



Drinking Water Data Quality Plan

Drinking Water Program

Southwest District

Florida Department of Environmental Protection

[May 13, 2009]

Signature Page

The undersigned have read and understood this Quality Plan, are charged with managing and improving the quality measures, and are responsible for ensuring that all staff properly execute the procedures discussed in the plan.



[Drinking Water Manager]

11/12/2010

Date



Laura Lassiter, Program QAO

05/12/2009

Date

Background and Introduction

The DEP Quality Assurance (QA) program involves the implementation of a management system (planning, review, training, and assessment) to ensure that data collection, generation, interpretation, reporting, evaluation and archiving are of sufficient quality to support Department decisions. The effectiveness of our QA program is dependent upon the actions of all DEP staff, from “front line” employees to management. QA is an integral function that is distributed throughout our organization. As such, the Drinking Water Program strives to ensure that Department QA activities are carried out according to commitments made to the Environmental Protection Agency as enumerated in the DEP Quality Management Plan (QMP).

The DEP Secretary is committed to the implementation of the quality assurance requirements in the QMP and as authorized in Section 403.0623, F.S., and Chapter 62-160, F.A.C. (the DEP QA Rule). It is the Secretary’s intent to carry out these obligations and requirements as described in the Department’s QA Directive.

In order to execute the components of the DEP QA Directive, the Drinking Water Program has developed a quality plan. This document describes the steps we take to ensure the scientific and legal defensibility of drinking water data we generate or use. It details the process we undertake to ensure that data meets our established quality criteria.

The Drinking Water Program enforces the Federal Safe Drinking Water Act (SDWA), State regulations, and strives to protect the public health of Floridians by providing safe drinking water.

Basic Elements of Our Quality Plan

Our Drinking Water Data Quality Plan explains the process we use to ensure the quality of data within our program. This plan is utilized as an instrument of internal communication to inform our staff of current and future quality assurance activities. It discusses how specific QA duties are assigned to responsible staff. We will revise our Drinking Water Data Quality Plan as needed, and will ensure the consistent application of procedures and criteria for the generation or use of our drinking water data. This plan will also be used as a training document for new staff and as a reference for experienced personnel. The plan and its revisions also serve as an archival record of our formal quality measures.

The elements of our plan are consistent with the Department’s Quality Management Plan, Quality Assurance Directive, and Quality Assurance Rule (Chapter 62-160, F.A.C.). Our plan addresses sample collection, laboratory certification, data review, the Potable Water System (PWS) database, documentation and record retention, audits, and our program’s objectives.

Where appropriate, we cite existing internal and external documents, including training manuals, guidance documents, SOPs, rules, tables, etc.

We expect all staff to read, understand and follow the procedures and criteria as discussed in this plan, and to carry out their assigned responsibilities for effective utilization of our quality measures.

Policy Statement

It is our program's policy to:

- Use scientifically valid and legally defensible data for our decisions affecting protection of the environment and public health.
- Have and implement the quality measures described in this document.
- Adaptively manage our quality measures to be consistent with provisions of the DEP Quality Assurance Management Plan.
- Ensure that each individual is properly trained to execute their assigned functions.
- Implement procedures to evaluate the quality of the data we use and to implement corrective actions when data do not meet our Data Quality Objectives.
- Implement quality assurance procedures for the management of our database.

Ethics

All employees of the DEP Drinking Water Program are held to high professional ethical standards in the performance of their duties. All employees are required to complete an annual ethics training class. Improper, unethical or illegal actions will be dealt with according to the published Administrative Directives of the Florida Department of Environmental Protection.

Organization and Responsibilities

Our program resides within the Bureau of Water Resource Management, Drinking Water Section.

The function of our program is to enforce the Federal and State SDWAs and the FDEP Drinking Water Regulations.

Responsibilities for existing staff are as follows:

Our Quality Assurance Officer (QAO) for the Drinking Water Program's sample data in Tallahassee is Laura Lassiter. She coordinates and participates in the quality evaluation of program data as needed, gives suggestions on how to improve the quality assurance of our data, and serves as a Tallahassee contact

for data quality questions. The Tallahassee QA Officer and the QAOs in the district offices work together to ensure reliability in our program's data. Each QAO assists program management in the development of the quality plan, its quality measures and other logistical aspects of its implementation, such as coordinating associated training needs. Also, the Tallahassee QAO coordinates with district Quality Assurance Officers to ensure consistency throughout the state.

Our program staff routinely carry out the following duties: entering Drinking Water sample data into the PWS database, updating PWS inventory, 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.

Staff evaluate program data using program Data Quality Objectives (DQOs) and implement corrective actions as directed by the Quality Assurance Officer or program management. A list of our DQOs is found in Attachment A.

Staff also perform the following:

- Review work for conformance with quality criteria.
- Review and evaluate data.
- Interpret data or determine compliance with permits and rules.
- Check calculations.
- Review documents for errors and completeness.
- Enter and maintain accurate and current data in the PWS database.

Program staff provide feedback to the program Quality Assurance Officer for improving the program quality measures as necessary. The program QAO shall act as the contact person for questions on data quality, interpretation, procedures, or issues.

