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Summary of Changes

Revisions to this document will be identified, and revisions or addenda will be issued as needed. The Project Manager maintains the signed original of this document; no controlled copies are issued. The end user is responsible to verify with the Project Manager that any hard copy being referenced is the current revision. A summary description of each revision or addenda will be noted in the following table.

Revision Number	Date	Comments
Rev. 0	April 11, 2011	Original
Rev. 1	February 29, 2012	Changes Assigned Leader to Activity Leader, other editorial changes
Rev. 2	September 19, 2013	General review of Plan incorporating editorial changes, Revised Section 2.2 and added Section 2.6.

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** An implementing procedure is associated with this section.*

Quality Assurance Program Plan Implementing Procedures

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Introduction

The Cimarron facility operated as a nuclear fuel production facility under License SNM-928 until the site was closed in 1975. Facility decommissioning began in 1976. The decommissioning of equipment, structures, and soil is complete.

The current mission at the Cimarron Site is the remediation of groundwater contaminants to release levels established by the US Nuclear Regulatory Commission (NRC) and the Oklahoma Department of Environmental Quality (ODEQ). As a result of an NRC order dated February 16, 2011 and effective February 14, 2011, the license has been transferred to the Cimarron Environmental Response Trust (CERT), with Environmental Properties Management, LLC (EPM) named as the trustee.

The groundwater remediation activity requires planning, data collection and management, and decision-making tasks that are subject to NRC established quality requirements, as well as remediation requirements established by the State of Oklahoma and the ODEQ. The earlier version of the Cimarron Site Quality Assurance Manual contained implementing procedures bearing the Kerr-McGee name and had not been recently revised. EPM determined that the site Quality Assurance Program (inclusive of the QAPP, implementing procedures, and supporting documents) needed to be updated to reflect the organizational structure set forth in the license and transfer order, and also to reflect the site's current environmental remediation mission. To that end, EPM authorized the development of a completely revised Quality Assurance Program Plan (QAPP), issued as Rev 0.

The revised QAPP is updated and streamlined to focus on data collection and remediation activities that provide quality information to support site closure. The goal is to establish a quality plan that is compliant with the requirements of License SNM-928, and which fully implements the guidelines established by NRC Regulatory Guide 4.15, *Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) – Effluent Streams and the Environment*. A crosswalk of NRC Regulatory Guide 4.15 program elements to the structure of this QAPP is attached to this section. The quality requirements are based in nuclear standards, but are also fully supportive of the remediation of chemical contamination.

The CERT and its Trustee EPM are dedicated to promoting quality at every level of Cimarron Site work, and to fostering an environment that encourages continual quality improvement. A key characteristic of this environment is maintenance of a "no-fault" climate and reinforcement of the need to identify and correct nonconforming items, processes, and activities.

The Trust Administrator and the Trustee's Project Manager are also ultimately responsible for the application, deployment, periodic evaluation, and documentation of the Quality Assurance Program Plan, and for implementing and assessing appropriate actions necessary to ensure:

- Products and services (including sample collection and analysis services) are compliant with license and regulatory requirements.
- Quality management systems and procedures are in place and operating effectively.
- Opportunities for improving the organization, quality, compliance and cost performance are implemented.
- Timely evaluation of personnel resources, needs, skills and performance to stress the importance of, and identify opportunities for, continual quality improvement.
- Data used for decision making are of the quality needed for decisions to support Cimarron Site goals and assure compliance with nuclear and environmental compliance requirements.

All Cimarron Site Personnel, contractors, and subcontractors are responsible for:

- Maintaining familiarity with the requirements of the QAPP, and maintaining a personal commitment to implementing the QAPP requirements in their everyday work
- Identifying opportunities for quality improvement
- Responsible use of stop work authority when necessary to mitigate risks to safety, security, or quality

Crosswalk of NRC Regulatory Guide 4.15 Elements to this QAPP

NRC Regulatory Guide 4.15 Element	QAPP Section or Implementing Procedure
1.0 Organizational Structure and Responsibilities	QAPP 1.0 (description, chart)
2.0 Specification of Qualifications of Personnel	QAPP 2.3 (general), QAPP 2.4 (auditors/ inspectors), QAPP 7.0 (contractors and consultants), QAPP 17.0 (records of qualification)
3.0 Operating Procedures and Instructions	QAPP 2.1 and QAIP 2.1 (activity plans) QAPP 5.0 (general), QAPP Section 9.2 (activity plans), QAPP 9.3 and QAIP 9.1 (sampling and analysis plans and procedures), QAPP 9.4 (laboratory quality control)
4.0 Records	QAPP 6.0 (document control), QAPP 9.4 (laboratory quality control), QAPP 17.0 (quality assurance records), QAPP 17.1 and QAIP 17.1 (Data Management Procedure)
5.0 Quality Control in Environmental Sampling	QAPP 8.0 (identification and control of items), QAPP 9.3 and QAIP 9.1 (sampling and analysis plans and procedures), QAPP 12.0 (control of measuring and test equipment), QAPP 14.0 (inspection test and operating status)
6.0 Quality Control in the Radioanalytical Laboratory	QAPP 7.0 (control of purchased services), QAPP 9.4 (laboratory quality control), QAPP 18.0 (audits), QAPP 12.0 (control of measuring and test equipment), QAPP 14.0 (inspection test and operating status), Radiation Protection Plan (onsite radiation survey instrument calibration)

