

Jal Hi AMRIT

Clean Water Credits for
Sewage Treatment Plants
(STPs)



TOOLKIT 2024



Ministry of Housing
and Urban Affairs
Government of India



Jal Hi AMRIT (JHA) Initiative

—
Toolkit 2024



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Abbreviations & Key Definitions



ABBREVIATIONS

A2O	Anaerobic-anoxic-aerobic method
AMRUT 2.0	Atal Mission for Urban Transformation and Rejuvenation 2.0
ASCI	Administrative Staff College of India
ASP	Activated Sludge Process
ATEX	ATmosphere EXplosive
BIS	Bureau of Indian Standards
BOD	Biochemical Oxygen Demand
BOQ	Bill of Quantities
CAPEX	Capital Expenditures
CBA	Capacity Building Agency
COD	Chemical Oxygen Demand
CWBP	City Water Balance Plan
DG	Diesel Generator
DPR	Detailed Project Report
E&M	Electro-Mechanical
EPC	Engineering, Procurement and Construction
FC	Faecal Coliform
FCO	Fertiliser Control Order
FS	Faecal Sludge
FSTP	Faecal Sludge Treatment Plant
FTL	Full Tank Level
GPS	Global Positioning System
GIS	Geographic Information System
HFL	High Flood Level

HH	Household
ISO	International Organisation for Standardisation
JHA	Jal Hi AMRIT
MBR	Membrane Bioreactor
MBBR	Moving Bed Biofilm Reactor
MLD	Million Litres per Day
MoHUA	Ministry of Housing and Urban Affairs
MoU	Memorandum of Understanding
NABL	National Accreditation Board for Testing and Calibration Laboratories
OCEMS	Online Continuous Effluent Monitoring Systems
O&M	Operation & Maintenance
OPEX	Operational Expenditures
PCB	Pollution Control Board
PHED	Public Health Engineering Department
PPE	Personal Protective Equipment
QCI	Quality Council of India
RTDMS	Real Time Data Monitoring System
SBR	Sequencing Batch Reactor
SCADA	Supervisory Control and Data Acquisition
SNA	State Nodal Agency
SoR	Schedule of Rates
SSR	Standard Schedule of Rates
STP	Sewage Treatment Plant
TDS	Total Dissolved Solids



TP	Total Phosphorus
TPA	Third-Party Assessor
TN	Total Nitrogen
TSS	Total Suspended Solids
UASB	Upflow Anaerobic Sludge Blanket
ULB	Urban Local Bodies
UT	Union Territory
UWTP	Used Water Treatment Plant
WRRC	Water Resource Recovery Cell

KEY DEFINITIONS

1. **Actual Inflow:** The total volume of used water entering the UWTP daily, measured in MLD (Million Liters per Day), reflects the UWTP's current operating load.
2. **ATEX Area:** Zones within the UWTP are classified as potentially explosive due to flammable gases, vapours, or dust. ATEX (Atmosphere Explosives) areas require special precautions to prevent ignition.
3. **Designed Capacity:** The maximum volume of used water the UWTP can treat under optimal conditions in a day (in MLD).
4. **Design Capacity for Assessment Year:** The UWTP's designed treatment capacity for the current year within its total design period (in MLD).
5. **Disinfection Units:** Components in STPs/UWTPs that eliminate harmful microorganisms from treated used water, typically using chlorine, UV light, or ozone, to ensure safe discharge or reuse.
6. **Faecal Sludge:** Faecal sludge is waste from on-site sanitation systems like septic tanks and pit latrines. It consists of human excreta, urine, flush water, etc.
7. **Faecal Sludge Treatment Plant:** This plant is designed to treat and process faecal sludge from on-site sanitation systems, making it safe for disposal or reuse.
8. **OCEMS (Online Continuous Effluent Monitoring System):** OCEMS continuously measures key parameters of treated used water in real-time to ensure regulatory compliance, providing real-time data and alerts for efficient monitoring and reporting.
9. **Primary Treatment:** This includes screens, grit chambers, oil and grease chambers, and primary clarifiers, which are essential for removing large solids, grit, and suspended solids from used water.
10. **SCADA (Supervisory Control and Data Acquisition):** A computerised system that monitors, controls, and automates various used water treatment processes. It integrates hardware and software to collect real-time data from sensors and instruments across the plant, such as flow rates, chemical dosing, and pump operations.

- **Read and Write:** The SCADA system can display and control the UWTP processes, allowing for remote operation.
 - **Read Only:** The SCADA system can display the functioning of UWTP processes but cannot control the operations.
11. **Secondary Treatment:** A stage in STPs/UWTPs that biologically treats used water by breaking down organic matter using microbial processes, typically involving systems like activated sludge, MBR, or SBR, to reduce pollutants significantly.
12. **Sewage Treatment Plant (STP):** STP, also known as Used Water Treatment Plant (UWTP), is a facility designed to treat and purify used water (sewage) generated from households and businesses. The goal of an STP is to remove contaminants from the /used water, ensuring that the treated water is safe for discharge into the environment or reuse. The treatment process typically involves stages: pre-treatment, primary treatment, secondary treatment, and tertiary treatment, which aim to remove solids, organic matter, pathogens, and chemicals.
13. **Sludge Thickening/Dewatering:**
- **Sludge Thickening:** Increases the concentration of solids in sludge by removing excess water, reducing its volume (e.g., sludge thickening tanks).
 - **Sludge Dewatering:** Further removes water, producing a semi-solid or solid sludge cake (e.g., belt press, screw press, sludge drying beds).
14. **Tertiary Treatment:** An advanced treatment stage in UWTPs/STPs that further purifies used water by removing remaining pollutants through filtration, chemical treatments, and polishing processes, making it suitable for discharge or reuse.
15. **Used water:** Used water is wastewater generated from a domestic community from washing, flushing, bathing etc., it is typically carried through sewers. Used water and sewage are used interchangeably in this document.
16. **Utilization Capacity:** The utilisation capacity of the UWTP is a percentage of the volume of the used water currently treated at the UWTP to the plant's design capacity.



Jal Hi AMRIT (JHA) Initiative

Chapter - 1



CHAPTER 1: JAL HI AMRIT (JHA) INITIATIVE

Introduction

AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation 2.0) is a flagship urban development program launched by the Government of India in October 2021. Building on the success of AMRUT 1.0, this second phase aims to create “Water-Secure Cities” by promoting sustainable water management practices and enhancing urban resilience to climate change. Recycling and reusing treated used water are the cornerstones of ensuring sustainable management of water resources and reducing the stress on freshwater resources.

Sewage Treatment Plants (STPs), also termed **Used Water Treatment Plants (UWTPs)**¹, play a crucial role in protecting our water bodies by systematically treating millions of litres of used water before it is discharged into water bodies and the environment. However, most of the UWTPs in the country do not perform at par in terms of capacity and treatment efficiency.

On the other hand, UWTPs present a unique opportunity to protect our water bodies by efficiently treating used water and producing high-quality treated water that can be used for construction, industrial use, irrigation, etc.

Recognising the potential of UWTPs to achieve water security by protecting freshwater resources and promoting a circular economy of water, the Ministry of Housing and Urban Affairs (MoHUA) has launched the “**Jal Hi AMRIT**” program.

The key focus of the Jal Hi Amrit initiative is to incentivise States /UTs to improve the quality of treated effluent discharge and promote the recycling of treated water. By ensuring the efficient management of Used Water Treatment Plant (UWTPs), the initiative aims to provide a continuous supply of high-quality treated water that meets environmental standards and supports sustainable water recycling practices. The funds will be available to the agency (ULB/Parastatal) managing the UWTPs.

The UWTPs will receive Clean Water Credits- Star rating through a holistic evaluation process. These incentives can be used to improve the efficiency of the UWTP through technology upgrades, the implementation of renewable energy systems, online monitoring, capacity building, etc. MoHUA has earmarked a budget of ₹1,300 cr for the “Jal Hi AMRIT” initiative, ₹600 cr for the current year (2024-2025) and ₹700 cr for the next financial year (2025-2026) for states and UT on a first-come-first-serve basis.

The Jal Hi AMRIT program under AMRUT 2.0 enhances efforts to protect freshwater resources by encouraging cities to maintain high-performance UWTPs and generate

¹ Sewage Treatment Plants (STPs) are also known as Used Water Treatment Plants (UWTPs) because sewage is essentially fresh water that has been used for human purposes. In this document, UWTPs is predominantly referred to; however, STPs and UWTPs can be used interchangeably.

reusable water for diverse urban needs. This initiative conserves vital water resources and contributes to building a water-positive future for India.

Aim of the Program

The Jal Hi AMRIT (JHA) program aims to incentivise States and Union Territories to ensure the optimal functioning of Used Water Treatment Plants (UWTPs). These plants must consistently meet environmental standards while producing recyclable treated water. As part of this initiative, UWTPs will be awarded Clean Water Credits through a Star Rating system. Incentives will be provided to urban local bodies (ULBs)/Parastatal agencies based on a comprehensive evaluation process detailed in the following section.

Additionally, the JHA program focuses on enhancing the skills of UWTP operators/ULB officials. Through customised capacity-building programs, the initiative aims to equip these personnel with the knowledge and expertise needed to manage the facilities efficiently and consistently meet discharge standards.

