

**LEGISLATIVE FISCAL ESTIMATE**  
**ASSEMBLY COMMITTEE SUBSTITUTE FOR**  
**ASSEMBLY, Nos. 2200 and 2631**  
**STATE OF NEW JERSEY**  
**219th LEGISLATURE**

DATED: JUNE 21, 2021

**SUMMARY**

- Synopsis:** Requires water purveyors to conduct, and report to DEP, water loss audits.
- Type of Impact:** Annual expenditure increase to the State and affected local governments. Potential revenue increase to the State and local governments.
- Agencies Affected:** Department of Environmental Protection and certain local governments.

**Office of Legislative Services Estimate**

| <b>Fiscal Impact</b>                                                | <b><u>Year 1-3</u></b> | <b><u>Year 4-8</u></b> | <b><u>Year 9-15</u></b> |
|---------------------------------------------------------------------|------------------------|------------------------|-------------------------|
| <b>State &amp; Local Water Purveyor Annual Expenditure Increase</b> | Up to \$2.4 million    | Up to \$33.2 million   | 0                       |
| <b>State &amp; Local Water Purveyor Annual Expenditure Decrease</b> | 0                      | 0                      | \$7.6 million           |
| <b>State &amp; Local Water Purveyor Annual Revenue Increase</b>     | 0                      | 0                      | \$12.5 million          |
| <b>State Annual Expenditure Increase</b>                            | \$0.2 million          | \$0.2 million          | \$0.2 million           |

- The Office of Legislative Services (OLS) estimates that the preparation and delivery of the annual water loss audit reports by local governments and State-owned water purveyors will cost collectively up to \$2.4 million annually. The OLS also assumes that the Department of Environmental Protection (DEP) will require at least two additional staff to execute these requirements of the bill, which would cost the State approximately \$200,000 annually.
- The OLS notes that water purveyors may be required to develop and implement water loss reduction programs and estimates the total annual costs would be up to \$33.1 million for local governments and \$0.1 million for State-owned water purveyors over a five-year period.
- The OLS further notes these water loss reduction programs would likely result in expenditure decreases and revenue increases for water purveyors over the long term, which would offset the costs of the water loss audit reports.

## **BILL DESCRIPTION**

This bill would amend and supplement the “Water Supply Management Act” to require certain water purveyors to conduct annual water loss audits.

Specifically, beginning no later than 24 months after the bill is enacted into law, every water purveyor serving at least 3,300 individuals would be required to annually submit a water loss audit to the DEP. The bill would direct the DEP, within 18 months after the bill is enacted into law, to adopt regulations concerning the conduct and validation of water loss audits based on the most current edition of the American Water Works Association’s “Water Audits and Loss Control Programs, Manual M36” and its associated Free Water Audit Software. The regulations would include a requirement to notify the water purveyor’s customers of the water loss reported in the water audit on or with the water purveyor’s next annual consumer confidence report or on or with the next bill the customer receives after the water audit is submitted. In addition, public water utilities regulated by the Board of Public Utilities would be required to provide the board with a completed and validated water loss audit.

The bill would also require the DEP to adopt, no sooner than 36 months and no later than 48 months after the date of enactment of the bill into law, regulations: (1) specifying a minimum data validity score or a specific level of yearly improvement in the data validity score of future annual water loss audit reports; and (2) setting forth performance standards to be met by a water purveyor concerning the volume of water losses.

The bill would require the DEP, in consultation with the New Jersey Infrastructure Bank, to establish, in each of the two fiscal years beginning after the date of enactment of the bill, a grant program to assist water purveyors in procuring water loss audit report validation under the bill, within the limits of funds appropriated or made available to the DEP.

The bill would also require the DEP to provide technical assistance to water purveyors concerning: (1) the American Water Works Association’s “Water Audits and Loss Control Programs, Manual M36” methodology, data tracking, and use of the associated Free Water Audit Software; and (2) available water loss reduction programs, including, but not limited to, metering techniques including testing, repair, and replacement, pressure management techniques, condition-based assessment techniques for transmission and distribution pipelines, and active leak detection. The DEP would establish a technical advisory committee to assist with the implementation of the bill.

Finally, the bill would require a water purveyor that is subject to the requirements of the “Water Quality Accountability Act” to consider the findings of its annual water loss audit reports when determining which projects shall receive highest priority in its asset management plan required pursuant to State law.