Crosswalk of NRC Regulatory Guide 4.15 Elements to this NQA-1 Based QAPP (continued)

NRC Reg Guide 4.15 Element	QAPP Section or Implementing Procedure
7.0 Quality Control for Radioactive Effluent Monitoring Systems	QAPP 8.0 (identification and control of items), QAPP 9.3 and QAIP 9.1 (sampling and analysis plans and procedures), QAPP 12.0 (control of measuring and test equipment)
8.0 Verification and Validation	QAPP 3.0 (design control, general), QAPP 9.4 (laboratory quality control)
9.0 Assessments and Audits	QAPP 2.5 (QAPP assessment), QAPP 2.6 (program change evaluations) QAPP 7.0 (control of purchased items and services), QAPP 10.0 (inspection), QAPP 18.0 (audits)
10.0 Preventative and Corrective Actions	QAPP 15.0 and QAIP 15.1 (deficiency reporting and corrective action)

Glossary

Activity Plan: A working level document establishing the elements of a work activity important to quality, and also establishing the sequence of work necessary to successfully complete the work activity.

Activity Leader: The individual assigned by the Trustee Project Manager with overall responsibility to complete the work described in an Activity Plan.

Cimarron Environmental Response Trust (CERT): The Trust established as having overall responsibility for environmental liabilities at the Cimarron Site in accordance with the January 26, 2011 Settlement Agreement with the Department of Justice (DOJ), the Nuclear Regulatory Commission (NRC) and the State of Oklahoma. The CERT is represented by the CERT Administrator.

Cimarron Site: Refers to the effort to remediate the location of the former Kerr-McGee facility in Crescent, Oklahoma (near Cimarron, Oklahoma), including characterization and remediation of radioactive and chemical contamination, to fulfill requirements for the Cimarron Site established by the NRC and the State of Oklahoma.

Cimarron Site Personnel: Any person performing remediation work or work directly supporting remediation of the Cimarron Site in Crescent, Oklahoma.

Contractor: Any organization or individual contracted directly to the Trustee.

Controlled Document: Any document the Trustee Project Manager or Quality Assurance Coordinator determines should be controlled to ensure that that the user possesses the most current revision of the document. This includes the QAPP and all implementing procedures.

Decisions Affecting License Termination or Site Closure: Decisions that support the Cimarron Site's characterization and remediation goals. This includes goals established in accordance with established requirements of the NRC and the State of Oklahoma.

Hold Point: A stopping point in a procedure or work plan requiring a signature or initials to verify that data has been recorded or that required actions are verified as complete before proceeding. Hold Points are used as a quality assurance measure in Activity Plans.

Quality Activity: Any activity that impacts the characterization or remediation of the site in order to achieve license termination or site closure, or that is otherwise required by the Trustee Project Manager or Quality Assurance Coordinator to be subject to the quality assurance program.

Quality Data: Data that directly or indirectly support decisions affecting license termination or site closure. Quality data collection and management, are subject to the requirements of the QAPP.

Quality Assurance Program Plan (QAPP): This document for the Cimarron Site. The QAPP establishes the structure of the Quality Assurance Program, including implementing procedures, referenced procedures and plans, and quality requirements directly established in the QAPP's 18 basic criteria descriptions.

Quality Assurance Program (QAP): The Cimarron Site's overall program for quality assurance, as described in the Quality Assurance Program Plan (QAPP).

Quality Assurance Records: Records of site activities or data as prescribed in Section 17.0 of this QAPP.

Subcontractor: Any organization or individual retained by a contractor.

Subject Matter Expert: An individual who is knowledgeable and experienced in a specialized discipline.

Trustee: Environmental Properties Management (EPM), the Trustee identified in the January 26, 2011 Settlement Agreement with the Department of Justice (DOJ), the Nuclear Regulatory Commission (NRC) and the State of Oklahoma.

Trustee Project Manager: The employee of the Trustee assigned overall responsibility for the planning, scheduling, and performance of work at the Cimarron Site.

1.0 Organization

The Cimarron Site's organizational structure as it affects quality is summarized in the following role-specific responsibility descriptions:

Cimarron Environmental Response Trust (CERT) Administrator:

The CERT Administrator has overall responsibility for Cimarron Site policies, quality assurance, and compliance at the Cimarron Site.

CERT Trustee, Environmental Properties Management, LLC (EPM) Project Manager

The Trustee Project Manager (PM) is responsible for physical and financial management of remediation and compliance activities at the Cimarron Site. This includes direct responsibility for the implementation and maintenance of the Quality Assurance Program Plan requirements. The Trustee PM is responsible to communicate to all site personnel and contractors the requirements of the QAPP. The Trustee PM is responsible to include Cimarron Site quality performance requirements in contract and purchase order terms and conditions.

