

Rocky Flats Environmental Technology Site

Revision 7

KAISER-HILL TEAM QUALITY ASSURANCE 10 CFR 830.120 IMPLEMENTATION PLAN

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1.0 Introduction

This document was developed by Kaiser-Hill Company, L.L.C. (Kaiser-Hill) with input from the four Principal Subcontractors. Kaiser-Hill and the four Principal Subcontractors comprise the Kaiser-Hill Team. The four Principal Subcontractors are DynCorp of Colorado, Inc. (DCI), Rocky Mountain Remediation Services, L.L.C. (RMRS), Safe Sites of Colorado (SSOC), and Wackenhut Services, L.L.C. (WSLLC). This document is the *Kaiser-Hill Team Implementation Plan for 10 CFR 830.120, Quality Assurance Requirements*, and is referred to as the Implementation Plan throughout the document. This Implementation Plan has been prepared in accordance with 10 CFR 830.120 and the *Department of Energy (DOE) Standard DOE-STD-1082-94, Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements*. This Implementation Plan does not address DOE Order 5700.6C implementation.

1.1 Background

On July 1, 1995, Kaiser-Hill became the Integrating Management Contractor (IMC) under a performance-based contract specified by the DOE. In executing the IMC role, Kaiser-Hill has responsibility for scoping and assigning work, identifying standards for performance of work, integrating the work of the Principal Subcontractor companies, and providing performance oversight.

The Site is an aging DOE facility in the post production, cleanup, and closure phase of its life cycle. There is no intent to resume production operations. The Kaiser-Hill Team has been tasked to stabilize and consolidate special nuclear material, process waste, perform decontamination, deactivation and demolition, environmental remediation and close the Site.

The Site has a wide range of hazards and safety uncertainties representing a substantial challenge for meeting Price-Anderson Amendments Act (PAAA) requirements. This includes the classical set of problems expected at an aging facility, such as facility authorization basis to meet the new Site mission, deteriorating facility and system material condition, past inadequate configuration control, proceduralization problems, etc. In addition to these problems, operations were shut down in 1989. No special lay-up, deactivation, or storage precautions or actions were taken because it was believed that operations would resume in the near future. This has created a unique set of problems.

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Since 1990, efforts have been made to define and correct these problems. However, many of the problems still existed when Kaiser-Hill took over the Site. Upon assuming responsibility for the Site on July 1, 1995, Kaiser-Hill inherited the implementing infrastructure programs and procedures that were developed over the previous five years. The dilemma which faces the Site in a climate of declining funding is to ensure that the existing infrastructure programs and procedures are adequate to support accelerated, cost effective, risk reduction, special nuclear material stabilization, and Site closure, while properly addressing PAAA requirements.

1.2 Nuclear Safety Authorization Bases

The Site is currently performing work under an existing authorization basis (AB) described in documents such as the facility Safety Analyses Reports, Basis for Operation and Basis for Interim Operation documents, the Technical DOE Safety Requirements, and AB Document Review Reports, Safety Evaluation Reports, and facility-specific commitments made in order to comply with DOE directives, including infrastructure programs such as conduct of operations, radiological control, and criticality safety. Kaiser-Hill believes that, collectively, these documents establish sufficient bases for safe execution of near term baseline and risk reduction activities. In their current state of definition, however, these documents must be updated, upgraded or superseded to form authorization bases for the accelerated Site clean-up and decommissioning mission.

Since assuming control of the Site, Kaiser-Hill has worked in concert with DOE, RFFO, the Defense Nuclear Facilities Safety Board, and other stakeholders to institutionalize a more effective approach to development and implementation of a Site level authorization agreement and facility specific authorization bases to support execution of nuclear related activities at the Site. Substantial progress has been made towards this end, AB documents have been completed or updated for the nuclear facilities which required a new AB. A strategy has been developed which will maintain all facility AB documents current with facility mission through an annual update process.

