

# DELAWARE RIVER BASIN COMMISSION

## PROPOSED

### PUBLIC NOTICE OF PROPOSED RULEMAKING AND PUBLIC HEARING

#### **Proposed Amendments to the *Water Code* and *Comprehensive Plan* to Implement a Revised Water Audit Approach to Identify and Control Water Loss**

The Delaware River Basin Commission ("Commission" or "DRBC") is a federal-state regional agency charged with managing the water resources of the Delaware River Basin without regard to political boundaries. Its members are the governors of the four Basin states – New Jersey, New York, Pennsylvania and Delaware – and a federal representative, the North Atlantic Division Commander of the United States Army Corps of Engineers. The Commission is not subject to the requirements of the Delaware Administrative Procedures Act. This notice is published by the Commission for informational purposes.

**Summary:** The Commission will hold a **public hearing** to receive comments on proposed amendments to the Commission's *Water Code* and *Comprehensive Plan* to phase in a requirement for water purveyors to follow a revised water audit approach for identifying and controlling water loss.

**Background:** An estimated 150 million gallons of treated and pressurized water is physically lost from public water supply distribution systems in the Delaware River Basin per day and current methods to account for, track and reduce this loss are inadequate.

The purpose of the proposed amendments is to phase in a program requiring water purveyors to perform a water audit and report their findings in accordance with a new audit structure established by the American Water Works Association (AWWA) and the International Water Association (IWA). These new methods are widely regarded as superior to the existing approach, which entails tracking "unaccounted for water," which is no longer considered best practice.

The new water audit methodology provides a rational approach that will facilitate more consistent tracking and reporting than the existing approach allows. It will help water managers and regulators, including the Commission, state agencies, and utility managers, target their efforts to improve water supply efficiency, thereby reducing water withdrawals. Improving water accountability will contribute to achieving objective 1.3.C of the *Water Resources Plan for the Delaware River Basin*, which calls for ensuring maximum feasible efficiency of water use across all sectors.

The Commission's Water Management Advisory Committee (WMAC), which has taken primary responsibility for reviewing the proposed audit methodology and developing these amendments, is composed of representatives from a wide range of public and private sector organizations. WMAC membership includes: Mr. Ferdows Ali, Environmental Scientist with the New Jersey Department of Agriculture; Ms. Janet L. Bowers, Executive Director of the Chester County Water Resources Authority; Mr. Gerald Esposito, President of Tidewater Utilities; Mr. David Froehlich, of the Wissahickon Valley Watershed Association; Mr. David Jostenski, Chief of the Water Use Assessment Section of the Pennsylvania Department of Environmental Protection; Mr. Mark Hartle, of the Pennsylvania Fish & Boat Commission, Division of Environmental Services; Mr. Stewart Lovell, Supervisor of Water Allocations of the Delaware Department of Natural Resources and Environmental Control; Mr. John Mello, of Region II of the U.S. Environmental Protection Agency; Mr. Bruno M. Mercuri, of Mercuri and Associates, Inc.; Dr. Joseph A. Miri, of the New Jersey Department of Environmental Protection, Water Supply Element; Mr. Robert Molzahn, of the Water Resources Association of the Delaware River Basin; Mr. Howard Neukrug, of the Philadelphia Water Department; Ms. Mary Ellen Noble, of the Delaware Riverkeeper Network; Ms. Senobar Safafar, of the New York City Department of Environmental Protection, Strategic Services Division, Bureau of Water Supply; Mr. Tom Simms, Director of the Institute of Soil and Environmental Quality of the University of Delaware DGS Annex; Mr. Ronald A. Sloto, of the U.S. Geological Survey, Water Resources Division; Ms. Edith Stevens, of the League of Women Voters; and Mr. Glen Stevens, of the U.S. Army Corps of Engineers.