Quality Assurance Coordinator (QAC):

The Quality Assurance Coordinator (QAC) is responsible for the review, revision and maintenance of the quality assurance program. The QAC coordinates day-to-day activities with the Trustee PM, but reports directly to the CERT Administrator as necessary to assure implementation of the QAPP and resolve quality matters.

In addition the QAC has the following responsibilities:

- The QAC reports directly to the CERT Administrator to resolve quality related problems and conflicts.
- Maintains the Quality Assurance Program Plan, develops implementing procedures and instructions, and monitors their implementation.
- Schedules and performs QA audits and surveillances on a periodic basis to assess the QA Program effectiveness, and to ensure that work is performed

in accordance with quality program requirements. The QAC also makes updates and improvements to the plan and procedures as needed.

- Issues deficiency reports, identifies non-conformances and approves corrective actions required to ensure quality of activities/items.
- Verifies and approves corrective actions as a result of deficiencies or non-conformances.
- Reviews and accepts QA programs and procedures of contractors and/or subcontractors supplying quality related services.
- Provides QA training to Cimarron Site Personnel (including contractor and subcontractor personnel) who manage or perform activities affecting quality.

Subject Matter Expert (SME)

A subject matter expert (SME) is a knowledgeable and experienced individual who uses his or her knowledge of a specific discipline to judge what is important and useful. The SME enriches information by summarizing, combining, contrasting, and integrating it into the existing knowledge base. The SME assists in identifying and mapping critical knowledge applicable to the project, helps establish the project organizing structure, works to ensure that project knowledge objects are relevant and valid, works to refresh and expand the knowledge base, and suggests potential topics for project meetings. The SME participates in meetings, reviews project member contributions to ensure quality and relevancy of material, provides process analysis expertise, and participates in the project as a member of the decommissioning team.

All Cimarron Site Personnel:

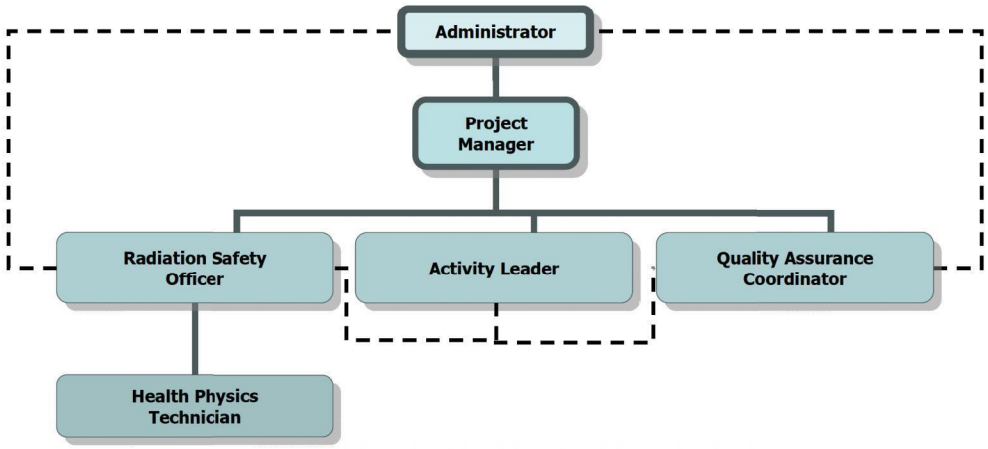
All Cimarron Site Personnel are encouraged to be diligent in the performance of their own work to maintain the level of quality required by plans, procedures, and instructions. In addition, personnel are encouraged to be diligent and attentive to any quality issues that may exist in the work of their peers, suppliers, contractors, and subcontractors; because a consistent and exemplary level of quality can only be obtained through vigilant attention to the whole of the Cimarron Site's work product; not just the pieces for which an individual is immediately responsible.

Reiterating the requirements discussed in the introduction section, all Cimarron Site Personnel are responsible for:

- Maintaining familiarity with the requirements of the QA Program, and maintaining a personal commitment to implementing the QA Program requirements in their everyday work
- Identifying opportunities for quality improvement
- Responsible use of stop work authority when necessary to mitigate risks to safety, security, or quality

A CERT organization chart is provided below.

The Cimarron Environmental Response Trust Organization



Line of Accountability ————

Line of Communication - - - - - -

2.0 QUALITY ASSURANCE PROGRAM

The EPM Cimarron Site QAPP is designed to create a quality assurance program meeting the applicable requirements of the following:

- NRC Regulatory Guide 4.15, Quality Assurance for Radiological Monitoring Programs (Inception Through Normal Operations to License Termination) - Effluent Streams and the Environment
- NRC License SNM-928

The EPM procedures used to implement this program are listed in Appendix A, Quality Assurance Program Plan Implementing Procedures.

