

**GOVERNMENT OF WEST BENGAL  
DEPARTMENT OF MUNICIPAL AFFAIRS  
WRITERS' BUILDINGS :KOLKATA**

**ORDER**

No. 93/MA/C-4/3R-1/2016

Dated, Kolkata, the 23<sup>rd</sup> February, 2016

WHEREAS Atal Mission for Rejuvenation and Urban Transformation (hereinafter referred as AMRUT) has been launched by the Ministry of Urban Development (MoUD), Government of India in June 2015;and the Department Municipal Affairs has been notified as the Nodal for implementation of the AMRUT in this State;

AND, WHEREAS as per the Mission Statements & Guidelines on Atal Mission for Rejuvenation and Urban Transformation (AMRUT) circulated by the Ministry of Urban Development, Government of India, Inter alia, making action plan to reduce water losses to less than 20 % and to ensure conduction of Water Audit (including non-revenue water or losses audit) are the two major reforms milestones which are required to be achieved;

AND WHEREAS the State Government also intends to implement a mechanism in the Urban Local Bodies to reduce water losses, by issuance of a Guidelines, by detecting leaks to save water resources, costs and energy; by ensuring more water is available to consumers; and by ensuring prevention of Water recontamination in the pipelines;

NOW THEREFORE, the Governor is pleased hereby to direct that the Municipalities of this State, especially those covered under AMRUT shall ensure compliance of the following guidelines for preparation of Action Plan for reduction of water losses less than 20% within their respective jurisdiction, and shall upload the same in municipal website accordingly:

**Guidelines for preparation of Action Plan to reduce water losses to less than 20% by  
Urban Local Bodies**

- (1) The Urban Local Bodies (ULBs) shall, in regular periodic interval, as determined by them, shall conduct thorough survey to locate the sources of water losses within their respective jurisdiction. For this purpose the ULBs shall ensure updating maps, databases of consumer connections, residing population, water mains, valves and fire hydrants etc.; planning of activities, and also conduct tests for loss assessment and locating the defects (leak detection etc.).
- (2) Urban Local Bodies, shall, immediately after receipt of the report of the survey, mentioned above, shall ensure implementation of all necessary measures to control water losses in their operations. Such actions shall include leakage management, metering, in bulk consumers & commercial establishment metre accuracy testing, and control of unauthorized consumption of water. Apart from that, apparent losses, which may occur

due to metre inaccuracies, if installed & in operation already and unauthorized consumptions, shall also to be taken into consideration.

- (3) The Urban Local Bodies shall, immediately after receipt of the report of survey, as mentioned above, simultaneously with initiating measures to control water losses shall prepare a **Water Loss Reduction Plan** in each year for reducing water losses and especially with the targets to reduce the losses identified by such survey, and to draw a road map for regular monitoring of the work of implementation of such plan. In this Plan the corrective measures, which can be taken to reduce water losses, are to be clearly delineated.
- (4) Since maximum leakage occurs on pipelines from which consumer connections are laid, caused mostly due to faulty joints or corroded ferrule joints. Besides, it has also been observed that time span between occurrence of underground leakage on such pipelines and the repair, loss of water due to the underground leak-flows exceeds the water lost due to bursts from larger pipelines. To reduce this loss of water, the ULB shall delineate a clear and efficient system of routine maintenance of joints and ferrule joints in the Water Loss Reduction Plan.
- (5) Factors to be considered at the time of preparation of such plan is to include when and where the losses occur, the magnitude of the loss in each problem area, what possible solutions exist, and the amount of time required to implement the solutions.
- (6) In the **Water Loss Reduction Plan** the following methods may be considered to reduce water losses:
  - 6.1 **Water Level Indicator.** -Installation of water level indicator at water storage reservoir linked with pump operation at different places of the cities for immediate stoppage of water losses after water is stored up to full capacity of reservoirs constructed.
  - 6.2 **Restriction of water use other than domestic requirement.** - Restriction of water use other than domestic water requirement like car washing, gardening etc. may be adopted by using dual flushing cistern. Large housing complexes may develop infrastructure for use of reclaimed water for gardening, car washing, and flushing purpose.
  - 6.3 **Installation of control valve & Zonal metering of all stand posts:**-Installation of control valve at all stand posts to reduce water wastage and non-return valve at UGR of Household premises to avoid unnecessary overflow of water from reservoir, and zonal metering of the stand posts to assess the volumetric water consumption.
  - 6.4 **Installation of water Meters at bulk consumer ends:-** Urban Local Body may ensure installation of water meters at bulk consumer end for assessing water

