

DIVISION OF ENVIRONMENT
QUALITY MANAGEMENT PLAN

PART III:

FEDERAL FACILITIES PROGRAM
QUALITY ASSURANCE MANAGEMENT PLAN



Revision 4
February 7, 2018

Kansas Department of Health and Environment
Division of Environment
Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson, Suite 410
Topeka, Kansas 66612-1367

Concurrences and Approvals

Concurrences, KDHE Division of Environment, Bureau of Environmental Remediation

Name: Randy Carlson
Title: Section Chief, Remedial Section

Signature *Randy Carlson* Date 3/23/18

Name: Jeff Janzen
Title: QA Representative, Bureau of Environmental Remediation

Signature *Jeffery D Janzen* Date 3/23/18

Name: Bob Jurgens
Title: Director, Bureau of Environmental Remediation

Signature *Bob Jurgens* Date 3/27/18

TABLE OF CONTENTS

INTRODUCTION	2
1.1 Purpose of Plan	2
1.2 Plan Revisions.....	2
DESCRIPTION OF PLAN.....	3
2.1 Historical Overview	3
2.2 Mission and Goals	3
2.3 Organization and Responsibilities	4
QUALITY ASSURANCE / CONTROL POLICY STATEMENT.....	6
QUALITY ASSURANCE / CONTROL CRITERIA AND PROCEDURES	7
4.1 Sampling Types.....	7
4.2 Requesting Analytical Services	7
4.3 Specialized Training.....	7
4.4 Data Validation and Reporting	8
4.5 Procedures for Assessing Data Accuracy, Precision, Completeness, Representativeness and Comparability.....	8
4.5.1 Accuracy:	8
4.5.2 Precision:	8
4.5.3 Completeness:	8
4.5.4 Representativeness:.....	9
4.5.5 Comparability:	9
4.5.6 Sensitivity:.....	9
4.6 Quality Assurance Reporting Requirements	9
4.7 Reporting management	9
4.8 Corrective Action Procedures.....	10
REFERENCES	11

QAMP Revision History		
Date	Revision	Change
1/15/2013	1	Minor changes due to reorganization of programs within ARS
1/28/2015	2	Minor changes due to reorganization of BER
2/14/2017	3	Minor changes due to personnel changes, reference updates
2/7/2018	4	Minor changes due to personnel changes

Section 1

INTRODUCTION

1.1 PURPOSE OF PLAN

This document presents the quality assurance management plan for the Federal Facilities Program. The plan describes the mission, developmental history, organizational structure, environmental monitoring protocols, data handling procedures, and quality assurance (QA) and quality control (QC) requirements of the program. Standard operating procedures (SOPs) and equipment used in the program are presented in Appendix A.

1.2 PLAN REVISIONS

To be effective and useable, this document must be maintained in an up-to-date condition. As required by the Division of Environment Quality Management Plan (Part I, section 7), the contents of the plan are reviewed on at least an annual basis. Minor changes in the report's organizational structure or terminology may be approved by the Remedial Section Chief. However, major revisions which substantially change the contents of the document, especially in terms of QA policies or procedures, require the added approval of the Bureau QA Representative and the Bureau Director.

Section 2

DESCRIPTION OF PLAN

2.1 HISTORICAL OVERVIEW

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) was passed into law in December 1980 to establish a program to identify sites from which releases of hazardous substances into the environment might occur or have occurred, to ensure that they are cleaned up by responsible parties or the federal government and to evaluate damages to natural resources. The program is commonly known as Superfund. The Superfund Amendments and Reauthorization Act (SARA), signed into law in 1986, extended the tax-based funding for the program for five additional years. Since 1992, the program has been funded through direct appropriations from the federal budget.

The Defense/State Memorandum of Agreement (DSMOA), whose purpose is to expedite environmental restoration through partnerships with States, was established pursuant to section 211 (B) of SARA and is funded by the U.S. Department of Defense (DoD) under the Defense Environmental Restoration Program (DERP). Through DSMOA, DoD reimburses states for their work in support of assessment and cleanup activities at federal facilities. Investigations and remedial actions performed at these sites follow CERCLA guidance as amended by SARA. Some active installations also have operating permits under the Resource Conservation and Recovery Act (RCRA) which requires investigation and remediation work to address environmental contamination.

