

ENVIRONMENTAL REQUIREMENTS AND PROGRAM DOCUMENTS	Manual:	3Q1
	Procedure:	0102
	Revision:	1
ENVIRONMENTAL MONITORING PROGRAM QUALITY ASSURANCE PROJECT PLAN	Effective Date:	06/05/13
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### Revision Log

Pages Affected	Description of Revision
All	Reformatted the entire Procedure to comply with current Site standards; reworded some paragraphs for clarification
All	Changed the title of the procedure from "Environmental Monitoring Quality Assurance Project Plan" to the current title
All	Substituted "Sample Data Management" or "SDM" for "Environmental Monitoring" or "EM", respectively, throughout the document
All	Changed "Regulatory Integration & Environmental Services (RI&ES)" to "Environmental Compliance and Area Completion Projects (EC&ACP)" And changed "RI&ES" to "AC&ECP" throughout the document
i and ii	Deleted <b>Table of Contents</b>
3	<b>Section 1.0</b> , added reference to 1Q, 21-1, <i>Quality Assurance Requirements for the Collection and Evaluation of Environmental Data</i> .  <b>Section 2.0</b> , added Standard Scope Statement, applicable to M&O and <u>LW</u> only  <b>Section 4.0</b> , changed section title to "Objectives, Organization, and Responsibilities"
4	<b>Section 4.1</b> , added the word "Annual" before "SRS Environmental Report" in two places  <b>Section 4.2</b> , Added a paragraph for EC&ACP organization and responsibilities Added a new picture of the organizational diagram
5	<b>Section 4.3</b> , added "Responsibilities" for "SDM" and "Environmental Monitoring"  <b>Section 4.3.4</b> , Replaced the word "Supervisor" with "Manager" after "First Line"  <b>Section 4.3.6</b> , Changed "EM" to "the Environmental Monitoring Program at SRS" Added the word "function" after "QA" in two places
6	<b>Section 4.3.7</b> , changed "EM" to "EC&ACP" Added the phrase "Services of" to the first sentence after "Offsite Laboratories" Changed the word "purchased" to "procured"  <b>Section 5.1</b> , changed heading title to "Sample Collection"
7	<b>Section 5.1.4</b> , deleted information about Manual 3Q1, Procedure 1002, <i>Review of Environmental Monitoring and Analysis Log Books</i> , and added the phrase "to ensure accurate and complete entries"
8	<b>Section 5.2</b> , Rewrote entire section on "Analytical Methods"

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**Revision Log, (cont.)**

9	<p><b>Section 5.3.1</b>, added references to (environmental) “sampling technician” and “laboratory technician”</p> <p><b>Section 5.4.1</b>, Section was rewritten, deleting a lot of unnecessary information Included a sentence about “Radiological data processing,” “EPM” and “EMAPPS”</p>
11	<p><b>Section 5.4.3</b>, Step 1, added “EPM Application” Step 3, added “B-SQP-F-00031, <i>Software Quality Assurance Plan for Laboratory Support Programs</i>” Step 5, deleted “WSRC-RP-99-00422 Software QA Plan and” and deleted “the Statistical Consulting Section of SRNL (U)” Added “VVR-A-00002” and added “Applied Computational Engineering and Statistics”</p>
13	<p><b>Section 5.7.1</b>, Changed “Management Assessment” to “Self-Assessment” Deleted “program management” responsibilities Added a reference to 12Q-MFO-1 Added “SRNS Quality Assurance in accordance with Manual 1Q, Procedure 18-2, <i>Surveillance</i>, and the” Changed “Section 4.0” to “Procedure FEB-1” and deleted the word “Assessments” from the title of the procedure</p> <p><b>Section 5.7.2</b>, Step 1, changed “Section” to “Procedure” and substituted the terms “Findings and Deficiencies” for “nonconforming activities” Step 3, added the terms “EC&amp;ACP Issue Analyst” and “The EC&amp;ACP Review Board”</p>
14	<b>Section 5.7.4</b> , Deleted entire section
14 and 15	<b>Section 6.0</b> , added this section as part of format change and incorporated references called out in the procedure
16	<b>Section 7.0</b> , added this section as part of format change and listed several records generated by implementation of this procedure

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## 1.0 PURPOSE

This Quality Assurance Project Plan (QAPP) provides the blueprint that Sample Data Management (SDM) uses to obtain the type and quality of environmental monitoring (EM) data needed for specific decisions or applications. This QAPP also documents how Quality Assurance (QA) and Quality Control (QC) are applied to EM data operations to assure that the results obtained are of the type and quality needed and expected. This is in accordance with Quality Assurance Manual 1Q, Procedure 21-1, *Quality Assurance Requirements for the Collection and Evaluation of Environmental Data*.

