

Workshop on O&M Policy of GWSSB

16 October 2020



Objective

- Objective of the new O&M policy are as below:
 - Improve efficiency of Operations
 - Supply of water to targeted villages/ towns and targeted quantity
 - Assurance of quality water supply
 - Resolution of grievance on time

Objective to be Achieved Through

- Objective shall be achieved through:
 - Deployment of qualified manpower – through provisions in tender
 - Maintenance schedule – through provision in tender
 - Assured attendance of man power – through biometric attendance
 - Daily monitoring of quantity and quality of water – through ERP software
 - Classification of regional water supply schemes
 - Classifications of bidders through Marking system

Categorization of **RWSS Schemes and Eligibility**

Regional water supply schemes are categorized into **Large, Medium and Small category** based on size

Categorization of RWSS schemes and Eligibility

- GWSSB proposes to have comprehensive O&M tender for its RWSS schemes
- RWSS schemes may include Pumping station from source, raw water conveyance main, water treatment plant, head work, sub head works and distribution network
- The RWSS schemes will be categorized and eligibility are shown in the table below:

Categories	Design Capacity	Eligible bidders	Marks for qualification
Large	Above 30 MLD	A	>85
Medium	Between 5 to 30 MLD	A,B	>70 <85
Small	Below 5 MLD	A,B,C	>60 <70

Note: The policy proposes to add a new qualification criteria in the O&M tenders along with the existing qualification criteria

Performance Evaluation System

- Performance of the O&M contractor – 100 Marks
- **‘Performance Points’** of the Contractor shall be calculated based on **the moving average of marks obtained each day in last 90 days.**
- If a Contractor is working on multiple schemes/ projects, then ‘Performance Points’ shall be **average of the ‘Performance Points’** obtained in each of the scheme/ project.
- Performance Points shall be considered up to the **date of issue of the O&M Tender** *or as directed by GWSSB*
- If Performance Points falls below 60, then:
 - 3 months period for improvement shall be given
 - After grace period if marks are still less than 60 – **Debarred for one year**
 - After grace period if marks are still less than 50 – **Debarred for two year**

Performance Evaluation System

- Eligibility of bidder after period of debarred – “**C Category**” of RWSS works i.e. < 5 MLD
- Penalty for false information on MIS
 - If the representative of GWSSB finds the data filled in the daily report by the Contractor is **misleading or false**, than the Engineer-in-charge will have authority to report “**false reporting**”. In such instances the scoring will be reduced as per the table below:
 - 1st Instance of false reporting – **5 negative marks** for that day
 - 2nd Instance of false reporting – **10 negative marks** for that day
 - 3rd Instance and onwards false reporting – **20 negative marks** for that day
- In case of a new/first time Contractor, they will be considered eligible of “**C category**” of RWSS – *provided rest of the tender criteria are satisfied*

Monitoring system

Reporting key parameters on relevant portal as
directed by GWSSB

Reporting of key parameters on the portal

- **Daily, Monthly and Annual – MIS**
- Time of reporting - **9:00 AM to 12:00 noon**
- The contractor shall ensure necessary arrangements such as computer or mobile/tablet phones with active internet connection for submitting data on the portal in a time bound manner
- At any time, GWSSB or any of their representative may visit the facility for verification of the data entered - collecting data, inspection and measurements

Performance Marking System

Daily Report

Water Quality (turbidity, residual chlorine, pH)	:	20 Marks
Water Quantity (WS to target no. of villages/cities, quantity)	:	20 Marks
Attendance*	:	10 Marks
<i>Total</i>	:	<i>50 Marks</i>

Monthly Report

Power Factor	:	10 Marks
Grievance Redressal (% complaints resolved, Avg. time of resolution)	:	20 Marks
Inspection by GWSSB field staff (Maintenance of Civil items/structures, electromechanical equipment, logbook and recordkeeping, Housekeeping, safety equipment)	:	10 Marks
Preventive Maintenance	:	10 Marks
<i>Total</i>	:	<i>50 Marks</i>

