99.60% | | |
| Weir Across Assi Nalla | 05-Mar-18 | 14-Mar-18 | 100% | 80% | | |
| Structural Drawings Submissions & Approvals | 02-Feb-18 | 30-Sep-18 | 100% | 99.60% | | |
| Weir Across Assi Nalla | 05-Mar-18 | 14-Mar-18 | 100% | 80% | | |
| Design, Drawings & Documentation for Mechanical GAD | 13-Feb-18 | 15-Sep-18 | 100% | 93.60% | | |
| Treated water overhead tank | 15-Mar-18 | 03-Apr-18 | 100% | 80% | | |
| Weir Across Assi Nalla | 13-Feb-18 | 04-Mar-18 | 100% | 80% | | |
| Overall Piping Drawings | 30-May-18 | 05-Sep-18 | 100% | 60% | Concessionaire yet to submit the revised drawing after incorporating the observations | Concessionaire to submit the drawing on or before 15 th June 2019 |
| Design, Drawings | 10-Mar-18 | 08-Oct-18 | 100% | 94.00% | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|----------------|--|
| and Documentation for Electrical & Instrumentation works | | | | | | |
| Design calculation | 10-Mar-18 | 18-Jul-18 | 100% | 60% | | |
| Electrical & Instrumentation control philosophy | 25-Sep-18 | 08-Oct-18 | 100% | 80% | | |
| Instrumentation Document submissions & Approvals | 01-Jun-18 | 30-Oct-18 | 100% | 75% | | |
| Cause & Effect Diagram | 01-Jun-18 | 18-Jul-18 | 100% | 60% | | Concessionaire to submit the drawing on or before 15 th June 2019 |
| Associated infrastructure works | 20-Mar-18 | 18-May-19 | 100% | 60.23% | | |
| MPS Pumping Station | 15-May-18 | 10-Apr-19 | 100% | 33.50% | | |
| Rehabilitation of MPS | 15-May-18 | 30-Apr-19 | 100% | 52% | | |
| Construction Of weir across assinalla & control room | 13-Oct-18 | 30-Jan-19 | 100% | | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|--|--|
| Desilting of the MPS | 15-May-18 | 28-Aug-18 | 100% | 75% | | |
| Repair of Equipment | 01-Jan-19 | 30-Mar-19 | 100% | | | |
| Rising Main | 15-Jun-18 | 25-Mar-19 | 100% | 22.76% | | |
| Desilting & CCTV inspection | 15-Jun-18 | 18-Jul-18 | 100% | 5% | | |
| Strengthening and Pipe protection of Rising main Extension of existing Rising main to the Inlet point at the STP site | 10-Oct-18 | 30-Jan-19 | 100% | | | |
| Shifting & laying of pipe near samne ghat | 13-Jul-18 | 15-Jan-19 | 100% | 64% | | |
| Hydro testing | 15-Feb-19 | 25-Mar-19 | 100% | | | |
| Treated Effluent disposal line | 20-Mar-18 | 18-May-19 | 97.79% | 64.33% | | |
| Procurement - supply of pipes including inspection, transportation and delivery at site | 20-Mar-18 | 26-Dec-18 | 100% | 69% | Only 3385 m of pipe inspection completed. Delay in procurement of pipes by the concessionaire. | Concessionaire to instruct the manufacturers to speed up the progress or else need to identify one more supplier and |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31st May 2019 | Total completion in % 31st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|---|--|---|---|---|--|
| | | | | | | place the work order to expedite the delivery as per schedule |
| Pipe laying - 20% including excavation and backfilling (4 th 20%) | 20-Feb-19 | 29-Mar-19 | 100% | 34% | | |
| Pipe laying - 20% including excavation and backfilling (5 th 20%) | 30-Mar-19 | 06-May-19 | 100% | | | |
| Hydrotesting & finishing works | 14-Jun-18 | 18-May-19 | 95% | 5% | Hydro testing of pipes already laid is delayed unduly due to lack of planning, manpower, equipment. | Concessionaire to ensure the hydrotesting of already laid pipes on or before 3 rd week of June 2019. Concessionaire to plan to complete the hydrotesting within 20 days from the date of laying. |