## **FISCAL ANALYSIS**

### ***EXECUTIVE BRANCH***

None received.

### ***OFFICE OF LEGISLATIVE SERVICES***

The OLS estimates that the preparation and delivery of the annual water loss audit report to the DEP will cost water purveyors collectively approximately up to \$2.4 million annually. In addition, the OLS notes that future regulations will be adopted by the DEP specifying a minimum

data validity score or specific level of yearly improvement for future water loss audit reports and performance standards for the volume of water losses. Water purveyors may therefore be required to develop and implement water loss reduction programs. The OLS estimates the total cost to local governments for water loss reduction programs would be approximately \$154 million over a five-year period and the total cost to the State government would be approximately \$700,000 over a five-year period. The OLS also assumes that the DEP will require at least two additional staff to execute these requirements of the bill which would cost the State approximately \$200,000 annually.

### **Costs to Public Water Purveyors**

The OLS notes that there are 475 water purveyors in the State which collectively operate 582 public water systems. Of the 582 public water systems in the State, 307 are owned by local government water purveyors, seven are owned by State water purveyors, and 268 are owned by private entities. The following paragraphs will discuss: (a) the cost of purchasing the AWWA Manual; (b) the cost of producing an annual water loss audit report; (c) the cost of performing a “level one validation;” (d) the cost of water loss reduction programs; and (e) the savings from the implementation of certain water loss reduction programs and improved billing practices.

#### *(a) AWWA Manual Cost*

The AWWA’s online Water Audit Software is available at no cost; however, the accompanying manual costs between \$84 and \$133, which would have to be re-purchased for any subsequent editions of the AWWA Manual. There are 475 water purveyors in the State and, therefore, the cost to purchase the AWWA Manual for all 475 water purveyors is between \$40,000 and \$63,000. The OLS also notes that not all 475 water purveyors operate a public water system that is owned by a local government or by the State, which may therefore marginally mitigate the cost of purchasing an AWWA Manual.

#### *(b) Annual Water Loss Audit Report Cost*

The OLS estimates that the costs to prepare the annual water loss audit report will be marginal as it will involve a small investment of time by existing staff. The Natural Resources Defense Council (NRDC) notes that audits using the AWWA Manual, data tracking, and Free Water Audit Software are typically performed with modest investment of time by existing staff. For example, utilities regulated by the Delaware River Basin Commission reported that, even though most existing staff were unfamiliar with the AWWA audit methodology, most water purveyors completed the audit in one to three days without outside help. For a water purveyor already familiar with the methodology and with good internal data collection and reporting systems, an annual audit can be completed by a single staff member in as little as two hours.

#### *(c) Level One Validation Costs*

The bill requires each annual water loss audit report to include a “level one validation” which, in most cases, will be performed by a third party consultant who has the technical qualifications required by the DEP. According to the NRDC, independent third party level one validation by a qualified third party consultant requires approximately 10 to 20 hours, and will cost between \$2,500 and \$5,000. The OLS notes that independent validation could therefore cost between \$1.2 million to \$2.4 million annually, assuming all 475 water purveyors in the State hire a third party consultant. Depending on the regulations for consultants established by the DEP, a water purveyor may be able to use existing staff to fulfill this requirement of the bill. The OLS also notes that not all 475 water purveyors operate a public water system that is owned by a local government or by the State, which may therefore marginally mitigate the cost of the level one validation.

(d) *Water Loss Reduction Program Costs*

If the DEP required water loss reduction programs, the OLS estimates the total cost to local governments would be approximately \$154 million over a five-year period and the total cost to the State government would be approximately \$700,000 over a five-year period. Although the bill does not require that any remedial actions be taken at the current time, the OLS notes that bill requires the DEP to adopt regulations specifying a minimum data validity score or specific level of yearly improvement for future water loss audit reports and performance standards for the volume of water losses. Water purveyors may therefore be required to develop and implement water loss reduction programs. Water loss reduction programs include: metering techniques, pressure management techniques, condition-based assessment techniques, and active leak detection. It is difficult to generalize about the costs associated with each water loss reduction program onto a water purveyor because they are dependent on: (a) the size and condition of the public water system; (b) the extent of the follow-up programs; and (c) whether or not consultants are used. Each water loss reduction program would be implemented incrementally over the course of several years. The table below shows the total costs of water loss reduction programs if conducted over a five-year period. The OLS estimates that the implementation of water loss reduction programs would cost a small-sized water purveyor approximately \$100,000, a medium-sized water purveyor \$300,000, and a large-sized water purveyor \$1.5 million.