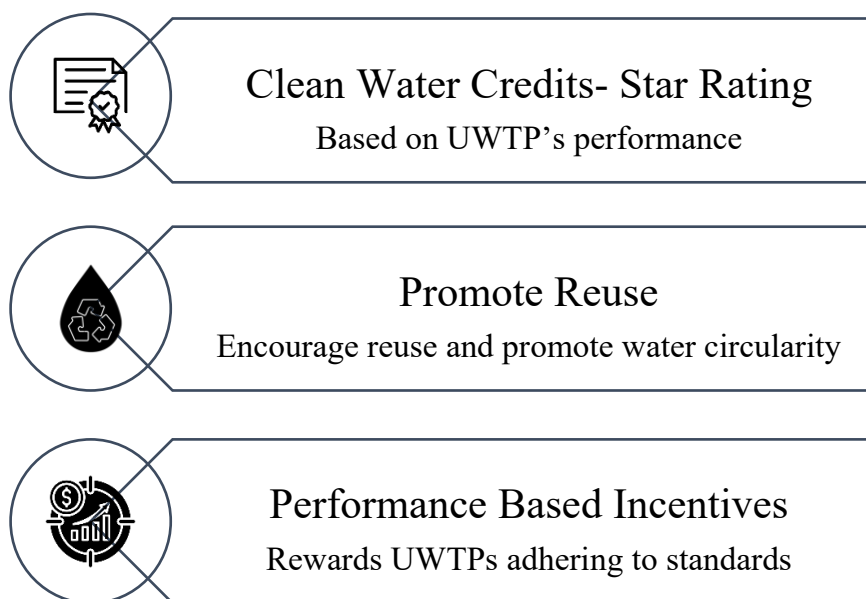


Figure 1 Key aspects of the Jal Hi AMRIT initiative

Evaluation Process

The States/Urban Local Bodies (ULBs)/Parastatals will nominate Used Water Treatment Plants (UWTPs) to participate in the Jal Hi AMRIT program through the AMRUT 2.0 collaboration platform. Over six months, the nominated UWTPs will undergo a comprehensive evaluation process. This will include self-assessment, periodic field verification by Third-Party Assessors (TPA), and analysis of used water samples (Figure 2). Based on the gaps identified during the third-party evaluations, tailored capacity-

building programs and ongoing support will be provided to UWTP operators and ULB/Parastatal officials. This support will be delivered regularly and as needed to ensure continuous improvement.

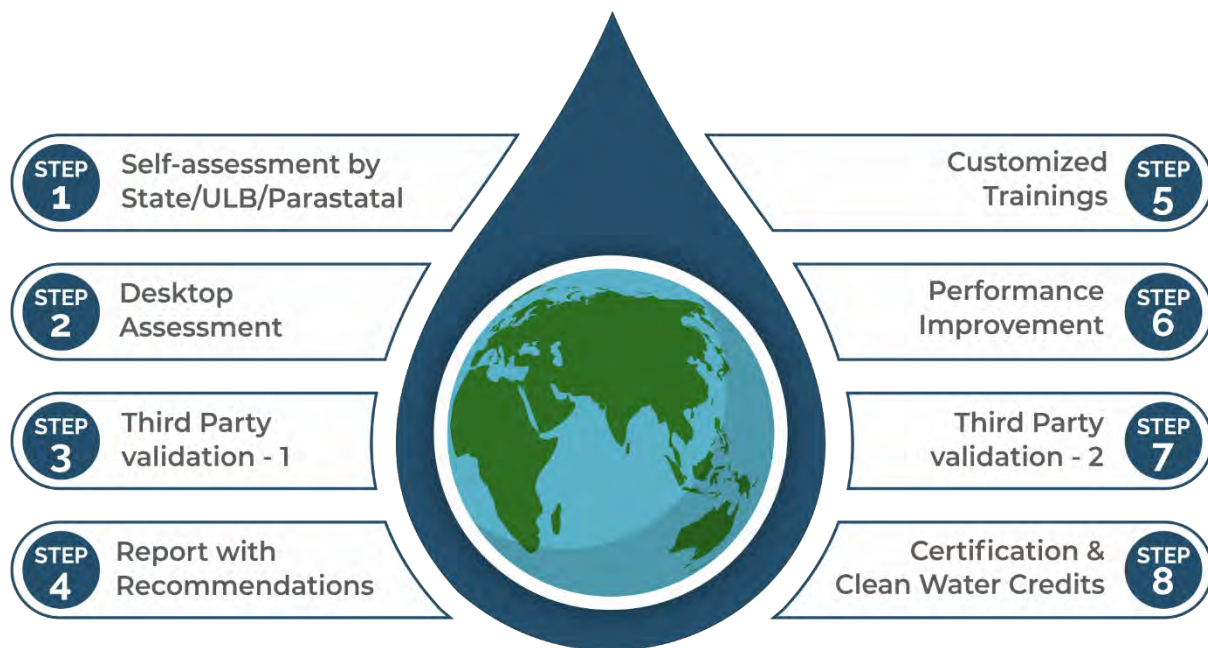


Figure 2 Evaluation Process for JHA

The following sections provide a detailed explanation of the critical steps of the evaluation process mentioned above.

Step-1 & 2: Self-Assessment

After nomination, ULBs/Parastatals must conduct a self-assessment of the UWTPs to establish a baseline. This involves completing a structured template and uploading all relevant documents for a desktop evaluation by the Third-Party Assessor (TPA). ULBs/Parastatals may submit multiple UWTPs for consideration under this initiative. The independent TPA will review the submitted documents to ensure compliance. The self-assessment will be based on ten key parameters, as outlined in Figure 2. Chapter 3 provides a detailed, step-by-step guide on how to apply through the portal and complete the self-assessment process.



Figure 3 Evaluation Parameters

Step-3 & 4: Field Verification

The Quality Council of India (QCI), as the Third-Party Assessor (TPA), will conduct three periodic field verifications over six months to validate the self-assessment scores and ensure ongoing compliance with the prescribed standards. Following each field visit and verification, performance improvement recommendations will be provided to the UWTP for further enhancement.

Step-5: Customized Capacity Building

Based on the gaps identified by the TPA during the initial visit, the Administrative Staff College of India (ASCI), as the Capacity Building Partner (CBP), will deliver targeted training programs to enhance the performance of the UWTPs. The UWTP operators and field officials will be certified upon completion of the training. Additionally, ASCI will manage a helpline and provide ongoing hand-holding support to UWTP operators and ULBs/Parastatals to ensure continuous improvement and operational efficiency.

Step-6: Performance Improvement

ULBs/Parastatals will begin implementing performance improvements based on the recommendations provided by the TPA and CBP. Additionally, need-based handholding support will be offered to ULBs/Parastatals to enhance operational efficiency, explore water reuse opportunities, upgrade monitoring systems, and address other performance-related challenges.

Step-7 & 8: Clean Water Credits and Incentives

Based on the final field verification conducted by the TPA, the UWTP will be awarded Clean Water Credits - Star Rating. Incentives will be released to the states for further disbursement to ULBs/Parastatals based on the performance of the UWTPs. These incentives must be exclusively used for enhancing the efficiency and performance of the UWTPs in the following areas (Figure 3):

1. Establishment of real-time monitoring systems, including online continuous emission and effluent monitoring, supervisory control, data acquisition, etc.
2. Capital expenditure for reuse infrastructure
3. Technology upgrades
4. Installation of new and renewable energy systems for UWTP operations
5. Biosolids management
6. Capacity building for UWTP staff
7. Overall performance improvement of the UWTP.

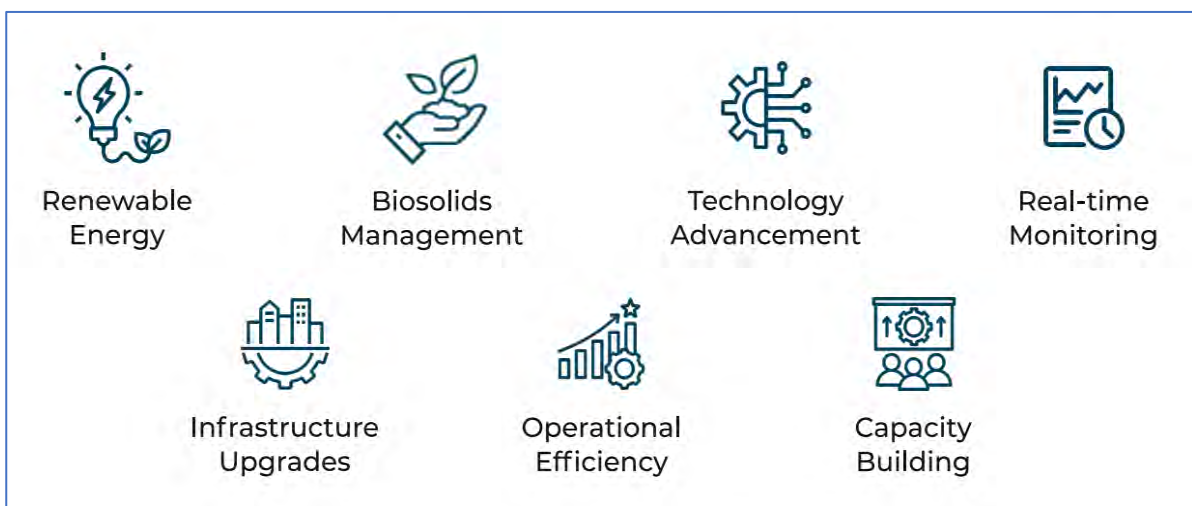


Figure 4 Eligible Areas for Utilisation of Performance Incentives

Clean Water Credits & Incentive Structure

UWTPs that score three stars or higher will be eligible for incentives based on their treatment capacity. The Clean Water Credits (CWC) - Star Rating awarded to the UWTP will remain valid for six months.

