

Quality Assurance Plan South District Office



July 2011

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Appendix 1-South District Environmental Assessment and Restoration Field Activities
Quality Manual

Plan Approval

This plan documents the quality system used by the Florida Department of Environmental Protection's (DEP) South District Office (District). The plan covers quality assurance policies, roles, and responsibilities for environmental data collection activities associated with the program areas that are implemented in the District. It also incorporates applicable portions of the quality plans developed by the Division of Water Resource Management and the Division of Waste Management. This plan covers the collection, evaluation, and use of environmental data produced by laboratories, regulated entities, project managers, data generators, or partnerships between any of these groups.

Approval of the Quality Plan for the South District Office



Jon M. Iglehart
Director of District Management
South District

7/26/11

Date

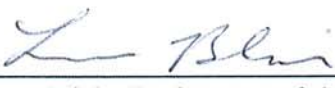
Approval for Implementation of the Quality Plan by Each Section



Abdul Ahmadi, PE Administrator
Water Facilities Section

07/18/2011

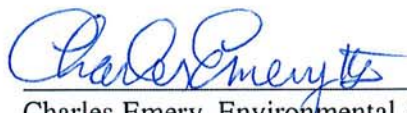
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Lucy Blair, Environmental Administrator
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7/26/11

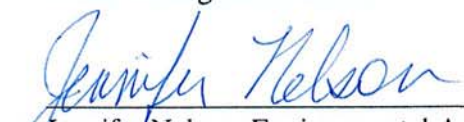
Date



Charles Emery, Environmental Administrator
Waste Management Section

7/25/2011

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7/26/2011

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Gus Rios, Environmental Administrator
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07/11/2011

Date

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 is of sufficient quality to support the District decisions as well as the Water Resource Management, Environmental Assessment and Restoration, and Waste Management Divisions. The effectiveness of the QA program is dependent upon the actions of all DEP staff, from “front line” employees to management, meaning QA is a function distributed throughout the entire organization. The DEP Secretary is committed to implementation of the quality assurance requirements in the Department’s Quality Management Plan for EPA (QMP) (Effective January 2011) and as authorized in Section 403.0623, Florida Statutes (F.S.) and Chapter 62-160, Florida Administrative Code (F.A.C.) also known as the DEP QA Rule. It is the Secretary’s intent to carry out these obligations and requirements as detailed in the Department’s QA Directive.

The District QA Plan explains both the process and criteria by which the quality system is managed. The plan is utilized as an instrument of internal communication to inform District staff as well as program staff in Tallahassee of current and future quality assurance activities. It discusses how specific QA duties are assigned to responsible staff. The QA Plan will be revised as needed to ensure the consistent application of procedures and criteria for the generation or use of our environmental data. The QA Plan and its revisions also serve as an archival record of our formal quality system.

The elements of the QA Plan are consistent with the DEP Quality Management Plan, Quality Assurance Directive and Quality Assurance Rule, Chapter 62-160, F.A.C. In order to execute the components of the DEP QA Directive, the District has developed a quality system. This document describes the steps to be taken to ensure the scientific and legal defensibility of environmental data that is generated or used. It details the process of planning, training, execution, assessment and corrective action undertaken to ensure that environmental data meets the established quality criteria.

The South District (District) is one of six regulatory districts established in the state. The main office is in Fort Myers with a branch office in Marathon. The District is managed by the Director of District Management, who reports to the Deputy Secretary for Regulatory Programs.

The function of District is to carry out the Department’s regulatory programs as established by statute and rule provisions. The core regulatory functions include Waste Management, Water Facilities, and Environmental Resource Permitting. The District also has an Environmental Assessment and Restoration (EAR) section that supports implementation of Division of Environmental Assessment & Restoration programs.

1.1. Essential Definitions

The following definitions are essential to understanding the roles, responsibilities, policies, and procedures outlined in this document.