| Cost Impact of Water Loss Reduction Program Over 5 Years |           |           |           |           |           |                           |
|----------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|---------------------------|
|                                                          | Year 1    | Year 2    | Year 3    | Year 4    | Year 5    | <i><b>Total Cost</b></i>  |
| <b>Small Water Purveyor</b>                              | \$10,000  | \$15,000  | \$20,000  | \$25,000  | \$30,000  | <i><b>\$100,000</b></i>   |
| <b>Medium Water Purveyor</b>                             | \$20,000  | \$40,000  | \$60,000  | \$80,000  | \$100,000 | <i><b>\$300,000</b></i>   |
| <b>Large Water Purveyor</b>                              | \$100,000 | \$200,000 | \$300,000 | \$400,000 | \$500,000 | <i><b>\$1,500,000</b></i> |

As mentioned above, there are 475 water purveyors that operate a total of 582 public water systems in the State of which 307 are owned by local governments, seven are owned by the State, and 268 are owned by private entities. In performing the analysis below, the OLS makes the following simplifying assumptions regarding public water systems: (a) each water purveyor will follow a five-year water loss reduction program implementation plan; (b) they will not incur any additional costs; (c) there are no existing water loss reduction programs currently operating in the water system; (d) 60 percent of the local government water purveyors are considered medium-sized, while the remaining 40 percent is split between small- and large-sized local government water purveyors; and (e) 100 percent of State water purveyors are small-sized. Under these simplifying assumptions, the total cost to local governments would be approximately \$154 million over a five-year period and the total cost to the State government would be approximately \$700,000 over a five-year period. This equates to total annual costs of \$33.1 million for local government water purveyors and \$0.1 million for State-owned water purveyors, respectively. The OLS notes that these costs may be mitigated if water purveyors already have some of the aforementioned water loss reduction programs in place.

(e) *Water Purveyor Savings*

The OLS notes that with implementation of the aforementioned water loss programs and accompanying cost investment, water purveyors could decrease expenditures by up to \$10 million annually. According to the United States Environmental Protection Agency, up to 75 percent of water loss is recoverable. In New Jersey, 130 million gallons of treated drinking water are lost each day. Of this, over 50 million gallons per day of water losses are attributed to leakage, valued at \$10 million annually. In addition, the OLS notes that based on

information in the Joint Legislative Task Force on Drinking Water Infrastructure’s January 2018 final report, water purveyors can gain an additional \$12.5 million in revenue annually through improved water measurement and billing practices for unauthorized use and under-billing.

### **Costs to the Department of Environmental Protection**

The OLS notes that the bill requires the DEP to adopt regulations concerning water loss audits based on the most current edition of the AWWA Manual and to update these regulations no later than one year after the release of any subsequent edition of the AWWA Manual. After reviewing the annual “level one” validated water loss audits submitted by water purveyors, the DEP is required to adopt regulations specifying a minimum data validity score or specific level of yearly improvement for future water loss audit reports and the performance standards for water loss. The bill also requires the DEP to provide technical assistance to water purveyors for: (a) the AWWA Manual methodology, data tracking, and Water Audit Software; and (b) the development and implementation of water loss reduction programs. Under the bill, the DEP, in consultation with the New Jersey Infrastructure Bank, is required to establish a grant program to assist water purveyors in procuring water loss report validation. The OLS estimates that the DEP will require at least two additional staff to execute these requirements of the bill which would cost the State approximately \$200,000 annually.

In addition, the DEP is required to post the validated water loss audit reports on its website in a manner that allows for comparisons between water purveyors. The OLS is unfamiliar with the capabilities of the DEP to develop the software necessary to implement these requirements of the bill, and thus cannot provide a precise cost estimate for its development.

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This legislative fiscal estimate has been produced by the Office of Legislative Services due to the failure of the Executive Branch to respond to our request for a fiscal note.

This fiscal estimate has been prepared pursuant to P.L.1980, c.67 (C.52:13B-6 et seq.).