Incentive Structure		(in Crores)				
CLEAN WATER CREDITS	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GROUP 5	
	< 5 MLD	5 to <10 MLD	10 to <50 MLD	50 to <100 MLD	100 MLD & above	
★★★★★	0.75	1.5	4	6	8	
★★★★	0.5	1	3	3	5	
★★★	0.25	0.75	1	2	3	

Figure 5 Incentive Structure

- A 70:30 incentive release structure has been adopted for the Jal Hi Amrit (JHA) program. UWTPs will receive 70% of the incentive upfront after meeting the required conditions and undergoing rigorous evaluation and capacity-building efforts. The remaining 30% will be disbursed upon maintaining their star rating for another six months.
 - UWTPs that achieve a 5-star rating will be eligible for additional incentives if they maintain this rating for the following year.
 - UWTPs with 4-star and 3-star ratings will be eligible for additional incentives if they upgrade their ratings to 5-star and 4-star, respectively, in the subsequent year.

Conditions for Fund Release

The funds will be released to the State Nodal Agency (SNA) under the state's Administrative and Other Expenses (A&OE) component, to be passed on to the eligible ULB/Parastatal for transfer to the respective escrow account. This will be done with a 100:0 (Centre: State) funding ratio, but only upon fulfilling the following conditions:

Creation of an Escrow Account

ULBs/Parastatals must establish an escrow account to utilise incentives tied to performance improvement proposals.

- **Establishment of a Water Resource Recovery Cell (WRRC) at the State Level**
Another essential condition for releasing the incentive to the escrow account is setting up the Water Resource Recovery Cell (WRRC) at the state level. The Water Resource Recovery Cell (WRRC) will focus on promoting sustainable and circular management of used water and biosolids management. The WRRC's mandate is to ensure that used water recycling and biosolids management are incorporated in all aspects of the project wherever possible.

States & Cities may engage industry/sector experts/ organisation as part of WRRC for effective used water management and treated used water reuse to achieve the objective of Jal Hi Amrit Initiative."

The WRRC should comprise of representatives from relevant government departments like:

- Urban Development and ULBs
- Irrigation/Agriculture
- Power
- Public Health
- Industry
- State Pollution Control Board

Helpline and Handholding Support

The Administrative Staff College of India (ASCI), as the Capacity Building Partner (CBP) for the Jal Hi AMRIT program, will provide comprehensive support to ULBs/Parastatals throughout the program. This includes dedicated hand-holding support through a helpline to assist ULBs/Parastatals with the self-assessment process via the AMRUT online portal.

The CBP will also conduct onboarding meetings with ULBs/Parastatals, offering detailed sessions on the step-by-step procedure for nomination and self-assessment through the portal. Additionally, the CBP will deliver targeted, need-based training and capacity-building programs to enhance the performance of UWTPs.

ULBs/Parastatals can access these support services, including assistance with queries, through the AMRUT 2.0 portal under the Jal Hi AMRIT initiative or contact ASCI at jha@asci.org.in.



Customised Capacity Building Program

Chapter - 2



CHAPTER 2: CUSTOMISED CAPACITY BUILDING PROGRAMME

The efficient operation and management of Used Water Treatment Plants (UWTPs) are essential for achieving regulatory compliance and recycling standards. Achieving this requires skilled personnel and effective coordination. Recognising the need for well-trained human resources, the Ministry of Housing and Urban Affairs (MoHUA), through the Jal Hi AMRIT (JHA) initiative, is introducing a customised capacity-building program to enhance the skills of UWTP operators and Urban Local Body (ULB) officials. This program will support ULBs' performance improvement efforts, which will contribute to achieving higher star ratings for UWTPs.

The Administrative Staff College of India (ASCI), as the designated Capacity Building Partner (CBP), will deliver customised training programs for UWTP operators and ULB officials and extend hand-holding support. The training will be a core component of the JHA initiative, and participants will receive completion certificates upon finishing the program.

Based on gaps identified through assessments, participants will receive tailored online training to improve their UWTP's performance and star rating. The training will cover treatment modules, troubleshooting procedures, Standard Operating Procedures (SOPs), best practices, and safety protocols. Additionally, ULB officials will receive guidance on reuse opportunities for treated water and biosolids.

Key Components of the Capacity Building Programme

- **Understanding UWTP Technologies:** Participants will learn about various UWTP technologies, their working principles, and specific requirements for operation and maintenance.
- **Standard Operating Procedures (SOPs):** Training will cover SOPs for UWTP management, providing clear guidelines for routine operations and emergency responses.
- **Environmental Compliance:** Participants will be educated on environmental regulations, ensuring they understand standards for discharging and reusing treated water and biosolids to prevent pollution and protect public health.
- **Performance Improvement Strategies:** Experts will offer practical recommendations for improving UWTP performance, focusing on efficiency and sustainability.
- **Safety Protocols:** Emphasis on personal protective equipment (PPE), emergency procedures, and overall safety within UWTPs.
- **Innovative Systems and Reuse Opportunities:** Participants will gain an understanding of advanced systems like remote monitoring, predictive maintenance,

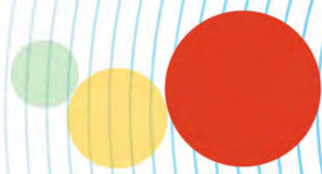
and innovative technologies and business models. Training will also cover cost-saving reuse opportunities, promoting water circularity within cities.

Capacity building is essential to the Jal Hi AMRIT Mission's strategy to improve UWTP performance across India. By equipping UWTP operators and ULB officials with the necessary skills and knowledge, the mission aims to ensure the sustainable and efficient management of used water treatment facilities. This targeted training will play a vital role in advancing the JHA's water conservation and environmental protection goals while enhancing the long-term performance of UWTPs.



Step-by-Step Procedure for Self-Evaluation

Chapter - 3



CHAPTER 3: STEP-BY-STEP PROCEDURE FOR SELF-EVALUATION IN THE ONLINE PORTAL

This chapter is divided into two parts to guide ULB/Parastatal through the Used Water Treatment Plants (UWTPs) evaluation process.

Part A provides comprehensive guidelines for nominating UWTPs, ensuring that ULBs /Parastatals understand the nomination procedure and successfully furnish the basic details of the UWTP nominated for evaluation.

Part B offers step-by-step instructions on self-evaluating nominated UWTP using the online portal. By following these guidelines, ULB/Parastatal can complete the evaluation process.

For any further clarification or assistance, please feel free to contact the helpline, as discussed earlier.

Part A: Guidelines for UWTP Nominations

Nomination and “UWTP Profile”

Urban Local Bodies (ULBs) and Parastatal agencies can apply for Clean Water Credits through the AMRUT 2.0 Collaboration Platform. Suppose ULBs or Parastatal agencies do not have login credentials. In that case, the State Nodal Agency can register them and their respective Used water Treatment Plants (UWTPs) to participate in the Clean Water Credits program. Each ULB or Parastatal agency can nominate multiple UWTPs for participation. Below is a step-by-step guide for logging in:

Step 1: Accessing the AMRUT 2.0 Online Portal

Open the AMRUT 2.0 collaboration platform through the link- <https://amrut.mohua.gov.in/>



Figure 6 AMRUT 2.0 Portal Log-in

Step 2: Login with State credentials & Click “JHA”

- Log in to the portal through the homepage by using the **City Water Balance Plan State credentials for the AMRUT 2.0** Collaboration Platform.
- After clicking "Log in," the applicant will be directed to a homepage.
- Click on the "JHA" initiative to nominate UWTPs for the Jal Hi AMRIT initiative



Figure 7 Jal Hi AMRIT tab

Step 3: Click “Add Parastatal Agency”

States can nominate ULB/Parastatal by clicking on the “Add Parastatal” tab. For any ULB/parastatal agency nomination, details regarding the Organisation name (e.g., Gujarat Water Supply and Sewerage Board or Ahmedabad Municipal Corporation) and nodal Officer name should be entered.

In order to add a new ULB/parastatal, the contact details of the nodal officer for the selected parastatal must be submitted. Once uploaded, the name of the new parastatal will appear in the list of parastatal agencies.