* Reduced payment for less attendance in addition to Marks

Minimum Qualifications & Experience Criteria

Eligibility of **personnel** as per the
updated O & M Tender criteria

Minimum qualifications & experience requirements for new tenders

SR NO	DESIGNATION	MINIMUM QUALIFICATION	MINIMUM EXPERIENCE
1	Maintenance Engineer	Bachelor's degree in Civil/Mechanical/ Electrical/ Environmental/Public Health engineering	<ul style="list-style-type: none"> 1 year of experience in O&M of WTP/ Water Supply Scheme/ Pumping stations/ STP/ Underground Drainage.
2	Supervisor	Diploma degree in Civil/Mechanical/ Electrical/ Environmental/Public Health engineering	<ul style="list-style-type: none"> 2 years of experience in O&M of WTP/ Water Supply Scheme/Pumping stations/ STP/ Underground Drainage.
3	Operators	ITI (Electrical) with NCVT Certificate	<ul style="list-style-type: none"> 1 years of experience in water supply projects including operations of Water Treatment Plant/ STP/ Pumping stations.
4	Lab in charge/ Chemist	B.sc Chemistry/ Diploma in environmental engineering	<ul style="list-style-type: none"> Knowledge in carrying out laboratory Water Quality testing activities shall be preferred
5	Pipe Fitter/ Lineman/ Valve man	ITI (Fitter / Plumber)	<ul style="list-style-type: none"> Knowledge in maintenance and repairing work of pipeline network shall be preferred
6	Helper	Unskilled - Stout Body physique	<ul style="list-style-type: none"> Knowledge in maintenance and repairing work of pipeline network shall be preferred
7	Sweeper / Gardner	Unskilled - Stout Body physique	<ul style="list-style-type: none"> Experience of gardening shall be preferred
8	Chowkidar	Ex. service man is preferable	NA
9	Driver	Valid driving license	NA

Biometric Attendance System

Attendance system for monitoring team
deployment

Biometric Attendance System – Aadhar based system

- No Manpower can be deployed without an Aadhar Card
- The staff working at the head works and sub-head works will have to mark their attendance in the **biometric device** located in the premises.
- The **enrolment** of the staff will be carried out at **Sub-Division offices / as directed by GWSSB**. All of the staff personnel have to submit:
 - Photograph
 - Photocopy of Aadhar card
 - CV/ Resume + Degree certificates
- The contractor has to enrol all the staff personnel **before 7 days of the commencement** of the contract
- In case of any replacement of staff is required, the contractor shall have to **report before 2 working days** to concerned DEE and enrolment has to be completed before joining
- The **Contractor shall be responsible for the security and maintenance** of Bio-metric system at the designated point. If there is any malfunctioning of the system, it should be brought to notice of GWSSB and repaired only through authorised agency immediately

Evaluation Matrix – Daily report (1/4)

Parameters	Max. Marks	Marking instructions
Water Quality (20 Marks)		
Treated Water Turbidity	10	<p>10 marks if turbidity is within the prescribed limit - less than 1 NTU.</p> <p>For Turbidity greater than 1, the marks will be based on the following formula:</p> <p>Marks = [10 – 2 X (Turbidity-1)]</p> <p><i>Example 1: If turbidity is 2.0 NTU, the marks will be = 10 – 2 X (2-1) = 8 marks will be awarded</i></p>
Treated Water pH	5	<p>5 marks if pH is within the prescribed limit – 6.5 to 8.5</p> <p>For a difference of 0.00 to 0.30 - 2 marks</p> <p>For a difference of 0.31 to 0.5 - 1 mark</p> <p>For a difference above 0.5 - 0 mark</p> <p><i>Example 1: If the pH is 6.3 which is lower than 6.5, the difference is (6.5-6.3) =0.2, then, 2 marks will be awarded</i></p> <p><i>Example 2: If the pH is 8.9, which is higher than 8.5, the difference is (8.9-8.5) =0.4, then, 1 mark will be awarded</i></p> <p><i>Example 3: If the pH is 7, which is within the range, then 5 Marks will be awarded</i></p>

Evaluation Matrix – Daily report (2/4)

Parameters	Max. Marks	Marking instructions
Water Quality (20 Marks)		
Residual Chlorine	5	<p>5 marks if residual chlorine is within a prescribed limit – 0.2 mg/L to 1 mg/L.</p> <p>0 Marks if the residual chlorine is less than 0.2 mg/L.</p> <p>If residual chlorine is more than prescribed limit, marks will be calculated as - (1/RC) X 5.</p> <p><i>Example 1: If Residual chlorine is 4 mg/L, the marking will be $(1/4) \times 5 = 1.25$ marks will be awarded</i></p> <p><i>Example 2: If Residual chlorine is 0.01 mg/L, then 0 marks will be awarded</i></p> <p>Note: For 15th July to 15th September, the prescribed limit would be 0.2 mg/L to 3 mg/L and the formula for marks will be changed to (3/RC) X 5.</p> <p><i>Example 3: If Residual chlorine is 4 mg/L (During 15th July to 15th September), then the marking will be $(3/4) \times 5 = 3.75$ marks will be awarded</i></p>

Evaluation Matrix – Daily report (3/4)