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2.0 Implementation Plan Summary

This 10 CFR 830.120 Implementation Plan provides information regarding implementation of the Quality Assurance (QA) requirements and the *Kaiser-Hill Team Quality Assurance Program* (hereafter referred to as the QAP) for nuclear facilities and nuclear activities. The QAP is contained in the *Quality Assurance Manual*. The QAP describes the roles, responsibilities, and commitments for implementing the requirements of 10 CFR 830.120 for nuclear facilities and nuclear activities. Lower-tier subcontractors to Kaiser-Hill and the Principal Subcontractors are included and are accountable to Kaiser-Hill, or the Principal Subcontractor for whom they work, to implement the QA requirements.

Baseline assessments have been conducted against existing Site infrastructure documents to assure that the requirements contained in 10 CFR 830.120 were incorporated. The results of this effort were documented in Compliance Summary Reports. Programmatic deficiencies were documented in Attachment 1 of this Implementation Plan, including corrective actions and associated cost and schedule for noncompliance areas.

Independent and management assessments are performed against each of the 10 CFR 830.120 criterion to assess implementation in accordance with the programs and procedures. QA Program weaknesses are identified and targeted for corrective action using the Site corrective action process, which allows for proper reporting, characterizing, tracking, statusing, verifying and trending of each deficiency. Significant programmatic deficiencies are reported to DOE via the Noncompliance Tracking System (NTS).

The baseline assessment identified that many of these Site infrastructure documents reflected the previous contractor organization responsibilities and methods of doing business. Revisions to procedures addressing the integrating management approach have been reported completed. Previously identified and reported weaknesses, deficiencies, and noncompliances have been reviewed and evaluated in accordance with the criteria contained in Appendix I. Items that did not meet the criteria contained in Appendix I, *Criteria for Including Issues in the Quality Assurance 10 CFR 830.120 Implementation Plan*, were deleted from subsequent revisions of this Implementation Plan. Those items will continue to be tracked and will be addressed under different DOE Orders and Rules by Compliance Schedule Agreements, corrective action plans, implementation plans, or other resolution documentation including exemptions. The remaining implementation issues together with budget work authorization documents, additional funding requirements, corrective action tasks, schedules, and significance levels for

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items identified by the assessments are provided in Attachment 1, *Implementation Issue Matrix for Quality Assurance 10 CFR 830.120 Implementation Plan*.

Methodology for the annual update of the QAP includes the identification of significant changes to Site infrastructure which affects the implementation of 10 CFR 830.120. Each subcontractor and Kaiser-Hill are informed that changes have taken place and that they are to determine the impact on open items identified in the QAIP and to existing QA Program definition to assure continued compliance.

No implementation issues were identified in the area of Criterion (7) Procurement.

No exemption requests are being submitted at this time. Adequate funding to resolve the Attachment 1 commitments for fiscal year (FY) 1998 has been identified during the budget process.

Significant programmatic changes have taken place to enhance the Kaiser-Hill Team's capability to meet 10 CFR 830.120 requirements. The changes include establishment of the Integrated Safety Management System (ISMS), *Site Corrective Action Requirements Manual*, *Rocky Flats Closure Projects Site Functions and Responsibilities Document*, and modification of the strategic planning process. A description of these infrastructure changes follows:

- **Integrated Safety Management System:**

The Site is instituting an Integrated Safety Management System (ISMS) through which ongoing and future activities that have the potential to cause harm, including radiological harm, to the workers, public and environment are identified and evaluated. The ISMS integrates safety and environmental management standards/requirements into the work planning and execution processes, and when implemented effectively protects the workers, the public and the environment. The ISMS combines a diverse group of people and risk-graded infrastructure programs to satisfy the multiple safety, environmental, and health needs uniformly. The ISMS identifies the mechanisms for increasing worker involvement in work planning, including hazard and environmental impact identification, analysis, and control; work execution; and feedback/improvement processes. The ISMS is primarily based on the philosophies, principles, and requirements of the *Department of Energy (DOE) Safety Management System Policy (DOE 450.4)*, *Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 95-2*, *Department of Energy Acquisition Regulation (DEAR) clause 970.5204-2*, and current

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infrastructure programs in use at the Site. The development of worker protection programs using these standards and applying the graded approach to standards implementation is intended to provide an appropriate level of protection and control for the conduct of work.

