



FCRI has been playing a key role in quality assurance of water meters for the last two decades. Most of the water boards in India insist endurance tests and Acceptance tests at FCRI during their bulk purchase as specified in Indian or International standards. This has ensured reasonable life for meters in the field and has yielded substantial increase in revenue for water boards. However, in the case of large size meters, the number of meters procured is low and the expense for conducting the endurance test is relatively high. Hence Water Boards were not in a position to insist endurance test for ensuring the quality of meters. Sometimes lack of time also becomes a major hurdle for conducting endurance tests.

In order to overcome the above problems, a model approval program (MAP) is launched by FCRI, based on suggestion from several major water boards. This is intended mainly to help the consumers and Water boards for quick purchase of meters, while ensuring the quality of meters.

## Procedure

Suppliers have to submit sample meters as mentioned in relevant Standards for testing with detailed dimensional drawing of components and material specification. This information will be kept confidential and the same will be used during comparison. The meters tested under MAP will be retained at FCRI, till the end of the validity period. Validity of MAP is 3 years (for meters up to 50mm) and 5 years (for meters greater than 50mm).

Tests including endurance test as per relevant Standards are carried out on sample meters. List of models which passed the endurance tests are published in FCRI website. Buyers can use this information for quick purchase. During the supply, samples from each lot can be accepted based on acceptance criteria given below.

Acceptance test which is based on routine test mentioned in standards can be carried out within a few days. During acceptance, sample meters can also be compared with samples which has undergone endurance test.

## Acceptance Criteria

During the supply of meters, samples from each lot may be obtained by random sampling basis from each lot. Number of samples depends on the size of the lot under supply. The lot size and corresponding sample size, and criteria of acceptance are mentioned in the table below. The criterion for acceptance is based on the following table which is mentioned in IS 779: 1994.

## Model Approval Program (MAP) for Water Meters



Second sample will be necessary only when the number of meters failed in first sample falls in between acceptance and rejection number.

Lot size	First Sample	Acceptance Number	Rejection number	Second Sample	Cumulative acceptance
1 - 50	5	0	1	-	-
51 - 150	13	0	2	13	1
151 - 280	20	0	3	20	3
281 - 500	32	1	3	32	4
501 - 1200	50	2	5	50	6
1201 - 3200	80	3	6	80	9
3201 - 10000	125	5	9	125	12

### Benefits for buyer

If the buyer selects the approved models under MAP, further endurance testing can be avoided. Thus, the time and effort necessary for endurance test is saved. The purchaser can proceed with procurement and sample meters from the supplied lot can be sent to FCRI for acceptance test.

The meters will be compared with the retained approved model, and a report to that effect will be issued. Thus the buyer can ensure that the models they are procuring and the model approved under MAP are not different. As separate endurance test is not conducted for every tender, expenditure for conducting endurance test is avoided and hence quality of even large size meters can also be ensured without incurring expenditure for the same.

### Benefits for supplier

At present, many water boards are insisting endurance test results as a prequalification in their tenders, for the purchase of water meters. In such cases, the meters approved under MAP will become eligible to quote without undergoing endurance test again. Test certificates under MAP can be produced for any number of tenders during the validity period. This avoids repeated testing of meters of the same model. If the meters are not passing the endurance test, improved model can be submitted again (if time permits) without sacrificing any order.

It may also be noted that FCRI is a recognized laboratory of Bureau of Indian Standards. Hence certificate issued under MAP against Indian standards can be used to obtain ISI mark for the meter.

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