Our unit's management (Elsa Potts, Van Hoofnagle, and Laura Lassiter) ensures that this quality system is fully operational within our program, designates our Quality Assurance Officer, and provides general oversight. These managers also evaluate the Data Quality Objectives to ensure they meet our program's needs, and periodically evaluate the effectiveness of staff's data quality activities, including reviewing audit results. Our managers discuss audit results with the QA Officer, review the annual Quality Assurance Report to the Secretary, and discuss findings with the QA Officer.

Training

All personnel are properly trained to perform their duties. Supervisors periodically assess whether our staff performance conforms with the policies and procedures of our program and the Department. PWS database training is given routinely and when requested.

Sampling Criteria

Samples submitted to the certified laboratories must be collected according to FDEP standards. This includes samples which may rarely be taken by Drinking Water staff. Our sampling data must meet the following criteria:

- Sample collection must comply with sampling procedures identified in FDEP Chapter 62-160, F.A.C. (the DEP QA Rule).
- Samples are collected at locations in accordance with SDWA requirements.
- All field activities must be consistent with the requirements of the DEP SOPs (for drinking water, these include the Code of Federal Regulations, FDEP Chapter 62-550.560, FS 2300, and all supporting standard operating procedures including those for field testing, equipment preparation, decontamination and cleaning of appropriate sample containers, and preservation and holding time requirements).
- Samples collected must meet the receiving laboratories acceptance criteria.
- The chain of custody of the sample must be documented.

Laboratories

The Florida QA Rule requires laboratory certification for all data provided to the FDEP (Chapter 62-160.300, FAC). The laboratory certification must be from the Florida Department of Health Environmental Laboratory Certification Program (DOH ELCP) for the drinking water matrix for each analyte and method combination that is reported. The DOH ELCP is recognized by the National Environmental Laboratory Accreditation Program (NELAP) as a NELAP accrediting authority, and therefore requires adherence with the National Environmental Laboratory Accreditation Conference (NELAC) standards. Assessors who inspect laboratories performing analyses for compliance with the SDWA must have satisfactorily completed the training requirements in the On-site Assessment Chapter of the NELAC standards and, when available, EPA's Laboratory Certification Officer Training.

Data Review

Daily assessment of data quality is made by staff in 15 field offices throughout the state. Automated compliance routines and monthly assessments during the review and posting of violations also ensure data quality. Data quality is also routinely checked by Tallahassee via quarterly uploads to EPA, numerous annual publications, and annual and triennial data verifications conducted at the district offices.

Our program understands the need to evaluate the quality and usefulness of drinking water data prior to making decisions. We understand the cost associated with the monitoring of over 100 analytes and that it is important to get the monitoring schedules correct and consistent across the state (particularly when sample results produce triggers for increased monitoring). Likewise, decisions to provide public notifications of exceedances must be fast and defensible to be of any value.

We establish the usability of data for determination of compliance with permits or rules using our established Data Quality Objectives. We also use the concepts and criteria found in DEP's "Process for Assessing Data Usability", DEP-EA-001/07.

Potable Water Systems Database

The Potable Water Systems (PWS) database serves as the transfer mechanism for water quality information between the Drinking Water Program, EPA, the laboratory, and the water systems. The database provides a readily available history and maintains records on all FDEP regulated water systems. The database contains edits which prevent erroneous information from being entered thereby increasing the reliability of our data.

Compliance is determined by automated compliance scripts which are run nightly by the database. This eliminates the need for individual compliance decisions in the 15 field offices and reduces the risk of human error.

Documentation and Record Retention

Accurate documentation is an important factor for determining the success of QA activities. Our program adheres to record retention times dictated by the SDWA and the Department's Record Schedules. Additionally the PWS database maintains historical records of data entry for comparison to paper documents. The Drinking Water Program is decentralized and therefore each office is responsible for its own retention of records and documents.

Audits and Corrective Actions

Audits provide objective feedback concerning the effectiveness of our program's quality measures, and may identify areas in need of improvement. Therefore, our program performs the following activities (in addition to the data reviews covered above):

- Addresses complaints and other reports received from data users and the public concerning data quality.
- Reports exceptions to established procedures and criteria.
- Devises and implements corrective actions for problems with procedures, data reviews, etc.
- Corrects compliance scripts as necessary.
- Notifies staff statewide of new guidance or policies affecting data generation and quality.

Our program is also audited by the EPA on a triennial basis. The QAO and the program's management review findings in the EPA's follow-up report. The Drinking Water Program makes adjustments to their data quality measures and the data quality plan as proven prudent from the findings within the EPA's follow-up report.

Attachment A

Data Quality Objectives

The prime objective of the FDEP Drinking Water Program is to obtain and use data that is representative of the quality and condition of the water in the distribution lines and at each entry point to the distribution of the public water supply systems (or raw or potential potable water sources). In order to meet this objective, the following activities and requirements are needed:

- Sample collection procedures are designed so that the sample represents the characteristics of the source as it is used by the public.
- To ensure data comparability, only those methods mandated in 40 CFR Parts 141 and 142 and 143 and as reflected in FDEP Chapter 62-550, FAC may be used for analysis.
- The selected methods must be sensitive enough to detect the federally mandated detection limits.
- The minimum quality controls as specified by the analytical methods, laboratory certification, or the Department shall be used to assess the quality of the data.