The hazards which are credible and have consequences that could cause harm, including radiological harm, to the worker, the public or the environment are identified, analyzed, and categorized, and controls for these hazards and their consequences developed. Site documents which are used to adequately define the controls include: 1) the *Nuclear Safety Manual* and the *Criticality Safety Manual*, which establish a formal set of controls and requirements for a range of activities, usually a facility; 2) the *Integrated Work Control Program Manual*, which describes how work is planned and controlled; 3) the *Integrated Safety Management System Manual* which describes how activities with the potential to cause harm are identified and controlled; and 4) the *Site Engineering Requirements Manual*, MAN-027-SERM (SERM) which provides engineering requirements for the Site.

The ISMS relationship to the application of quality assurance for nuclear facilities and other activities at RFETS is embodied in five basic functions: 1) Define the scope of work; 2) Identify and analyze the hazards; 3) Identify and implement controls; 4) Perform the work; and 5) Provide feedback. ISMS enhances the previous incorporation of quality assurance requirements into these functions due to its' integration of the existing Site infrastructure. The Site infrastructure includes the documents identified in the preceding paragraph as well as others such as, the *Conduct of Engineering Manual* (COEM), *Conduct of Operations (COOP) Manual*, the *TRU Waste Management Manual*, 1-MAN-008-WM-001, and the *Low Level Waste Management Plan*, 94-RWP/EWQA-0014 for radioactive waste.

The *ISMS Manual* was effective September 30, 1997, with implementation scheduled for September 30, 1998. An *ISMS Implementation Plan* has been developed to assure personnel are trained in the concepts of ISMS and understand how the ISMS applies to the processes they now use to accomplish work safely. This will provide for a consistent and logical approach for ISMS implementation. Principal Subcontractor's Quality Assurance Program Plans (QAPPs) have been revised to address the Site established ISMS.

Until the ISMS is implemented, the same manuals and procedures that are integrated through the ISMS are used for the identification and control of activities which have the potential to cause radiological harm. When implemented, the ISMS will provide greater assurance and consistency in the

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identification, analysis and categorization of hazards associated with nuclear activities.

- **Site Corrective Action Requirements:**

The pre-existing Corrective Action Program at the Site included various identification and reporting processes, each developed and implemented in order to satisfy specific laws, requirements, or regulations. Although these processes contained many corrective action program elements, they individually did not satisfy all the requirements of umbrella requirements and laws, such as the Rule and Order. As a result, the Site deficiency identification and reporting processes are now required to follow the *Site Corrective Action Requirements Manual* and its implementing procedures in order to assure that deficiencies are uniformly prioritized, tracked, and trended, and that the minimum corrective action elements are met. The Plant Action Tracking System (PATS) is the approved Site tracking system.

- **Site Documents Requirements:**

The *Site Documents Requirements Manual* (SDRM) provides the methodology and requirements for controlling and developing Site documents, such as policies, management directives, manuals, procedures, instructions, and job aids.

The SDRM identifies the type, purpose, applicability, and signature requirements for the different Site-applicable document types.

When a procedure is selected as the correct document type, then a graded approach is applied to specify the rigor and level of activity by which the applicable set of standards and requirements are met.

- **Rocky Flats Environmental Technology Site Functions and Responsibilities:**

The Kaiser-Hill Team organizational structure, functional responsibilities (including integration and implementation responsibilities), lines of authority, and interfaces are identified in the *Rocky Flats Closure Project Functions and Responsibilities Document*.

This document ensures that Kaiser-Hill has clearly defined the responsibilities for each contractor at RFETS and is designed so that each contractor:

- Understands the major Site functions.
- Understands the differences between Kaiser-Hill integration responsibilities and subcontractor work performance responsibilities.
- Recognizes the Kaiser-Hill organization with integration responsibilities and overall accountability for each function.

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- Recognizes the subcontractor, or in some cases, the Kaiser-Hill organization, with implementation responsibilities for each function.
- Recognizes the organizational units with whom they interface.
- Understands the responsibilities for facility maintenance and operations.