- 1.1.1. ADaPT (Automated Data Processing Tool) – A quality control software application based in Microsoft Access used by the Division of Waste Management for processing electronic data deliverables (EDD).
- 1.1.2. Sample Collection –The process of collecting environmental samples for analysis. Field and laboratory Standard Operating Procedures (SOPs) shall address the steps which must be used to avoid errors in the sample collection process.
- 1.1.3. Data Quality Indicator (DQI) – A specified numerical or qualitative criterion used to evaluate data for conformance with Data Quality Objectives. Examples of DQIs include specific method numbers to be used for laboratory analyses, specified spike recovery and duplicate precision numerical targets, specified Method Detection Limits (MDL) and Practical Quantitation Limits (PQL), numerical targets for reported non-detect and estimated sample concentrations.
- 1.1.4. Data Quality Objective (DQO) – A systematic planning system designed to produce qualitative and quantitative statements that clarify project objectives, define the appropriate type of environmental data, delineate the decision rules, and specify tolerable levels of decision error.
- 1.1.5. Data Validation – An analyte- and sample-specific process that extends the evaluation of data points beyond procedural compliance to determine the analytical quality of a specific data set. Criteria for data validation shall be specified in the applicable Data Quality Indicators (DQIs).
- 1.1.6. Department of Health (Environmental Laboratory Certification Program) – The state agency responsible for certifying environmental laboratories per the Department of Health certification rule, Chapter 64E-1, F.A.C.
- 1.1.7. Environmental Data – Information collected directly from measurements, generated from models, or compiled from other sources such as databases or literature, which are used for decision making purposes.
- 1.1.8. The National Environmental Laboratory Accreditation Conference (NELAC) Institute – The nationally recognized body responsible for developing standards for the accreditation of environmental laboratories.

- 1.1.9. Quality Assurance (QA) – An integrated system of activities including planning, implementation and assessment to ensure that environmental data are of known and documented quality.
- 1.1.10. Quality Control (QC) - The overall system of technical activities that measure the performance of a process or item against defined standards.
- 1.1.11. Quality System – A structured and documented management system describing the process of planning, review, training, and assessment to ensure that the collection, generation, evaluation, interpretation, and reporting of data are sufficient to support the use of the data for Department decisions.

2. South District Policies

The District is strongly committed to sound science and QA practices that will produce environmental data of appropriate quality to be used for decision making. It is the policy of the District that all decisions which are made to protect human health and safeguard the environment will be based on data of sufficient known quality to support the level of decision required. The policy also includes a commitment by management that the quality system supporting the generation of data of known quality and effective environmental technology will be implemented as described in this plan. The policy is achieved by ensuring that adequate and acceptable planning, implementation, and assessment procedures are utilized through all phases of projects / studies / tasks which require the generation of environmental data.

It is the South District policy to:

- Use scientifically valid and legally defensible data for its decisions affecting protection of public health and the environment.
- Have and implement the Quality System described in this document.
- Adaptively manage its Quality System to be consistent with provisions of the DEP Quality Management Plan.
- Ensure that individuals are properly trained to execute their assigned functions.
- Implement procedures to evaluate the quality of the data used and to implement corrective actions when data do not meet its DQOs.
- Periodically audit the performance and record-keeping practices of data generators for which it has responsibility.
- Periodically audit the performance of internal data generators.

- Implement quality assurance procedures for the management of its data repositories.
- Perform a yearly systematic assessment of its quality assurance activities, including any corrective actions, with the findings submitted to the Department's Standards and Assessment Section.

The District managers and staff will assure that there are sufficient QA activities conducted by the programs to provide reasonable confidence that all environmental data generated are scientifically valid, of adequate statistical quantity, of known precision and bias, of acceptable completeness, representative, comparable, usable, and where appropriate, legally defensible. Environmental data quality is the responsibility of all District and Division staff who are directly or indirectly involved in the generation of data. Senior managers are responsible for assuring that adequate resources are available to implement the quality assurance system.

