

From PD's Desk

Regional Training Institute has recently been re-designated as Centre of Excellence on 'Audit of Municipal Corporations' and Audit of Corporate Governance and Corporate Finance. One of our main focus areas in this regard, apart from organizing trainings, seminars and workshops on the topic, would be preparation of case studies emanating largely from audit experiences of field audit formations that have been printed in C&AG's Audit Reports. This, in our considered view, would help consolidate and strengthen knowledge in this important area of audit.

The case study, 'Loss due to transmission and distribution losses of water and rebate on cess payable to Pollution Control Board' has been prepared based on para 5.5 of Audit Report (Local Bodies) for the year ended March 2008 – Government of Maharashtra.

I would like to place on record my sincere thanks to Local Bodies Audit and Accounts wing, Maharashtra, Mumbai for making available all documents that went into the preparation of the case study.

I would also like to appreciate the efforts put in by the Core Faculty of this Institute (Smt Geetha Rajasekar and Shri Sundar Ramakrishnan) in developing this case study.

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Audit of Municipal Corporations – Case Study

Loss due to transmission and distribution losses of water and rebate on cess payable to Pollution Control Board

Background

To meet the immediate and projected demand for pollution free water in Kolhapur City, Maharashtra Jeevan Pradhikaran(MJP) during the period 1999-2001 executed the Kolhapur Water Supply Scheme covering the construction of Kolhapur Type Wier at Shingnapur, transmission and distribution systems, reservoirs and 60 MLD capacity water treatment plant at a cost of `40.62 crore. Kolhapur Municipal Corporation met 77% percent of the cost i.e `30.26 crore, the balance being funded by the State Government of Maharashtra.

MJP had, in their Detailed Project Report, fixed a standard loss of water of 2 percent for transmission from Panchaganga river to the water treatment plant and 15 percent for distribution of treated water from the plant.

Section 7 of the Water (Prevention and Control of Pollution) Cess Act, 1977 provides for a rebate of 25 percent on the cess payable by local bodies to Maharashtra Pollution Control Board, if the local bodies set up Sewer Treatment Plant (STP) and discharged the sewer water after treatment into the river.

Water transmission losses caused by defective construction and inappropriate use of material

Use of Pre-Stressed Cement pipes instead of Mild Steel pipes, improper alignment of PSC pipes and inadequacy of air valves contributed to water distribution losses beyond the permissible limits.

Failure to earn rebate due to non compliance of norms for control of pollution of water

The Municipal Corporation discharged untreated sewer water in Panchanganga river as it had not set up STP of adequate capacity thereby depriving itself of the opportunity to earn rebate

of 25% of the cess paid by it to Maharashtra Pollution Control Board causing an avoidable loss of ₹36.32 lakh (25% of ₹145.30 lakh). This also resulted in pollution of Panchanganga river thereby causing frequent failure of another water treatment plant of KMC at Kasababawada sourced by water from Panchanganga.

Factors contributing to the loss:

1. Lack of effective supervision at the time of the construction of the Wier that led to use of Pre-Stressed Cement Pipes that were inadequate to prevent loss of water.
2. Lack of adequate quality control checks whereby defects in the construction could have been pointed out and rectified during the construction phase itself
3. Indifference on the part of the Corporation to ensure adequate follow up action to rectify the defects due to which the problems of leakage and consequent loss persisted
4. A sense of apathy towards implementation of adequate pollution control measures as delineated in Section 7 of the Water (Prevention and Control of Pollution) Cess Act, 1977 by setting up STP of less than adequate capacity