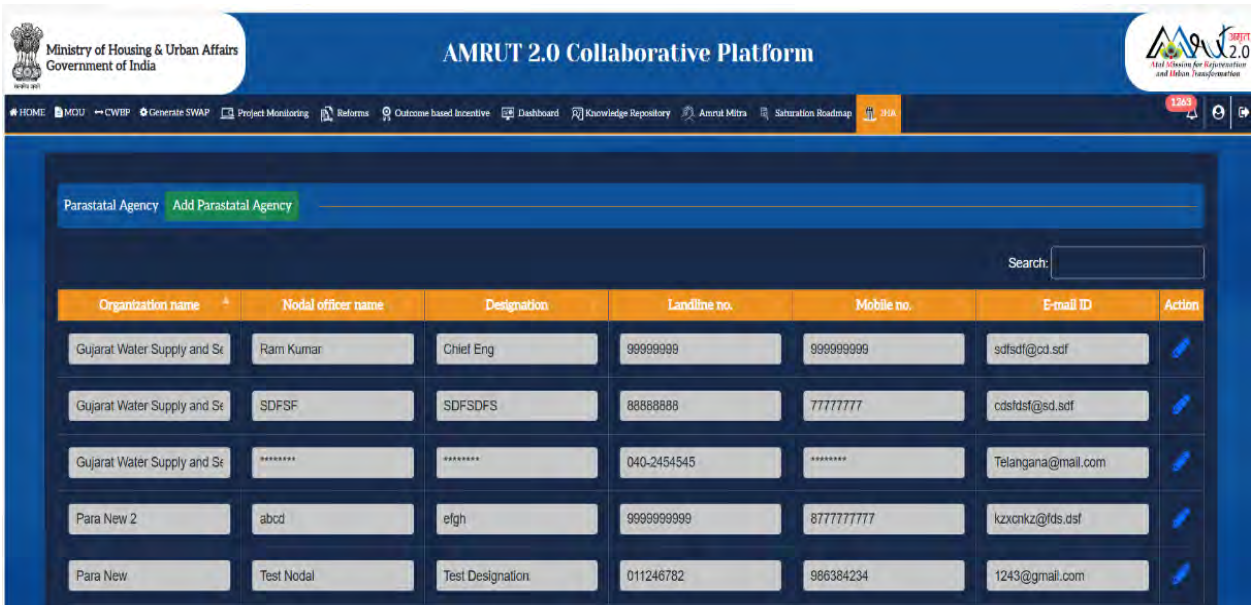


Figure 8 Nomination of ULB/Parastatal

Step 4: Accessing “City Profile”

Once nominated by the state, the nodal officer of the ULB/Parastatal can log in to the AMRUT 2.0 Collaboration Platform. The ULB/Parastatal applicant will be directed to the city profile page through the JHA tab. The nodal officer's contact details are pre-filled based on the City Water Balance Plan. These details can be edited to update the information.

The ULB/Parastatal is to enter basic information regarding the total number of households, the city's treatment capacity, used water coverage, and faecal sludge management status.

The screenshot displays the City Profile form. It is divided into two main sections: Key Contact Details and ULB Information.

Key Contact Details

Designation	Name	Phone Number	Email Address
Nodal Officer	Mr A J Pandya	9724345427	ce@suratmunicipal.gov.in
Municipal Commissioner	Smt Shalini Agarwal IAS	123456789	commissioner@suratmunicipal.org

ULB Information

Total HH	ULB Area (Sq. Km)	Quantity Of Used Wastewater Generated (MLD)	Quantity Of Used Water Treated (MLD)	Number Of Used Water Treatment Plants (UWTPS)	% Of Houses Connected To Sewer Network	Coverage of sewer network in % with respect to area
10004	125	34	4565	436	10	12

Is the Faecal Sludge Management (FSM) policy notified by the ULB? Yes No

Is the faecal sludge treated at FSTP/UWTP? Yes No

Are the desludging vehicles empanelled with GPS tracking system? Yes No

Is the State Used Water Reuse policy notified in the ULB? Yes No

No. of Functional UWTPs: 18

No. of Non-Functional UWTPs: 10

Figure 9 City Profile

Step 5: Adding “UWTP Profile”

To add UWTP to participate in the initiative, the applicant can click on the “add UWTP” tab on the portal. A dialogue box will pop up when entering the details of the UWTP.

The unique name of the UWTP, design capacity (in MLD), and operational capacity (actual daily flow in MLD) need to be entered.

Click on **Save UWTP** to add the UWTP for Self-Assessment. **Please note that only government UWTPs can be nominated for JHA.**

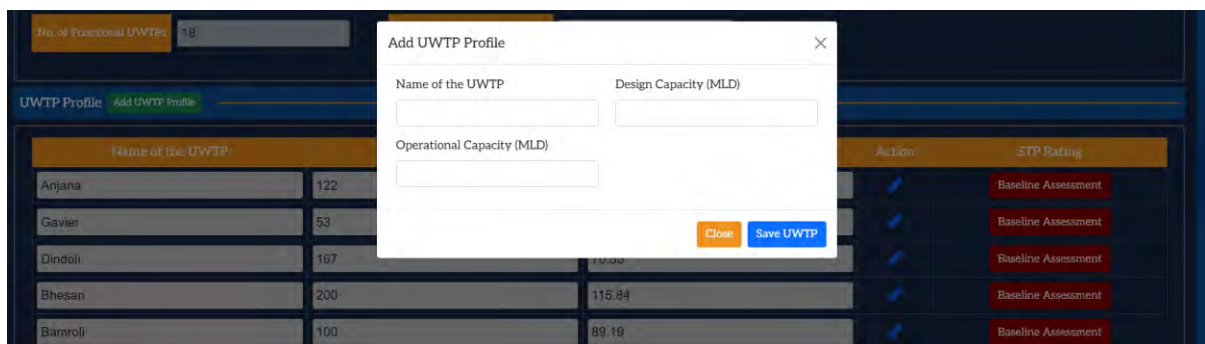


Figure 10 Add UWTP

Step 6: UWTP Profile

After adding all the UWTPs, each UWTP profile must be updated by clicking on the “Pen Icon” corresponding to the desired UWTP. The Self-Assessment form for the UWTP will only be accessible after entering all the fields in the UWTP profile and submitting the profile.



Name of the UWTP	Design Capacity (MLD)	Operational Capacity (MLD)	Profile	UWTP Rating
Anjana	122	88.20		Self Assessment
Gavier	53	15.21		Self Assessment
Dindoli	167	70.55		Self Assessment
Bamroli	100	89.19		Self Assessment
Singapore	255	114.71		Self Assessment
Bhatar	162	152		Self Assessment

Agency Managing UWTP: ULB Parastatal

Parastatal Agency: Para New 2

UWTP ID: GJ-802629-001

Latitude: 10

Longitude: 11

Year of Commissioning: 2024

Type of Technology: Activate Sludge Treatm

How is the STP/UWTP considered for evaluation uniquely distinguished? Any other

test

UWTP located above HFL of site? Yes No

Land available for future expansion? Yes No

Project CAPEX (Cr) 12

Project OPEX (for 2024)

Total OPEX (Cr) 10

Cost of Human Resource (Cr) 11

Cost of Consumable (Cr) 12

Cost of Electricity (Cr) 15

Other Cost (Cr) vdf vid

Contract Type: Others, specify

Others: other 3

Contractor Name	Phone Number	Email ID	O&M Period (Yr)	Current Year of O&M
slkd mdlma	998889988	csdfs@jdada.dsa	5	2023

Upload Documents

Display board of the UWTP with coordinates	Detailed Project Report of the UWTP	O&M Manual	Contract document

Save UWTP Profile Submit UWTP Profile

Figure 11 UWTP Profile

Submitting the basic details of the nominated Used Water Treatment Plant (UWTP) before self-assessment is essential. The following entry fields need to be completed, each explained below:

a. Managing Agency:

Select the managing agency of the particular UWTP- ULB or Parastatal. Enter the name of the Parastatal agency/ULB managing the UWTP.

b. UWTP ID:

System will assign to UWTP and will be shared with ULB/Parastatal.

c. Location:

The location of the UWTP in terms of latitude and longitude in decimal degrees format should be entered into the respective fields.

d. Year of Commissioning:

The year of commissioning refers to the year in which the UWTP became fully operational and started treating used water.

e. Type of Technology

Select the type of technology adopted for treatment in the UWTP from the drop-down list:

- 1) Activated Sludge Process
- 2) Trickling Filter
- 3) Sequential Batch Reactor (SBR)
- 4) Membrane Bioreactor (MBR)
- 5) Moving Bed Bioreactor (MBBR)
- 6) UASB (Up-flow Anaerobic Sludge Blanket)
- 7) Any other, specify (enter the name of the technology in the text box. e.g. A2O)

f. How is the UWTP considered for evaluation uniquely distinguished?

In this section, the applicant must establish how the selected UWTP is uniquely identified/distinguished from any other UWTP or UWTP co-located with the nominated UWTP.

The applicant can choose to select from the drop-down list to enter details either of the following:

- Sewer trunk mains connected to the UWTP and mention the name of the sewer in the text box
- Define the catchment area names connected to the UWTP-nominated
- Furnish details of any other means of distinguishing the nominated UWTP.

g. Is the UWTP located above the HFL of the site?

If all the components of UWTPs are located above the site's High Flood Level (HFL), select yes or no.

- **Means of Verification:**

Upload design documents and any GoI-approved document furnishing the ground level of the site.

h. Project CAPEX and OPEX

Enter the details of the Project CAPEX (Capital Cost) for constructing the UWTP in Crores of INR.

Enter the details of the total annual OPEX (Operating Cost) of the UWTP in Crores of INR for the current year. Further breakdown of the OPEX in terms of the annual cost of human

resources, consumables (coagulant, polymer, media, fuel, etc.), the annual cost of electricity, and other costs should be entered into the respective fields.

i. Details of the contract type for O&M

Select the type of contract under which the O&M operator has been on-boarded by the ULB/Parastatal (DBO- Design Build Operate/ EPC- Engineering Procurement and Construction Contract/ other)

Contact details of the current O&M contractor, along with the O&M contract period (e.g. 5-year contract) and the current year (e.g. 3rd year), should be entered in the field provided.

j. Documents to be uploaded

1. Upload an image of the signboard/display board of the UWTP along with location coordinates (latitude, longitude) in jpeg/png format.
2. Upload the Detailed Project Report (DPR) of the nominated UWTP in PDF format.
3. The O&M manual for UWTP operations and the complete O&M contract document should be uploaded in PDF format.

