

Municipal Corporation of Greater Mumbai

(Hydraulic Engineer's Department)

Draft Consumer Metering Policy

General Recommendations

1. MCGM will empanel manufacturers of Mechanical, Ultrasonic and Electromagnetic Meters conforming to latest ISO 4064, who possess certificates for performance, endurance and life cycle tests performed at FCRI and Certified by FCRI. Only FCRI tested and acceptable Water Meters shall be permitted / empanelled by MCGM. Manufacturer must produce Life Cycle test certificate for at least one size of water meter each from domestic and bulk categories.
2. The Slum consumers (Group Code 1B, Rate Code 1) have all the option open to choose any type of Water Meter from empanelled makes and procure the same for installation on their connections.
3. The Non-Slum consumers shall have to procure either Ultrasonic or Electromagnetic Meter from the empanelled manufacturers.
4. The Ultrasonic water Meters for 5000 high value consumers (as selected by department) with non functional meters will be instructed to replace their meters with Ultrasonic or Electro Magnetic water meters from empanelled manufacturers as pilot and shall be monitored for functionality, performance and revenue receipts for a period of at least one year by EE (Meters) Revenue.
5. The empanelled manufacturers shall have at least 7-service centres (one in each Administrative zone) within Mumbai.
6. The test certificates by manufacturers shall be accepted for all the diameters for new installation. Only in case of disputed readings, the Meter will be tested at Municipal facility.
7. The Ultrasonic / Electromagnetic Meters being accurate any variation in consumption beyond $\pm 30\%$ of previously recorded consumption will be considered erroneous and subject to Meter scrutiny and site investigation.
8. Effective Metering need efficient reading and billing mechanism and considering current shortfall of Meter Inspector the outsourcing of Meter reading using bar-code & mobile app for data transfer will be implemented.
9. After notification of empanelment, Consumers will be given 6-months time for replacement of non functional Water Meters, failing which they will be charged for twice

the consumption charged earlier and after 12 months the non compliance will result in disconnection.

10. After effective implementation of replacement of meters, the non-functional / defective Meters owned by the consumer shall be replaced by the consumer within 3-months failing which penal / disconnection action shall be initiated as per provisions of Water Charges Rules.
11. The Hydraulic Engineer department will procure water Meters for Municipal properties to install the same to enable water auditing.
12. Status-quo of un-Metered connection in island city (chawls & buildings) will be maintained until these old structures are provided with underground sump or redeveloped with underground sump to feed with metered water supply.
13. Metering of Construction connection shall be done for water audit.
14. The Water Charges Rules shall be amended to incorporate changes required due to recommendations in consumer Meter policy.
15. Customers generating assured revenue of about 60% (top 15000 Consumer Connections) shall be identified by the department and tracked for functionality of meters, bill generation, payment receipts, grievances and pending dues, if any. These consumers shall essentially be brought on monthly billing cycle.
16. Other consumers shall also be treated equally except the billing cycle, which shall be Quarterly.
17. The meters owned by Consumers' induce a sense of part of the social system for their welfare. It becomes their responsibility to keep meter in order for their right to be a responsible Consumer to get the fair deal for 'they pay for what they consume'.
18. MCGM will continue to play its role as a facilitator and regulator of water supply being an obligatory duty. MCGM will mandate the consumers for selection of meters from approved brands shortlisted as per policy of MCGM.
19. The Repair / Maintenance / Testing facilities shall be locally made available by the manufacturers at reasonable rates. This will be one of the criteria while empanelling the manufacturers.
20. Since the decision regarding procurement of water meters will be made by the Consumers hereafter, the Department shall issue unambiguous guidelines for procurement of water meters with wide publicity. The draft 'Consumer Water Metering Policy' is mentioned in Section 6 of this report.
21. Department shall prepare the up-to-date list of approved manufacturers along with their testing facilities, standard warranty conditions. The Consumers shall have an access to Department for registering their grievances to department if any.

22. Department shall also issue guidelines for installation of water meters.
23. At present the meter is read by Meter Inspector (MI). MI is not just a reader but a first level MCGM contact with the Consumer who is supposed to see the condition of meter, connection, watch for unregistered connection, unauthorised alterations in water connections. Thus MI is an 'eye' of the department and is responsible to the department as an employee. However, as many as 50% of these posts are vacant and directly affecting the Meter reading programme and field reporting mechanism. Hence, though the water meter reading and billing is primarily vested with the department, due to 50% vacant posts of MI and poor field reporting by them, selective outsourcing of the activity can be tried in one of the wards on experimental basis.