| Equipment Procurement, Logistics and | 24-May-18 | 05-May-19 | 62 % | 54 % | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|----------------|----------------------------|
| receipt of equipment at Site | | | | | | |
| Grit Removal Mechanism | 24-May-18 | 10-Mar-19 | 100% | 18% | | |
| Manufacturing of Equipment | 01-Sep-18 | 10-Feb-19 | 100% | 33% | | |
| Inspection / Logistics | 12-Feb-19 | 27-Feb-19 | 100% | | | |
| Receipt of equipment at site | 28-Feb-19 | 10-Mar-19 | 100% | | | |
| Horizontal centrifugal pumps (Treated water pumps) | 31-May-18 | 18-Dec-18 | 100% | 62.5% | | |
| Inspection / Logistics | 01-Dec-18 | 10-Dec-18 | 100% | 50% | | |
| Receipt of equipment at site | 16-Dec-18 | 18-Dec-18 | 100% | | | |
| MS/CS/SS/GI/CI/DI Piping | 01-Jan-19 | 12-Aug-19 | 40.5% | | | |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-Jan-19 | 15-Feb-19 | 100% | | | |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jul-19 | 80% | | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|----------------|----------------------------|
| Valves | 01-Jan-19 | 12-Aug-19 | 41% | | | |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 01-Jan-19 | 17-Jan-19 | 100% | 20% | | |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jul-19 | 80% | | | |
| Diffusers | 12-May-18 | 23-Apr-19 | 100% | 63% | | |
| Inspection / Logistics | 16-Feb-19 | 2-Apr-19 | 100% | 50% | | |
| Receipt of equipment at site | 03-Apr-19 | 23-Apr-19 | 100% | | | |
| Volute press | 15-Oct-18 | 13-Jul-19 | 75% | 50% | | |
| Inspection / Logistics | 30-May-19 | 28-Jun-19 | 3% | | | |
| PE Dosing Tanks | 15-Oct-18 | 13-Jul-19 | 43% | 1% | | |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 15-Oct-18 | 29-Nov-18 | 100% | 40% | | |
| Manufacturing of Equipment | 29-Dec-18 | 30-Jun-19 | 84% | | | |
| Inspection / Logistics | 30-May-19 | 28-Jun-19 | 3% | | | |
| Agitators | 01-May-18 | 23-Jul-19 | 49% | 2% | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|----------------|----------------------------|
| Submission & Approval of Drawings / Documents & data sheets including release of purchase order | 01-May-18 | 18-Jul-18 | 100% | 80% | | |
| Manufacturing of Equipment | 01-Sep-18 | 08-Jun-19 | 97% | | | |
| HT Cables | 29-Sep-18 | 26-Jul-19 | 38.2% | 1.8% | | |
| Submission & Approval of Drawings / Documents & data sheets including release of purchase order | 29-Sep-18 | 09-Nov-18 | 100% | 80% | | |
| Manufacturing of Equipment | 01-Mar-19 | 30-Jun-19 | 75% | | | |
| SCADA System | 07-Sep-18 | 16-Aug-19 | 34% | 2% | | |
| Submission & Approval of Drawings / Documents & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 80% | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|----------------|----------------------------|
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Push Button Stations/Plant lighting / Buildings lighting | 07-Sep-18 | 16-Aug-19 | 42% | | | |
| Submission & Approval of Drawings / Documents & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 80% | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Power, Control & lighting Cables | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | |
| Submission & Approval of Drgs / Docs & data sheets including release of purchase order | 07-Sep-18 | 09-Nov-18 | 100% | 50% | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Cable trays/Lighting JB | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | |
| Manufacturing of | 01-Jan-19 | 30-Jun-19 | 83% | | | |