DEP employees are held to high professional ethical standards in the performance of their duties. All employees are required to read, understand and sign an 'Ethics Statement' attesting to their commitment to honesty and integrity in performance of their duties. In addition, all employees are required to attend an annual ethics training class. Improper, unethical or illegal actions will be dealt with according to the published DEP Administrative Directives.

3. South District Organization and Responsibilities

The South District Office works closely with the Department's Division of Water Resource Management, Division of Environmental Assessment and Restoration, and Division of Waste Management to implement state and federal laws relating to the respective program areas. The District implements the program areas through issuance of permits, conducting compliance and enforcement activities, and involvement in environmental assessment and restoration activities. In addition District staff perform contract and grant management that include the need for data quality assurance monitoring.

There are four program areas within the South District that are included in this plan. They are the Environmental Assessment and Restoration (EAR), Submerged Lands and Environmental Resource Permitting Section (SLERP), Waste Management (WM), and Water Facilities Section (WF) programs. Each of the programs is managed in the District by an Administrator. The Administrators work closely with their respective programs at the Division level. For consistency across the agency, the Division of Water Resource Management and the Division of Waste Management have developed Quality Assurance Plans for use by their staff as well as the Districts. We have incorporated these plans by reference.

3.1. Environmental Assessment and Restoration

The Environmental Assessment & Restoration section of the South District works to implement many of the programs of the Division of Environmental Assessment & Restoration (DEAR) within the District. This includes data collection and other support for the Bureaus of Assessment & Restoration Support, Laboratories, and Watershed Restoration. The EAR section performs water chemistry and flow sampling, conducts biological assessments of surface waters, assists in the development of action plans to restore impaired waterbodies, provides public outreach on water quality issues, and conducts other monitoring and research in support of the watershed assessment, TMDL, standards and assessment and nonpoint source management programs. In addition, the EAR section provides Department input in regional planning/restoration efforts and monitoring/ research activities within the District. The EAR section operates under a specific Quality Assurance Plan that is included herein as Appendix 1.

3.2 Submerged Lands and Environmental Resource Permitting

The SLERP function is to implement state laws and rules regarding use of state owned submerged lands, regulation of construction projects involving work in wetlands or surface waters, and the regulation of certain storm water management projects. The program is subdivided into two functional groups. The submerged lands group works closely with the Division of State lands to ensure the proper use of state owned lands. The management of this proprietary interest includes the issuance of authorizations (leases, consent of use, etc.) as well as related compliance and enforcement activities. The environmental resource permitting group performs a regulatory function. It provides protection of water quality through permitting, compliance, and enforcement actions.

This section reviews water quality data submitted as part of permit applications or permit conditions. These reviews include evaluation of the acceptability of the data as well as the interpretation of the data.

From time to time the section staff conducts sampling for turbidity or other parameters. This sampling is performed in accordance with the applicable Department Standard Operating Procedures referenced in Rule 62-160. The samples collected are shipped to certified laboratories for analysis.

3.3 Waste Management

The Waste Management Programs implement state and federal laws relating to solid and hazardous waste management by issuing permits, conducting compliance inspections, and initiating enforcement actions as needed while encouraging recycling and pollution prevention. The Districts also regulate aboveground and underground pollutant storage systems and oversee responsible party funded cleanups of contaminated sites pursuant to enforcement actions or voluntary cleanups. Each District Office has sections or areas of responsibility that correspond with the Division's Bureaus. These include the Solid Waste, Hazardous Waste, Waste Cleanup and Petroleum Storage Tanks sections.

The Solid Waste Sections are charged with the responsibility to process permit applications and regulate permitted solid waste management facilities as well as respond to complaints concerning the improper management of solid waste. District staff determines whether water quality (surface and ground) and leachate were monitored correctly. This involves reviewing technical reports concerning sampling procedures, analytical results, and recommendations about future actions.

