



# MODEL DOCUMENT

## Water ATM Audit



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GOVERNMENT OF INDIA  
MINISTRY OF HOUSING AND URBAN AFFAIRS



I am pleased to present here that Safe Water Network India, under the program titled 'Sustainable Enterprises for Water and Health' (SEWAH) supported by the USAID, has developed Model Documents for the decentralized Safe Water Enterprises (SWE) or Water ATMs. These Model Documents define and specify standard processes for the scale-up of SWEs.

The Model documents presented here will help set the benchmarks and frame regulatory standards for SWEs and promote standardization and accountability across the Sector. They will also serve as essential resource documents for regulating decentralized water enterprises. These model documents can be embraced to attract private sector investments and build robust public-private partnerships to deliver low-cost drinking safe water security to low economic communities.

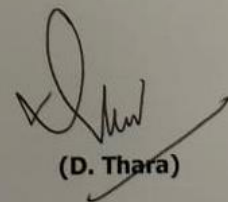
I take this opportunity to commend Safe Water Network India for this important work, which harmonizes with the national goal and vision in providing safe water access to all citizens and empowering communities in the effective management of their water sources.

#### **MODEL DOCUMENTS**

1. Tender Document/Request for Proposal – Design, Construction, Installation, Operation & Maintenance of Water ATMs with Viability Gap Funding
2. Service Level Agreement – Operation & Maintenance of Water ATMs & Terms of Reference
3. Water ATM Audit
4. Specification for Design and Installation of Community Drinking Water Treatment Plants (CWTP) (Draft Standard)
5. Code of Practice for Design, Installation, and Maintenance of Community Drinking Water Treatment Plants (CWTP) (Draft Standard)

#### **TECHNOLOGY INNOVATIONS FOR SAFE WATER DELIVERY**

1. Online Chlorination of Overhead Tank (OHT Chlorination)
2. Overhead tank Monitoring System (OHT-MS)



(D. Thara)

# Water ATM Audit

An audit is an examination of the functioning of a Water ATM, carried out regularly to ensure delivery of safe and reliable drinking water, and to optimize operations of Water ATMs. A Plant Health Checklist has been developed which uses a framework of standard operating procedures and protocols to evaluate the plant infrastructure, operation & maintenance, quality of inputs and personnel capacity. When combined with robust internal audits and regular testing of water at an independent external lab, this tool creates a solid foundation for delivery of safe water at Water ATMs.

The O&M Contractor must ensure that each Water ATM is subjected to an annual Health Check. This should be conducted by Field Supervisor and the overall score and findings must be recorded and retained as prescribed. The Field Supervisor should be able to conduct Health Checks for up to 10 plants per month.

## Annual Water ATM Audit Report

Contractor's Name \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Water ATM ID	Location (GPS coordinates)	Date of Audit	Audited by (Name)	Score (from PHC below)	Remarks
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

### Notes:

1. The Plant Health Check has to be done ONCE annually by the Supervisor, and submit the results from the same to the Manager.
2. The Manager after reviewing the report shall issue instructions and take necessary action based on the findings
3. The Manager shall compile the results from the assessment of all ATMs jurisdiction and prepare a consolidated report for submission to the authorities.

## Audit Checklist

ATM Details	Location ID		
	Operator Name		
	Supervisor		
Audit Details	Assessment date		
	Assessment officer		
<b>S. No.</b>	<b>Activity</b>	<b>Status (Y/N)</b>	<b>Score (Y=1/N=0)</b>
<b>1</b>	<b>Building &amp; Location</b>	<b>Max. Score</b>	<b>12</b>
1.1	Is the surrounding area of the Water ATM free of stagnating water, odours, smoke, dust and away from trash dumps or toilets?		
1.2	Is the concrete foundation on which the building is constructed is free of cracks, water damage, holes, and vegetation? Is the station's concrete floor is swept and cleaned with soap and water, and not showing signs of filth or heavy use?		
1.3	Is the Water ATM lockable to prevent unauthorized access in th absence of Operator?		
1.4	Are the walls, floor, roof, water tanks and equipment kept clean with no flakes, spill marks and free of mould growth? Is the ATM free of any water leakage or damp?		
1.5	Are all drains and floors maintained to allow water to drain away quickly? The ground surrounding the ATM should slope away from the ATM so rainwater does not pool around the base of the Water ATM.		
1.6	Does the interior of the Water ATM have adequate lighting? Are the lighting fixtures covered to protect water tank in case of breakage?		
1.7	Are the walls, ceiling, windows and drains well-maintained and kept free of damage and gaps to prevent entry of dusts, pests or rainwater?		
1.8	Is the interior of the Water ATM well-ventilated to prevent mould growth?		
1.9	Are openable windows effectively screened to prevent entry of insects?		
1.10	Is "No smoking" display signage present?		
1.11	Are all components of the water treatment works free of dirt and signs of damage or leakage?		
1.12	Is the ATM free of any temporary repairs on piping with tapes, clamps, putty, M-seal etc.?		
	<b>Score achieved</b>		
<b>2</b>	<b>Consumables &amp; Storage</b>	<b>Max. Score</b>	<b>4</b>
2.1	Are all consumables required for purification of water purchased against agreed specifications?		
2.2	Are all chemicals and consumables to be used up before the expiry date?		
2.3	Are chemicals and consumables clearly labelled and stored appropriately in clean, dry place, preferably a locked cabinet, to prevent tampering or cross-contamination?		

