



# OFFICE OF THE MUNICIPAL COUNCILLORS

## BHADRESWAR, HOOGHLY

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### *Action plan to reduce water losses to less than 20%*

#### ➤ INTRODUCTION

The Urban population in India is growing at a rate faster than ever and the services in cities are crumbling to the increasing pressure. Along with other key services of the city, water supply is also struggling to maintain adequacy and quality of services provided to the citizens. Few of the major problems faced by Water Supply sector is the large proportion of water loss in distribution and poor collection of revenue for the supplied water. This situation is common in majority of ulbs in West Bengal and has led to inefficient performance of water supply services.

To overcome the challenge, this ulb needs to identify the losses and take necessary measures to reduce it. Non-Revenue Water (NRW) is a good indicator to measure the losses and high NRW typically indicate a poorly managed water utility.

Non-revenue water (NRW) is water which is supplied (produced and purchased) but not paid for, including technical losses (leakage), not billed water, illegal connections, poor water meter performance etc. The impacts of NRW are the loss of scarce resources and financial revenue in a cash strapped water sector.

The central government under AMRUT mission has aimed to reduce the NRW in cities, and has included the same as a priority reform.

The extent of NRW in this ulb is not accurately measured, however it has been estimated approximately 100% i.e. 22.19 MLD which is unacceptable and for that reason this Plan of Action is prepared to reduce the NRW.

#### ➤ EXISTING SITUATION ASSESSMENT

This town has a total population of 101477 with total Households 23233 (as per census 2011). The total area of city municipal limits is 8.28 sq. km.

##### **Sources of Water Supply**

Both ground and surface water is proposed to be used in this town as the source of water supply. The newly constructed surface water treatment plant which is not operating in nature till date having the capacity of 25 MLD of water. On the other hand there are also 30 nos. of deep tube wells are operating with the overall capacity of 22.19 MLD of water. The capacity of existing sources truly ensure adequate water supply for the town. There are also 209 nos. of hand tube wells in this town.

### **Storage, Distribution**

The town has got 5 nos. of overhead reservoirs and 2 underground reservoirs with the adequate capacity to manage the supplied water as a whole. The water is distributed to the users' end which incorporates 8843 nos. of unbilled connections and 598 nos. of street stand post through approx. 138 km of pipe lines.

## ➤ **CAUSES OF WATER LOSSES**

### **Transmission and Distribution Losses (Physical or Real Losses)**

At present the actual transmission and distribution losses cannot be calculated as flow meters and check meters are not installed in the distribution network. However based upon the estimation and experience it is assumed that 22.3% of the total water supplied is lost in transmission and distribution network. This includes leakages, overflow, supply line burst, water loss in maintenance etc. This accounts for **4.95 MLD**.

### **Illegal Connections (Commercial or apparent losses)**

It has been estimated that there are some illegal connections which are not on record thus no bills are generated against these connections. This accounts for approximately **1.21 MLD i.e 5.5%** of total water produced per day.

### **Unbilled Authorized Consumption**

Total 8843 nos. of house connections and 598 nos. of street stand post connections are unbilled. This accounts for **14.46 MLD i.e. 65.16%** of total water produced per day

### **Other Losses**

This includes losses in water thefts and unaccounted leakages. This is estimated to be around **1.57 MLD. i.e 7%** of total water produced per day

### **Total NRW**

Total NRW accounts to be **22.19 MLD** which is approximately **100%**.

## ➤ **ACTION PLAN TO REDUCE NRW TO LESS THAN 20%**

### **Identification of issues and Prioritization**

The key to developing a strategy for management of non-revenue water (NRW) is to gain a better understanding of the reasons for NRW, and the factors which influence its components. Then techniques and procedures can be developed and tailored to the specific characteristics of the network and local influencing factors, to tackle each of the components in order of priority. Causes of failure need to be investigated in depth at the stage of action planning and implementation and a more systematic approach needs to be developed.

### **Following are the components of NRW**

1. Leakages on Trunk, Feeder and Distribution Mains
2. Leakages at Sluice Valves
3. Leakages at Air Valves
4. Water tank Overflow
5. Illegal Connections
6. Water Wastage at Public Taps

## 7. Unbilled water consumption

Based upon the above the priority actions for reduction of NRW have been distributed in 3 levels:

### **Priority 1**

- Arresting of Leakages on Trunk, Feeder and Distribution Mains.
- Arresting of leakages at Sluice Valves.
- Arresting leakages at Air Valves.
- Monitoring the losses because of overflow.

### **Priority 2**

- Reducing Water Wastage at Public Taps by fixing the discharge cocks.
- Initiating awareness program in the community as well as in all educational institutions
- Reduction of illegal connections by the process of regular monitoring and citizens' involvement

### **Priority 3**

- Metering of connections for commercial use such as shopping mall, factories and other commercial activities and not exempted the connections for govt. offices
- Restructuring of billing system.
- For the purpose of accurately calculation of losses and NRW a Water Audit is proposed to be conducted

After initiating the above measures NRW is expected to be reduced.



**Chairman**  
**Bhadreswar Municipality**