How the loss could have been avoided – Suggested Recommendations

1. A more expedient approach at all stages of project planning and implementation being also mindful of the core objectives could have avoided the loss
2. An awareness of the type of material to be used that could withstand the pressure of water could have led to use of appropriate material. This would have been possible by a careful study of standards and benchmarks applicable.
3. A studied approach towards the long term objectives sought from the construction of the Wier and the attendant tasks to be taken up in the form of Sewer Treatment Plant of adequate capacity on a holistic basis.
4. Breaking down the entire water treatment process into parts so that best standards and benchmarks could be applied to each of its components
5. Water treatment being one of the vital functions of MCs, it calls for application of latest technologies of water treatment so that the process is more efficient

6. performing mental walkthrough sessions at the planning stage of the project so that probable pitfalls in implementation could be anticipated and either prevented or damage control measures could be put in place
7. Appreciation of the intrinsic import of the provisions of applicable legislation regarding treatment of sewer could lead to better insights of the intention behind these provisions. The benchmark for meeting the requisite pollution control standards should be the driving force behind all pollution control measures. This would automatically lead to earning of financial gains in the form of rebates that are tied up to these measures that find mention in the legislation.

KOLHAPUR MUNICIPAL CORPORATION

5.5 Loss due to transmission and distribution losses of water and rebate on cess payable to Pollution Control Board

The Kolhapur Municipal Corporation suffered loss of Rs 11.40 crore on account of heavy transmission and distribution loss of water during 2003-09 due to defective construction of the Water Supply Scheme. The Corporation also suffered a loss of Rs 0.36 crore on account of rebate on cess payable to Maharashtra Pollution Control Board due to inadequate provision for sewer water treatment before discharge into the river

The Kolhapur Water Supply Scheme consisting of construction of KT Weir at Shingnapur, transmission and distribution systems, reservoirs and water treatment plant of 60 MLD capacity had been executed by Maharashtra Jeevan Pradhikaran (MJP) during 1999-2001 as deposit contribution work. Out of the total cost of Rs 40.62 crore, Kolhapur Municipal Corporation (KMC) spent Rs 30.26 crore (76.67 *per cent*) and the balance by the State Government. Audit scrutiny of the records of Shingnapur Water Supply Scheme revealed (June 2005/April 2009) that KMC had suffered losses amounting to Rs 11.76 crore on account of heavy leakages of water and rebate in cess payable to Maharashtra Pollution Control Board (MPCB) as follows :

(i) The loss of raw water in transmission from Panchaganga river to water treatment plant and thereafter in distribution of treated water exceeded the maximum permissible limit of 2 *per cent* and 15 *per cent* respectively. This resulted in loss of Rs 11.40 crore during 2003-09 due to excessive transmission and distribution loss of water. The excessive loss of water was due to use of Pre-Stressed Cement (PSC) pipes instead of Mild Steel (MS) pipes, improper alignment of PSC pipes, inadequacy of air valves *etc.* The loss had been higher in section with PSC pipes and it was minimum in sections with MS pipes. Though KMC had stated (April 2009) that action was taken by the contractor and MJP upto 31 December 2005 to rectify the defects, loss of water due to leakages and pollution persisted indicating the failure of KMC to arrest the recurring loss on this account.

(ii) As per Section 7 of the Water (Prevention and Control of Pollution) Cess Act, 1977, local bodies are eligible for rebate of 25 *per cent* on the cess payable by it to MPCB if they set up the Sewer Treatment Plant (STP) and discharge the sewer water after treatment into the river.

However, KMC had been discharging untreated sewer water into Panchganga river as it had not set up STP of adequate capacity. The MPCB had levied water cess of Rs 1.45 crore during January 1992 to June 2008 and KMC paid Rs 60 lakh upto September 2007. Had KMC set up the STP or increased the capacity of existing STP, it would have availed rebate of 25 *per cent* amounting to Rs 36.32 lakh on the total amount of water cess levied by MPCB. The failure of KMC to set up STP of adequate capacity resulted not only in loss of rebate amounting to Rs 36.32 lakh but also in polluting the river Panchaganga. It also caused frequent failure of another water treatment plant of KMC at Kasababawada for which water from Panchaganga is drawn from a point down the stream.