The Federal Facilities Program, which was initiated in 1994, provides state oversight of environmental assessments and corrective actions at active and reserve DoD installations and at Formerly-Used Defense Sites (FUDS). Federal Facilities Unit project managers work closely with U.S. Army, U.S. Air Force, U.S. Army Corps of Engineers (USACE), Kansas National Guard, and Environmental Protection Agency (EPA) project managers and technical staff to provide technical expertise and field oversight of federal environmental investigations and cleanups, and to communicate state priorities and regulatory guidance to the federal entities.

2.2 MISSION AND GOALS

The Federal Facilities Program provides project management, oversight, and enforcement of remedial activities at current and former DoD sites. The mission of the program is to protect human health and the environment and enhance the DSMOA process by providing personnel who have expertise and particular knowledge of state laws and regulations, local and regional geology, legislative and public concerns.

The goals of the KDHE Federal Facilities Program are defined as follows:

- to protect human health and the environment by enforcing applicable or relevant and appropriate federal, state, and local laws and regulations;
- to provide a systematic, consistent set of procedures for DoD agencies and their consultants to investigate and remediate DSMOA sites in Kansas;
- to ensure public involvement and/or awareness at all levels throughout the DSMOA process, tailoring the community involvement program to the data needs and interests of community stakeholders;
- to ensure appropriate state and federal guidance documents are followed for the various scopes of work to be performed throughout the corrective action process;
- to continuously improve communication, strategies, decisions and work processes with DoD and EPA to provide the regulated community with consistent guidance and oversight and ensure continued value-added working relationships between DoD, EPA and KDHE.

2.3 ORGANIZATION AND RESPONSIBILITIES

ORGANIZATIONAL CHART

(See Exhibit 1 in the BER QA Plan Part II)

The Bureau Director's responsibilities are defined in the BER QA management plan presented in Part II of the QMP.

The Remedial Section Chief is responsible for supervising the Unit Chief of the Federal Facilities Unit. The operation and implementation of uniform policies and procedures for the Federal Facilities Program is the responsibility of the Remedial Section Chief. Additionally, the Remedial Section Chief is responsible for planning, organizing, supervising and directing the statewide activities of the Federal Facilities Program.

The Unit Chief is the Federal Facilities Program manager and is responsible to ensure the requirements of the program-level QA management plans and SOPs are implemented in a consistent, timely and reliable manner. Working with the Remedial Section Chief and program staff, the Unit Chief oversees site activities to ensure the reliability of all environmental data collected within the Federal Facilities Program and reflect the mission and goals of the Quality Management Plan.

Federal Facilities staff provide technical oversight of environmental investigations

performed within the Federal Facilities Program. Federal Facilities remedial project managers are responsible for the following functions:

- review and evaluate geologic and/or hydrogeologic investigation work plans and reports for completeness, accuracy and technical adequacy;
- assess and identify potential human and/or environmental receptors that may be at risk requiring immediate or long-term remedial action(s);
- evaluate and recommend to the public potential remedies to satisfy remedial action objectives at contaminated sites;
- provide technical comments to allow for correction of identified omissions, deficiencies or errors in draft and final work plans and reports;
- evaluate performance evaluation monitoring data to evaluate the effectiveness of the implemented remedy and to determine if further or alternative remedial methods would meet site-specific remedial action objectives in a reasonable time frame;
- collect split, duplicate, or other quality control environmental samples to ensure the representativeness, precision and accuracy of environmental data collected at sites throughout the investigative and remedial process;
- represent the Agency at public meetings, availability sessions, and other forums to present information regarding program activities; and
- assist DoD and EPA with project management for ground water, surface water and soil remediation sites where ongoing investigation and cleanup are occurring;

Section 3

QUALITY ASSURANCE / CONTROL POLICY STATEMENT

The primary responsibility of remedial project managers within the Federal Facilities Program is to provide technical oversight to ensure that quality assurance and quality control measures are implemented and achieved, consistent with the National Contingency Plan. As an element of the review process, Federal Facilities remedial project managers review and approve Quality Assurance Project Plans provided by DoD, with respect to certain Standard Operating Procedures included in Appendix A. Project managers review each of these site-specific Quality Assurance Project Plans to determine compliance with KDHE's SOPs and numerous federal regulatory guidance documents for QA/QC.

Project managers and/or designated qualified staff routinely inspect field activities to ensure field activities are performed in accordance with the KDHE-approved Quality Assurance Project Plan and Field and Sampling Plan. These oversight activities routinely include the collection of split, duplicate, or collocated environmental samples to ensure the representativeness, precision, and accuracy of the various samples collected at a site throughout the investigation. All sampling activities conducted by Federal Facilities remedial project managers or designated technicians comply with the following goals:

- With the exception of routine split sampling and project oversight activities conducted by KDHE, the purpose and objective of each environmental investigation shall be documented and approved by KDHE prior to field mobilization and initiating data collection activities. The purpose, objective, and associated field methodologies shall be submitted in the form of a work plan, which must be reviewed by the project manager. It is the project manager's responsibility to ensure that proposed activities are compliant with KDHE's Quality Management Plan and for the intended use of the data.
- All data collection activities will be accomplished and documented in accordance with a Divisional QA plan and applicable Standard Operating Procedures (SOPs), included in Appendix A.

Section 4

QUALITY ASSURANCE / CONTROL CRITERIA AND PROCEDURES

4.1 SAMPLING TYPES

Program staff collecting quality control environmental samples adhere to the sample collection procedures specified in the KDHE-approved site-specific Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP). KDHE's approval of site-specific plans is dependent upon the plans' compliance with appropriate field methods and sampling protocols, Standard Operating Procedures (SOPs) contained within the KDHE Quality Management Plan, and the site-specific QAPPs and FSPs. The purpose of the QAPP and FSP is to ensure that data generated from sample collection activities will be compliant with quality assurance goals such as representativeness, completeness, precision, accuracy, etc.

4.2 REQUESTING ANALYTICAL SERVICES

Environmental samples collected by Federal Facilities Program staff are submitted to KDHE's Division of Health and Environmental Laboratories or to KDHE-accredited contract laboratories.

Each laboratory must adhere to the appropriate EPA laboratory method protocols. Samples are submitted to the laboratory following appropriate sample handling and chain-of-custody requirements. Project planning documentation may necessitate collection of additional quality control samples, such as trip blanks, field blanks, equipment rinsate blanks, duplicates, inter-laboratory duplicates, etc. In addition to reporting the results of the environmental samples submitted, the laboratory must submit the appropriate laboratory method batch quality assurance/quality control outcomes including, among others, surrogate recovery, matrix spike recovery, laboratory blanks, and other laboratory QC samples. The data must be reported with the appropriate lab qualifiers, if any, and signed by the laboratory technician or lab manager.

4.3 SPECIALIZED TRAINING

Program staff are responsible for ensuring that all team members have the appropriate training and are current in any appropriate certifications. Specialized training is variable and should be evaluated on a site-specific basis. In general, all members must have a valid Occupational Safety and Health Administration HAZWOPER training certificate and be current in the certification process. Other specialized site-specific requirements should be accounted for in the Site-specific health and safety plan, which is prepared by DoD.

4.4 DATA VALIDATION AND REPORTING

Site-specific QAPPs establish a data management system for each project that describes the necessary field and laboratory quality assurance and quality control requirements. Upon completion of field work, data are evaluated and validated in accordance with the QAPP and applicable EPA guidance. Project managers review all the information and data to determine whether data quality indicators such as completeness, representativeness, precision, accuracy, and comparability are within defined threshold tolerances.

For each measurement, the data reduction scheme, including all equations used to calculate the concentration or value of the measured parameter, should be described. The principal criteria employed to validate the integrity of the data during collection and reporting should be referenced. All data collected should be validated at the appropriate field or laboratory quality control level to ascertain whether they are appropriate for the intended use. All task management and quality controls implemented shall be documented within the appropriate report appendix.

4.5 PROCEDURES FOR ASSESSING DATA ACCURACY, PRECISION, COMPLETENESS, REPRESENTATIVENESS AND COMPARABILITY

The purpose of data quality assessment is to determine if the quality of data is sufficient to support the decision being made. Data quality indicators are used to characterize data generated by sampling, monitoring, or analysis, and are defined in the following terms:

4.5.1 ACCURACY:

Accuracy is a measure of the overall agreement of a measurement to a known value; it includes a combination of random error and systematic error components of both sampling and analytical operations.

4.5.2 PRECISION:

Precision is a quantitative measure of agreement among repeated measurements of the same property, under identical or substantially similar conditions; calculated as either the range, standard deviation or as a percentage of the mean of the measurements.

4.5.3 COMPLETENESS:

Completeness is a measure of the amount of the valid data obtained from a measurement system, compared with the amount that was expected to be obtained under correct normal conditions, and that was needed to be obtained in meeting the project data quality objectives.

4.5.4 REPRESENTATIVENESS:

Representativeness is a qualitative term that expresses the degree to which data accurately and precisely represents a characteristic of population, the parameter variations at a sampling point, a process condition, or an environmental condition at that particular time.

4.5.5 COMPARABILITY:

Comparability is a qualitative term for the contrast of two different analytical procedures and their results. A high degree of comparability makes it possible to quantitatively combine data sets for decision making purposes.

4.5.6 SENSITIVITY:

Sensitivity is a quantitative measure of the degree to which an analyte can be reliably detected and the difference between that degree and regulatory levels being evaluated.

4.6 QUALITY ASSURANCE REPORTING REQUIREMENTS

All reports or deliverables submitted to the Federal Facilities Program require a data validation summary for the project which addresses the overall quality of data generated and any conditions adverse to the quality. The data validation summary should describe all data validation activities and discuss, in detail, the results of analysis of quality control samples and their effect on primary data. The summary should provide an overall assessment of the data evaluated with respect to precision, accuracy, representativeness, completeness, comparability, sensitivity, the general acceptability and usability of the data, and any quality assurance problems and proposed solutions or corrective actions.

Federal Facilities Program staff performing field work are subject to audits conducted by the Agency's designated QA/QC officer. A minimum number of field audits are performed on a quarterly basis and reported to the Unit Chief and the Remedial Section Chief. All field audits are reviewed by the project manager, Unit Chief and Remedial Section Chief to confirm that staff are adhering to the site-specific Quality Assurance Project Plan, Field Sampling Plan and/or Agency Quality Management Plan, as appropriate.

4.7 REPORTING MANAGEMENT

Data that is collected for QA/QC purposes may include laboratory data sheets, reports, field notes, photo documentation, audits, etc. Such data is stored in the form of hard copies at KDHE offices in Topeka, Kansas. Most KDHE BER records are public records open for inspection per the Kansas Open Records Act (KSA 45-215 through 45-223).

4.8 CORRECTIVE ACTION PROCEDURES

Within the context of quality assurance, corrective actions are procedures that may be implemented on environmental samples that do not meet predetermined specifications or tolerances. In general, the corrective action procedures program addresses the analysis of any cause precipitating a negative audit finding and identifies the appropriate corrective action(s) necessary to address it. Program staff, or the appropriate quality assurance/quality control program designee, are responsible for reviewing data validation summaries, audit reports and nonconformance reports, to identify significant or repetitious conditions adverse to quality, or deficiencies regarding the implementation or adherence to required quality assurance practices. In addition, the program staff, or QA/QC designee, is required to investigate the source(s) of the problem and is responsible for defining and/or implementing the necessary actions to remedy the problem.

REFERENCES

EPA, 2001a, EPA Requirements for Quality Management Plans (QA/R-2), EPA/240/B-01/002, U.S. Environmental Protection Agency, Office of Environmental Information, March.

EPA, 2001b, EPA Requirements for Quality Assurance Project Plans (QA/R-5), EPA/240/B-01/003, U.S. Environmental Protection Agency, Office of Environmental Information, March.

EPA, 2002, Guidance for Quality Assurance Project Plans (QA/G-5), EPA/240/R-02/009, U.S. Environmental Protection Agency, Office of Environmental Information, December.

EPA, 1987, Data Quality Objectives for Remedial Response Activities, EPA/540/G-87/003, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response and Office of Solid Waste and Emergency Response, March.

EPA, 1987, A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001, U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, December.

EPA, 1988, Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, EPA/540/G-89/004, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, October.

EPA, 2008, National Functional Guidelines for Superfund Organic Methods Data Review, USEPA-540-R-08-01, U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, Washington DC, June.

EPA, 2010, National Functional Guidelines for Inorganic Superfund Data Review, USEPA-540-R-10-011, U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation, Washington DC, January.