The Hazardous Waste Management Sections provide compliance assistance to the public and the regulated community, and enforce the laws regulating the handling of various types of regulated waste (e.g., hazardous waste, used oil, mercury containing devices). District staff may perform field sampling of waste, soil, or water (surface or ground). Staff must interpret the analytical results to determine whether a compliance issue must be resolved. Staff will also review technical reports concerning sampling procedures, analytical results, and determine whether appropriate actions were taken based on the results (e.g., waste determinations).

The Waste Cleanup Sections oversee cleanup activities associated with contamination of soils, groundwater and surface waters. In some Districts they also serve as the technical resource to assist other program staff reviews of Solid Waste permits and sites submitting contamination assessment reports, remedial action documents as well as interim remedial and remedial action plans.

The Petroleum Storage Tank Sections oversee compliance assurance related to underground and aboveground storage tanks, including enforcement for non-compliant facilities that have been referred by contracted counties. Staff performs contract management and auditing of compliance contracts. The sections also oversee the cleanup for sites not eligible for state-funded cleanup in counties without cleanup contracts. The process includes the review of field and laboratory procedures to evaluate the validity of the data that will be used to make decisions about whether site assessment and cleanup completion has been achieved.

The Division of Waste Management has prepared a Quality Assurance Plan that includes the Division and District program components. The South District Waste Management Program has adopted the procedures in the Division plan which is incorporated by reference.

3.4 Water Facilities

The Water Facilities section regulates activities that can impact human health and the environment. It includes Drinking Water, Domestic Wastewater, Industrial Wastewater, and Underground Injection Control components. District WF staff work closely with their respective program staff in the Division of Water Resource Management.

The Drinking Water section processes permits for the construction of water treatment plants and associated water distribution systems. The section reviews monthly operation reports, bacteriological reports, as well as chemical analysis performed on the water

produced by the treatment plants. In some cases staff will also collect samples for compliance and enforcement activities. Compliance and enforcement staff are trained for in-situ measurement of chlorine residual and pH of the water. The Drinking Water section has adopted the program specific Data Quality Plan that is intended to be used by all Districts and the Division staff. That plan is incorporated by reference.

The Domestic and Industrial Wastewater section processes permit applications for the construction and operation of treatment plants and the associated collection systems that transport the wastewater to the treatment plants. District staff also reviews monthly operation reports, conduct compliance assurance activities, and pursue enforcement actions when necessary. Compliance sampling of treatment plant effluent is performed by field staff on an as needed basis. The Domestic and Industrial Wastewater Programs in the Division of Water Resource Management have written a Quality Plan that is intended to be used by the Districts and Division staff. District staff has adopted the programmatic Quality Plan which is incorporated by reference.

The Underground Injection Control (UIC) and the Ground Water sections review data associated with permit applications, well logs, and groundwater quality. Unlike other programs in the Water Facilities Program, staff does not take any field samples. Ground Water staff reviews groundwater monitoring data for compliance with the UIC, Domestic and Industrial wastewater facilities staff. In the event that the UIC section develops a specific UIC Quality Assurance Plan, the District will use that plan.

3.5 Quality Assurance Areas of Responsibility

Implementation of the Quality Assurance Plan requires active participation throughout all levels of the Division and District Offices. The District Director has delegated to the administrators, managers and staff the following responsibilities enumerated below as they conform to the Department's QA Directive.

3.5.1 Program Administrators

The Program Administrators have the overall responsibility for the development, implementation, and continued operation of the QA Program requirements as they relate to their respective program areas. Key responsibilities are:

- Ensure that each program area develops and carries out a Quality System, designates Quality Assurance Officers, and provides resources and staff training for implementation.
- Evaluate internal and public feedback related to DEP data and quality-related issues.
- Ensure that a Quality System that conforms to the DEP Quality Assurance Management Plan is fully operational in their program.