Development of 50 MLD sewage treatment plant and associated infrastructure on PPP basic at Ramana, Varanasi

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|----------------------|-----------------------------------|
| Equipment | | | | | | |
| DG Set | 07-Sep-18 | 16-Aug-19 | 42% | 2% | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 83% | | | |
| Plant Earthing | 07-Sep-18 | 16-Aug-19 | 44% | 2% | | |
| Manufacturing of Equipment | 01-Jan-19 | 30-Jun-19 | 88% | | | |
| Instruments (Flow meter / Analyser) | 20-Nov-18 | 16-Aug-19 | 36% | 2% | | |
| Manufacturing of Equipment | 18-Mar-19 | 30-Jun-19 | 71% | | | |
| Instruments (Temperature, Pressure & Level transmitter / Level, Temperature and Pressure switches) | 20-Nov-18 | 05-Sep-19 | 29% | 2% | | |
| Manufacturing of Equipment | 18-Mar-19 | 30-Jun-19 | 55% | | | |
| Civil Executions | 6-Apr-18 | 15- Aug-19 | 87% | 79% | | |
| Bund Wall / Earthen Embankment | 19-Feb-18 | 30-Aug-19 | 88.80% | 86.90% | | |
| Filling & Compaction of | 07-Nov-18 | 18-Dec-18 | 100% | 90% | Lack of planning and | Concessionaire informed that they |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|--|---|
| Bund Wall from 3.0 to 4.5 Mtr Height | | | | | utilisation of available manpower and equipment | have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| Stone Pitching work, Side Drain Work & Fencing work | 20-May-19 | 30-Aug-19 | 11% | 4% | | |
| Construction of Inlet Structure, Fine Screen, Grit Chamber, Parshall Fume, Distribution Chamber for SBR | 03-Jun-18 | 30-Jun-19 | 90% | 65.50% | Lack of planning and efficient utilisation of available manpower and equipment | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| Inlet Chamber Slab with Column, Wall | 20-Sep-18 | 15-Dec-18 | 100% | 52% | | |
| Grit Chamber Slab | 01-Dec-18 | 28-Feb-19 | 100% | 9% | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---|--|---|---|---|----------------|---|
| with Column | | | | | | |
| Parshall flume slab with Column | 01-Mar-19 | 30-Mar-19 | 100% | 56% | | |
| SBR Basins & SBR outlet Chamber | 09-Apr-18 | 15-Jul-19 | 94.5% | 89.8% | | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| Walkways and channels | 06-Apr-19 | 11-May-19 | 100% | 58% | | |
| Construction of CCT including Chlorination room & Treated water pump House | 26-Apr-18 | 24-Aug-19 | 87.2% | 73.9% | | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|---------------------------------------|--|---|---|---|--|---|
| | | | | | | three days. |
| 50 % RCC of Structure | 20-Jan-19 | 18-May-19 | 100% | 55% | | |
| Completion of Brick work and plaster | 06-Apr-19 | 30-Jul-19 | 48% | | | |
| Final Outfall Chamber | 19-May-18 | 03-Aug-19 | 12.1% | | | |
| Excavation, Dressing, Filling G & PCC | 19-May-19 | 23-May-19 | 100% | | | |
| Foundation and Raft | 29-May-19 | 17-Jun-19 | 11% | | | |
| Overhead Treated Water Tank | 01-Jun-18 | 01-Aug-19 | 90% | 34.50% | Lack of planning and efficient utilization of available manpower and equipment | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| 50% RCC of Structure | 09-Oct-18 | 18-Dec-18 | 100% | 15% | | |
| 50% RCC of Structure | 25-Feb-19 | 06-May-19 | 100% | | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|--|---|
| Construction of BFP Building, Filtrate Pump, Pump house - 2, PE dosing tank | 15-Oct-18 | 13-Jul-19 | 92% | 48.3% | Lack of planning and efficient utilization of available manpower and equipment | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| 50% RCC of Structure | 18-Jan-19 | 18-Mar-19 | 100% | 70% | | |
| 50% RCC of Structure | 19-Mar-19 | 17-May-19 | 100% | | | |
| Completion of Brick work and plaster | 19-Apr-19 | 18-May-19 | 100% | | | |
| Finishing Works | 20-May-19 | 13-Jul-19 | 20% | | | |
| Administrative Building including lab and workshop | 08-Jun-18 | 11-Jul-19 | 95.3% | 82.9% | | |
| 50% RCC of Structure | 03-Feb-19 | 07-Apr-19 | 100% | 69% | | |
| Completion of Brick work and plaster | 08-Apr-19 | 17-May-19 | 100% | 43% | | |
| Finishing Works | 28-May-19 | 11-Jul-19 | 7% | | | |

| Item of work | Scheduled start date as per approved construction plan | Scheduled completion date as per approved construction plan | Scheduled completion in % as on 31 st May 2019 | Total completion in % 31 st May 2019 | Delay analysis | Recovery / Mitigation plan |
|--|--|---|---|---|--|---|
| Construction of Blower room, HT, MCC, Transformer Yard, DG set Area | 03-Jun-18 | 29-Aug-19 | 90% | 66.4% | Lack of planning and efficient utilization of available manpower and equipment | Concessionaire informed that they have received fund on 23 rd May 2019 and they have instructed the sub-contractors to resume the work and expected to start within two to three days. |
| RCC Roof slab | 16-Nov-18 | 18-Dec-18 | 100% | 82% | | |
| Brick Work | 01-Jan-19 | 21-Mar-19 | 100% | | | |
| Plastering | 22-Mar-19 | 15-May-19 | 100% | | | |