2.4	Is treated water storage tank secured and/or sealed to prevent tampering or cross-contamination?		
	<b>Score achieved</b>		
<b>3</b>	<b>Maintenance, calibration &amp; records</b>	<b>Max. Score</b>	<b>11</b>
3.1	Is a preventive maintenance system (PMS) in place to ensure that all equipment receives regular and timely servicing and remains safe to use?		
3.2	Are filter cartridges, activated carbon, sand and UV lamps replaced as per recommended schedules and records maintained?		
3.3	Is the raw water supply adequately protected to prevent contamination?		
3.4	Are all maintenance jobs recorded and signed-off on completion?		
3.5	Does the Water ATM have a system in place for recording and handling consumer complaints?		
3.6	Post any maintenance activity are water quality tests done to ensure that it meets standards?		
3.7	Is backwash carried out at specified intervals? Is this activity recorded in the Operator's log?		
3.8	Are operational parameters (TDS, pH, temperature, pressure etc.) recorded on the Operator's log at specified intervals?		
3.9	Are instruments (TDS meter, pH meters, flow meters, pressure gauges) calibrated annually? All calibration certificates available?		
3.10	Are procedures to be followed for operation and maintenance documented and available to guide the Operator?		
3.11	Records are maintained for a minimum of one year for due diligence		
	<b>Score achieved</b>		
<b>4</b>	<b>Product Water Safety - Hygiene, Pest control, and Waste Management</b>	<b>Max. Score</b>	<b>6</b>
4.1	Is the Water ATM maintained to a good standard of hygiene and housekeeping at all times? Are the cleaning procedures documented?		
4.2	Are the pipes, pumps, treated water tank or other possible devices coming into contact with water and used for its collection made of food-grade material, such that they do not change the quality of water?		
4.3	Is the treated water tank cleaned as per the recommended schedule and records maintained in log book? IS the date of last cleaning, and next scheduled cleaning prominently displayed on the treated water tank?		
4.4	Is the Water ATM housing suitably proofed to prevent ingress of pests? This shall include windows, doors, drains and surroundings.		
4.5	If the technology generates reject water, is the handling and disposal in accordance with the CPCB guidelines? Appropriate disposal of reject water without harming the environment is necessary.		
4.6	Is the Operator appropriately dressed in clean clothes and maintains good personal hygiene?		
	<b>Score achieved</b>		
<b>5</b>	<b>Quality Assurance - Onsite &amp; Laboratory Testing and Audits</b>	<b>Max. Score</b>	<b>9</b>
5.1	Does the Water ATM have sufficient on-site testing kits and instruments?		
5.2	Are records maintained for all tests performed?		
5.3	Are Treated, Raw and reject water samples tested at NABL-accredited laboratories at a pre-determined frequency and records of all test reports available? Is the most recent report displayed at the Water ATM?		

5.4	Do the lab results indicate that treated water meets the specifications of the Indian Drinking Water standard (IS 10500)?		
5.5	In case of quality deviations detected on testing, are immediate corrective action taken and records maintained for the same? <i>(If necessary, the production should be temporarily suspended)</i>		
5.6	Is a system of internal auditing in place to track the effectiveness of the quality monitoring?		
5.7	Are records of all previous audits maintained to assist with reviews?		
5.8	Is there a system to ensure that all dispensing is recorded (automatic or manually)?		
5.9	Does the plant have a secondary disinfection stage after treated water line (UV, or residual chlorine), and is servicing/maintenance done regularly for the same?		
	<b>Score achieved</b>		
<b>6</b>	<b>Personnel - Medical</b>	<b>Max. Score</b>	<b>2</b>
6.1	Are the Operator and other staff visiting the Water ATM medically screened for potential contamination risk to the drinking water?		
6.2	Does the Water ATM have a first-aid box on site, stocked with required medicines?		
	<b>Score achieved</b>		
<b>7</b>	<b>Electrical Safety</b>	<b>Max. Score</b>	<b>6</b>
7.1	Is electrical power is provided to the station legally and was installed by knowledgeable professionals? No loose wires are visible, and preferably all electrical works are behind closed panels.		
7.2	A wiring diagram showing the load currents, voltages, and the ratings of the components is provided		
7.3	No bare electrical wires are visible anywhere, in either the electrical connections or anywhere in the treatment works. All wall sockets are sealed in boxes and have no bare wires or evidence of damage.		
7.4	Are all parts of metallic construction reliably connected to an earthing termination? Is earthing pit properly maintained following standardized procedures. Is the earthing resistance measured and found to be less than 0.1 Ohm?		
7.5	Certified components complying to safety standards are used		
7.6	An emergency stop is provided?		
	<b>Score achieved</b>		
	<b>SUMMARY SCORE CARD</b>	<b>Max Score</b>	<b>Achieved Score</b>
	Building and location	12	
	Consumables and storage	4	
	Maintenance, calibration & records	11	
	Product Water Safety - Hygiene, Pest control & Waste Management	6	
	Quality Assurance - Onsite & Laboratory Testing and Audits	9	
	Personnel - Medical	2	
	Electrical Safety	6	
	<b>TOTAL SCORE</b>	<b>50</b>	



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