Parameters	Max. Marks	Marking instructions
Water Quantity (20 Marks)		
Target Village & Cities	10	<p>10 marks if the water is supplied to all the villages and cities as per the target (Target for the month)</p> <p>Marks = (Total villages & cities supplied with water / Target villages & cities) X 10</p> <p><i>Example 1: If the target villages & cities are 18, the contractor has supplied at 17 villages & cities, the score will be $(17/18) \times 10 = 9.4$ marks will be awarded</i></p> <p><i>Example 2: Total villages/cities in headworks = 15, target villages/cities in headwork =12, water supplied in 12 villages/cities. Then the score will be $(12/12) \times 10 = 10$ marks will be awarded</i></p>
Target Quantity	10	<p>10 marks if the quantity of water is supplied as per the target (target of the month)</p> <p>Marks = (Total quantity supplied/ Target quantity) X 10</p> <p><i>Example 1: If the target water quantity to be supplied is 40 MLD, the contractor has supplied at 38 MLD, the score will be $(38/40) \times 10 = 9.5$ marks will be awarded</i></p>

Evaluation Matrix – Daily report (4/4)

Parameters	Max. Marks	Marking instructions
Attendance (10 Marks)		
Biometric attendance	10	10 Marks if the attendance for all staff is 100%. Else the marks will be calculated as below: Marks = (Actual attendance across all shifts / Staff deployment as per tender across all shifts) X 10

Evaluation Matrix – Monthly report (1/3)

Parameters	Max. Marks	Marking instructions	Remarks
Energy Efficiency (10 Marks)			
Power Factor Maintenance	10	<p>10 marks if the power factor is 0.99 throughout the month</p> <p>Deduction of 1 mark for fall in the Power Factor for the month by 0.01. If Power Factor is less than 0.90, then 0 marks will be awarded</p> <p><i>Example 1: If the Power factor in electricity bill is 0.98, the marks will be 9 marks</i></p>	Power Factor shall be considered as recorded in the Electricity bill for the month
Grievance Redressal (20 Marks)			
Grievance Redressal	10	<p>10 marks if 100% of the complaints received are resolved within the stipulated time limit.</p> <p>Deductions in marking will be based on the % of complaints not resolved within the stipulated time.</p> <p><i>Example 1: If 90% of complaints received in the last 30 days/ month are resolved with stipulated time, then the marks will be 9.0 marks</i></p>	Grievance redressal data shall be taken from 1916 helpline

Evaluation Matrix – Monthly report (1/3)

Parameters	Max. Marks	Marking instructions	Remarks
Grievance Redressal (20 Marks)			
Grievance resolution time	10	<p>If the average time for resolution of the complaint is:</p> <p><= 1 day, then 10 marks will be given</p> <p>>1 day and <=2 days then 8 marks,</p> <p>>2 days and <=5 days then 4 marks,</p> <p>>5 days, then 0 mark</p> <p><i>Example 1: If the average time to solve all the comments is less than 24 hours, then 10 marks</i></p>	Grievance resolution time data shall be taken from 1916 helpline

Evaluation Matrix – Monthly report (2/3)

Parameters	Max. Marks	Marking instructions	Remarks
Inspection by GWSSB field staff (10 Marks)			
Maintenance of Civil items/structures	2	Marks shall be based on-site inspection conducted by Engineer-in-charge Deductions in marking will be as per O&M tender conditions	Inspection of maintenance activities as per the O&M tender conditions.
Maintenance of electromechanical equipment	2		
Maintenance of logbook and recordkeeping	2		
Housekeeping activities	2		
Maintenance of safety equipment	2		
Preventive Maintenance Compliance	10	10 marks for undertaking and reporting compliance to maintenance schedule as per O&M tender conditions	The evaluation shall be on 'Yes/No' basis

Preventive Maintenance Schedule

Daily/Monthly/Once in the contract period
maintenance schedule

Maintenance Schedule

O&M Contractors has to carry out maintenance as per (but not limited to) ***daily maintenance schedule, monthly maintenance schedule, annual maintenance schedule and periodic maintenance schedule will be included.***

Daily Maintenance Activities	
1	Backwashing of filter beds done as per schedule
2	Sludge removal from clariflocculator as per schedule
3	Removal of sediments and deposits from clariflocculator
4	Housekeeping and cleaning in the premises
5	Greasing/lubricating of pumps, valves, gears etc.
6	Removal of algal/biological growth from the surfaces if any

Monthly Maintenance Activities	
1	Transformer oil testing
2	Checking performance of air blowers in the filter
3	Checking gland packing and valves, replacing if necessary

Once in a Contract Period Maintenance Activities	
Painting of overall structures	<p>Internal/external painting of civil structures machineries, manifolds, valves etc.</p> <p><u>Exterior paint:</u> shall be acrylic emulsion paint colour (like APEX): pump house, treatment plants, treated water pumping stations, GSRs, ESRs, sump, store</p> <p><u>Oil paint colour:</u> All type of doors, windows, ventilation, shutter, pump, motor, all valves & equipment inside pump house, transformer yard, D.P. structure, transformer etc</p> <p><u>Black japan colour:</u> air valve, sluice valve, riser pipe of air valve, zero velocity valve, butterfly valve (outdoor), bypass arrangement etc.</p>
Rapid sand filter	Checking and cleaning of orifices, laterals and ducts etc.