- **Strategic Planning:**

The Kaiser-Hill Team in cooperation with DOE, RFFO has developed a Closure Project Baseline (CPB) showing achievement of the RFCA interim end-state (interim closure) by the year 2010. The CPB was built on the work done in developing the Accelerate Site Action Project (ASAP), Workouts II and III, the *Accelerating Closure: Focus on 2006* document, the FY97 work plan, and the FY98/99 work plan. The CPB brought all of these activities under a single umbrella.

During FY98 Kaiser-Hill has focused on validation of the CPB and the development of innovative strategies to achieve Site closure by 2006. Accelerated Site closure will impact the quality assurance program in two areas. Since much of the acceleration effort involves the identification and implementation of cost savings achieved through the streamlining of currently accepted work practices, regulatory requirements, and resource requirements, quality assurance organizations will need to assure that reductions in these areas remain commensurate with the current risk at the Site. Quality-related organizations will also need to maintain cognizance of CPB changes to ensure resources are adequate as annual funding, yearly work progress, and Stakeholder concerns change. Quality organizations helping to facilitate the integration of quality requirements at the Work Authorization Document (WAD) level will help to ensure work scope and activities over the closure project life-cycle are necessary and sufficient with respect to implementation of quality requirements.

The CPB is a key project management tool for the closure project. It documents the approved plan (work scope, schedule, and estimated cost) for project execution according to a work breakdown structure (WBS), with Project Baseline Descriptions (PBD) providing detailed scope statements, schedules, and cost estimates. The CPB undergoes minor update as baseline change proposals are approved during the year. Major baseline updates occur early each calendar year as the CPB is refined to support DOE Field Budget Submission and annual work plan requirements based on projected funding levels provided by DOE, RFFO. Each year, a two-year window of the CPB is expanded to greater detail to form the annual work plan, which becomes the basis of authorization by DOE, RFFO for execution year funding. All changes to the baseline are governed by rigorous change control procedures.

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In FY98 Kaiser-Hill delivered to DOE, RFFO the *Accelerating Closure: Focus on 2006* document. This document was forwarded by DOE, RFFO to DOE Headquarters Environmental Management (EM) to become a part of a complex-wide plan to facilitate an integrated approach to waste treatment, material disposition, and other areas whose optimal solution may not be achievable on an individual site basis. Current plans call for annual updates to the *Focus on 2006* document.

The approved annual work plan is the official execution year baseline. The scope, schedule, and budget for this baseline is contained in the WADs, and becomes the basis for performance measurement and earned-value during the current fiscal year. The Kaiser-Hill quality program plan and budget for FY99 is established in WBS 1.1.08.03.06.04 - current FY99 funding is at \$1.5 million (burdened).

Kaiser-Hill planning and project management activities follow the defined DOE budgeting and project management processes, both for current year work plan development and outyear planning. Execution year budget authorizations are formally documented and maintained under formal configuration controls.

3.0

General Information

Kaiser-Hill, as the IMC, has overall responsibility for the Site and implements the Site mission through four Principal Subcontractors and four Architect and Engineering/Construction and Construction Management (AE/CCM) Subcontractors. Each of the Principal Subcontractors has specific areas of responsibility. DCI provides sitewide services in support of nuclear facilities such as metrology, occupational medicine, transportation, limited maintenance, and receipt inspection. RMRS performs Site environmental remediation and waste management and is responsible for several specific nuclear facilities. SSOC performs operations and maintenance for the majority of the Site's nuclear facilities. WSLLC provides security services for the Site. Kaiser-Hill and the Principal Subcontractors form the Kaiser-Hill Team. The four AE/CCM subcontractors, Denver West Remediation and Construction, L.L.C. (DWRC), Rocky Flats Engineers and Constructors (RFEC), Foster Wheeler Environmental Corporation (FWEC), and OHM provide a broad range of AE/CCM services as specifically described and authorized by task orders under contract to Kaiser-Hill.

This Implementation Plan for 10 CFR 830.120 includes input from the individual Principal Subcontractors and from the evaluation of previously reported weaknesses, deficiencies, and noncompliances.

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The *DOE Standard DOE-STD-1082-94, Preparation, Review and Approval of Implementation Plans for Nuclear Safety Requirements*, was used for the development of the format and content of this document.