To save the progress after entering all the details and uploading the supporting documents, click **“Save UWTP profile.”**

Click on the **“Submit UWTP profile”** to submit the details and proceed to the Self-Assessment/baseline tab. Please note that the Self-Assessment for the UWTP will be accepted only if all the fields in the UWTP Profile are filled and submitted.

The following sections outline the steps to upload the necessary information for undertaking the UWTP self-assessment.

PART B: GUIDELINES FOR SELF-ASSESSMENT OF UWTPS

After filling in the UWTP details, click **"Self Assessment"** under Star Rating to proceed to self-evaluation. The applicant selects the UWTP to participate in the JHA for Clean Water Credits- Star rating process by clicking this.

Once the general information is uploaded, the portal will direct the applicant to the next level, where the Self-Assessment will be initiated for the selected UWTP.

Filling and Uploading Documents for Self-evaluation

After submitting the details of the UWTP and clicking on Self-Assessment, the portal will direct the applicant to the **“Self-Assessment”** page. The assessment will be conducted using

ten parameters, and the final score for the evaluation will be auto-calculated and displayed at the end of the screen.

The UWTP will receive the Clean Water Credits-Star rating based on this self-assessment and a final third-party evaluation at the end of six months.

Click on each parameter, provide the necessary information and upload the required documents. The system will automatically calculate the score for each parameter based on the information provided by the applicant. Once all parameters are filled, save the assessment form or submit it for evaluation. The details are given below.

Clean Water Credits (CWC)-Star Rating Criteria

As stated earlier, a baseline score will be computed by measuring the performance of UWTPs against all the ten parameters. Based on the score secured by the UWTP through the Self-Assessment, the UWTP will be eligible for a CWC- Star rating. However, the final star rating will be determined at the end of six months after incorporating the results of a third-party evaluation.

The table below outlines the star rating criteria for UWTPs, detailing the mandatory parameters required for eligibility for the 3-star, 4-star, and 5-star ratings.

It is also crucial for the field officers (UWTP operators, UWTP managers, ULB/Parastatal officials, etc.) responsible for maintaining the nominated UWTP to participate in the customised capacity-building program to be eligible for the star rating.

Table 1 Criteria for Evaluation

Jal Hi AMRIT Evaluation Criteria	
Criteria for Evaluation	
Clean Water Credits for UWTP	Eligibility Criteria
5 Star	UWTP needs to meet all parameters to apply for 5 Star rating
4 Star	UWTP needs to meet at least I to VI parameters to apply for 4 Star rating
3 Star	UWTP needs to meet at least II, IV, V, and VI parameters to apply for 3 Star rating
Not applicable for Star Rating	
*To achieve 5 Star rating, it is mandatory to satisfy the criteria for 4 and 3-star	
**To achieve 4 Star rating, it is mandatory to satisfy the criteria for 3 star	
Progression to a higher star rating mandates meeting all criteria of the current rating.	

Parameter 1: Utilization of UWTP

Enter the calculated utilisation capacity percentage into the field/cell.

- Once the applicant enters the percentage of UWTP utilisation capacity, the system will automatically calculate and display the corresponding marks based on the predefined criteria.
- The applicant can calculate the utilization capacity by dividing the actual flow (MLD) by the projected design capacity for the current year as per DPR or by calculating following the steps mentioned in the following example.
- Scan and upload copies of the log books or flow records for the past six months, clearly indicating the daily flow (in MLD). DPR: Upload a PDF copy of the UWTP's Detailed Project Report (DPR) specifying the design capacity and drawings of the UWTP.

The screenshot displays the AMRUT 2.0 Collaboration Platform interface. The header includes the Ministry of Housing & Urban Affairs, Government of India, and the AMRUT 2.0 logo. The navigation bar contains various menu items like HOME, CWBP, CWAP, Monitoring, Reforms, Incentive, Roadmap, Dashboard, Mitra, and WQMIS. The main content area shows a table for 'Parameter 1: Utilization of STP' with columns for S.No., Utilization of STP, Utilization Capacity, Score, and Supporting Documents/ Means of verification. The table contains one row with the following data:

S.No.	Utilization of STP	Utilization Capacity	Score	Supporting Documents/ Means of verification
1.	Utilization capacity in % (actual inflow/design flow for the assessment year)	93	50	1. Upload scanned copy of log Books for last six months with actual flow rates

The percentage has to be entered based on the present inflow at the plant concerning the design capacity for the particular year.

Upload supporting documents:

- Scanned Logbooks: Detailed daily records of actual inflow data for the past three months.
- Design Flow: A scanned copy of the DPR or equivalent design document specifying the design capacity.
- Calibration Records: If available, proof of calibration for the flow meters used to record inflow data.

Example for calculating utilization capacity of UWTP:

Utilization capacity: Actual flow (MLD) / Design capacity for the assessment (MLD)

Design capacity of UWTP is defined to cater to the used water generated at the end of the design period (e.g. 30 years), however, the design capacity for the assessment year is the projected flow for the particular year, for example at 10 years of operations. The calculation for the UWTP utilization capacity for the assessment year is illustrated below:

Table 2 Utilization Capacity Calculation

Utilization Capacity		
1	Design capacity of the UWTP	150 MLD
2	Design Period	30 years
3	Commissioned Year	2014
4	Assessment Year	2024
5	Actual flow as on date (A)	40 MLD
6	Design capacity of UWTP for the assessment year (B)	$(150 \text{ MLD} * (2024 - 2014 \text{ years})) / (30 \text{ years})$ $= (150 * 10) / 30$ $= 50 \text{ MLD}$
7	Utilization capacity in % $((A/B) * 100)$	$= (40/50) * 100$ $= 80\%$

Criteria for scoring:

- If the plant receives an inflow of more than 75% of design capacity of assessment year - 50 marks
- If the plant receives inflow between 50% and 75% of design capacity - 30 marks
- If the plant receives inflow less than 50% of the design capacity - 20 marks

The Self-Assessment score will be verified through scanned copies of log books or flow records from the last six months, justifying the actual utilisation capacity percentage.

Parameter 2: UWTP Unit Operations

This parameter assesses the operational status of the unit operations within the UWTP. The evaluation is conducted through a series of yes-or-no questions regarding the functionality of the UWTP’s unit operations/treatment modules, electromechanical components, and motors. If the specified equipment is operational, select “yes”; otherwise, select “no.”

- The system will automatically calculate and display the score based on your responses. Scoring is determined by predefined criteria, with each question assigned a specific score.

S.No.	UWTP Unit Operations	Select	Score	Supporting Documents/ Means of verification
1.	All primary treatment modules in working condition			
a.	Coarse Screen	<input checked="" type="radio"/> Yes <input type="radio"/> No		  1. Upload video of the plant with all unit operations in working condition. 2. Upload Process Flow Diagram 3. Upload Piping and Instrumentation Diagram 4. Upload list of equipment 5. Upload the UWTP O&M Manual 6. Upload recent calibration certificates for electromechanical instruments
b.	Fine Screen	<input checked="" type="radio"/> Yes <input type="radio"/> No	15	
c.	Grit Chamber	<input checked="" type="radio"/> Yes <input type="radio"/> No		
d.	Primary Clarifier	<input checked="" type="radio"/> Yes <input type="radio"/> No		
2.	All biological and/or secondary treatment units in working condition (Aeration basin/ secondary clarifier/SBR tanks/MBR tanks/MBBR reactors/UASB, aerators/lagoons etc.)	<input checked="" type="radio"/> Yes <input type="radio"/> No	20	
3.	All tertiary treatment units in working condition (Filtration units/ tertiary clarifier/polishing pond etc.)	<input type="radio"/> Yes & working	10	
4.	Disinfection unit in working condition (chlorination/UV etc.)	<input type="radio"/> Yes & working	15	
5.	Electromechanical equipment in preliminary, primary, biological and/or secondary, disinfection, sludge thickening/dewatering units are working properly.			
a.	Preliminary	<input checked="" type="radio"/> Yes <input type="radio"/> No		
b.	Primary	<input checked="" type="radio"/> Yes <input type="radio"/> No		

Upload supporting documents:

- Video: Record and upload a 3–4-minute video in high-quality video format showcasing all unit operations of UWTP in working condition.
- Process Flow Diagram of the UWTP – PDF/JPG/PNG
- Piping and Instrumentation Diagram (P&ID) – PDF/JPG/PNG
- Equipment List – PDF/JPG/PNG
- O&M Manual – PDF/JPG/PNG
- Calibration Certificates – PDF/JPG/PNG

Criteria for scoring:

The evaluation methodology assigns specific weightage to the operational status of treatment units.