- Evaluate proposed Data Quality Objectives and Data Quality Indicators to ensure they meet program needs.
- Periodically evaluate the effectiveness of staff's data quality activities, including review of audit results.
- Evaluate corrective action policies and procedures to be implemented when data do not meet program Data Quality Objectives.
- Request Quality of Science reviews and training from the DEP Environmental Assessment Section as necessary, and review audit results with the QA Officer.
- Review annual Quality Assurance Report to the Secretary, and discuss findings with the QA Officer.

3.5.2 Quality Assurance Coordinator and Officers

The District's Quality Assurance Coordinator (QAC) generally oversees the implementation and update(s) of the QA Plan and serves as the District contact with the Standards and Assessment Section of the Division of Environmental Assessment and Restoration. The District QAC is Gordon Romeis.

Each Section in the South District Office has identified a QA Officer that coordinates with and provides information to the District QAC. The QA Officers are identified as follows:

Erin Rasnake	Environmental Assessment & Restoration	239/344-5719
Lucy Blair	Submerged Lands and Environmental Resource Permitting	239/344-5618
Charles Masella	Waste Management	239/344-5667
Caitlyn Eck	Water Facilities-Wastewater	239/344-5634
James Oni	Water Facilities-Drinking Water	239/344-5679
David Rhodes	Water Facilities-UIC	239/344-5687
Gus Rios	Marathon Branch Office	305/289-7081
Gordon Romeis	Quality Assurance Coordinator	239/344-5688

Key responsibilities of the QA Officers are:

- Coordinate and participate in the quality evaluation of program data, and provide oversight to ensure that staff performs their QA functions.

- Perform audits of internal and external data generators (lab and field) when there are concerns about the quality of the data.
- Ensure that corrective actions are implemented for data non-conformance incidents as determined by evaluation of the data against program Data Quality Objectives.
- Assist program managers in developing the Quality System and other logistical aspects of its implementation, such as coordinating associated training needs.
- Document all program QA activities, including training, audits and corrective actions and provide this information to the QAC who will provide the information to the DEP Environmental Assessment Section for the annual Quality Assurance Report to the Secretary.

3.5.3 Program Staff

Program staff will support the District's QA Officers by providing technical assistance in their area of expertise. This procedure will enhance the QA capability in the District. The specific duties which will be assigned to program staff are as follows:

- Routinely carry out duties involving data collection, data usability evaluation, data interpretation, data management, and the generation of DEP work products in a manner that ensures scientific defensibility and adherence to DEP rules and policies.
- Evaluate program data using program Data Quality Objectives and Data Quality Indicators.
- Implement corrective actions as directed by the QA Officers.
- Provide feedback to the program QA Officers for improving the program quality system.

4. Data Quality System Components

Generally data is reviewed by evaluating the completeness, correctness, conformance and compliance of specific data sets against the District's established Data Quality Objectives (DQOs), and by incorporating the concepts and criteria found in DEP's "Process for Assessing Data Usability", (DEP-EA-001/07, Effective 12/3/08, Revision 3/31/08).

4.1. Data Quality Objectives

The Data Quality Objectives (DQO) process is the District's systematic planning process which uses a step-wise system of developing the technical, programmatic and quality assurance requirements specific to a particular project. Staff evaluate program data using program DQOs and implement corrective actions as necessary to remedy deficiencies.

The following program DQOs are designed to ensure that submitted data meets or exceeds the threshold for scientific defensibility and adherence to DEP rules and policies for our program:

- Department approved SOPs, and any approved variances are followed for all field sampling and laboratory analyses.
- Laboratory analyses are performed by facilities certified by the Department of Health and accredited under NELAC.
- Data are processed, verified and validated. Some data are checked using the ADaPT software. If data is not processed using ADaPT software, staff manually checks the quality of the data.
- Corrective action is taken as necessary to ensure data meets quality criteria.
- Data are archived in an electronic depository.
- Data are generated using appropriate methods with appropriate sensitivity to meet the needs of the program.

