

Schedule 5
Scope of Work of the Project Engineer

The Project Engineer shall assist the Jal Nigam in supervising the construction, rehabilitation, operation and maintenance of the Facilities and the Associated Infrastructure and shall work closely with the Jal Nigam to monitor compliance with the KPIs. The detailed scope of work of the Project Engineer, to be read in conjunction with the provisions of the Concession Agreement, is outlined below:

- a) The Project Engineer shall review the Designs and Drawings to be provided by the Concessionaire. These will include, *inter-alia*, the site layout plan, process design, drawings, structural calculations, mechanical, electrical and instrumentation works, quality plans, implementation schedules, and the environment, health & safety plans. On the basis of its review, the Project Engineer shall provide its recommendations to the Jal Nigam.
- b) During the Construction Period, the Project Engineer shall inspect the Facilities and the Associated Infrastructure at least once a month and prepare an inspection report, setting out the progress of the construction of the Facilities and the rehabilitation of the Associated Infrastructure, defects or deficiencies, if any, and status of compliance with the Construction Plan, Technical Specifications and Designs and Drawings.
- c) The Project Engineer shall be responsible to monitor the implementation of the approved environment, health & safety plan by the Concessionaire. The Project Engineer shall also verify the material safety data sheets of hazardous chemicals if any.
- d) The Project Engineer shall review the construction progress of the project as per the Payment Milestones proposed by the Concessionaire and provide necessary recommendations to the Jal Nigam for the purpose of issuance of Milestone Construction Certificates.
- e) The Project Engineer shall assist Jal Nigam in estimating the Delay Liquidated Damages as applicable.
- f) At the end of the Construction Period, the Project Engineer shall review the Facilities and provide necessary recommendations to the Jal Nigam with regards to the issuance of the Construction Completion Certificate to the Concessionaire to certify completion of construction of the Facilities, rehabilitation of the Associated Infrastructure and the satisfaction of all other conditions required to be fulfilled by the Concessionaire.
- g) The Project Engineer shall monitor the Trial Operations of the Facilities and the Associated Infrastructure during the Trial Period and provide necessary recommendations to the Jal Nigam for the purpose of the issuance of the COD Certificate to the Concessionaire. The review shall be based on the Trial Operations Procedures outlined in the Concession Agreement and include the following.
 - Verify quality of installations, operation of equipment and workmanship;
 - Verify the Discharge Standard of the Treated Effluent and STP By-Products;
 - Verify the consumption of electricity and generation of power if any vis-à-vis the Guaranteed Energy Consumption.
- h) The Project Engineer shall review the O&M Manual and the Scheduled Maintenance Programs submitted by the Concessionaire and provide its recommendations to the Jal Nigam.

- i) During the O&M Period, the Project Engineer shall inspect the Facilities and the Associated Infrastructure at least once a month and prepare an inspection report, setting out the defects or deficiencies, if any, and status of compliance with the KPIs (including specifically, the Influent Standards and the Discharge Standards).
- j) The Project Engineer shall review the reports generated from the Online Monitoring System to assess adherence to the KPIs and submit the monthly KPI Adherence Reports to the Jal Nigam. These reports may be in the indicative formats provided in the tables below.
- k) The Project Engineer shall assist Jal Nigam in estimating the Availability Liquidated Damages, the Performance Liquidated Damages and the Power Consumption Liquidated Damages as applicable.
- l) The Project Engineer shall inspect laboratories where tests are conducted on samples to ensure conformance and compliance with laboratory procedures and requirements.
- m) During the Term, and as requested by the Jal Nigam, the Project Engineer shall provide its opinion and assessment on the implications of the events related to Emergency, Change in Law, Force Majeure, Fundamental Change in Law, Minor casualty, Total casualty, Variation and Unforeseen Site Conditions.
- n) The Project Engineer shall participate in the survey to determine the Hand-back Conditions as per the Hand-back Requirements. It shall review the survey report of the Hand-back Conditions submitted by the Concessionaire and provide its recommendations to the Jal Nigam on the compliance with the Hand-back Requirements.

Tables: Indicative Format of the KPI Adherence Report

1. Availability of Facilities and Associated Infrastructure (Monthly)

Parameter	Value
Guaranteed Availability of Facilities and the Associated Infrastructure	100%
Minutes in the month for which the Facilities and/or the Associated Infrastructure were not Available (A)	
Non-Availability (B)	$= [(A) / 43,200] \times 100$
LDs for non- adherence (INR)	$= (B) \times 50,000$

2. Discharge Standards for Treated Effluent except Fecal Coliform

Parameter	KPI		Minutes per day for which the KPI was not met (A)	LDs for non-adherence (INR)
BOD ₅ at 20 ⁰ C	mg/L	10	—	If (A) > 15 in a day, INR 10,000
TSS Standard	mg/L	10	—	
Total Nitrogen	mg/L	10	—	
Ammonia Nitrogen	mg/L	5	—	

Phosphorous	mg/L	50	—	
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3. Discharge Standards for Fecal Coliform

Parameter	KPI		Number of days for which the KPI was not met	Calculation of LDs for non- adherence (INR)
Fecal Coliform	MPN/100 mL	<100	—	(___) x 10,000

4. Digested Sludge Discharge Standards

KPI		Number of days for which the KPI was not met	Calculation of LDs for non- adherence (INR)
Units	Sludge Consistency		
Outlet concentration of dewatered sludge	More than 20% solids (95 th percentile of the time)	—	(___) x 10,000
Concentration with VSS/TSS ratio	45% or less		