ANNEX - 8

ESHS TARGET & ACHIEVEMENT

1. **ESHS target and achievement**

Health & Safety Targets and Goals

| Sl. No. | Goals | Till previous month | During the month of May 2019 |
|---------|---|----------------------|------------------------------|
| 1 | Zero total recordable injuries | Achieved | Achieved |
| 2 | All personnel Health and Safety inducted | Inducted | Inducted |
| 3 | 100% incident reporting and investigation | No incident occurred | No incident occurred |
| 4 | 100% adherence of usage of appropriate PPE's at work | Ensured | Ensured |
| 5 | Executing construction work with least disturbance to the environment, adjoining road users and traffic | Achieved | Achieved |

HSE Training and competence adherence

| Sl. No. | Description | Till previous month | During the month of May 2019 |
|---------|---|---------------------|------------------------------|
| 1 | Issue of a photo identity card duly signed by the authorized representative of the company / subcontractor before they are engaged for any work | Issued | In progress |
| 2 | HSE induction training at the first day of their joining explaining the nature of the work for all the personnel working at site on the following topics <ul style="list-style-type: none"> • Hazard identification procedure - Hazards on site <ul style="list-style-type: none"> • Falls • Slip trip • Electricity • Working at height • Excavation • Drop objects • Machinery | Inducted | Inducted |

| Sl. No. | Description | Till previous month | During the month of May 2019 |
|---------|--|----------------------|------------------------------|
| | <ul style="list-style-type: none"> • Material handling (Manual and mechanical) • Transportation • Site housekeeping • Fire • Personnel protective equipment <ul style="list-style-type: none"> • What is available • How to obtain it? • Correct use and care • Health <ul style="list-style-type: none"> • Site welfare facilities • Potential health hazards • First Aid / CPR • Duties of contractor <ul style="list-style-type: none"> • Brief outline of the responsibilities of the contractor by law • Details of accident prevention policy • Building and other constructions welfare law • Employer's duties <ul style="list-style-type: none"> • Brief outline of responsibilities of employee • Site safety rules | | |
| 3 | Tool box meetings Key issues discussed at Daily Tool Box meetings includes <ul style="list-style-type: none"> • The job to be done • Awareness of hazards, risks & control measures associated with specific activity, review safe work practices • Active involvement of crew and open discussion on any concerns and commitment to work safely | Conducted | Nil |
| 4 | Behavior modification and disciplinary action | None | None |
| 5 | Post-accident or near miss meeting | No accident occurred | No accident occurred |

HSE Inspections and submission of reports

| Sl. No. | Description | Till previous month | During the month of May 2019 |
|---------|---|---|---|
| 1 | Planned General inspection | Conducted | Conducted |
| 2 | Routine inspection | | |
| 2.1 | Daily inspection of plant and equipment by operator | Conducted | Conducted |
| 2.2 | Weekly inspection of scaffold by scaffolding supervisor | Conducted | Nil |
| 2.3 | Monthly inspection of electrical hand tools by competent electrical supervisor | Conducted | Nil |
| 2.4 | Quarterly inspection of temporary electrical systems by competent electrical supervisor | Conducted | Nil |
| 2.5 | Yearly inspection of lifting machinery, lifting appliances, equipment and gears by Government approved competent person | NA | NA |
| 2.6 | Half yearly inspection of pressure vessels by Govt approved competent person | NA | NA |
| 3 | Specific inspection | | |
| 3.1 | Inspection performed before a heavy lifting operation | Conducted on regular basis before starting the jobs | Conducted on regular basis before starting the jobs |
| 3.2 | Inspection performed before and after the entry of person into a confined space | 01 No. Conducted on 27 th May 2018 (MPS desilting) | Conducted |
| 3.3 | Inspection performed before and after welding and gas cutting operation | Conducted | Conducted |
| 3.4 | Inspection of formwork before concreting by formwork erector | Conducted | Conducted |
| 4 | Other inspection | | |
| 4.1 | Inspections by labour department of government | Nil | Nil |
| 4.2 | Client site HSE management team | Nil | Nil |
| 5 | Monthly HSE Report submission covering <ul style="list-style-type: none"> • Monthly minor accident, serious incident details | Submitted | None |