EPM acts as the Trustee for CERT to directly manage activities at the Cimarron site. EPM has a limited staff, and relies upon contractors for significant portions of the site work. The Cimarron Site QAPP is designed to ensure EPM efforts are of sufficient quality to comply with applicable requirements. An equally important goal of the QAPP is to ensure that EPM establishes the qualifications of its contractors, effectively communicates the Cimarron Site's quality requirements to contractors, and continually monitors contractor and subcontractor performance and product quality.

The emphasis of this quality program is to provide quality management systems that ensure:

- An activity-specific plan is developed for each project or contracted scope of work that addresses quality assurance provisions.
- Vendors performing quality critical activities or generating quality critical data are qualified to provide the quality of data needed.
- EPM owned and leased equipment is suitably designed and maintained for its intended use.
- The effectiveness of the EPM Quality Assurance Program is periodically assessed.

2.1 Quality Assurance Program Plan Applicability

The Quality Assurance Program Plan requirements apply to all activities at the Cimarron Site that are performed to satisfy regulatory and/or license requirements, including:

- Groundwater monitoring well drilling, installation, and development
- Sampling and analysis of environmental media
- Design and evaluation of groundwater characterization and remediation plans
- Groundwater remediation activities
- Other activities directly affecting license termination and site closure decision making, as determined by the Trustee PM or QAC

Quality Assurance Program Plan requirements do not apply to activities such as mowing, fence repair, building maintenance, and other activities which are not related to regulatory requirements.

2.2 Activity Specific Approach

The Cimarron Site QAPP is designed to assure the quality of work performed both by the limited EPM staff and its contractors. The requirements of different scopes of work vary, as does the level of sophistication of different contractor's in-house quality programs. The Cimarron Site QAPP ensures requirements are met by reviewing each planned activity, and responding to the unique quality requirements of each activity with an activity-specific plan.

Once a site activity is identified, the Trustee PM determines if the activity is a quality activity affecting decisions related to license termination and site closure. Activities affecting quality are required to be controlled using a documented Activity Plan.

The Activity Plan is developed by the Trustee PM or designee, and provides a concise description of the work to be completed. Each Activity Plan must be reviewed by a qualified person other than the author. Reference documents (e.g. detailed sampling procedures) may be attached. Separate documents (e.g. sample inventories or shipping papers) to document the completion of an activity may also be added as the activity is completed. The purpose of the Activity Plan is to ensure that procedural steps important to quality are clearly expressed. The Activity Plan also provides documentation that the activity was properly completed, and must provide for verification signatures or initials by each person performing steps in the plan deemed important to quality. The quality requirements and objectives of each activity must be clearly expressed in each Activity Plan.

The Trustee PM (or designee) has overall responsibility for the content of each Activity Plan. The Activity Leader has responsibility for implementation of each Activity Plan. When

appropriate, Subject Matter Experts (SME) may be designated specific responsibilities for decision making matters in the field. Periodic monitoring of work performance in accordance with Activity Plans is performed by the Quality Assurance Coordinator (or designee).

Instructions for the development of an Activity Plan are contained in QAIP 2.1

2.3 Personnel Training

EPM personnel and any personnel designated by the Trustee PM will receive detailed training in the Cimarron Site QAPP administered by the Quality Assurance Coordinator (QAC). All contractor organizations performing activities affecting quality shall be given a copy of the Cimarron Site QAPP when work is awarded. In addition, all personnel performing on site activities affecting quality shall be briefed on the Cimarron Site QAPP and the specific quality requirements of their work as set forth in the Activity Plan. This training may be administered by the QAC, the Trustee PM or designee, or may be fulfilled by signed acknowledgment of an Activity Plan.

Any other training the Trustee PM deems necessary to perform activities on or off site will be identified and documented in the activity plan. The Trustee PM or designee is responsible to determine that personnel assigned to tasks affecting quality, particularly related to decisions affecting license termination or site closure, are qualified to perform their assigned work.

2.4 Lead Auditors and Inspectors

QA Lead Auditors are certified in accordance with NQA-1 criteria. NQA-1 Lead Auditors are preferred for internal audits and assessments of the EPM QAPP, and for external audits of laboratories and other service providers whose work is critical to quality. However, the Trustee PM may designate other personnel for these functions with a written justification of their qualifications for a particular audit or assessment task.

Personnel performing inspections and surveillances need not be Lead Auditors, and may be qualified based on their skills, experience, or task specific training, and approved by the QAC, and the Trustee PM. When the Activity Plan requires verification of personnel training, the evidence of training should be attached to the Activity Plan. Alternatively, the Activity Plan may reference the location of training files in which such records are located (e.g. EPM personnel file, project file, or vendor qualification file).

2.5 Quality Assurance Program Assessment

The Trustee PM or the QAC will require a management assessment of the QAP at least once every three years. The assessment may be a self-assessment performed jointly by the QAC and EPM personnel, may be performed by an independent contractor hired for the assessment, or, a third party audit of the Cimarron Site QAP may be used to satisfy this requirement.

