



# **2011 Annual Quality Assurance Report**

## **Central District – Potable Water**

**December 2011**

## **Executive Summary**

The DEP Central District Potable Water Program is responsible for implementing the Federal and Florida Safe Drinking Water Acts. This includes Chapters 62-550, 62-555, 62-560, 62-602, and 62-699 of the Florida Administrative Code, as well as the Federal Ground Water and Stage 2 Disinfectant/Disinfection Byproduct Rules. These rules are applied to 1,123 public water systems in Brevard, Indian River, Lake, Marion, Orange, Osceola, and Seminole counties.

Our program staff routinely carries out the following duties: reviewing drinking water sample data for over 100 analytes, entering that data into the PWS database, updating PWS inventory information, and assigning violations and coordinating enforcement when necessary. All program staff work to ensure that their work products are defensible and adhere to DEP and EPA rules and policies.

During 2011, numerous efforts were made by program staff to train and educate water system owners and operators on sample requirements and proper sampling techniques. Program staff sought out training opportunities to increase their knowledge and quality of work. Our program developed several SOPs to ensure consistent and quality processing of our data.

Due to the vast amount of data received and processed by the Central District Potable Water Program, we conducted numerous audits throughout 2011. These audits included routine reviews of water quality data, performance of program staff, and special audits to review water quality complaints, incident reporting, and sample observation.

Some challenges were presented to our program in 2011. Due to the variety of facilities we regulate (churches and restaurants to office complexes and large municipalities) we encountered obstacles in obtaining data and in some cases, obtaining quality data. We also noted issues with the Oracle PWS Database (administered by Drinking Water HQ staff in Tallahassee), that affected data quality. Additionally, issues related to evaluation of data qualifiers have revealed the need for increased communication and coordination with the DEP Standards and Assessment Section and DOH Laboratory Certification Section.

To address some problems, we made adjustments to our reminder processes and observed and educated water system operators. Issues with the Oracle PWS Database and other programs were brought to the attention of Tallahassee staff.

For 2012 we plan to increase the number of operator workshops, continue to provide monitoring reminder schedules, continue the development and revision of SOPs as needed, continue seeking out training opportunities for program staff, and continue our various data audits to ensure that we receive quality data from our regulated facilities.

## **Report of Quality Assurance Activities and Issues**

### **1. Quality Assurance Training Activities**

The Central District Potable Water section conducted or participated in various QA training activities in 2011. These involved different categories of training, as follows:

In February of 2011, our section conducted a workshop for water system owners and operators. We had over 100 in attendance and were able to provide important updates and information on new and existing rules. By educating the owners and operators of our regulated facilities on sampling requirements and sample techniques, we are able to increase the amount of quality data that we receive. This workshop proved to be wildly successful and future events are already planned for 2012.

Due to the complex nature of the rules regulating drinking water facilities, the over 100 contaminants that must be monitored for, and the number of systems we regulate, on an annual basis (by February 28) program staff produces a Monitoring Schedule for each community and non-transient non-community public water system. These schedules inform the system of their anticipated sampling requirements for the coming year(s). This document allows suppliers of water to plan, budget, and ensure that all required samples are collected and that quality data is submitted to the Department in a timely manner.

Annually on July 1, all community public water systems must provide a Consumer Confidence Report (CCR) to their customers. This CCR contains the previous year's sampling data (for detections or violations only). To ensure the quality of this report and the data it contains, program staff retrieves data from our database, reviews and formats it, and publishes it to our website so suppliers of water can have correct and quality data to publish in their reports. Additionally, program staff will review draft reports for utilities to ensure that all requirements are met before the reports are published. By offering this data/review service, we are able to educate water system owners and operators on CCR requirements and assist them in producing quality CCRs.

Annually, the Florida Rural Water Association (FRWA) holds a series of meetings across the state. The FRWA exists to provide technical and administrative assistance to public water systems. Program staff maintains close communication with FRWA and routinely attends and/or participates in these meetings. The information and education provided

at these meetings benefits program staff and the regulated community, helping to ensure that quality data and reports are provided to the Department and water system customers.

Throughout the year, program staff has participated in webinars that have been put on by EPA, AWWA, and FDEP. These webinars serve to educate program staff on new rule requirements, resolving complex compliance situations, and utilizing technical programs, i.e. the Oracle PWS database.

To ensure quality in every step of our processes, in 2011 we drafted and revised numerous SOPs for a variety of program requirements. We created or revised SOPs for the review of bacteriological, chemical, and lead and copper tap sampling reports, enforcement criteria and procedures, and inspection processes. Staff are routinely educated and updated on SOPs and are always keeping a sharp eye to ensure that they are functioning properly and that data quality is being maintained at the highest possible level.