1. Draft Consumer Water Metering Policy: 2019

1. All consumer water connections shall have functional water meters except un-metered water connections prior to 1962 for commercial structures & prior to 1964 for residential structures in island city approved by competent authorities.
2. Consumers will be charged on actual volumetric basis if water meter is functional. If the reading of functional is not acceptable then consumer will be charged in accordance with the provisions in prevailing Water Charges Rules and Sewerage & Waste Removal Rules.
3. All Labour drinking / Construction un-metered connections shall also be metered with water & sewerage charges recovered appropriately. Water & Sanitation Rules (2015) shall be amended to modify the current provisions under relevant clauses.
4. If Meter is inaccessible / Meter Chamber is not clean / access is not provided for meter reading the consumer shall be penalized by including relevant clause in 'Water Charges Rules and Sewerage & Waste Removal Rules'.
5. All water connections to Municipal properties such as Schools, Hospitals, Dispensaries, Gardens and offices etc. shall be provided with approved make of Meter, which shall be procured by *HE department*. The bills shall be raised and may be adjusted on 'Books of Account'. This will facilitate proper accounting and audit of water supply.
6. All Municipal properties shall be provided with meters within 1-year of implementation of the policy.
7. The provisions in prevailing 'Water Charges Rules and Sewerage & Waste Removal Rules' - effective from 01.04.2015 amended up to date will continue to remain in force. It is suggested to improvise these rules to encourage the consumers to keep their Meters functional and penalizing the consumer for not keeping their Meters functional.
8. In case the meters are provided by MCGM, then the ownership of the meter shall be with MCGM but Consumer will be responsible for its protection and keeping the same functional.
9. If the meter is provided by MCGM becomes non-functional same will be replaced by MCGM, if available in stock, without any cost to the Consumer. The other applicable charges will be levied as per prevailing 'Water Charges Rules and Sewerage & Waste Removal Rules' - effective from 01.04.2015 amended up to date.
10. If the meter provided by MCGM is found to be non-functional due to negligence of the Consumer then it may be replaced by MCGM, if available, at a cost to Consumer.

11. However, in both the above cases (Sr. No. 10 & 11), if MCGM does not have any suitable meter in stock then Consumer shall have to replace the meter at his cost as per guidelines annexed.
12. After every five years or life period whichever is completed earlier the water meter shall be replaced or re-installed after testing and certification from respective manufacturer. If the meter is functional beyond its useful life and Consumer wants retain the same meter, consumer will have to test the meter every year from the respective manufacturer and produce the test certificate. All the expenses towards removal, refining and testing of the meter will have to be borne by the consumer.
13. Slum consumer shall be permitted to install multi-jet / Woltmann / Electro-magnetic / Ultrasonic Meter approved and empanelled by MCGM.
14. All Non-Slum consumers, will have an option either to install Electromagnetic or Ultra Sonic water meter of approved manufacturer empanelled by MCGM, whenever existing Meter is non-functional.
15. The Meter reading and billing will continue to be carried out by Municipal staff or may be out sourced, if deemed necessary. It will be the responsibility of the Consumer to allow the municipal staff/representative to read the meter without any obstruction / hindrance.
16. MCGM can take up a small pilot reform initiative by outsourcing the meter readings with photographs and mobile based App for data transfer to existing billing system. This will overcome the staff deficiency issue.
17. In case of consumption dispute the meter shall be tested in the Municipal Test shop and result will be notified to the consumer.
18. A public notification to this effect will be issued.

2. Testing, Repairs & Maintenance

- MCGM water meter testing facility shall be limited to test the water meters for the billing dispute cases and recalibration of MCGM owned meters.
- The consumer is fully responsible for safety, protection and preventing physical damage to Meters owned by the Consumer or MCGM.

3. Procedure for Approval of Manufacturers & Brands of Consumer Water Meters

1. MCGM will publicly notify to empanel the manufacturers/authorised agents for multi-jet /Woltmann / ultrasonic / electromagnetic consumer water meters to be used on water connections granted by MCGM to the Consumers.
2. Manufacturers/ authorised agents shall apply in the format prescribed by MCGM along with credentials. MCGM may visit place of manufacture and/ or testing facility.
3. A Technical Committee under the Chairmanship of Hydraulic Engineer will periodically i.e. half yearly scrutinise the applications and performance and will notify inclusion/exclusion in the approved list of makes/brands.
4. The manufacturers of Electromagnetic / Ultrasonic / Mechanical Meters, manufactured as per latest BIS / ISO 4064/ OIMLR 49specifications with valid Life Cycle Test Certificate from FCRI (Fluid Control Research Institute) shall be eligible for empanelment.
5. Mechanical Water Meters as per latest IS 779 – Class ‘B’ or equivalent with valid Life Cycle Test certificate from FCRI can also be empanelled.
6. The empanelled makes will be initially renewed every year based on feedback from consumers and new applications from manufacturers scrutinized for empanelment.
7. The meter manufacturers will be empanelled in approved brand list, initially for two years, on the basis of performance certificate issued by FCRI for each size. The approved make which does not possess Life Cycle Test Certificate from FCRI shall be given a grace period of two years to get the same. Life cycle test will be made mandatory, for which the manufacturer has to obtain the life cycle test certificate from FCRI within two years from the date of enforcement of the new policy. For approval the manufacturer need to submit the performance certificate & evidence of submission of meter at FCRI for life cycle test. In case they fail to obtain the same, then the particular manufacturer/brand will be removed from the list of Approved Manufacturers & Brands.
8. The Manufacturers have to ensure without any cost to consumers by themselves or through dealers / service providers, that meters are properly installed at Consumer’s place.
9. The manufacturers shall sale the Mechanical Water Meters with a warranty of minimum 5 (five) years. Similarly, Electromagnetic & Ultrasonic Water Meters shall be sold with a warranty of minimum 10 years. The warranty beyond 5 Years shall be

optional. Any defect observed during warrantee period shall be rectified and if necessary the meter shall be replaced by the manufacture without any cost to Consumer.

