DIVISION OF ENVIRONMENT
QUALITY MANAGEMENT PLAN

PART III:

STATE COOPERATIVE PROGRAM
QUALITY ASSURANCE MANAGEMENT PLAN

Revision 4
February 7, 2018

Kansas Department of Health and Environment
Division of Environment
Bureau of Environmental Remediation
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QAMP Revision History (Original version was effective 4/1/2001)		
Date	Revision	Change
1/10/2002	1	Minor changes to Sections 2, 3 and 4
2/16/2012	2	Updated Sections 1-4 and references
1/8/2015	3	Updated Sections 2 and 4
2/7/2018	4	Minor update to reflect staffing changes

Section 1

INTRODUCTION

1.1 PURPOSE OF PLAN

This document presents the Quality Assurance Management Plan for the State Cooperative Program. The plan describes the mission, developmental history, organizational structure, environmental monitoring protocols, data handling procedures, quality assurance (QA), and quality control (QC) requirements of this 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 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 PROGRAM

2.1 HISTORICAL OVERVIEW

The Site Remediation Unit and Site Restoration Unit are responsible for the administration and management of the State Cooperative Program (SCP). The SCP was formed in the early 1990s based on K.S.A. 65-3452 et. seq. within the Remedial Section of the Kansas Department of Health and Environment's (KDHE's) Bureau of Environmental Remediation (BER). The SCP provides regulatory oversight of environmental investigations, risk assessments, interim actions, evaluations of remedial alternatives, and subsequent design and implementation of remedial actions. The Program encourages community involvement throughout the process, including a requisite public comment period as part of the remedy selection process. The SCP facilitates streamlined investigation and cleanup of contaminated sites while following a process structured similar to the federal Superfund Program.

2.2 MISSIONS AND GOALS

The SCP was conceived to provide flexibility, as appropriate, to facilitate investigation and remediation of a wide universe of sites. These include national priority list (NPL) caliber and non-NPL caliber sites, state-lead Superfund Sites, and sites ineligible for participation in KDHE's Voluntary Cleanup and Property Redevelopment Program. The primary mission of the SCP is to protect human health and the environment as established by federal and state statutes, regulations and policies. All investigations and remedial efforts are conducted through Orders or Agreements with Potentially Responsible Parties (PRPs). Each legal agreement contains scopes of work for investigation and/or remediation.

The goals of the State Cooperative 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 systematic, consistent procedures for PRPs and their consultants to investigate and remediate state-lead contaminated sites in Kansas;
- to ensure community awareness and involvement throughout the State Cooperative Program process, tailoring the community involvement program to the data needs and interests of community stakeholders;
- to develop and employ standardized agreements and orders to facilitate streamlined negotiations providing relatively consistent legal documents for the various scopes of work to be performed throughout the State Cooperative Program process;

- to provide technical oversight of the investigation and remediation of contaminated sites that meet federal and state quality assurance and quality control protocols; and

- to effectively communicate with other stakeholders including the public regarding the status of all sites within the State Cooperative Program.

2.3 ORGANIZATION AND RESPONSIBILITIES

ORGANIZATIONAL CHART

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

The Bureau Manager's responsibilities are defined in Part II of the Bureau Quality Assurance Plan. The Remedial Section Chief is responsible for supervising the Unit Managers of the Site Remediation Unit and the Site Restoration Unit, which manage the day-to-day operations of the State Cooperative Program. The Bureau Manager and Section Chief are involved with the State Cooperative Program for administrative and budget purposes, and on an as-needed basis, which may constitute strategic planning, policy development and implementation, and matters related to community involvement, among others. The development and implementation of uniform policies and procedures for the State Cooperative Program is the joint responsibility of the Section Chief and Unit Managers. In addition, the Section Chief and the Unit Managers are responsible for planning, organizing, supervising and directing the statewide activities of the State Cooperative Program. The Section Chief is responsible for coordination between the units within the Remedial Section.

The Unit Managers jointly manage the State Cooperative Program and are responsible for ensuring that the Quality Assurance Management Plan and SOPs are consistently implemented and followed. Working with the program staff, the Unit Managers oversee site activities to ensure reliability of environmental data collected within the State Cooperative Program and reflect the mission and goals of the Quality Management Plan.

SCP staff provide technical oversight of environmental investigations performed within the State Cooperative Program. State Cooperative Program 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);

- provide technical commentary to allow for corrective measures of identified omissions, deficiencies or errors in draft and final work plans and reports;

- evaluate and recommend to the public potential remedies to satisfy remedial action objectives at contaminated sites;

- 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

- conduct environmental assessments or monitoring as necessary to support legal negotiations, settlement obligations, or grant obligations. Prepare work plans, reports, or other documentation as necessary to meet the data quality objectives associated with such activities.

Section 3

QUALITY ASSURANCE POLICY STATEMENT

The primary responsibility of remedial project managers within the State Cooperative Program is to provide technical oversight to ensure that quality assurance and quality control measures are implemented and achieved. State Cooperative Program remedial project managers review, provide comment, and approve work plans and reports for investigative and remedial activities conducted by PRPs or their environmental consultant. A provision within each agreement or order is the submission of a Quality Assurance Project Plan and Field Sampling Plan, which together, comprise the Sampling and Analysis Plan. These plans are reviewed by State Cooperative Program remedial project managers to determine their ability to satisfy quality assurance and quality control objectives established and documented in the KDHE Quality Management Plan.

Project managers and/or designated qualified staff routinely inspect field activities to ensure field activities are performed in accord 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 State Cooperative Program 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 managers' responsibility to ensure the proposed activities are compliant with KDHE's Quality Management Plan and for the intended use of the data. This process will help facilitate effective communication between KDHE and the PRP/environmental consultant and may enhance the probability of meeting the stated objectives.

- 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 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 the site-specific plans are dependent upon the plans perceived 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 State Cooperative 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 consultants on State Cooperative sites, or prepared by KDHE on KDHE-lead projects.

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 accord 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.

4.4 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:

4.4.1 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.

4.4.2 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.

4.4.3 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.

4.4.4 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.

4.4.5 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.

4.4.6 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.

4.5 QUALITY ASSURANCE REPORTING REQUIREMENTS

All reports or deliverables submitted to the State Cooperative 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.

State Cooperative 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 Managers and the Remedial Section Chief. All field audits are reviewed by the project manager, Unit Managers 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.

4.6 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).

4.6 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.

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