loss and adoption of water loss reduction measures. It indirectly results judicious use of water and minimized water loss at consumer end.

- 6.5 Water Accounting:**-A water accounting system may be implemented as a loss reduction strategy. Water accounting is to be conducted in order to track water throughout the system and identify "Unaccounted flow of water (UFW)".
- 6.6 Metering:**-Accurate and complete metering may be implemented in order to ensure water loss reduction. Through this process, illegal or unregistered connections must be eliminated and installation of meters at unmetered connections should be considered a priority. Meter testing should be conducted to determine the accuracy of metering systems and meter inaccuracies should be resolved through calibration, repair, or replacement. Additionally, upgrades to newer metering technologies should be considered for ease of detecting necessary repairs and changes in water use patterns and for ease of gathering metered data.
- 6.7 Use of water which is being allowed to come out through the check valves to maintain water pressure.** - In the water mains, a number of check valves are being maintained from which water comes out at the time of high pressure in the pipeline. As these exit points cannot be blocked, a clear guideline may be made in the action plan to use this water either for the purpose of watering the plantations within the municipal area, or may be used for ground water recharging.
- (7) All Water Loss Reduction Plans should include a realistic schedule for the implementation of loss reduction measures, repairs of the pipe lines and other accessories etc. The implementation schedule should identify measures that will be taken within the upcoming year to reduce losses in the subsequent audit as well any measures that will be taken further in the future. Minimum long-term follow up measures should include water audit, further reducing water loss, and on-going meter evaluations, if installed.
- (8) **Water Audit:**-A comprehensive water audit is to be conducted annually to determine the amount of water loss from a distribution system due to leakage, storage overflow, metre malfunctions and theft. In the report of such water audit the cost associated with these losses to the water supply system has to be included.
- (9) While conducting Water Audit, the factors like Water losses through improper management of reservoir and tank levels;and overflows, which usually occur at night when pressure conditions are at their highest (due to lack of demand) and may go unnoticed or are deemed insignificant, have also to be taken into consideration.
- (10) Generation of Citizens' awareness is the key to the success of water conservation efforts. Systems can promote plumbing retrofits and replacements, including meter replacement programs. ULB may give message through audio-visual media to the citizens for not wasting precious water particularly to domestic users.

A sample of Action Plan for reduction of water loss in each year is enclosed.

All Urban Local Bodies are requested to take necessary action plans accordingly and send the report at the end of each Financial Year to the State Mission Directorate, AMRUT.

This order is issued with the approval of Minister-in-Charge, Municipal Affairs Department.

By order of the Governor,

Sd/-

Deputy Secretary to the  
Govt. of West Bengal

No. 93/1(7)/MA/C-4/3R-1/2016

Dated, Kolkata, the 23<sup>rd</sup> February, 2016

Copy forwarded for information and necessary action to the,:

- (1) Director, SUDA
- (2) Commissioner, Kolkata Municipal Corporation
- (3) Chief Executive Officer, KMDA
- (4) State Mission Director, AMRUT
- (5) PD, CMU. He is requested to circulate among the AMRUT ULBs.
- (6) P.S. to MIC, MA & UD Departments
- (7) Pr. S to Principal Secretary, Municipal Affairs Department



Deputy Secretary