1) If all primary treatment modules are in working condition -15 marks

Primary treatment modules include:

- a) If the coarse screen is in working condition (Yes-2.5, No- 0), -2.5 marks
- b) If the fine screen is in working condition (Yes-2.5, No-0), -2.5 marks
- c) If the grit chamber is in working condition (Yes-5, No-0), -5 marks
- d) If the primary clarifier is in working condition (Yes-5, No-0) -5 marks

2) All biological or secondary treatment processes in working condition

(Yes- 20, No-0) -20 marks

The biological or secondary treatment process includes:

Aeration basins/Clarifiers/SBR/MBR/ MBBR reactors/ UASB/ aerators/ lagoons

3) All tertiary treatment components in working condition

(Yes & working- 10, Yes, but not working-5, No-0) -10 marks

Tertiary treatment includes:

Filtration units and clarifiers/polishing ponds

4) Disinfection modules are present at UWTP and status

(Yes & working -15, Yes, but not working- 7.5, No-0) -15 marks

Chlorine-based disinfection/UV disinfection etc.

5) Electromechanical equipment in working condition

(Yes-17.5, No-0) -17.5 marks

Electromechanical equipment across preliminary, primary, secondary, disinfection, and sludge thickening/dewatering stages.

Parameter 3: Monitoring Mechanism

This parameter assesses the UWTP's online monitoring mechanisms. The evaluation consists of a series of yes-or-no questions concerning the integration and functionality of the SCADA (Supervisory Control and Data Acquisition) system, the parameters monitored by OCEMS (Online Continuous Effluent Monitoring System), and the generation and transmission of data reports.

- The system will automatically calculate and display the applicant's score based on the responses. Predefined criteria determine scoring.

S.No.	Monitoring Mechanism	Select	Score	Supporting Documents/ Means of verification
1.	UWTP has functional SCADA system	Read and write	10	<ul style="list-style-type: none"> 1. Upload design drawings of UWTP 2. Upload SCADA reports for last three months 3. Upload screenshot of the dashboard 4. Upload operations report from past one month.
2.	SCADA controls preliminary, primary, biological and/or secondary, disinfection, sludge thickening/dewatering units.			
a.	preliminary	<input checked="" type="radio"/> Yes <input type="radio"/> No		
b.	primary	<input checked="" type="radio"/> Yes <input type="radio"/> No	12.5	<ul style="list-style-type: none"> Upload SCADA reports
c.	Biological and/or secondary	<input checked="" type="radio"/> Yes <input type="radio"/> No		
d.	Disinfection	<input checked="" type="radio"/> Yes <input type="radio"/> No		
e.	Sludge thickening/dewatering	<input checked="" type="radio"/> Yes <input type="radio"/> No		
3.	Online continuous effluent monitoring systems (OCEMS) is integrated in UWTP operation	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	
4.	What parameters are monitored by the OCEMS?			
a.	COD	<input checked="" type="radio"/> Yes <input type="radio"/> No		
b.	TSS	<input checked="" type="radio"/> Yes <input type="radio"/> No		
c.	TN	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	<ul style="list-style-type: none"> 1. Upload SCADA reports 2. Upload OCEMS reports for the last six months (Hard/ soft)
d.	Dissolved oxygen	<input checked="" type="radio"/> Yes <input type="radio"/> No		
e.	pH	<input type="radio"/> Yes <input type="radio"/> No		
5.	How is the data from the OCEMS transmitted and reported?	Transmitted to central location for web viewing	5	<ul style="list-style-type: none"> Directly to regulatory authorities/Stored in a central database/Accessed through a web portal/Other (please specify)

Upload supporting documents:

- Design drawings of UWTP
- SCADA reports of the last three months
- Screenshot of the dashboard
- Operations report for the past month
- OCEMS reports for the last six months. In case OCEMS data is transmitted to central location- Upload link of website with credentials.

Criteria for scoring:

The online assessment platform incorporates five key criteria, each with a specific mark allocation for each question

- | | |
|--|--------------------|
| 1) Functional SCADA system | -10 marks |
| a) SCADA system with Read and Write | -10 marks |
| b) SCADA system with partial Read and Write | -10 marks |
| c) SCADA system with only reading | - 5 marks |
| d) No SCADA systems (None) | - 0 marks |
|
 | |
| 2) SCADA control for the preliminary, primary, biological and/or secondary, disinfection, and sludge thickening units | -12.5 marks |
| a) SCADA controls all preliminary (Yes- 2.5, No-0) | -2.5 marks |
| b) SCADA controls all primary (Yes- 2.5, No-0) | -2.5 marks |
| c) SCADA controls all biological/secondary (Yes- 2.5, No-0) | -2.5 marks |
| d) SCADA controls all disinfection (Yes- 2.5, No-0) | -2.5 marks |
| e) SCADA controls all dewatering/sludge thickening (Yes- 2.5, No-0) | -2.5 marks |
|
 | |
| 3) Online Continuous Effluent Monitoring System (OCEMS) integrated into the UWTP operations (Yes-10, No-0) | -10 marks |
|
 | |
| 4) Parameters monitored by the OCEMS | -12.5 marks |
| a) Chemical Oxygen Demand (COD) (Yes- 2.5, No) | -2.5 marks |
| b) Total Suspended Solids (TSS) (Yes-2.5, No-0) | -2.5 marks |
| c) Total Nitrogen (TN) (Yes-2.5, No-0) | -2.5 marks |
| d) Dissolved Oxygen (DO) (Yes-2.5, No-0) | -2.5 marks |
| e) pH (Yes-2.5, No-0) | -2.5 marks |
|
 | |
| 5) The data from the OCEMS transmitted and reported | -5 marks |
| a) Locally stored and accessible | -2.5 marks |
| b) Transmitted to a central location for web viewing (CPCB/PCB) | -2.5 marks |

The total score is awarded for complete compliance with all criteria, while partial or non-compliance results in proportional allocations as outlined in the assessment template. Supporting documentation includes detailed UWTP design drawings, comprehensive SCADA reports spanning the **previous three months**, and a photo of the dashboard interface.

Parameter 4: Compliance with discharge standards

This parameter evaluates the UWTP’s adherence to environmental discharge standards through a series of yes-or-no questions about treated used water quality. The UWTP effluent will be scored on compliance concerning BOD, COD, TSS, TN, TP, and FC, adhering to the statutory requirements. Additionally, the evaluation includes the availability and use of a functional in-house laboratory and sample analysis from a third-party NABL/ISO/DISR accredited laboratory.

- The system will automatically calculate and display the score based on the responses.

S.No.	Compliance with discharge standards	Select	Score	Supporting Documents/ Means of verification
1.	Treated wastewater meets discharge norms notified by PCB/CPCB/NGT.			
a.	BOD	<input checked="" type="radio"/> Yes <input type="radio"/> No	50	1. Upload the copy of test results for last three months 2. Mechanism of data storage (hard copies/server/online) 3. The treated effluent quality parameter as stipulated in the tender 4. Functional guarantee from tender along with penalty clause as stipulated in the tender.
b.	COD	<input checked="" type="radio"/> Yes <input type="radio"/> No		
c.	TSS	<input checked="" type="radio"/> Yes <input type="radio"/> No		
d.	TN	<input checked="" type="radio"/> Yes <input type="radio"/> No		
e.	TP	<input checked="" type="radio"/> Yes <input type="radio"/> No		
f.	FC	<input checked="" type="radio"/> Yes <input type="radio"/> No		
2.	Availability and usage of functional inhouse lab	<input checked="" type="radio"/> Yes <input type="radio"/> No	20	1. Upload the video of lab 2. Upload scanned copies of registers and log book photos 3. What is the frequency of Water Quality Testing
3.	Third party testing through NABL/ISO/DISR accredited laboratory	Once every month <input type="text"/>	20	1. Upload records of three recent test reports 2. Upload list of parameters Covered 3. No. of samples collected for testing on the day of collection 4. Name of the lab and Chemist In charge

Upload supporting documents:

- Upload a video of the laboratory
- Upload scanned copies of registers and log books
- Copy of the standards followed
- Frequency of Water Quality Testing
- Upload records of three recent/last three months' test reports from NABL/ISO/DISR accredited laboratory
- Upload list of parameters analysed

Criteria for scoring

Adherence to environmental discharge standards is a critical evaluation parameter, contributing 90 marks to the overall assessment. The online platform incorporates three key assessment areas. The questions with their respective marks are as follows:

1) Treated used water (effluent) meets environmental discharge norms-50 marks

- | | |
|---|------------|
| a) Biological Oxygen Demand (BOD) of effluent meets discharge norms | -10 marks |
| b) Chemical Oxygen Demand (COD) of effluent meets discharge norms | -10 marks |
| c) Total Suspended Solids (TSS) in effluent meet discharge norms | -7.5 marks |
| d) Total Nitrogen (TN) of effluent meets discharge norms | -7.5 marks |
| e) Total Phosphorus (TP) of effluent meets discharge norms | -7.5 marks |
| f) Faecal Coliform (FC) in effluent meets discharge norms | -7.5 marks |

2) Availability and usage of a functional in-house lab -20 marks

The laboratory should conduct regular daily and weekly sample analyses to assess the quality of treated used water and the functioning of various treatment modules within the UWTP. The records for the same should be appropriately documented and maintained. A periodic third-party evaluation to validate the results of the lab sample analysis should also be conducted and recorded.

The lab should have qualified staff to analyse and maintain the records. It should also be equipped to conduct basic tests like BOD, COD, TSS, pH, E. coli, and FC.