## **2. Audit Activities**

In 2011, the Central District Potable Water section conducted a number of audits for routine and special purposes:

Due to the vast amount of data received and processed by our section, data accuracy is critical. Every report received by program staff is carefully scrutinized to ensure that the most basic (the report is legible, on the proper format, etc.) and most strict (holding times, qualifiers, etc.) requirements are met. When problems are noted with reports, they are either rejected or program staff works with the operator, lab, and/or supplier of water, to resolve any issues. Only high quality and properly analyzed data is entered into the Oracle PWS database.

To ensure that quality data is entered correctly, program staff performance is analyzed on a routine basis. This includes the review of “morning-after” reports, pre-compliance reports, and regular spot checks of a variety of sample reports. Additionally, our data is further reviewed and checked by our database administrators in Tallahassee, in accordance with our QA plan.

Beginning in 2011, we have instituted routine audits of water quality complaints and incident reporting. Program staff regularly receive water quality complaints from water system customers. Once received, a complaint must be processed, investigated, and

acted upon. Incident reports constitute potential malfunctions, breakdowns, or other issues that may occur at public water systems, including the necessity to issue a Precautionary Boil Water Notice (PBWN). Due to the increased potential of a public health issue based on complaints and incidents, timely and consistent action is required. Audits are conducted to ensure that complaints and incidents are followed up on in accordance with our section's policies and relevant rule requirements.

On occasion, program staff receives sampling reports that contain questionable data. This could be for a variety of reasons from, sample collection error, handling issues, laboratory analysis problems, or simple typographical errors. In 2011 we saw an increase in the number of Disinfection Byproduct (DBP) samples with questionable results. After confirming analysis procedures with the laboratories, we began observing water system operators collecting these samples. As a result, we identified numerous instances of incorrect sampling practices. We now have set criteria that will trigger these sample observation audits to ensure that only quality data is provided to the Department.

### **3. Quality Assurance Issues**

The Central District Potable water section encountered the following quality assurance issues in 2011:

Due to the vast number and type of facilities that we regulate, obtaining data is a routine challenge. Required sampling may not be conducted for a variety of reasons, including lack of knowledge, cost, and oversight. Additionally, when data is received, it sometimes is of low quality. The results may be questionable, there may be missing information, or the data may be qualified and be unacceptable. Program staff routinely strives to ensure that our facilities are aware of their sampling requirements and that sample collectors are educated on proper technique. On occasion, we are unable to obtain quality data due to laboratory analysis or laboratory documentation problems.

As a result of changes to regulations governing public water systems, we have experienced issues with the Oracle PWS database. Modifications to the database sometimes cause technical errors. Additionally, some types of data must be manually tracked, because the database is not programmed for some of the rule changes.

Upon receipt and review of data, program staff occasionally encounters data qualifier codes. Staff is aware of, and educated on, how to interpret these codes based on the Process for Assessing Data Usability (DEP-EA 001/07) document. The primary issue

occurs when a laboratory qualifies data with a “J” qualifier. This qualifier requires that the lab provide a statement on the usability of the data. On occasion, the statement involves complex analysis of the data, for which program staff needs additional training. Additional information and/or training has been requested from the Standards and Assessment Section and the Laboratory Certification Section.

#### **4. Corrective Actions**

To address the issues noted above, the Central District Potable Water section implemented the following corrective actions in 2011:

To address the non-submittal of data and the submittal of low quality data, our section has implemented enhanced training and education of water system owners and operators to ensure that high quality data is received. Routinely, we find that the reason for non-submittal, or submittal of low quality data, is easily corrected with education.

To address issues with the Oracle PWS database, and communication and coordination with the Standards and Assessment and Laboratory Certification Sections, we continue to provide feedback and solicit guidance.

#### **5. Section QA Goals for 2012**

The Central District Potable Water section intends to accomplish the following quality assurance projects in the 2012 calendar year:

Due to the past success of previous operator workshops, and the benefits gained from them, we plan to hold additional workshops in 2012. We hope to provide one to two general workshops and one to two shorter workshops focusing on specific compliance and data quality issues. We will continue providing advanced notification and education by issuing monitoring reminder schedules and CCR data to water systems. This valuable service provides benefits for data quality to both the Department and the regulated community. Program SOPs will continue to be developed and re-evaluated on an as needed basis. Clear and consistent SOPs are one of our many tools to ensure that data is processed properly. Our program will continue participating in and attending training opportunities provided by FRWA, AWWA, or other providers.

Our data audit activities will continue and potentially be expanded in 2012. We will continue our data quality and program staff performance audits. Our complaint and incident reporting audits will be expanded due to their increasing numbers. We will also

begin increased oversight of sample collection techniques and water system operation procedures to ensure that high quality data is provided to the Department.

The Central District Potable Water Section is extremely proud of our quality assurance program. All of our program staff and management continuously go above and beyond what is required to ensure that our program is a successful role model for the rest of the state. Continuing to maintain our high level of data quality and service is critical to the success of our program and our overall mission of protecting public health and the environment.