This Implementation Plan (Rev. 7) is a revision to the Implementation Plan (Rev. 6) submitted by Kaiser-Hill on April 1, 1998.

This Implementation Plan applies to Site nuclear facilities and to activities with the potential to cause radiological harm.

This Implementation Plan is based on QA baseline assessments conducted by the Kaiser-Hill Team during contract transition against existing Site infrastructure programs and procedures. Valuable input was provided by Site workers. Programmatic implementation assessments continued in fiscal year (FY) 1997. Program weaknesses were identified and targeted for corrective action using the Site corrective action process, which allows for proper reporting, tracking and trending; significant programmatic deficiencies were reported to DOE via the Noncompliance Tracking System (NTS). Attachment 1 lists the QA Criteria of 10 CFR 830.120, the infrastructure programs that support each criterion, the implementation issues, along with additional supporting information such as corrective action tasks, schedules, and funding. Compensatory measures are recorded. The Plant Action Tracking System (PATs) significance levels are also included.

The remainder of the Implementation Plan addresses each of the sections outlined in DOE-STD-1082-94.

4.0 Applicability of Nuclear Safety Requirements

Title 10 CFR 830.120 applies to nuclear facilities and to activities with the potential to cause radiological harm, however the applicability of 10 CFR 830.120 is not limited to hazard category 2 and 3 facilities. 10 CFR 830.120 is applicable to activities that have the potential for causing radiological harm regardless of where they occur. The specific facility Authorization Basis document identifies the category of the nuclear facility in accordance with DOE Order 5480.23. Each subcontractor is responsible for the development and maintenance of the facility AB documents for Hazard Category 2 and 3 nuclear facilities. The Site Safety Analysis Report (SAR) contains a comprehensive listing of the hazard category of each Site nuclear facility as identified in the AB documents. Kaiser-Hill Safety Systems & Engineering is responsible for the Site SAR.

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Quality assurance requirements for activities which have the potential to cause radiological harm are implemented as a part of the Site infrastructure. The Site safety management infrastructure is integrated through the ISMS process which assures that the scope of work is defined, hazards are identified and analyzed, controls are identified and implemented to prevent or mitigate the consequences of the hazards, work is performed, and feedback of results of these processes are provided to management to assure continuous improvement for safety. Site infrastructure documents include controls to address 10 CFR 830.120 requirements and include the *Nuclear Safety Manual*, *Criticality Safety Manual*, in addition to the QAP, SDRM, *Integrated Work Control Program (IWCP) Manual*, *Conduct of Operations (COOP) Manual*, the *Site Engineering Requirements Manual (SERM)*, and the *Conduct of Engineering (COEM) Manual*. (Note: *Procedures 1-D55-ADM-02.37*, *Activity Control Envelope Development* and *1-R32-ADM-02.38*, *Activity Definition Process* are being cancelled and their contents are being incorporated into the IWCP Manual).

Hazards are identified, analyzed and categorized, and controls for these hazards and their consequences are developed based on the hazard. This is accomplished through the ISMS process. This can include the process of developing a SAR, Basis for Interim Operation (BIO) or Basis for Operation (BFO) for nuclear activities, or Health and Safety Plans (HASPs), Job Hazards Analyses (JHA), As-Low-As Reasonably-Achievable (ALARA) reviews, Radiological Work Permits (RWPs), Remedial Investigations/Design Plans, Activity Control Envelopes (ACEs), Feasibility Studies, or Proposed Action Memoranda (PAM) for non-nuclear/radiological and industrial hazard activities. Whether or not a SAR, BIO, or BFO must be developed for a given activity, set of activities, or facility can be determined by performing a hazards analysis per DOE standards *DOE-EM-STD-5502-94*, *Hazard Baseline Documentation*, *DOE-STD-1027-92 Guidance on Preliminary Hazardous Classification and Accident Analysis Technique for Compliance with DOE Order 5480.23*, *Safety Analysis Reports*, *DOE-STD-3009-94*, *Preparation Guide for USDOE Non-Reactor Nuclear Facility Safety Analysis Reports*, and DOE memorandum from Richard L. Black, dated June 6, 1997, addressing hazard categorization.