2.6 Program Change Evaluation Process

NRC License SNM-928 (Condition 27(e)) provides flexibility for the licensee to make changes to the NRC–approved Decommissioning Plan (DP) and the Radiation Protection Plan (RPP) provided certain constraints are met. QAIP-2.2, "Program Change Evaluation Process", provides the process for the review and implementation of such changes to ensure that the license condition requirements have been met.

3.0 DESIGN CONTROL

The CERT and its Trustee, EPM, do not design systems important to nuclear safety as typically contemplated by NQA-1. In the License Transfer Order, dated February 16, 2011, page 3, the NRC notes it has determined that the Cimarron facility poses no immediate threat to public safety.

Nonetheless, EPM is committed to design control for those processes that affect license termination and site closure, e.g. the site Groundwater Decommissioning Plan (GDP). The first step in assuring the quality of the GDP is controlling the quality of design inputs; namely, the groundwater sampling and analysis methods and results. This QAPP and supporting plans (such as the Sampling and Analysis Plan) have been developed to assure quality inputs.

As the GDP (or other remediation designs developed by the Cimarron Site) is developed, the Trustee PM will continuously review development to assure the GDP will meet the requirements of SNM-928, commitments to the NRC and ODEQ, and other applicable requirements and regulations.

In addition, the Trustee PM is responsible to ensure that the GDP and any other document establishing a design affecting license termination or site closure is subject to a documented independent review. In the case of EPM-developed designs, review will be performed by contractors, or by EPM personnel sufficiently independent of the original design that they are not verifying their own work. In the case of contractor prepared designs, the Trustee PM or qualified designee will perform the independent review. The review must determine that any calculations affecting license termination or site closure have received an appropriate level of documented independent verification. In addition to the Trustee PM, the CERT Administrator must approve all quality related design products.

Contractors used for design or design review must be evaluated and approved vendors in accordance with Section 7.0 of this QAPP.

4.0 PROCUREMENT

The technical, quality, regulatory, and administrative requirements applicable to procurement of materials or services for the Cimarron Site are established by the requisitioner and specified in procurement documents. If the procurement is related to an activity to which the QAPP applies, the procurement must also reflect the quality requirements established by the Activity Plan.

Items and services potentially affecting decisions for license termination or site closure must not be procured until it is determined that the supplier is capable of ensuring an appropriate level of quality for the items or services being provided. Depending on the nature of the product or service being obtained, procurement process may include requiring evidence of the supplier's quality assurance program, third party audits, assessments, or certifications of the supplier's capabilities. When this evidence is required, it will be reviewed by the QAC, the Trustee PM, or designee. Satisfactory review of the supplier's documentation (and a physical audit of the supplier's facilities, if appropriate) will be documented and records will be maintained in the Cimarron Site's approved supplier's files (reference Section 7.0 of this QAPP).

If a procured item is an "off the shelf" item of commercial grade, but has performance characteristics deemed important to quality, those characteristics must be specifically listed on the requisition. The requisitioner or Trustee PM will also note on the requisition whether receipt inspection or testing is required prior to acceptance of the item (inspection should be required at a minimum to verify that QA requirements established by the procurement document have been met). Any cut sheets or specifications used to select the item, and any specifications or instructions delivered with the equipment should become part of the procurement file and distributed to the end user as necessary. Alternatively, these documents may be maintained in a site equipment file.

5.0 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

The intent of this QAPP, its implementing procedures, and related plans and procedures (e.g. Sampling and Analysis Plan, Data Management Procedure) is to provide a complete set of instructions and procedures needed to complete license termination and site closure. Activity Plans provide detailed work instructions for specific scopes of work.

As work at the Cimarron Site progresses, it may be determined that a new type of work activity is required. As conditions change, an existing work activity may require additional control to ensure that quality, safety, or performance goals are met. In these cases, the Trustee PM has primary responsibility for determining when activities affecting quality require specific procedures or other documentation to control the activity and ensure the quality level is maintained. When procedural controls are implemented, the Trustee PM (or designee) is responsible for assuring that activities are performed in accordance with the requirements of these documents. These documents may include quantitative and qualitative criteria to verify that the activity has been satisfactorily accomplished. Monitoring for compliance with these guidance documents may be performed at any time by the QAC.

All instructions, procedures, and drawings must show evidence of independent review and approval. These documents must also bear a unique identifying number, date, and revision number.

6.0 DOCUMENT CONTROL

Cimarron Site procedural documents such as this QA Program Plan and associated implementing procedures and supporting plans are maintained as controlled documents. Controlled documents are available to internal users by electronic media. The master document electronic file is maintained in a central location and formatted as a .pdf file so that the document file cannot be inadvertently changed by an end user. Editable versions of electronic documents will be electronically stored with limited access as determined by the Trustee PM and the QAC.

A single hardcopy of controlled documents will be maintained by the Trustee PM or designee, and will be identifiable by signatures (original or electronic).

End users are responsible for verification that any printed copies of controlled documents are the latest revision by checking their revision against the revision currently available electronically. Printed copies not marked "Original" must be assumed to be uncontrolled copies of the document. Controlled copies are not normally distributed; a special procedure for document control will be required if outside distribution of a controlled document becomes necessary.

Since end users will likely rely on the revision number on the cover page of the electronic controlled document to verify their printed version, revision of individual pages within a document are not permitted.

As a good practice, document revisions should be announced to likely end users when they become available.

Documents specifically required to be controlled by this QAPP include:

- The Quality Assurance Program Plan and Implementing Procedures
- Sampling and Analysis Plan and Procedures
- Data Management Procedure
- Other documents as determined by the Trustee PM or QAC, or documents which must be controlled in accordance with other requirements (e.g. the Radiation Protection Plan and Procedures)

7.0 CONTROL OF PURCHASED ITEMS AND SERVICES

The Cimarron Site qualifies suppliers on an as-needed basis when their products or services are required to complete quality work related to license termination or site closure. Initial qualifications may be based on the supplier's submitted statement of qualifications, third party audits, reference referrals, professional certifications or licensure (particularly for consultants), or by the review of other information deemed relevant to establish the vendor's qualifications to perform a required scope of work. This may include contract related requirements (e.g. required minimum insurance or EMR rating).

Once completed, a record of supplier qualification is maintained by the Trustee PM or designee, and this record of qualification is made available to Cimarron Site personnel in the form of an approved supplier's list (ASL) maintained electronically in a central location. Supplier qualification is required for quality related procurements as determined by the Trustee PM, designee, or QAC. A determination that a supplier has been approved is required as part of each Activity Plan.

The Trustee reserves the right to access supplier facilities to perform assessments and inspections. The specific procurement quality requirements established by the requisitioner may also require the supplier submit documentation and records that demonstrate the acceptability of the service or equipment provided.

Each approved supplier's performance is assessed periodically to maintain supplier's acceptable status. Assessments of the suppliers may be accomplished by reviewing assessment reports conducted by regulatory agencies or by other customers. Internally, the Cimarron Site may base the assessment on supplier performance, or may assess performance by physical audit or receipt of a supplier performance questionnaire. Documented supplier reviews are valid for up to three years. Approved suppliers on the ASL may also be re-evaluated when:

- A supplier's performance is determined to be unacceptable by the Trustee PM, or QAC.
- At the discretion of the Trustee PM or QAC, based, for example, on a trend of non-conformances, prolonged periods of inactivity, or significant and documented problems with other clients or regulators.
- At the discretion of the Trustee PM or QAC, suppliers whose performance is considered to be unacceptable may be removed from the ASL or maintained on hold pending a review and approval of the supplier's corrective actions implemented to correct the performance issue.

8.0 IDENTIFICATION AND CONTROL OF ITEMS

In NQA-1, the Identification and Control of Items requires that: "Controls be established to assure that only correct and accepted items are used and installed." The requirement generally applies to hardware parts and components affecting nuclear safety; and requires that they be verified as acceptable, physically identifiable (e.g. by serial number), and traceable to applicable specifications or procurement documents.

At the Cimarron Site, the physical hardware items to which quality requirements apply is generally limited to measuring and test equipment; controlled in accordance with Section 12.0 of this QAPP.

Services are controlled through procurement documents, supplier qualification/approval, and site Activity Plans as required by various sections of this QAPP.

Data "items" (e.g. environmental samples, and resulting analysis) are identified, tracked, and controlled through the Activity Plans, Sampling and Analysis Plan procedures, Procurement of Laboratory Analytical Services, and Data Management Procedures described in Section 9.0 of this QAPP.

Activity Plans which reference the use of equipment relevant to quality must identify the equipment used (e.g. by type of equipment and serial number) and also verify current calibration or performance checks as applicable. This requirement applies regardless of whether the equipment is owned and controlled by the Trustee or by a contractor.

When equipment is found to be in need of repair/rework, or if it is taken out of service, the equipment inventory is updated to reflect the current status and to maintain control of its use. Out of service equipment must be visibly marked and physically separated from in service equipment.

The Trustee PM and QAC are responsible to ensure the Identification and Control of other items not currently contemplated by the QAPP.

9.0 CONTROL OF SPECIAL PROCESSES

NQA-1 defines special processes as those that control or verify quality. In manufacturing operations, special processes include welding procedures and the non-destructive test methods used to ensure weld quality. At the Cimarron Site, conventional manufacturing special processes are not being used to ensure nuclear safety. However, this QAPP defines special processes relevant to Cimarron Site activities as those that generate data in support of license termination and site closure.

The Cimarron Site QAPP, implementing procedures, and related plans are designed to control these special processes; the environmental and monitoring processes in use for site characterization and remediation. This section explains the function of the QAPP and its implementing procedures to control special processes as part of the overall QA program in place at the Cimarron Site.

9.1 Quality Assurance Program Plan

The QAPP provides for Cimarron Site management to conduct regular surveillance of onsite sampling activities and adherence to special process procedure requirements. The QAPP also provides for audits of offsite laboratories to ensure the laboratories are employing good analytical process control techniques. Finally, the QAPP provides an NQA-1 based structure that includes deficiency reporting; the ability to identify preventive and corrective actions to data generation and reporting efforts; and the ability to identify areas for improvement where the potential for deficiencies exist. The QAPP is NQA-1 based to address activities that could be performed within the scope of NRC License SNM-928, but focuses on addressing the QA elements for environmental monitoring expressed in NRC Regulatory Guide 4.15.

9.2 Activity Plan

An Activity Plan (as implemented by QAIP 2.1) is required for those activities which may affect decisions for license termination or site closure. The Activity Plan provides a task description and work plan to identify task-specific quality requirements, and also acts to ensure those requirements are met and appropriately documented. Activity Plans identify locations and requirements for individual sampling campaigns (or other activities), and may use standardized sampling procedures from the Sampling and Analysis Plan to provide detailed well drilling or sampling work instructions.

9.3 Sampling and Analysis Plan

The Sampling and Analysis Plan and Procedures address sampling procedures at the Cimarron Site, including:

- Well drilling and development
- Sample Collection
- Sample Identification, Tracking, and Management
- Chain of Custody
- Decontamination of Sampling Equipment

The Cimarron Site Sampling and Analysis Plan is maintained as QAIP 9.1

9.4 Procurements for Laboratory Analytical Services

Procurements for laboratory analytical services establish the laboratory's contractual obligations to the Cimarron Site, including laboratory procedure data quality requirements and referenced analytical procedure standards. The procurement constitutes the auditable standard of performance for the laboratory for analyses the Cimarron Site requests. Procurements for laboratory services must clearly identify the Cimarron Site quality requirements (e.g. standard methods to be used, minimum detectable concentrations). The requisitioner must verify the requirements in the procurement for laboratory services are consistent with established Cimarron Site data quality objectives if they exist, or activity-specific quality objectives established by the Activity Plan.

9.5 Data Management Procedure

The Data Management Procedure addresses standards for electronic data deliverable (EDD) formats from the laboratory, quality review of laboratory analytical data, and data archiving. Refer to Section 17.1 of this QAPP and to the Data Management Procedure Procedure QAIP 17.1

10.0 INSPECTION

The level of inspection for an item or service is specified in procurement documents or the Activity Plan. The QAPP does not establish specific inspection or surveillance requirements or frequencies for items or services; but all equipment items and activities at the Cimarron Site are subject to inspection or surveillance by the Trustee PM or QAC (or their designees). Contractors providing services, either on or off site, are required to allow EPM access to supplier facilities to perform assessments and inspections.

The acceptance requirements for inspection, or for test records that verify the item or service is acceptable, must be clearly stated in procurement documents. The supplier may provide the required documentation, or Cimarron Site personnel may perform independent inspection activities to verify conformance with the procurement requirements. When Cimarron Site personnel inspection is appropriate to verify conformance of an item or activity to specified requirements, the inspection must be documented. Inspection records contain at a minimum, the item inspected, date of inspection, inspector, type of observation, results, and acceptability or reference to nonconformance if not acceptable.

Laboratory services are recognized as critical to quality and having a direct effect on decision making related to license termination and site closure. The requirements expressed in each procurement establish the laboratory's contractual obligations to the Cimarron Site, including data quality requirements and referenced analytical procedure standards. The procurement documents provide the auditable standard of performance for the contract laboratory.

11.0 TEST CONTROL

The Trustee for the Cimarron Site does not routinely perform independent testing. In the case of procured items or services, the Cimarron Site delegates the responsibility for compliance with applicable regulations and industry standards for testing to approved suppliers. The Cimarron Site will designate the method of verifying compliance in the procurement documents or Activity Plan as appropriate. Verification may consist of obtaining test certification from the supplier, reviewing the supplier's quality program, or witnessing supplier testing. Performance requirements for laboratory testing are specifically established in each procurement for laboratory analytical services.

In the event the Cimarron Site undertakes an independent testing task, the task will be controlled using an Activity Plan establishing the qualifications of the testing personnel, detailed testing procedures, equipment and calibration requirements, data quality objectives, and other information as needed to assure the consistency and quality of results.

12.0 CONTROL OF MEASURING AND TEST EQUIPMENT (M&TE)

Equipment requiring calibration must not be used unless the calibration is current. When contractor-supplied M&TE equipment is used, Activity plans should require verification and documentation of evidence of calibration (current dated calibration stickers, or calibration reports as appropriate). The adequacy of supplier controls on measuring and test equipment is subject to audit by the Trustee PM, QAC, or designee.

The Trustee normally delegates the responsibility for implementing calibration control of Trustee owned or controlled M&TE to the approved equipment or calibration supplier. Any equipment which could affect activities or data important to quality (e.g. calibrated instruments) will be marked with a unique identifier. An inventory of equipment owned or controlled by the Trustee must be maintained on site, along with records of calibration.