| Sl. No. | Description | Till previous month | During the month of May 2019 |
|---------|--|--------------------------------|---|
| | <ul style="list-style-type: none"> • Average manpower details, man-hours works • Lost time (no of working days) • Number of training / tool box talk • Number of people trained • HSE committee minutes of meeting • HSE inspection, etc | | |
| 6 | HSE Bulletin board indicating <ul style="list-style-type: none"> • Safety promotions / awards • Safety meeting dates and times • Emergency phone numbers • QHSE policies • Safety alerts | Available | Available |
| 7 | Risk assessment prior to start of any new work – Report | Conducted by HSE manager | Conducted by HSE manager |
| 8 | Availability of method statement for operational control of significant occupational health & safety risk levels | Available at site office | Available at site office except method statement |
| 9 | Statement of confirming the medical examination of all employees and workmen | Conducted | None |
| 10 | Availability of first aid box with each crew (mention the number of first aid box availability) | Available | Available |
| 11 | Statement of confirming the welfare measures for workers | | |
| 11.1 | One latrine for every 20 workers upto 100 workers and thereafter one for every additional 50 workers | 03 number of latrines provided | 03 number of latrines provided |
| 11.2 | In addition one urinal accommodation provided for every 100 workers | 03 number of urinals provided | 03 number of urinals provided |
| 11.3 | Separate latrine and urinals accommodation similar to above for ladies | 01 number of urinals Provided | 01 number of urinals Provided |

| Sl. No. | Description | Till previous month | During the month of May 2019 |
|---------|--|-----------------------------------|-----------------------------------|
| 11.4 | Drinking water facility within a distance of 200 m from the place of work for all workers | Provided at 04 locations | Provided at 04 locations |
| 11.5 | Provision of labour accommodation | Provided for 120 labour | Provided for 120 labour |
| 11.6 | Provision of creche (if female workers are more than 50) | NA | NA |
| 11.7 | Measures to prevent mosquito breeding | Taken | Taken |
| 11.8 | Permit to work system (if applicable) | Provided | Provided |
| 12 | PPE adherence | | |
| 12.1 | Head protection for VSPPL employees, All sub-contractors, Electricians, Safety professionals, All workmen and Visitors Safety helmet color code (every helmet having the logo) | Provided | Provided |
| 12.2 | Hearing protection | Provided | Provided |
| 12.3 | Eye protection | Provided | Provided |
| 12.4 | Foot protection | Provided | Provided |
| 12.5 | Fall arresting system | Provided | Provided |
| 12.6 | Hand protection | Provided | Provided |
| 12.7 | Respiratory protection | Provided | Provided |
| 12.8 | Other PPE – 10% spares availability | Provided | Provided |
| 13 | Qualification of operator of lifting appliances and of signaler etc Above 21 years of age and possesses a valid heavy transport driving license as per motor vehicle act and rules Competent and reliable Possesses the knowledge of inherent risks involved in the operation of lifting appliances Periodical medical examination conducted | Adhered | Adhered |
| 14 | Sufficient lighting especially during night work | Provided | Provided |
| 15 | Fire prevention and fighting system availability | Available | Available |
| 16 | Adherence of environment management system – Air quality, Water quality, Wastewater handling, waste handling, hazardous waste handling and energy management | Adhered as per the applicable law | Adhered as per the applicable law |

HSE communication and awareness campaign conducted

| Sl. No. | Description | Status | Planned |
|----------------|--|---------------|----------------|
| 1 | 4 th March 2018 – National safety day | Conducted | |
| 2 | 7 th April 2018 – World health day | Conducted | |
| 3 | 14 th April 2018 – First safety day | Conducted | |
| 4 | 5 th June 2018 – World environmental day | Conducted | |
| 5 | 15 th August 2018 – Independence Day celebration and Planting of saplings | Conducted | |
| 6 | 5 th March 2019- National Safety day | Conducted | |