10. Manufacturers shall appoint dealers / service providers in each of the zones, for proper service to consumer.
11. The empanelled vendors shall have to offer warranty/guarantee for their product with repair/ maintenance responsibility for specified period.
12. The manufacturers failed to protect the consumer interest and / or breach the warranty will be delisted from the panel.
13. Minimum 5 – years Repairs / Maintenance warranty shall be part of comprehensive maintenance contract by the Meter supplier. This will be a mandatory condition for the approved make empanelled by MCGM.
14. Manufacturer shall guarantee for the protection of Electronic Meters (US / EM) against lightening stroke.

The Technical Committee under Chairmanship of HE will finalize the Procedure of Approval of Manufacturers and Brands in line with recommendations supra.

4. Guidelines for Installation of Consumer Water Meters

The Multi-jet Mechanical, Ultrasonic and Electromagnetic Meters Classes I & II equivalent to Class 'B' are available in the market through empanelled manufacturers / their agents.

1. The Mechanical / Ultrasonic / Electromagnetic water Meters shall be installed as per the latest IS 2401:1973 and IS 779 : 1994. Meter Manufacturers / their authorised representative shall certify the installation of Water Meters.
2. Water Meter shall be protected against physical damage and theft by the consumer. Consumer shall always ensure that water meters are always installed in proper size chambers with covers which can facilitate inspection and maintenance of water meter.
3. The US / EM Meters shall be installed to facilitate reading / photograph / bar-code reading and mobile data transfer.
4. Connection Holder must ensure that the chambers are clean and water meters are accessible to MCGM staff for reading.
5. The Meter size shall be selected on flow through the connection and not on size of connection and installed on the basis of the guidelines available in the latest IS 779.
6. Use MCGM approved water meters only.
7. All water meters shall be installed with a minimum straight length of 5D (five times pipe diameter) on either side of the water meter and no stop tap or strainer shall be fixed within this length.
8. A strainer shall be provided on the upstream of all mechanical meters.
9. Water Meter irrespective of its type shall be provided at a minimum distance of about 50D (50 times pipe diameter) from the discharging point.
10. In case the ambient temperature is 40⁰ C or above the Meters shall be provided with cover (FRP Meter Box) and suitable heat insulation to protect the battery.
11. Mechanical Meter chamber and piping for installation of Water Meter shall generally be U-shaped to ensure full bore water flow through the Meter and to prevent air passage.
12. U-shape Meter installation in slums will be exception because of space constraints.

5. Implementation Strategy & Monitoring:

Following steps suggested for the implementation & monitoring of new Meter policy:

Implementation:

1. Empanelment of manufacturers will be done by an Approval Committee under Chairmanship of HE.
2. Approval Committee shall formulate the procedure for approval of new vendors for the Multi jet Mechanical, Woltmann, Ultrasonic and Electromagnetic consumer meters as per Policy guidelines.
3. To issue an open ended Expression of Interest (EOI) for seeking applications from manufacturers and complete the process within a period of one month.
4. Scrutiny of applications received from eligible manufacturers shall be completed within two months period.
5. A public notification about the installation of MCGM approved meters shall be issued by the end of third month.
6. After approval of this Policy EE (Meters) Revenue shall make provisions in the AQUA Product System and ensure that AEWWs can fetch the report from the system about the customers whose water meters have served useful life, non functional, damaged and the customers who have been granted un- metered water connections. AEWWs to use these reports for issuing notices for the replacement of faulty / damaged water meters or installation of new meters as the case may be.
7. EE (M) Rev to revise Water Charges Rules and modify the provision of un-metered water connections for construction / labour drinking with Metered supply at appropriate water charges, within six months from the date of approval of policy.
8. EE (M) Revenue shall issue bills indicating meter readings for the consumption charged to all consumers.
9. After approval of the policy AEWWs to ensure that all the Municipal Properties have Metered water Connections and they are billed on consumption basis.
10. If a property has got multiple connections in one Under Ground Tank same (multiple connections) shall be merged together into a single connection with one Water Meter.
11. The Meter size selection shall be based on mean / maximum flow consideration and not on the size of water connection. HE shall issue a separate circular elaborating the entire process of Meter size selection.

Monitoring:

1. EE (Meters) Revenue with the help of M/s ABM shall develop system generated monthly report which will indicate CCNs for which the consumer meters are due for replacement or non functional for more than two months.
2. All AEWWs shall be made responsible for the retrieval of the report mentioned at Sr. No.1 and for taking an appropriate action.
3. All notices to be issued to consumers shall be readily available in the system and provision for storing the scanned copy of the notice against respective consumer shall be made to facilitate tracking of notices / actions.
4. Consumer complaints against malfunctioning of Meters shall be recorded and taken due cognizance while renewing the approval.