This Plan is not intended as a compilation of all applicable QA requirements; the SDM quality system includes higher tier requirements and implementing procedures that users must be familiar with. This Plan references, but does not address the analytical services provided by laboratories external and internal to Savannah River Site (SRS). This Plan applies specifically to the sampling, analysis, and the environmental monitoring activities conducted and/or directed by SDM for execution of the Environmental Monitoring Program for the SRS.

## 2.0 SCOPE

The provisions of this procedure apply to the Performing Entities at the Savannah River Site (SRS) and to subcontractors performing work for the Performing Entities when required by subcontract or applicable law.

## 3.0 DEFINITIONS AND ABBREVIATIONS

Definitions and abbreviations specific to this procedure and others from Manual 3Q1, *Environmental Requirements and Program Documents*, can be found in its [Glossary](#).

## 4.0 OBJECTIVES, ORGANIZATION, AND RESPONSIBILITIES

### 4.1 Objectives

The general objectives of the SRS Environmental Monitoring Program are:

- To demonstrate compliance with Department of Energy (DOE), United States Environmental Protection Agency (US EPA), South Carolina Department of Health and Environmental Control (SCDHEC), and Savannah River Nuclear Solutions (SRNS) requirements for environmental and radiation protection
- To assess actual or potential exposures to the public, critical groups and populations from the presence of radioactive and non-radioactive materials during normal site operations or from accidents
- To document trends in the performance of radioactive containment systems and the effectiveness of effluent controls

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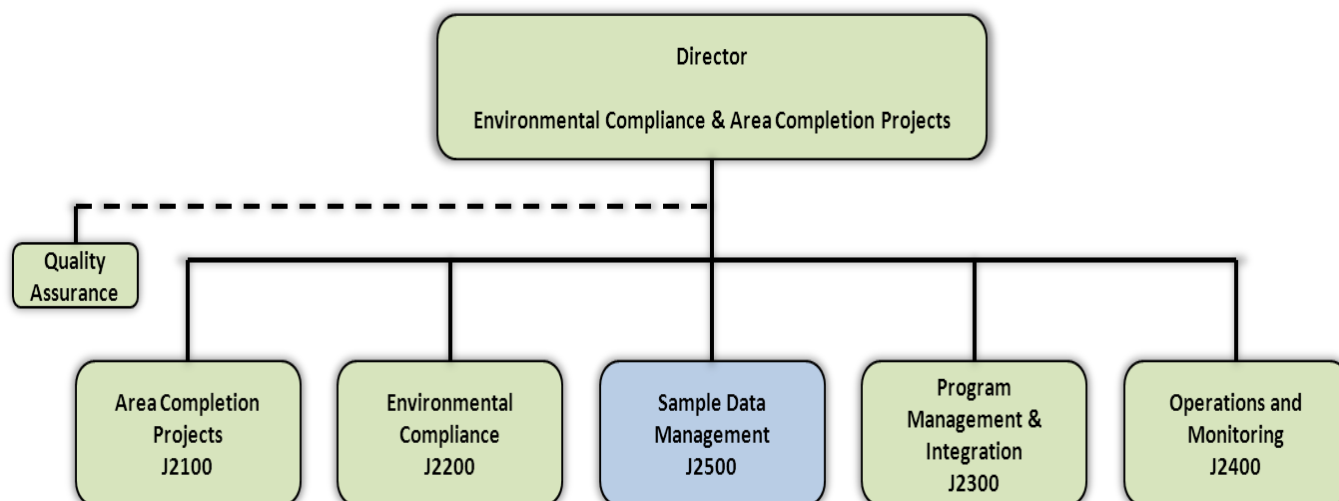
#### 4.1 Objectives, (cont.)