Hazards analysis identifies the potential severity of consequences of the hazards. The ISMS process will include Quality Assurance requirements review during development of the activity definition and independent Cross Table Review process, as applicable. This will ensure the application of the proper procedures based on 10 CFR 830.120 or DOE 5700.6C to adequately

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control the work commensurate with the hazards and consequences of the activities.

Work planning applies the necessary controls to mitigate or prevent the consequences of the hazards. Pre-evolution briefings are conducted with workers, which review the work planning, applicable procedures, safety analyses and other pertinent safety precautions. Pre-evolution briefings are required for tasks in nuclear facilities and complex or uncertain tasks outside nuclear facilities.

Standards that are required by law or contract are mandatory unless a temporary or permanent exemption from that requirement has been granted by one having proper regulatory authority. The criteria for granting an exemption to a DOE nuclear safety requirement are specified in *10 CFR 820.62, Criteria*.

5.0 Safety and Implementation Guides and Technical Standards

The Kaiser-Hill contract with DOE contains the list of DOE Directives imposed on the Kaiser-Hill Team by DOE. The Kaiser-Hill Team QA requirements are identified in the *Quality Assurance Program Criteria* document.

The foundation upon which the *Quality Assurance Program Criteria* document was developed was the *DOE Environment, Safety, and Health Configuration Guide*. The *Quality Assurance Program Criteria* document development began with a search for QA regulations, orders, and consensus standards, without regard to applicability. In all, 28 QA documents were identified and obtained. The QA documents were reviewed for possible applicability to Site activities. Several documents were set aside as not applicable.

A hierarchy of the documents was selected to place a relative level of importance on the documents in case of conflict between documents. The QA criteria of 10 CFR 830.120 were incorporated. The remaining applicable documents were reviewed and items selected that, in the opinion of the writers, best described specific features that the criteria of 10 CFR 830.120 required. In the end, several documents remained that were applicable but not used. This was because they were redundant to, or not as clear as, those items selected from other sources. They are listed in the *Quality Assurance Program Criteria* document.

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The development of the *Quality Assurance Program Criteria* document involved the Rocky Flats Field Office (RFFO), EPA Region VIII QA Manager, and Site subject matter experts having QA experience in the DOE complex or the nuclear industry. Based on their comments and using an iterative process, the *Quality Assurance Program Criteria* document, was further refined. The *Quality Assurance Program Criteria* document is issued as a section of the *Site QA Manual*.

The requirements for the *Quality Assurance Program Criteria* document were selected from the following:

- *10 CFR 830.120, Procedural Rules for Nuclear Activities*
- *10 CFR 830.120, Quality Assurance Requirements*
- *DOE Order 5700.6C, Quality Assurance*
- *ASME-NQA-1-1994, Quality Assurance Requirements for Nuclear Facility Applications, 1994*
- *ANSI/ASQC-E4-1994, Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*
- *40 CFR 194, Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations, April 9, 1996*
- *ASTM -C-1009-89, Standard Guide for Establishing a Quality Assurance Program for Analytical Chemistry Laboratories Within the Nuclear Industry*
- *DOE/AL-QC-1, 1995, Quality Criteria*
- *ANSI/NCSL Z540-1-1994, Calibration Laboratories and Measuring and Test Equipment - General Requirements*
- *10 CFR 71, Packaging and Transportation of Radioactive Materials Subpart H Quality Assurance.*

Future changes to Site standards will be conducted through the established Order Compliance process for insertion into the Kaiser-Hill contract. Standards that are required by law or contract are mandatory unless a temporary or permanent exemption has been granted by proper regulatory authority.

6.0 Baseline Assessments

The Kaiser-Hill Team has performed QA baseline assessments for their respective areas of responsibilities to determine whether the implementing

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infrastructure programs and procedures incorporate the QA requirements of 10 CFR 830.120, as applicable.