4.2. Critical Documents

Generally the South District relies on critical documents to define the project-specific QA requirements. Department rules or SOPs lay out the framework and requirements for meeting the threshold of compliance in many cases. The programs may refer to the critical documents using different terms such as Groundwater Monitoring Plan, Sampling and Analysis Plan, General Study Plan, or a permit may stipulate QA criteria for a particular project or site. However named, the critical document will contain the necessary elements to meet the threshold of compliance with the data review procedures described in this Quality Plan. The content and implementation of the critical documents is overseen by the data user or project manager.

4.3. Data Processing

Data processing includes collection, validation, data entry, and archiving. In the District, data collection is performed by staff or contractors of regulated entities or by our field staff. Field staff conducts sampling as part of ambient monitoring, special studies, or compliance activities. The audit procedures described in Section 6 of this QA Plan are

used to ensure data collection errors are kept to a minimum. Data validation, data entry, and archival is the responsibility of District staff depending on the specific program.

4.3.1. Data Transfer and Reduction

Precautions are taken each time the data are reduced, recorded, calculated, and transcribed to prevent the introduction of errors and the loss of information. Data transfer and reduction steps are kept to a minimum and when such steps are implemented, the data transfer is conducted using a consistent process. Employees that perform data entry are given specific training to ensure accuracy. Program supervisors monitor the data entry process. These procedures ensure the correctness of data reduction processes to include all processes that change either the form of expression or quantity of data items. Periodic internal and external audits are performed to verify accuracy. .

4.3.2. Data Archival

Data generated by District staff or submitted by regulated entities is stored in various ways depending on the specific program. For example, data generated by the EAR section is housed in the Department's STORET database while drinking water chemistry reports are stored in the PWS system.

Records for each facility are maintained in paper format in accordance with DEP Directive 335. Many files are now stored electronically in the OCULUS™ system which provides permanent storage with greater public access to the data.

4.4 Corrective Action

Procedures are implemented to assure early and effective corrective action is taken when data quality falls outside established DQOs, data acceptance criteria or quality assurance requirements. Problems are listed in letters addressed to the responsible party. Depending on the severity of the problem, data may be rejected.

When requested, the QAC or the appropriate QA Officer provides feedback and suggestions for corrective actions. The program specific QA plans contain the corrective action procedures used by the District.

5. Training

All staff is properly trained to perform their duties. Supervisors periodically assess that staff performance conforms to the established District policies and procedures. The training procedures include the following:

- Training for specific QA functions.
- Annual ethics policy course.
- Specific training materials for routine functions and designated QA activities.
- Refresher trainings or delivery of updated information.
- Evaluation of effectiveness of training for each QA staff member.

6. Audits

Audits provide objective feedback concerning the effectiveness of the District's quality system, and may identify areas in need of improvement. Audits can be internal including field sampling procedures (following applicable SOPs for all aspects of field sampling) data review, data entry, data archival, and follow up corrective actions if needed.

Audits can also be performed for the laboratories submitting analyses to the Department and for the staff or consultants of regulated entities that collect samples for compliance reporting purposes.

Audits plans will be developed for each program area by the program QA Officers and the District QAC.

7. Contract Management

From time to time the District manages contracts or grants that involve environmental monitoring. Contract and grant agreement language will contain requirements for specific quality assurance project plans to be submitted to the District for review prior to the start of sampling. If possible the water quality data will be processed through ADaPT by a contractor prior to submittal to DEP. Otherwise the data will be audited by the DEP project manager prior to acceptance.

8. Report Compilation

To provide the Secretary with information regarding ongoing QA efforts within the South District, the QAC coordinates with the QA Officers to describe and compile the results of all appropriate QA activities and relay them to the Standards and Assessment Section for an annual report.