Monitoring system

Forms of reporting on MIS

Daily Reporting – (1/2)

Coverage and quantity			
Target village & cities		Auto filled	
Supplied village & cities			
Target quantity		Auto filled MLD	
Supplied quantity		MLD	
Working of pumps			
Sr No.	Condition	Hours supplied	Reason in case of failure (if any)
Pump 1	<input type="checkbox"/> Working		
Pump 2	<input type="checkbox"/> Working		
More rows as required			
Water quality (In case of WTP)			
Treated water turbidity		NTU	
Treated water pH			
Residual chlorine		PPM	
Reason for issue in water quality (if any)			

- The Contractor will report the number of villages/ cities, where the water is supplied and the quantity(in MLD)
- Working conditions of the pumps (Including backup pumps), Hours of supply and reason of the failure (if any) will be reported
- The Contractor will daily conduct laboratory testing of water quality. Based on those sample tests, the treated water turbidity, treated water pH and residual chlorine should be updated in the relevant section
- If there are any issues of the water quality then, it should be reported on the relevant section

Daily Reporting – (2/2)

Water leakages		
Location	Issue	Details
1		
2		
Add more rows as required		
Major O&M issue/ System failure		
Location	Issue	Details
1		
2		
Add more rows as required		
Maintenance activities		
Maintenance Activities carried out as per schedule		Yes/ No

- The contractor will have to report the water leakages location and details of the resolution
- Major O&M issues or system failure should be reported on the system
- The contractor will have to report that, if the maintenance activities are carried out as per maintenance schedule or not.

Monthly Reporting (1/2)

Electricity consumed		
Meter reading at start of the month		
Meter reading at end of the month		
Units consumed in the month		
Bill amount for the month (in INR)		
Power outage (if any)		
Sr No.	Date	Number of hours
1		
2		
Add more rows as required		
Power factor		
Power Factor (As per Electricity Bill)		

- The meter readings at start and end of every month shall be reported in the system. The details of unit consumed, bill amount and power factor will have to be submitted on the portal.
- If there are any power outage in the month, then it has to be reported with the details of the days occurred and number of hours of power outage

Monthly Reporting (2/2)

Grievance Redressal				
Pending complaints carried forward from previous month	Total complaints received in a month	Total complaints redressed in a month	Total complaints redressed within stipulated time limit	Total complaints yet to be redressed
Auto filled	Auto filled	Auto filled	Auto filled	Auto filled
Grievance Redressal Time				
Average of Monthly Grievance resolution time			Auto filled	
Maintenance activities				
Maintenance Activities carried out as per schedule			Yes/ No	

- The complaints/grievances received through telephone/portal or any such medium, shall be resolved within stipulated time **(Max 2 Days)**
- The contractor has to inform the relevant authority about the resolution of complaint/grievances and its time
- The record of the grievance redressal will be autofill by the portal
- The contractor can view the details of complaints on the portal
- The contractor will have to report that, if the maintenance activities are carried out as per maintenance schedule or not

Annual Reporting (1/3)

Water Audit	
For main Headworks	
Water Intake	
Water sources	Quantity in a year in cubic m
Bulk/ RWSS/ Pipeline	
Ground water/Local sources	
Total (water received)	
Water Supplied	
Name of sub heads/sump	Quantity in a year in cubic m
Name of sub head/sump 1	
Name of sub head/sump 2	
Add more rows as required	
Water losses (=Water Received – Water Supplied)	

- Annually, the details of source water availability and water supplied to various sub head works/ Sumps shall be updated for every main headworks.
- The water losses will be auto calculated by the system.

Annual Reporting (2/3)

Water Audit	
For sub headworks	
Water intake	
Total water received from main head work in Cubic m	
Water supplied	
Name of village/hamlet/town	Quantity in a year in cubic m
Village/hamlet/town	
Add more rows as required	
Total (Water supplied)	
Water losses (=Water received – Water supplied)	

- Annually, the details of water received from main headwork and water supplied to various village/town/hamlet shall be updated for every sub headworks.
- The water losses will be auto calculated by the system.

Annual Reporting (3/3)

Energy Audit	
Estimated power consumption as per designed efficiency (In KW)	
Actual power consumption as per monthly readings in KW	
Variation in the actual vs optimum power consumption in percentage	%
Maintenance Activities	
Maintenance Activities carried out as per schedule	Yes/ No

- Annually, the correct details of power consumption as per designed efficiency, and actual power consumption as per the readings will have to be filled by the contractor.
- The contractor will have to report that, if the maintenance activities are carried out as per maintenance schedule or not.

Thank You