On May 25, 2004 the WMAC established a subcommittee to investigate the issue of water loss and water accountability in light of new methods proposed by the American Water Works Association (AWWA) and the

International Water Association (IWA). The subcommittee met on four occasions to review the Commission's current policies concerning water loss and water accountability and to discuss the new methods. The DRBC's current policies are based on the concept of "unaccounted for water," which is no longer considered best practice. The new methods are based upon more precise definitions and more rational accounting procedures that will result in a clearer understanding on the part of utility managers and regulators of the causes of water loss. The new methods will thus facilitate targeted improvements that reduce system water demands, with region-wide benefits. DRBC staff participated in the development of water audit software based on the new accounting methods, in an effort led by the AWWA Water Loss Control Committee (WLCC).

On March 16, 2005, after listening to a presentation outlining the benefits of the new water accountability methods, the DRBC Commissioners asked DRBC staff and the WMAC to develop a position statement and policy recommendations for the Commission and to engage water purveyors in the Basin in a pilot study of the newly developed water audit software in order to test the software and solicit feedback.

Six water purveyors from the Delaware River Basin were identified to participate in the nationwide pilot study. The comments and feedback provided to AWWA led to improvements in the software. In March 2006, the software was approved by the AWWA WLCC and was posted on the AWWA website, where it is available at no charge to all users. Links to the software are posted on the water conservation page of the DRBC website: <http://www.state.nj.us/drbc/policy.htm>

The WMAC and its subcommittee determined that the IWA/AWWA water audit methodology represents an improvement to the Commission's current practices and can lead to multiple benefits for water utilities and other stakeholders. It is anticipated that adoption of the IWA/AWWA approach will: (1) improve upon the traditional approach for identifying "unaccounted for water," which lacks standardized terminology and a clearly defined water audit structure; (2) provide a rational water audit structure to help identify water losses and improve water supply system efficiency; (3) provide meaningful performance indicators to help identify systems with the greatest losses and to allow water utility managers to make reliable comparisons of performance and identify best practices for controlling water loss in an economical way; (4) identify ways to improve water supply efficiency and thereby reduce water withdrawals that have no beneficial end use; (5) help to target efforts to reduce the estimated 150 million gallons per day that is physically lost from public water supply distribution systems in the Basin; (6) enhance utility revenues by enabling utility managers to recover the significant revenue that is otherwise lost due to *apparent losses* such as theft of service, unbilled connections, meter discrepancies and data errors; and (7) help utility managers and regulators identify *real losses* (such as leakage) that waste treated and pressurized water and increase operating costs. Significant real losses indicate opportunities for improved asset management that can reduce the vulnerability of utilities to disruptive water main breaks, other service disruptions and water quality upsets.

Because the water audit approach is relatively new in a regulatory context, the proposed amendments call for phased implementation. Until 2011, the DRBC will promote the voluntary use of the IWA/AWWA water audit program. During this period, information will be gathered from within the Basin and nationwide to assist in the establishment of performance indicators for water loss, which ultimately will replace the "unaccounted for water" targets. If approved, the proposed amendments will require water purveyors to perform an annual water audit conforming to the IWA/AWWA methodology beginning in calendar year 2012.

The proposed amendments also require changes in the way data pertaining to water loss are collected by the state agencies and shared with DRBC.

**Dates:** The Commission will hold an **informational meeting** on Wednesday, September 10, 2008 from 4:00 P.M. to 6:00 P.M. at the Commission's office building, located at 25 State Police Drive, West Trenton, New Jersey. Driving directions are available on the Commission's website – [www.drbc.net](http://www.drbc.net). Please do not rely on Internet mapping services as they may not provide accurate directions to the DRBC. The **public hearing** will be held on Thursday, September 25, 2008 at the Commission's office building, located at 25 State Police Drive, West Trenton, New Jersey. The hearing will begin at 1:30 P.M. and will continue until all those who wish to testify are afforded an opportunity to do so. Persons wishing to testify at the hearing are asked to register in advance by phoning Ms. Paula Schmitt at 609-883-9500, ext. 224. **Written comments** must be received by 5:00 P.M. on Friday, October 3, 2008. Written comments may be submitted as follows: if by email, to [paula.schmitt@drbc.state.nj.us](mailto:paula.schmitt@drbc.state.nj.us); if by fax, to Commission Secretary at 609-883-9522; if by U.S. Mail, to Commission Secretary, DRBC, P.O. Box 7360, West Trenton, NJ 08628-0360; or if by overnight mail, to Commission Secretary, DRBC, 25 State Police Drive, West Trenton, NJ 08628-0360. In all cases, please include the commenter's name, address and affiliation, if any, in the

comment document and include "Water Audit" in the subject line.

