



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

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DATE: November 16, 2023 CWCB Board Meeting

ITEM: Agenda Item #23 Update on Water Loss Reporting

Staff Recommendation

Staff recommends the board formally approve the proposed updates to the 1051 database to match the mandatory water loss reporting requirements in the 1051 criteria guidelines.

Background

House Bill 10-1051 (C.R.S. 37-60-126 (4.5)) requires covered entities to report water use and conservation data annually to be used for the purposes of statewide water supply planning. A "covered entity" is any water supplier that delivers at least two thousand acre-feet of water per year.¹

In 2011, the CWCB created 1051 criteria and guidelines (guidelines hereafter) for administering annual reporting which were revised in May 2022.² Water loss reporting has always been included as part of the reporting requirements in the guidelines, but the reporting database does not currently require the submitting entity to upload an American Water Works Association (AWWA) M36 water loss report.³ Staff are authorized to make database changes that are in-keeping with the board-approved 1051 criteria. However, given recent public discussions around water loss reporting, staff want to make clear the intent to:

1. Update the 1051 database for the upcoming 2024 reporting cycle (due June 2024) to include mandatory water loss audit reporting using the AWWA M36 reporting methodology; allowing a one year grace period for entities who feel they cannot comply. This grace period will be used to work with CWCB to obtain water loss training.
2. Advance a feasibility investigation through the third phase of the Colorado Water Loss Initiative, to explore potential requirements for future board consideration aimed at evaluating the implications of potentially requiring (currently optional) third party validation of water loss audits.

Context for Recommendation

1051 Guidelines & Reporting Portal

The CWCB Board initially approved the conservation reporting guidelines in November 2011 after the passage of HB 10-1051. These guidelines included conservation program reporting such as water use,

¹ Per Section 37-60-126(1)(b) of the Colorado Revised Statutes (C.R.S. or statute hereafter) a covered entity is "defined as each municipality, agency, utility, including any privately owned utility, or other publicly owned entity with a legal obligation to supply, distribute, or otherwise provide water at retail to domestic, commercial, industrial, or public facility customers, and that has a total demand for such customers of two thousand acre-feet or more per year.

² Guidelines Regarding the Reporting of Water Use and Conservation Data by Covered Entities (adopted May 17, 2022).

³ Water loss audit reporting in the 1051 database/portal uses the AWWA M36 manual methodology and free software.

information about efficiency programs, and water loss. Reporting entities are required to submit their annual reports by June 30 of each year through an online reporting database (portal hereafter).

While the original portal had worked for several years it was increasingly in need of an update and overhaul. In June 2021, CWCB had the opportunity to re-envision the 1051 database and reporting portal as a subset of the work that went into the larger CWCB Portal initiative. Once completed, CWCB worked with a subset of reporting entities (water providers) to workshop and test the portal. Before launching the new portal for the June 2022 reporting deadline, staff presented the updated guidelines to the board. In 2022, the CWCB Board-approved the [updated 1051 guidelines](#) that helped simplify the requirements and matched the reporting requirements to the outline of the new portal.

As with the original 1051 portal, water loss reporting was included. Both the old and the new guidelines required an AWWA M36 Water Audit. However, the AWWA M36 Water Audit upload was not made a required field within the online portal. The proposed portal update will switch that data field to mandatory to make the portal reporting match the intent of the 1051 guidelines.

Recent Water Loss Interest Driving This Memo

During the most recent 1051 updates the guidelines made clear that CWCB staff do not need board approval for minor database/portal changes that do not fundamentally alter or add to the 1051 guidelines. However, recent interest in and inclusion of water loss reporting in the failed “Land Use Bill” (SB23-213), highlighted a few issues CWCB staff feel are important to highlight publicly.

- ***Water Loss Reporting is Required***

The Land Use Bill sought to require completed and validated water loss reporting in statute. While it is true that currently water loss reporting is not required by statute, the language of House Bill 10-1051 gives the CWCB the authority to develop guidelines that can require water loss reporting. While 1051 reporting requirements only apply to about 85 covered entities, that category of water providers alone covers approximately 80% of the state's population. Staff are highlighting the fact that water loss reporting is already a requirement that is in place and are clarifying that the AWWA M36 water loss audit upload will now be a mandatory reporting field in the 1051 portal.

- ***Requiring Validated Water Loss Audits Needs Research***

As noted above, the Land Use Bill had also called for a requirement that all Water Loss Audits submitted to CWCB include a third party validation. Third party validation is the process of having a qualified third party, either outside of or inside the water utility, validating the reported water loss numbers to provide quality control. It has been cited as being an effective tool to improve the quality of the data and reduce data anomalies.

Through Colorado water loss audit validation work (see section below), the median data validity scores improved by about 11%. In other words, the confidence in the data increases after an audit because the better the data is the more accurate the picture of water loss is. As a result, the utilities lost revenue can often increase significantly. However, Colorado does not currently have sufficient third-party validator capacity or expertise in place to make this shift. There are also many unknowns such as:

- Should third party validation be mandatory or stay voluntary (as is the case now)
- If mandated, how will third party validation credentials/certification be tracked?
- Who will enforce credentialing/certification?
- What is the full cost to reporting entities to certify staff and/or hire a certified validator outside of their agency?
- Should credentials/certification be good for one or more years?
- What are the lessons learned (opportunities and successes) from other states?

Ongoing training and research to help address these questions are contemplated in CWCB's Colorado Water Loss Initiative (CWLI) efforts, described below.

CWCB's Work to Advance Water Loss Audit Training

Colorado Water Loss Initiative Phases I & II

To help advance Colorado's water conservation efforts, in 2017, CWCB staff began contemplating hosting statewide water loss workshops to train water providers on how to perform water loss audits. In 2018 the legislature approved \$1 million for CWCB to start a Colorado Water Loss initiative (CWLI hereafter) to help water providers better track their real and apparent water losses. This effort has since become the largest voluntary water loss program in the country.

This training was necessary, given the high potential for water savings and addressing ongoing reporting issues within 1051 (e.g. reported numbers like negative water loss values, which are impossible). The goal was to provide practical training for using the AWWA M36 Water Loss Audit methodology and then provide direct technical assistance for validating audits using CWCB's third party contractor.

When the inaugural effort ended in 2020, CWCB secured a second \$1 million infusion for CWLI Phase II. That effort runs through 2024. To date, this effort has collectively trained more than 90 water providers. However, there is ongoing need for training between new water provider training requests and turnover at water providers who already went through training. CWCB currently estimates that training and support costs average about \$10,000 per utility per year.

Colorado Water Loss Initiative Phase III

CWCB is working to request an additional \$750,000 to support CWLI Phase 3. A smaller request was already supported by the CWCB Board in 2022, while an additional \$750,000 is up for approval by the CWCB Board through the Non-Reimbursable Project Investment (NRI) fund; first presented to the board at the September 2023 Finance Committee meeting.

An early focus of CWLI Phase 3 will be to research third party validation efforts for water loss reporting across the country. Additionally, CWLI Phase 3 creates a training and certification program for independent third party validators who can validate water providers' water loss audits. As part of this effort the CWCB is working to create a Colorado Water Loss Control Committee (the committee). The CWLI team and the committee will help define:

- The program in terms of trainings required to enter certification,
- The basis of curriculum (e.g. Water Resource Foundation 4369A),
- The types of examinations that will be needed and rigor to acquire validator credentials,
- The rigor of program instructional content,
- The reoccurring certification and credential renewal process and time,
- The quality control of the program, and
- The credential tracking process with recommendations on who will monitor this.

Once the program is defined, the CWLI team and the committee will create training modules and examination materials including the grading rubric. Finally, the CWLI team and the committee will carry out the validator training and certification process through multiple workshop opportunities and examinations across the state.

Timeline of Portal Changes, Grace Period and Next Steps for Stakeholder Engagement

Portal Changes to make the AWWA M36 Water Loss Audit upload required will happen in the coming months and uploaded/attached water loss audits will be required for the June 2024 reporting deadline. However, CWCB staff will allow a one year grace period until June of 2025 for any reporting water utility who is unable to comply and would like to engage in training to understand how to perform an

audit through the CWLI. Currently CWCB estimates about half of the reporting entities report on Water Loss and about half of those reporting water loss (25% of all reporting entities) already submit an AWWA M36 Water Loss Audit.

During this time period CWCB staff will also work to identify how it can best engage with reporting entities to obtain information on additional training needs for water loss auditing and/or any concerns they may have with third party auditing. For example, CWCB may create a survey to obtain information from the 1051 reporting community. These efforts will also provide an opportunity to discuss the upcoming CWLI Phase III efforts and identify any water providers who may want to be a part of the committee.

Through Phase II and Phase III funding, ongoing training will be provided to water providers who are interested in training staff on water loss reporting. As the CWLI Phase III efforts progress, CWCB staff will provide ongoing updates to the CWCB Board at regular intervals to report progress as these efforts continue. Staff assume that contracting, developing the committee and water loss validation research will take most of 2024 and are targeting mid-late 2025 as a goal for coming back to the CWCB Board to report progress and any findings.

Depending on how those efforts progress, the staff may be in a position to make recommendations to the board regarding third party validation and if it should remain voluntary or become mandatory. If the latter, CWCB will suggest any related revisions to the 1051 criteria and the portal to support making changes which could, if supported, occur as early as the June 2026 reporting deadline.

Staff will remain flexible and adjust timelines as needed to support the thoughtful implementation of any additional 1051 reporting changes. Staff will also evaluate ongoing funding needs and implications of third party water loss audit validation as it relates to the state and reporting entities.