6.1 Quality Assurance 10 CFR 830.120 Baseline Assessment

Quality Assurance 10 CFR 830.120 baseline assessments were performed from July 21, 1995, through January 30, 1996, by the Kaiser-Hill Team. The IMC also provided oversight and technical assistance to the Principal Subcontractors. The process was as follows:

- Sub-teams from the Kaiser-Hill Team identified specific nuclear activities and facilities that fell into each company's respective areas of responsibility.
- The sub-teams determined the programs and procedures used to control those activities.
- With guidance from the sub-team, responsible managers along with their technical personnel performed baseline assessments to determine whether the requirements of 10 CFR 830.120 were incorporated into the Site infrastructure programs and procedures. Identified issues were documented on Compliance Summary Reports.
- Representatives of organizations responsible for the Site infrastructure programs and procedures performed an additional baseline assessment. The objective of the additional assessment was to determine implementation issues associated with the infrastructure programs and procedures such that Kaiser-Hill has confidence in the functionality of the programs and procedures to support the Site mission.
- The findings have been reviewed and evaluated in accordance with the criteria contained in Appendix 1. Items that did not meet the criteria were deleted from subsequent revisions of the Implementation Plan as explained in Section 2.0.
- Remaining open issues are included in Attachment 1. These items have been entered into and are being tracked through the Commitments Management and Corrective Actions processes.

6.2 Verification of 10 CFR 830.120 Baseline Assessment

The IMC has conducted an assessment to verify that information gathered in the baseline assessment accurately reflects the status of the Site. The verification included a sample of the implementation issues identified in the Compliance Summary Reports. The verification found that the "shall" statements contained in 10 CFR 830.120 are reflected as requirements in the upper-tier governing Site documents and that those requirements flow down into the implementing procedures sampled in the verification.

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7.0 Additional Activities

The additional activities that are necessary to meet the requirements of 10 CFR 830.120 are described in Attachment 1.

8.0 Graded Approach

The Site is instituting an Integrated Safety Management System (ISMS) process through which ongoing and future activities are evaluated for risk to establish control for the protection of the workers, public, and environment. The ISMS process is developed in accordance with Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 95-2 to the Secretary of Energy which provides guidance for standards implementation. The development of safety management programs using these standards and applying the graded approach to standards implementation is intended to provide an appropriate level of protection and control for the conduct of work. The ISMS process systematically integrates safety into management and work practices at all levels. ISMS integrates the identification, analysis, and control of hazards and provides feedback for continuous improvement in work definition, planning, and safe performance of work.

Graded approach is the process by which the levels of analysis, documentation, and other actions necessary to implement the QA requirements are based on facility/activity specific factors.

10 CFR 830.120 is applied to the Site through the use of a graded approach. In order to ensure the most efficient use of resources, a graded approach is used to determine the rigor with which the QA requirements are applied to a specific facility or activity. This approach provides the flexibility to implement the programs in a way that best suits the facility or activity while maintaining full compliance with 10 CFR 830.120.

The facilities at Rocky Flats are identified as hazard category 2 or 3 nuclear facilities, radiological facilities, or other facilities. There are no hazard category 1 nuclear facilities at the Site. Because the SARs were written when the facilities were operational, they may reflect the need for more stringent safety requirements and operational needs. They may represent an over commitment for what is needed for an end-of-life facility that will be decontaminated and decommissioned. As new authorization basis documents are prepared they will adequately reflect the requirements appropriate for the

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current facility mission through ISMS integration of the *Nuclear Safety Manual*, *Criticality Safety Manual*, and the *IWCP Manual*.

Consistent with *DOE STD-1082-94, Preparation, Review, and Approval of Implementation Plans for Nuclear Safety Requirements*, the Kaiser-Hill Team organization responsible for a nuclear safety requirement has been empowered to use its best judgment in the determination of the appropriate graded approach to be used to achieve full implementation of the requirement. This judgement is based on detailed knowledge of the specific requirements, features, resources, needs, goals, and interface with other organizations and facilities. The graded approach utilized to comply with a QA requirement was developed by application of the best judgments of a group of experts who have collectively broad knowledge of the applicable facilities and activities, of the safety management program for applicable facilities and activities, and of the collective wisdom behind the established regulatory requirements as defined in regulations and amplified by related technical standards and guides.