**Further Information:** The current rule and the full text of the proposed amendments are posted on the Commission's website, [www.drbc.net](http://www.drbc.net). Hard copies may be obtained by contacting Ms. Paula Schmitt at 609-883-9500, ext. 224. Please contact Commission Secretary Pamela Bush, 609-883-9500 ext. 203 with questions about the proposed rule or the rulemaking process.

Pamela M. Bush, Esq.  
Commission Secretary

### **Text of Proposed Amendments**

It is proposed to amend Comprehensive Plan and Article 2 of the Delaware River Basin Water Code as set forth below. Deleted text is in bold and denoted by brackets and inserted text is in bold and denoted by underscore.

§ 2.1.2 C.1 . . . . .

e. An ongoing water auditing program in accordance with section 2.1.8

§ 2.1.6 A. . . . . Such a program shall at a minimum include: periodic surveys to monitor leakage, ~~enumerate unaccounted for water,~~ and determine the current status of system infrastructure; recommendations to ~~monitor and control leakage;~~ and a schedule for the implementation of such recommendations. Each purveyor's program shall be subject to review and approval by the designated agency in the state where the system is located.

~~"Unaccounted for water" is defined as the difference between the "metered ratio" and 100 percent. The metered ratio is the amount of water delivered through service meters divided by the amount of water entering the distribution system.~~

The designated state agencies are: Delaware Department of Natural Resources and Environmental Control; New Jersey Department of Environmental Protection; New York Department of Health, and Pennsylvania Department of Environmental Protection.

B. ~~Each purveyor that distributes in excess of one million gallons per day (mgd) shall submit its initial program to monitor and control leakage to the appropriate designated agency within two years and each purveyor that distributes between 100,000 gpd and 1 mgd shall submit its initial program to monitor and control leakage to the appropriate designated agency within five years of the effective date of this regulation or at such earlier date as shall be fixed by the designated state agency. Each purveyor shall prepare and submit a revised and updated program to monitor and control leakage every three years thereafter or at such earlier date as shall be required by the designated state agency. The designated state agency may require more frequent program submission from purveyors with unaccounted for water that is in excess of 15 percent. Each purveyor shall strive to minimize system leakage to levels as guided by IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance.~~

Any project approvals hereafter granted pursuant.

§ 2.1.8 Water Auditing (Resolution No. 2008 - xx).

A. It shall be the policy of the commission to encourage owners of water supply systems serving the public to implement a standardized water audit methodology to ensure accountability in the management of water resources.

B. For the period beginning [EFFECTIVE DATE] and ending December 31, 2011, owners of water supply systems serving the public, with sources or service area located in the Delaware River Basin, are encouraged to implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance.

C. Effective January 1, 2012, the owners of each water supply system serving the public, with sources or service area located in the Delaware River Basin, shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC)

Water Audit Software) and corresponding AWWA guidance.

D. Effective January 1, 2013, non-revenue water reported under section 2.50.3.B.1.b.ii. shall be computed in accordance with IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance.

§ 2.50.3 B.1.b.ii. . . . . Other metered (Specify)

~~Unaccounted for (defined as the amount of water entering the distribution system minus the amount of water delivered through service meters)\*\*~~ Non-revenue water, including unbilled authorized consumption, apparent losses, and real losses computed in accordance with section 2.1.8.D

Total...

~~\*\*Further breakdown of unaccounted for water can be provided. For example, estimated fire hydrant use, other unmetered public uses, and leakage losses.~~

**12 DE Reg. 275 (09-01-08) (Prop.)**