3) Frequency of third-party testing through NABL/ISO/DISR

accredited laboratory -20 marks

- | | |
|----------------------------|-----------|
| a) Once every month, | -20 marks |
| b) Once every three months | -15 marks |
| c) Once every six months | -10 marks |

The self-assessment criteria under "Compliance with Effluent Quality Standards" ensure adherence to environmental discharge standards for effluent quality parameters. The sample analysis reports for BOD, COD, TSS, TN, TP, and FC should be uploaded to the portal to secure the corresponding marks.

Parameter 5: Safety and cleanliness in UWTP

This parameter assesses the UWTP’s adherence to safety and cleanliness standards through a series of yes-or-no questions. The evaluation covers using quality Personal Protective Equipment (PPE), safety drills and training, periodic medical check-ups, medical and life insurance, functional washrooms, flood management measures, and overall cleanliness.

- The system will automatically calculate and display the score based on the applicant's responses, with scoring determined by predefined criteria.

S.No.	Description	Score	Supporting Documents/ Means of verification
1.	Availability of functional firefighting and safety equipment with appropriate specifications and in sufficient quantity	7.5	Plant layout/report with details on safety equipment deployment as per contract document, photographs, evidence
2.	Labelling of each UWTP Unit as well as marking on the floor identifying the unit boundaries, safe passage, exit marking, ATEX Area (as applicable)	10	Upload photos labelling of units of the grills, hand and floor marking
3.	Usage of PPE of quality by all UWTP personnel (including contractual employees)	10	1. Upload Photos of workers wearing PPE 2. Upload PPE distribution record for the last 6 months 3. Upload Quality specifications and type of PPE contract
4.	Safety drills and trainings to operators	5	Upload Report/ photos of trainings conducted in months

Upload supporting documents:

- Report/record of the safety equipment deployment in the plant as per contract.
- Mention HFL (High Flood Level).
- Upload a photo of the HFL marking at the UWTP site.
- Good drainage arrangements in UWTP.
- Upload photos of the ATEX area marking and ground markings (Atmospheres Explosives- areas where there is a risk of explosion due to flammable gases, vapours, dust or powders).

Criteria for scoring

The online assessment platform incorporates key parameters for effective plant operation, including fire safety measures, emergency preparedness, personnel safety, and overall site conditions. The questions with their respective marks are as follows:

- 1) Availability of functional firefighting equipment with fire exits and assembly points properly mentioned (Yes-7.5, No-0) -7.5 marks
- 2) Labelling of each UWTP Unit as well as marking on the floor identifying the unit boundaries, safe passage, exit marking, ATEX Area -10 marks
- 3) Usage of PPE of quality by all UWTP personnel -10 marks
- 4) Safety drills and training to operators -5 marks
- 5) Functional gas detection systems -10 marks
- 6) Periodic medical check-up for all UWTP personnel -5 marks
- 7) Medical and life insurance for all UWTP personnel -5 marks
- 8) Availability of functional washrooms for both in case of female workers/
resting area/ changing rooms/sanitary equipment -5 marks
- 9) Flood management measures deployed at site -5 marks
- 10) General cleanliness of UWTP -5 marks

To validate compliance, supporting documentation must be submitted, including site plans, photographic evidence of safety practices (last six months), training records, equipment inventories, medical records (previous six months), insurance policies, and site condition reports.

Parameter 6: Human Resources

This parameter evaluates the deployment and qualifications of key personnel in the UWTP through a series of yes-or-no questions. The questions cover the appointment and qualifications of the Plant Manager and Plant Operator and details of training conducted for the personnel in the last three months.

- The system will automatically calculate and display the score based on the applicant's responses, with scoring determined by predefined criteria.

S.No.	Human Resources	Select	Score	Supporting Documents/ Means of verification
1.	Deployment of skilled operators & Supervisors for Operation and maintenance as per contract/ DPR	Human resources deployed as per the O&M cor	20	1. Required number of Staff as per O&M Contract. 2. Upload attendance register for past 1 month. At the day of inspection, check the number of staff present at the site.
2.	Qualification and attendance of plant operators			
a.	Plant Manager - as per contract	<input checked="" type="radio"/> Yes <input type="radio"/> No	15	1. Staff name and gender 2. Upload scanned copy of staff attendance register 3. Upload supporting documents for qualification
b.	Plant Operator - as per contract,	<input checked="" type="radio"/> Yes <input type="radio"/> No		
3.	Qualification of supervisors and attendance	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	1. Staff name and gender 2. Staff attendance register 3. Highest education Qualification Certificates
4.	Trainings conducted as per the training plan to all UWTP personnel (including contractual employees)	<input checked="" type="radio"/> Yes <input type="radio"/> No	10	1. Upload training Photographs 2. Upload training calendar/plan

Upload supporting documents:

- The required number of staff is as per the O&M Contract.
- Upload attendance register for the past one month.
- Upload training photographs
- Upload training calendar/plan

Criteria for scoring

The human resources component of the assessment is allocated 50 marks. The online platform incorporates four key evaluation areas.

- 1) Deployment of Plant Manager and operations staff for Operation and maintenance as per contract/ DPR -20 marks
- 2) Qualification of Plant Manager & Plant Operator/ DPR -15 marks
- 3) Qualification of Lab Analyst -5 marks
- 4) Periodic (at least once every three months) training conducted as per the training plan to all UWTP personnel -10 marks

The documents that must be uploaded for this section include the staff list stating the qualifications per the O&M contract, the attendance register for the past month, training calendars, and training photographs.

Parameter 7: Provision for reuse of treated used water and biosolids

This parameter evaluates the UWTP's efforts to reuse treated used water and biosolids. Applicants will answer a series of yes-or-no questions regarding the reuse of treated used water, the percentage of treated water utilised relative to capacity, and the frequency of testing the biosolids.

- The system will automatically calculate and display the score based on the applicant's responses, with scoring determined by predefined criteria.

S.No.	Provision for reuse of treated wastewater and biosolids	Description	Score	Supporting Documents/ Means of Verification
1.	Reuse of treated used water 1	Industrial purposes/Con... <input type="text" value="Enter quantity of treated water reused"/>	20	<input type="button" value="Upload"/> <input type="button" value="B"/> 1. Upload the log books/ MOU/ agreement copies for usage of treated used water along with photographs (last three months) 2. Upload the test reports of the water used for reuse (past 3 months)
2.	Quantity of Reuse of treated used water (except agriculture and irrigation)	> 20% of utilization capacity	15	<input type="button" value="Upload"/> <input type="button" value="B"/> Upload the log books and sale receipts
3.	Frequency of testing biosolids	Irregularly	10	<input type="button" value="Upload"/> <input type="button" value="B"/> Upload the copy of test results of biosolids covering parameters in FCO
4.	Biosolids are conditioned (dewatered, dried) prior to disposal	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	<input type="button" value="Upload"/> <input type="button" value="B"/> Upload photo of the stored biosolid post treatment/ record register

Upload supporting documents:

- Upload the log books or flow records & MOU/ agreement copies for usage of treated water & Biosolids along with the last three months' photographs
- Test reports of the Quality of reused water
- Upload the photo of the storage of biosolids
- Copy of sample analysis report of biosolids

Criteria for scoring

The online platform incorporates five key evaluation areas, which are as follows with marks:

- | | |
|---|-------------|
| 1) Reuse of treated water | -20 marks |
| 2) Quantity of reused treated water | -15 marks |
| 3) Biosolids conditioning (dewatering, drying) before disposal | -5 marks |
| 4) Frequency of testing biosolids | -10 marks |
| 5) Average monthly revenue generated through the sale of treated used water | -12.5 marks |

The applicant must select the percentage of treated water reused with respect to the flow ($\text{Quantity of water reused (MLD)} \times 100 / \text{Actual flow (MLD)}$). The applicant must also enter the quantity of water reused per month in MLD.

In case, the UWTP is generating revenue through the sale of treated used water or biosolids, the applicant must enter the monthly revenue generated through the sale of treated used water and biosolids in lakhs.



To validate the assessment, applicants must upload log books, MOUs or agreement copies or sale receipts, test reports of reused water and revenue generated over the past three months, and the biosolid analysis reports meeting the statutory reuse norms.

VIII. Availability of Alternate Power s& Usage of Renewable Energy 30 Marks

Parameter 8: Availability of alternate power sources and usage of renewable energy

Applicants will be asked yes or no questions about alternative sources of energy, such as diesel generators (DG sets), and the use of solar or biogas in the plant.

- Based on the answers, the system will automatically calculate and display the score depending on the complying status of the ULB/Parastatal.

Parameter 8: Availability of alternate power sources and usage of renewable energy				
S.No.	Alternate power sources and usage of renewable energy	Select	Score	Supporting Documents/ Means of Verification
1.	Supplementary source of energy present at plant (e.g.: DG sets)	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	 1. Upload photographs
2.	Offsetting energy requirement through- solar/biogas etc.	< 30% to 40% ▾	20	 1. Upload Photo of renewable energy equipment/facilities installations 2. Upload the current electricity bills for last three months/ from the month of installation of renewable energy systems Bills substantiating amount of power offset through renewable energy.

Upload supporting documents:

- Upload photos of alternative sources of energy.
- Upload Electricity bills for the last three months.

Criteria for scoring

The assessment of energy efficiency and renewable energy integration within the UWTP is allocated 30 marks. The online platform incorporates two key evaluation areas, which are as follows along with the marks:

- Supplementary source of energy present at the plant (e.g., DG sets) - 20 marks
- Offsetting energy requirement of UWTP through- solar/biogas, etc. - 15 marks

To validate the assessment, applicants must upload photographic evidence of installed renewable energy systems.