When equipment is found to be in need of calibration or repair, it must be taken out of service. Out of service equipment must be visibly marked and physically separated from in service equipment. If the equipment is owned or controlled by the Trustee, the equipment inventory must be updated to reflect the current status of the equipment and to maintain control of its use.

13.0 HANDLING, STORAGE, AND SHIPPING

The principle handling, storage, and shipping activity critical to quality in current Cimarron Site operations relates to the proper containerization, preservation, and shipping of environmental samples for analysis. The quality of these efforts are controlled through the detailed work instructions in sampling Activity Plans, and in the Sampling and Analysis Plan procedures specific to each type of analysis.

In the event the shipment of other materials (e.g. legacy wastes, remediated soils) is necessary, the Cimarron Site will contract with suppliers to provide handling, storage and shipping services. The suppliers will either be qualified by the Cimarron Site in accordance with Activity Plan requirements (appropriate to a one-time shipping event), or are qualified as a general resource and included on the approved supplier list (appropriate for multiple shipments or extended shipping campaigns). Suppliers are periodically assessed to assure these services meet applicable requirements and standards.

14.0 INSPECTION, TEST, AND OPERATING STATUS

The control of testing and monitoring equipment relevant to this requirement is described in Sections 8.0 and 12.0 of this QAPP.

15.0 CONTROL OF NONCONFORMING ITEMS

At the Cimarron Site, nonconforming items are controlled to prevent inadvertent installation or use. A nonconformance is defined as a deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate. This includes any data made deficient or suspect through failure of sampling, analysis, or data processing procedures.

A procedure has been established for reporting, identifying, documenting, evaluating, and disposition of nonconforming items for the Cimarron Site (reference QAIP 15.1, Deficiency Reporting and Corrective Action).

The deficiency report is used to report conditions adverse to safety, and to report accidents that occur. The deficiency report is also used to document stop work actions initiated by site staff or management, as well as any deficiency in procured items, services, documents, procedure content, or procedure adherence. The adoption of this single reporting mechanism is designed to simplify deficiency reporting, and integrates the documentation of resolution of the myriad of factors that can affect quality at the site.

16.0 CORRECTIVE ACTION

The Cimarron Site implements corrective action for non-conformances and incidents through the use of a deficiency reporting process. This process provides for the prompt identification of conditions adverse to quality, determination of their cause, and resolution of the specific conditions adverse to quality. A log of deficiencies and corrective actions is maintained to permit trending analysis if appropriate. The trend analysis can be used to identify timely corrective actions to prevent recurring problems and improve performance. Deficiency reporting and the corrective action process are controlled by a single procedure (reference QAIP 15.1, Deficiency Reporting and Corrective Action).

17.0 QUALITY ASSURANCE RECORDS

The Trustee PM is responsible to assure that quality records relevant to license termination and site closure are maintained. In general, quality records include any documentation of activity that produce data or otherwise support decisions related to license termination and site closure. Quality records also include personnel records of qualification, training, and exposure. Records fitting this description are classed as Lifetime Records, and must be maintained for until license termination, except that the retention for exposure records is indefinite.

Quality records specifically required by this QAPP include:

- Deficiency Reports and Corrective Actions
- QA Inspections, Surveillances, and Audits
- Activity Plans
- Procurement documents containing quality requirements and specifications, including laboratory analytical services
- Data resulting from laboratory analytical services
- Regulatory Communications, Submittals, Permits, License documents
- Equipment Inventory and Calibration Records (3 year retention)
- Previous revisions of controlled documents
- Other documents as determined by the Trustee PM or QAC

Redundant storage of records is required. This can take the form of remote electronic storage combined with onsite hardcopy storage. Records that do not need to be immediately accessible may be archived for storage at a remote location as determined by the Trustee PM or QAC.

The adequacy of Cimarron Site records is subject to internal audit by the QAC.

17.1 Data Records

The data obtained from sampling campaigns and laboratory analysis of collected samples affects decisions related to license termination and site closure. The control and archiving of this data is implemented through the Cimarron Site Data Management Procedure. The procedure establishes standards for electronic data deliverable (EDD) formats from the laboratory, and for data archiving. Reference the Cimarron Site Data Management Procedure, QAIP 17.1

18.0 AUDITS

The Quality Assurance Coordinator (QAC) is responsible for the planning and execution of internal and external audits and surveillances for the CERT Trustee. The QAC will identify internal and external candidates for audits, and will plan and schedule audits and surveillances on an annual basis. Audits are performed in accordance with NQA-1, and an audit report is issued to the Trustee PM (for internal audits) or to the supplier quality representative. The report will be transmitted with a request to identify corrective actions for reported findings. The QAC will schedule a return visit or review documentation to verify corrective actions are complete, after which the audit is closed out. Desk top audits may be substituted for on-site audits depending on the complexity of the products and services being supplied. Third party audits or independent certifications may also be reviewed in lieu of direct auditing.