The Annual SRS Environmental Report is the primary report that relies on the environmental monitoring data produced by SDM. The Annual SRS Environmental Report provides an annual report card to Congress and stakeholders for the SRS and addresses potential doses to the public and a summary of extensive environmental data collected throughout the year. The data produced by SDM is also used in a variety of reports to external agencies and stakeholders including weekly Tritium Monitoring reports, monthly radiological release reports, monthly National Pollutant Discharge Elimination System (NPDES) Discharge Monitoring Reports, annual air emissions inventory, and various compliance reports. The credibility of these reports is very dependent on high quality data that can only be produced with a structured quality system which assures that work processes, products, or services satisfy stated expectations and specifications.

The specific objectives and activities of the Environmental Monitoring Program are further described in the Manual 3Q1, Procedure 101, *Environmental Monitoring Program Management Plan*. Full implementation of this QAPP in conjunction with the aforementioned Project Management Plan ensures a high level of quality will be achieved in all SDM activities.

#### 4.2 Organization

SDM within the Environmental Compliance and Area Completion Projects (EC&ACP) is responsible for the SRS EM Program. The QA function associated with the EM Program is fulfilled by matrix support from the SRS QA organization. Within Operations and Monitoring, environmental monitoring sampling personnel conduct the field operations, including sample collection.



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### **4.3 Responsibilities**

#### **4.3.1 SDM**

SDM maintains the Data Management Program and evaluates and validates environmental data, reviews environmental monitoring documentation, and prepares and publishes various environmental reports

#### **4.3.2 Environmental Monitoring**

Environmental Monitoring is responsible for collecting environmental samples.

#### **4.3.3 SDM Manager**

The SDM Manager is responsible for the development, implementation, and oversight of the requirements in this Plan and shall ensure that all personnel involved in the work have direct access to a current version of this Plan and all other necessary planning, implementation, and assessment documents.

#### **4.3.4 First Line Managers (FLM)**

FLMs within Environmental Monitoring are responsible to ensure the requirements of this Plan are implemented for the activities they supervise.

#### **4.3.5 All SDM Personnel**

All SDM personnel are responsible for understanding and implementing the requirements of this Plan as approved to ensure continued success of the Environmental Monitoring Program.

#### **4.3.6 QA**

QA for the Environmental Monitoring Program is provided by QA organizations which are external to EC&ACP. The QA function provides QA oversight of environmental requirements, functions, and activities. This includes, but is not limited to, environmental data collection, environmental technology programs, monitoring, reporting, regulatory documentation, and other compliance activities. The QA function will perform document reviews, assessments, and surveillances as needed to support the goals and objectives of the Environmental Monitoring Program at SRS.

#### **4.3.7 Laboratory Services**

The performing analytical laboratories, whether they are onsite or offsite, are required to have a documented QA/QC program that is subject to periodic performance audits. Laboratories also will be subject to the QA/QC requirements defined in this QAPP. The laboratories will identify and comply with any applicable federal, state, or local laboratory certification requirements.

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#### **4.3.7 Laboratory Services, (cont.)**

##### Onsite Laboratories

Onsite laboratories are subject to U.S. DOE QA requirements for analytical laboratories as well as implementation of the SRNS QA program. EC&ACP maintains a Memorandum of Understanding (MOU) with the onsite laboratory to procure their analytical services.

##### Offsite Laboratories

Services of offsite laboratories that conduct analytical work in support of radiological and nonradiological environmental monitoring programs are procured through formal contracts and are obligated to participate in the Department of Energy Consolidated Audit Program (DOECAP).

##### DOECAP

DOECAP is a DOE–Headquarters program that conducts annual audits of analytical laboratories and commercial waste treatment, storage, and disposal facilities that have contracts or agreements to provide services to DOE. DOECAP audits are performed on behalf of, and with the participation of sites throughout the DOE complex and across all Departmental program line organizations. Audits cover data quality in such functional areas as QA, radiochemistry, organic analysis, inorganic analysis, and laboratory information management systems. Each audit is team guided by a Lead Auditor who is certified and appointed by the DOECAP Program Office.

### **5.0 ENVIRONMENTAL SAMPLING AND MONITORING REQUIREMENTS**

Written procedures for all environmental sampling and monitoring activities are utilized to ensure appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, and QC activities are used and properly documented. These procedures are contained in Manual 3Q1.

#### **5.1 Sample Collection**

##### **5.1.1 Sampling and Monitoring System Design**

The design of the sampling and monitoring networks is provided in 3Q1, 101. The design is implemented through sampling and monitoring procedures, contained in Manual 3Q1, which provide:

- The type and number of samples required
- The sampling locations and frequencies
- Sample matrices
- Parameters of interest being measured.

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### 5.1.2 Sampling Methods

Sampling methods are discussed in 3Q1, 101. The methods for collecting samples and taking measurements are specified in written procedures which are found in Manual 3Q1. These procedures identify the sampling methods and equipment and other materials needed to conduct the sampling or monitoring evolution.

These activity-specific procedures describe:

- The process for preparing and decontaminating sampling equipment, including the disposal of decontamination by-products
- The selection and preparation of sample containers

### 5.1.3 Reusable Sample Bottles

Reusable sample bottles for some routine monitoring tasks are used to reduce the generation of solid waste. Written procedures prescribe the conditions under which sample bottles can be reused and include the following criteria:

- Methods for cleaning the containers between uses
- Methods for determining whether the cleaning is effective
- Requirements for identifying reusable sample bottles
- Methods for controlling reusable sample bottles to prevent inadvertent use.

### 5.1.4 Sample Handling and Control

Sample handling and control requirements are dependent on the specific objectives of the sampling routine and the laboratory receiving the samples. Sampling procedures in Manual 3Q1 specify the requirements for obtaining and handling samples in the field and during transport to ensure the integrity of samples is not compromised. These instructions include requirements for sample preservation and packaging, as well as instructions for preparing and shipping samples to the laboratory. These procedures also provide examples of sample labels, packaging slips, and custody forms to ensure proper sample handling. Manual 3Q1, Procedure 1001, *Chain of Custody Procedure*, provides the requirements for initiating and maintaining sample chain-of-custody forms. The requirements for preparation and handling of acid solutions used in sample preservation are documented in Manual 3Q1, Procedure 4003, *Acid Handling and Sample Preservation*.

Sampling procedures also specify the information from each sampling event which must be recorded in logbooks to document sampling activities and sample handling practices. FLMs perform a review of all logbooks to ensure accurate and complete entries.

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## **5.2 Analytical Methods**

### **5.2.1 Chemical Analyses**

Organic, inorganic, and various wet chemical analyses are performed on samples for a wide variety of programs for Clean Air Act (CAA), Clean Water Act (CWA), Safe Drinking Water Act (SDWA), NPDES, Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) programs at the SRS.

The inorganic, organic, and wet chemical methods utilized are US EPA methods or other standard methods commonly used at CERCLA and RCRA sites and readily performed by commercial analytical laboratories. US EPA methods include 200 and 500 Series methods in 40 CFR 141, *National Primary Drinking Water Regulations*; 600 Series methods specified in 40 CFR 136, *Guidelines Establishing Tests Procedures for the Analysis of Pollutants*; methods from EPA Publication SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*; found in 40 CFR 261, *Identification and Listing of Hazardous Waste*; and the latest version of the US EPA Contract Laboratory Program Statement of Work (CLP-SOW) methods. Other standard methods include those listed in SCDHEC permits and/or requirements, the latest edition of the Standard Methods for the Analysis of Wastewater and those listed in the latest revision of the American Society for Testing and Materials (ASTM) publications.

### **5.2.2 Radiochemical Analyses**

Unlike organic and inorganic chemical analytical methods, few standard methods are available for the radiochemical analysis of environmental samples. Standard established quality assurance/quality control requirements and acceptance criteria are not available for environmental radiochemical methods, so different US EPA, DOE, and commercial environmental laboratories may have different sample preparation and analytical techniques for specific radiochemical analytes. For this reason, laboratory-reported detection limits may vary. Nonetheless, multi-lab validation studies and interlaboratory comparison studies have demonstrated that accurate, comparable radiochemical data are obtainable even though different procedures are used.

### **5.2.3 Historical DOE Methods**

Because of the presence of radionuclides at the DOE sites, methods have been developed at those sites for the radiochemical and chemical analysis of certain elements (tritium and plutonium, for example). Although these methods have a long history of use, they have not been promulgated, nor have they been compiled as "standard" methods due to limited applicability.

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## **5.3 Measurements**

### **5.3.1 QC for Field pH Measurements**

A blind field sample program is used to document the accuracy of field pH measurements and allows for continuous monitoring of field measurements and field calibrations so that corrective actions can be initiated, if required. Environmental sampling personnel transport “blind” solutions prepared by an environmental laboratory technician to the field when routine samples are collected. The sampling personnel do not know the pH of the blind solutions. pH measurements are taken of these blind solutions in the field with the same equipment used for routine in situ measurements. The environmental sampling technician records measurements on a data sheet and returns the remaining solution and the data sheet to the laboratory. Another laboratory technician takes a final measurement on the remaining solution.

### **5.3.2 Non-Direct Measurements**

Structured (or Standardized) Query Language (SQL)/Laboratory Information Management Systems (LIMS) database, EM Reporting Database, and logbook are the repository for all radionuclide concentrations and non-direct measurement data for radiological programs. Input into SQL LIMS is done through the laboratories. Input into the EM Reporting Database is also done through the laboratories and reviewed by SDM personnel.

## **5.4 Quality Control, Evaluation, and Management of Data**

### **5.4.1 Quality Control of Data**

SDM personnel perform data review per Manual 3Q1 Procedure 6001, *EM Data Review and Calculation Procedure*. Radiological data, after approval and release from the laboratory, is approved using the Enterprise Performance Management (EPM) Application by the SDM. After approval, the data is transferred to the reporting database. Statistical analysis and reporting may then be performed using the EM Application (EMAPPS) System. EMAPPS is a statistical application utilized by EM Reporting personnel for data review of radiological resultant data. This system inputs the data from the Reporting Database tables and has flexibility to run program-specific reports of concentration results and trend charts for data review. The generic data-review process involves reviewing concentration results and trend charts by Sample Description Number in comparison to historical trends. In addition, various program-specific reports are generated from this system including data tables for the annual Site Environmental Report. For questionable data, each applicable EM logbook is reviewed and the laboratory is notified for rechecks, reanalysis, or retransfer of results to the EM reporting database.

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#### 5.4.2 Data Evaluation

1. Laboratory data are received by SDM after they have passed all laboratory QA and QC tests and the data has been approved by a laboratory QA officer and/or laboratory manager. SDM personnel involved in the management, evaluation, and publication of environmental monitoring data conduct a data verification process to evaluate the quality and reliability of analytical results obtained for each parameter of interest. A review of QC information on essential sampling data helps assess the level of uncertainty associated with the data, which in turn helps establish whether additional sampling and/or reanalysis is required to either verify or supplement existing data.

The criteria used to verify analytical data may consist of:

- Documentation of sample identity, handling, and custody
  - Use of appropriate and approved analytical procedures
  - Use of control samples or EPA check samples
  - Analysis of blank, duplicate, and blind samples
  - Precision and accuracy
  - Estimated limits of statistical uncertainty
  - Checks for reasonableness of values with respect to a priori (prior to) and/or posteriori (posterior to) limits
  - Checks of data plots and regression analysis
  - Test for outlier data.
2. Data values which exceed the control limits are identified as outliers if they satisfy one or more of the following conditions:
    - Unusual loss or contamination
    - Transcription error
    - Dilution error
    - Misidentification of a sample
    - Bad reagents or standards
    - Calculation error
    - Faulty instrument
    - Incorrect application of an analytical method
    - Other assignable causes, such as system malfunction or loss of control
    - Issues regarding sample integrity.

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#### 5.4.2 Data Evaluation, (cont.)

- When outlier data are identified during review that results in request for reanalysis, the reason the data is being designated as an outlier should be documented. Records of all analytical data shall be maintained even if the data are determined to be statistically "out of control" and all supporting information shall be documented and filed with the data. Standard deviation ranges or EPA acceptance limits shall be used as rejection criteria. Radiological data is reported in consistent units and accompanied by estimates of uncertainty.

#### 5.4.3 Data Management

- SDM utilizes the EPM Application, EM statistical application system, EMAPPS, the laboratory QA Officer, and 3Q1, 6001 to ensure that all environmental monitoring data is verified and of known accuracy and precision.
- SDM implements Manual 1Q, Procedure 20-1, *Software Quality Assurance*, for a standard systematic approach for the quality control of computer software and firmware which is used in support of the EM Program.
- The requirements for data handling and software configuration are described in SRNS 1Q *Quality Assurance Manual*, and 1Q, 20-1. For LIMS, the requirements are further defined in Conduct of Engineering and Technical Support Manual E7, Procedure 5.01, *Software Engineering and Control*, and B-SQP-F-00031, *Software Quality Assurance Plan for Laboratory Support Programs*.
- Modifications to the EM Reporting Database are monitored through E7, Procedure 5.80 *Data Management*, and Process & Control Engineering/Laboratory & Engineering Process Services (P&CE/LEPS) Data Modification Tracker Desktop Instructions. Modifications are only made at the owner's request, document by data modification tracker and the results verified by the owner.
- The EM statistical application system, EMAPPS, is maintained by Savannah River National Laboratory (SRNL) and is controlled under VVR-A-00002, *Verification & Validation for Commercial Statistical Packages Utilized by Applied Computational Engineering and Statistics*.

#### 5.5 Data Validation and Usability

Data validation and usability activities occur after data collection is completed and are intended to determine whether or not the data conform to the specified criteria, thus satisfying the project objectives. The primary goal is to produce known data of sufficient quality. Data are considered known when all components associated with its derivation are thoroughly documented, and such documentation is verifiable and defensible.

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### 5.5.1 Validation and Verification

Each laboratory is required to perform an internal data review before issuing their data report. Upon receipt in SDM, the appropriate person performs a final review before recording or issuing the data. SDM uses 3Q1, 600 to calculate and review data. The general criteria in this procedure used to verify analytical data includes

- Checks for compatibility of values with historical data
- Use of data plots and other graphics tools
- Tests for outliers.

### 5.5.2 Reconciliation with User Requirements

If an analytical result does not meet verification criteria, the result must be investigated to determine if a problem exists. If the integrity of the sample result appears to be compromised, the sample is reanalyzed when a sufficient amount of the sample is remaining, and the result is reevaluated. The analytical result is reported only after the investigation is complete and all verification criteria have been met or qualified. Any supporting information for the data must be documented and filed with the data. All laboratory results must be reviewed before data are verified to determine whether all samples and analyses have been performed as required.

## 5.6 Instruments and Supplies

### 5.6.1 Instrument Testing, Inspection, and Maintenance

Measurement and testing equipment (M&TE) such as balances, pipettes, and rotameters which are used for the EM Program for sample collection and field analysis require periodic calibration to ensure accuracy. The EM Program implements the M&TE Program in the Quality Assurance Manual 1Q Procedure 12-1, *Control of Measuring and Test Equipment*, for calibration, control, use, and maintenance of M&TE as well as for procurement of M&TE and M&TE calibration services.

All personnel are responsible for identifying and documenting potential nonconforming items. Manual 1Q, Procedure 15-1, *Control of Nonconforming Items*, is utilized for identifying and resolving nonconforming items to prevent their inadvertent use or installation.

### 5.6.2 Inspection/Acceptance of Supplies and Consumables

Manual 1Q, Procedure 7-2, *Control of Purchased Items and Services* is used to inspect and accept supplies and consumables (e.g., standard materials and solutions, sample bottles, calibration gases, reagents, hoses, electronic data storage media). Received items are examined for identification, quantity and damage to ensure they are acceptable prior to use or installation. Acceptance criteria are documented in procurement specifications under this program.

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## 5.7 Program Assessment and Oversight

Assessments are conducted to ensure this QA Plan is implemented as prescribed and to determine the effectiveness of project implementation and associated QA and QC activities.

### 5.7.1 Assessments

Assessments are performed by management as well as subject matter experts immediately responsible for the work being assessed to identify and correct problems that hinder the organization from achieving its objectives. Management assessments are to be performed to determine effectiveness of management control systems, adequacy of resources and personnel, and effectiveness of training. Assessments are performed annually in accordance with Assessment Manual 12Q, Procedure SA-1, *Self-Assessment*, and also in accordance with Manual 12Q, Procedure MFO-1, *Management Field Observation Program*. The MFO program is an element of the Human Performance Improvement Program and compliments the Self-Assessment Program.

Independent assessments are provided by SRNS Quality Assurance in accordance with Manual 1Q, Procedure 18-2, *Surveillance*, and the Facility Evaluation Board (FEB) in accordance with Manual 12Q, Procedure FEB-1, *Facility Evaluation Board*.

### 5.7.2 Corrective Action Management

1. Manual 1B, Procedure 4.23, *Corrective Action Program* is implemented for control of Findings and Deficiencies (that is, Problems) including assessment findings, deficiencies, and non-conforming conditions. This is a company-level corrective action program which ensures that issues are promptly and systematically identified, analyzed, controlled, tracked, trended, reported, and satisfactorily resolved. This program is utilized for the management of all issues that are identified through events/incidents as well as issues identified through internal and external review processes.
2. All personnel are responsible for identifying and documenting issues for evaluation. Issues are entered into a company-wide database system called Site Tracking, Analysis, and Reporting (STAR). The STAR system is an electronic format where issues are entered; evaluation results captured, and associated actions tracked to closure.
3. The EC&ACP Issue Analyst reviews initial entries of issues into STAR to ensure data adequacy and consistency and to ensure proper assignment of Significance Categories to issues. The EC&ACP Review Board oversees correction of significant issues by:
  - Reviewing initial reports to ensure completeness of the issue descriptions and responsible manager assignments,
  - Reviewing the results of root cause analyses and corrective actions, schedules, and assignments, and
  - Reviewing the results of effectiveness reviews.

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### 5.7.3 Stop Work Authority

All individuals have the responsibility to immediately stop their activities when work quality is unsatisfactory unless stopping would be detrimental to the safety or health of personnel or the environment, violate criticality rules, or unnecessarily result in damage to equipment. In such cases, work shall be stopped as soon as practicable. Individuals also have the responsibility to verbally request responsible management to stop work external to their activities to prevent a nonconforming item from further use, installation, or processing, or to prevent a nonconforming activity from proceeding. Prior to restart after a formal Stop Work Order, appropriate reviews or assessments are planned, performed, and documented to verify that conditions that warranted the Stop Work Order are resolved and corrective actions completed.

## 6.0 REFERENCES

1B, 4.23, *Corrective Action Program*

1Q, 7-2, *Control of Purchased Items and Services*

1Q, 12-1, *Control of Measuring and Test Equipment*

1Q, 15-1, *Control of Nonconforming Items*

1Q, 18-2, *Surveillance*

1Q, 20-1, *Software Quality Assurance*

1Q, 21-1, *Quality Assurance Requirements for the Collection and Evaluation of Environmental Data*

3Q1, *Environmental Requirements and Program Documents*

3Q1, 101, *Environmental Monitoring Program Management Plan*

3Q1, 1001, *Chain of Custody Procedure*

3Q1, 4003, *Acid Handling and Sample Preservation*

3Q1, 6001, *EM Data Review and Calculation Procedure*

12Q, SA-1, *Self-Assessment*

12Q, FEB-1, *Facility Evaluation Board*

12Q, MFO-1, *Management Field Observation Program*

<b>Environmental Requirements and Program Documents</b>	<b>Manual:</b>	<b>3Q1</b>
<b>Environmental Monitoring Program Quality Assurance Project Plan</b>	<b>Procedure:</b>	<b>0102</b>
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## 6.0 REFERENCES, (cont.)

40 CFR 141, *National Primary Drinking Water Regulations*

40 CFR 136, *Guidelines Establishing Tests Procedures for the Analysis of Pollutants*

40 CFR 261, *Identification and Listing of Hazardous Waste*

E7, 5.01, *Software Engineering and Control*

E7, 5.80, *Data Management*

L3.25, *Environmental Monitoring Quality Assurance Procedures*

B-SQP-F-00031, *Software Quality Assurance Plan for Laboratory Support Programs*

Clean Air Act (CAA)

Clean Water Act (CWA)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Safe Drinking Water Act (SDWA)

National Pollutant Discharge Elimination System (NPDES)

Resource Conservation and Recovery Act (RCRA)

SRNS-RP-2012-00659, *Memorandum Of Understanding Between Environmental Compliance And Area Completion Projects And Environmental Bioassay Laboratory*

SW-846 (EPA Publication), *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*

US EPA Contract Laboratory Program Statement of Work (CLP-SOW) methods

VVR-A-00002, *Verification & Validation for Commercial Statistical Packages Utilized by Applied Computational Engineering and Statistics*

<b>Environmental Requirements and Program Documents</b>	<b>Manual:</b>	<b>3Q1</b>
<b>Environmental Monitoring Program Quality Assurance Project Plan</b>	<b>Procedure:</b>	<b>0102</b>
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## **7.0 RECORDS**

Assessment Reports

Calibration Documentation

Chain of Custody Forms

Data Tables for the SRS Annual Environmental Report

Laboratory Data Reports

Logbook

Monthly Radionuclide Release Reports

Software QA Documentation

## **8.0 ATTACHMENTS**

None.