IX. Co-Treatment of Faecal Sludge (FS)


5 Marks

Parameter 9: Faecal Sludge (FS)

Applicants will be asked a yes or no question about the availability of co-treatment facilities To treat faecal sludge within the UWTP premises.

- Based on the answers, the system will automatically calculate and display the score.

Parameter 9: Co-Treatment of Faecal Sludge (FS)

S.No.	Co-Treatment of Faecal Sludge (FS)	Description	Score	Supporting Documents/ Means of Verification
1.	Whether UWTP has Co-treatment facility to treat FS	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	 1. Upload log books of FS received at Co-treatment facility

Upload supporting documents:

- Upload log book copy of Faecal Sludge received at the Co-treatment facility for the UWTP plant.

Criteria for scoring

If Faecal Sludge (FS) is being co-treated at the UWTP (Yes-5, No-0)

-5 marks

To support the assessment, applicants must submit a photo of a logbook copy of Faecal Sludge received at the Co-treatment facility for the UWTP plant.

Parameter 10: Innovative Systems

The applicant will be asked a yes or no question about the remote automation treatment modules using sensors/AI and quality management systems certified by BIS 9001.

- Based on the answers, the system will automatically calculate and display the score.

Parameter 10: Innovative Systems				
S.No.	Innovative Systems	Select	Score	Supporting Documents/ Means of Verification
1.	Remote automation of the plant/predictive maintenance of the treatment modules using sensors/AI etc.	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	 1. UplPhotos of the website/application 2. Upload reports generated by automation system.
2.	Quality management system- UWTP is BIS 9001 certified	<input checked="" type="radio"/> Yes <input type="radio"/> No	5	 Upload BIS Certificate

Upload supporting documents:

- Upload Photos of the website/application
- Upload reports generated by the automation system.
- Upload BIS Certificate

Criteria for scoring

The "Innovative Systems" criterion is assigned ten marks for all Used Water Treatment Plants (UWTPs).

If the UWTP has incorporated remote automation of the plant/ predictive maintenance of the treatment modules using sensors/AI, etc. (Yes- 5, No- 0) -5 marks

If any quality management system of the UWTP is BIS 9100 certified (Yes-5, No-0) -5 marks

Applicants must submit a photo of the innovative equipment or facilities that have been installed to support the assessment. The assessment template provides a detailed breakdown of the marking scheme.

Submit Evaluation by ULB

Submit Evaluation

As a final step, ULB/Parastatal can check their score received against the total score and submit the file for evaluation. The technical partners will conduct a desktop validation based on the uploaded documents, and further notification shall be given.

The screenshot displays the AMRUT 2.0 Collaboration Platform interface. At the top, it features the Ministry of Housing & Urban Affairs Government of India logo, the platform title 'AMRUT 2.0 Collaboration Platform', and the Atal Mission for Rejuvenation and Urban Transformation logo. A navigation bar includes links for HOME, CWBP, CWAP, Monitoring, Reforms, Incentive, Saturation, Roadmap, Dashboard, Mitra, and WQMIS. The main content area shows a list of 10 evaluation parameters, each with a dropdown arrow:

- Parameter 1: Utilization of STP
- Parameter 2: STP Unit Operations
- Parameter 3: Monitoring Mechanism
- Parameter 4: Compliance with discharge standards
- Parameter 5: Safety and cleanliness in STP
- Parameter 6: Human Resources
- Parameter 7: Provision for reuse of treated wastewater and biosolids
- Parameter 8: Availability of alternate power sources and usage of renewable energy
- Parameter 9: Co-Treatment of Faecal Sludge (FS)
- Parameter 10: Innovative Systems

Below the list, a summary bar indicates a **TOTAL SCORE: 387.5**. At the bottom of this bar are two buttons: 'Save Evaluation' and 'Submit Evaluation'.

Next Steps

Upon submitting the form, the Used Water Treatment Plant (UWTP) will become eligible for Clean Water Credits under the Jal Hi AMRIT (JHA) programme. Following submission, all documents the managing agency provides will be subject to a desktop evaluation by an independent third-party assessor. The assessor will also conduct periodic field visits and sample analyses.

Based on the desktop evaluation and the field visit findings, the managing agency will receive a comprehensive compliance report, including recommendations for performance improvement.

To address any identified gaps, CBP will organise targeted capacity-building initiatives, and the UWTP will receive dedicated support for six months to enhance its performance.

After six months, TPA will conduct a final field visit, after which the MoHUA will assign a final score and a Star Rating for Clean Water Credits.



ANNEXURE

ANNEXURES

Document Checklist

The above table outlines the documents required for UWTP nomination and self-assessment for this initiative. These documents will assess the self-evaluation score during the desktop evaluation and field verification.

Checklist of documents required for self-evaluation		
Sl. No.	Field	Supporting Documents/ Means of verification
1	UWTP located above HFL of site?	Design document of the UWTP/any GoI approved document and finished ground level of the site
		Image of the display board of the UWTP with coordinates
2	Detailed Project Report of UWTP	Detailed Project Report (DPR) of the UWTP or any other duly approved document outlining the detailed designs, drawings, operations, CAPEX, OPEX for the UWTP
3	O&M manual	The operations and maintenance manual for the UWTP, outlining the SOPs for regular and emergency maintenance
4	Contract document	The O&M contract document outlining the type of contract, details of the contractor, contract period, number and qualification of staff etc.
5	Utilization capacity	Scanned copy of the log books outlining the actual flow for the past six months
		DPR with design capacity
6	UWTP operations	2–3-minute video capturing all the treatment modules of the UWTP in working condition. The video must be clear and show all preliminary, primary, secondary, tertiary and disinfection units of the plant in working condition.

		<p>Process flow diagram of the UWTP, outlining the sequence of the treatment process through a schematic drawing.</p>
		<p>Piping and Instrumentation diagram of the UWTP (P&I diagram)- a detailed schematic showing the piping, equipment, instrumentation, and control devices within a system, used to illustrate the functional relationships and flow of wastewater and sludge.</p>
		<p>List of equipment covering all the electromechanical equipment in the UWTP, including standby arrangements</p>
		<p>Documents of recent calibration certificates of the equipment</p>
		<p>Video of stand-by and working pumps, screens and blowers in the UWTP</p>
7	Monitoring Mechanism	<p>Design drawings of the UWTP- outlining retention time, sludge accumulation rate, blower operation requirement, expected effluent quality etc.</p>
		<p>SCADA reports for the last three months- depicting read and write/partial read and write capability of the SCADA.</p>
		<p>OCEMS report for the last six months, details of OCEMS reports transmitted to centralized location- CPCB/PCB etc.</p>
8	Compliance with discharge norms and in-house laboratory	<p>Effluent sample analysis report for the last three months</p>
		<p>Functional guarantee from tender/contract along with penalty clause as stipulated in the tender</p>
		<p>Video of the in-house laboratory</p>

		Scanned copies of the log book of sample analysis and results
		Scanned copy of the three recent effluent quality test reports from NABL/ISO/DISR laboratories
9	Safety and cleanliness	Plant layout/report with details on safety equipment deployment as per contract document photographic evidence
		Photographic evidence of safety equipment as per the layout
		Photos of the labelling of treatment units, the grills, handrails and floor marking
		Photos of operators and worker in PPE
		PPE distribution records
		Quality specification and type of PPE as per contract
		Record/photos of the trainings conducted in the last three months
		Photo of the gas detection equipment and asset register copy
		Photos of ATEX area markings
		Record/photos of the trainings conducted in the last three months
		Report and photos of the medical camp conducted in the last six months
		Insurance certificates of the employees
		Photo of male and female washrooms
Photo of high flood level marking within the UWTP		

		Photos of the drainage arrangement in the UWTP
		Photo depicting the visual cleanliness of the UWTP
10	Human Resource	Staff requirement as per O&M contract
		Scanned copy of the attendance registers for the past one month
		Supporting documents for qualification of plant manager
		Supporting documents for qualification of plant operators
		Supporting documents for qualification of plant supervisor
		Upload training photos
		Upload training calendar/plan
11	Reuse of treated wastewater and biosolids	Log books& MOU/ agreement copies for usage of treated used water along with photographs (last three months)
		Test reports of the water used for reuse (past 3 months)
		Log books and sale receipts of treated effluent used for reuse of water (except for irrigation and agriculture)
		Analysis reports of biosolids covering parameters as per FCO 2014
		Photos of stored biosolids post treatment
		Receipts of revenue generated through sale of treated used water in last three months supported with receipts of revenue

		MoU for sale of treated used water
		Receipts of revenue generated through the sale of biosolids for the last three months
		MoU for sale of sludge
12	Alternate power supply and usage of renewable energy	Photos of the DG set/power backup equipment for UWTP
		Photo of renewable energy equipment/facilities installations
		Electricity bills for last three months/ from the month of installation of renewable energy systems
		Bills substantiating amount of power offset through renewable energy
13	Co-treatment of Faecal sludge at the UWTP	Log books of FS received at Co-treatment facility
14	Innovative system	Photos of the website/application for remote operations of the plant and predictive analysis
		Reports generated from the automation system
15	Quality management systems in UWTP (BIS 9100 certified)	Upload BIS certificates





Knowledge Partners:

