

DIVISION OF ENVIRONMENT
QUALITY MANAGEMENT PLAN

PART III:

RISK MANAGEMENT PROGRAM
QUALITY ASSURANCE MANAGEMENT PLAN



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Section 1

INTRODUCTION

1.1 PURPOSE OF PLAN

This document presents the Quality Assurance Management Plan for the Risk Management 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 Risk Management Program Act was enacted by the Kansas Legislature on July 1, 2015 (Kansas Statutes Annotated 2015 Supp. 65-34, 176). Rules and regulations (Kansas Administrative Regulations 28-74-1 through 28-77-4) for implementing the new law were adopted on May 13, 2016. The Risk Management Program provides a voluntary mechanism for the long-term care and management of low-risk, low-priority sites that are not able to meet requirements for unrestricted site closure or no further action following appropriate assessment and/or remedial activities. This program provides another option in the remediation tool box allowing for conditional closure of a site where the risks are managed or controlled under an established Risk Management Plan (RMP).

2.2 MISSIONS AND GOALS

Sites subject to an agreement or order under the Kansas Department of Health and Environment (KDHE) Bureau of Environmental Remediation (BER) and posing a low risk to human health and the environment may be eligible for the Risk Management Program. Low risk, as defined by this policy, means risks under current conditions and reasonable future scenarios are minimal such that active remediation is not required, and risks are not likely to endanger nearby receptors. A RMP may be established site-wide or, with department approval, applied to only a portion of a site. For example, the identified source area has been remediated to applicable cleanup standards, yet impacts in groundwater persist beneath multiple properties. The properties adversely affected by the groundwater plume could be addressed through a RMP (e.g., continued groundwater monitoring on a less frequent basis such as every three years verses semiannual or annual). RMPs may also be used in conjunction with environmental use controls (EUCs) to address impacts where established EUCs may not apply

2.3 ORGANIZATION AND RESPONSIBILITIES

ORGANIZATIONAL CHART

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

The Risk Management Program is administered by the Long-Term Stewardship/Brownfields Unit of the Redevelopment Section in the BER. The Bureau Director's responsibilities are defined in Part II of the Bureau Quality Assurance Plan. The Redevelopment Section Chief is responsible for supervising the Unit Manager of the Long-Term Stewardship/Brownfields Unit. The unit manages the day-to-day operations of the program. The Bureau Director and Section Chief are involved with the 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 implementation of the policies and procedures for the program is the joint responsibility of the Section Chief and Unit Manager. In addition, the Section Chief and the Unit Manager are responsible for planning, organizing, supervising and directing the statewide activities of the program. The Section Chief is also responsible for coordination between the units within the Redevelopment Section.

The Unit Manager oversees the Risk Management Program and is responsible for ensuring that the Quality Assurance Management Plan and SOPs are consistently implemented and followed. Working with the program staff, the Unit Manager oversees site activities to ensure reliability of environmental data collected and reflect the mission and goals of the Quality Management Plan.

Risk Management Program staff provide project management and general regulatory oversight of environmental investigations and cleanup activities performed relative to the program. Project managers are responsible for the following functions:

- meet with property owners to explain the goals, objectives, and overall process of the Risk Management Program;
- review and evaluate RMP applications for completeness, eligibility, and recommend the acceptance of the property into the program;
- draft letters of eligibility or acknowledgement to the property owners and/or RMP applicant;
- review site files and meet with the Site project manager to gain knowledge of property conditions, the contaminated media, residual contaminants currently on-site, restrictions presented in the application, any monitoring requirements, and any other pertinent information about the property;
- complete environmental use control agreements and long-term care agreements as necessary;
- complete tracking updates;
- perform inspections of properties where RMPs have been established and review property owner inspection reports to ensure restrictions are being maintained and continue to be protective of human health and the environment;
- review and evaluate geologic and/or hydrogeologic long-term monitoring work plans and reports for completeness, accuracy and technical adequacy;
- provide technical commentary to allow for corrective measures of identified omissions, deficiencies or errors in draft and final work plans and reports;

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- review long-term monitoring data to evaluate the effectiveness of the implemented remedy and to determine if further or alternative remedial methods will be required;
- collect split, duplicate, or other quality control environmental samples to ensure the representativeness, precision and accuracy of environmental data collected at sites throughout the long-term monitoring process; and
- represent the department at public meetings, availability sessions, and other forums to present information regarding program activities.

Section 3

QUALITY ASSURANCE POLICY STATEMENT

Project managers do not possess a distinct set of standard operating procedures for administration of quality assurance aspects of the Risk Management Program. The primary responsibility of project managers within the program is generally limited to reviewing and approving applications, long-term monitoring work plans, and inspection reports submitted by the property owner or their contractors. For properties where it has been determined long-term monitoring is required, the property owner or their contractor must prepare and present a Quality Assurance Project Plan (QAPP) as part of a long-term monitoring work plan. The QAPPs are reviewed by 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 perform inspections to ensure field activities are performed in accord with the KDHE approved QAPP. The 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. All sampling activities conducted by 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 long-term monitoring activities shall be documented and approved by KDHE prior to implementation and initiation of data collection activities. The purpose, objective, and associated field methodologies shall be submitted in the form of a work plan and 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 property owner/contractor and 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 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 program staff are submitted to KDHE's Division of Health and Environmental Laboratories or to KDHE-certified 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. Each contract laboratory must submit their QAPP prior to consideration for state contract. In addition to reporting the results of the environmental samples submitted, the laboratory must submit the appropriate laboratory method batch QA/QC outcomes including, among others, surrogate recovery, matrix spike recovery, laboratory blanks, and other laboratory QC samples. In addition, project planning documentation may necessitate collection of additional quality control samples, such as trip blanks, equipment rinsate blanks, duplicates, inter-laboratory duplicates, etc. The data must be reported with the appropriate lab qualifiers, if any, and signed by the laboratory technician or lab manager.

4.3 DATA VALIDATION AND REPORTING

Site-specific QAPPs establish a data management system for each project which describes the necessary field and laboratory QA/QC 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 were 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 quality characteristics of data generated by sampling, monitoring, or analysis, 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.

4.4.5 COMPARABILITY:

Comparability is a qualitative term that expresses the measure of confidence that one data set can be compared to another.

4.5 QUALITY ASSURANCE REPORTING REQUIREMENTS

All reports or deliverables submitted for a RMP 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, the general acceptability and usability of the data and any quality assurance problems and proposed solutions or corrective actions.

Staff performing field work are subject to audits conducted by the department's designated QA/QC officer. Results of any field audit performed will be reported to the Unit manager and the Section Chief. All field audits are reviewed by the project manager, Unit Manager and Section Chief to confirm that staff are adhering to the site-specific QAPP, FSP and/or department Quality Management Plan, as appropriate.

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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