The documents which govern the graded approach process are the QAP, *Site Documents Requirements Manual (SDRM)* and the *Integrated Safety Management System (ISMS) Manual*. The QAP provides the graded approach criteria, while the SDRM describes the controls to assure the criteria are considered when developing implementing procedures. The *ISMS Manual* provides the integration of these procedures into the controls applied when determining the prevention or mitigation of the consequences of hazards.

Each Site-applicable procedure implementing a Site infrastructure program (QA requirements) has provided in the instructions section, as appropriate, the level of analysis, documentation, and actions necessary to comply with the QA requirements based on a graded approach.

Additionally, procedures and other documents which implement Site infrastructure programs with direct impact on work and work processes receive independent review under the existing Site infrastructure. This independent review utilizes an interdisciplinary technical evaluation process to evaluate safety issues and (implicitly) quality aspects. Further, work-level instructions, procedures, and other instruments of work control developed under the Site infrastructure programs receive independent review (primarily Operations Review Committees) as a verification of the implementation of safety and program (including quality) requirements, where the work to be performed meets threshold risk requirements. This process as a whole validates the grading and application of quality assurance requirements.

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The following general criteria are guiding principles in the application of graded approach by the Kaiser-Hill Team:

- Graded approach may not be used to avoid compliance with federal, state, and local regulations.
- The higher the risk, the more rigor is required to ensure that requirements are met.
- Site facilities and activities are graded as either nuclear or non-nuclear facilities or activities.
- The program owner organization, because it has detailed knowledge of processes, items, activities, and programs, uses best judgment in determining the rigor of requirement implementation, administrative controls, and business practices to be applied to ensure requirements are met.
- Implementing procedures and work plans reflect the use of the graded approach by setting forth direction for the amount of analysis, documentation, and actions required to ensure requirements are met.

Graded approach has been implemented to meet the QA requirements considering and using individually, or in combination, the following criteria:

- The relative importance to safety, safeguards, and security - The relative importance of an activity or item to safety, security, safeguards, environment, or mission provides the basis for establishing the order of completion or the depth, rigor, and thoroughness in applying the requirement. (For example: the corrective action process provides for grading deficiencies and other action items by significance level. Corrective actions are scheduled and accomplished based, in part, on significance.)
- The magnitude of any hazard involved - Consideration of the risks and hazards of the facility allows the implementing organization to focus resources on the activities most likely to reduce the associated risks and hazards by tailoring the implementing actions to the specific risks and hazards at the individual facilities and activities. (For example: activities to stabilize plutonium were given high priority in the *Ten Year Plan*, the Site strategic plan, in order to reduce the hazardous condition.)
- The life cycle stage of a facility - The consideration of the life cycle stage of a facility permits the implementing organization to assess the appropriate application for the current life cycle stage of the facility. (For example: a facility that has the source material removed, and that is scheduled for decontamination and decommissioning, should have fewer requirements than a plutonium storage facility.)

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- The programmatic mission of a facility - The programmatic mission of a facility, including passive missions such as contamination confinement and material storage, may dictate the degree of gradation for the implementation of a requirement. (For example: an operating facility that processes plutonium should have more rigorous and a larger number of requirements than a material storage facility.)
- The particular characteristics of a facility - The particular characteristics of a facility influence how nuclear safety requirements are applied. (For example: a waste storage facility should have fewer requirements than a plutonium facility performing stabilization activities.)
- Any other relevant factor - One such factor might be phased implementation of a requirement (by time or by facility). Phased implementation of a requirement minimizes the impact on resources and allows for a learning curve. (For example: the procedure preparation process is being phased in over time to minimize the impact on resources.)

Graded approach has been utilized during the development of the Site infrastructure programs and implementing procedures to comply with the requirements of 10 CFR 830.120. Graded approach is built into Site infrastructure programs and procedures including, but not limited to: Policies and Procedures, Operational Readiness Reviews, Lessons Learned, Configuration Management, Training and Qualification, Emergency Management, Security and Safeguards, Engineering, Maintenance, Conduct of Operations, Radiation Protection, Occurrence Reporting, Procurement, Waste Management, and Nuclear Safety. The Commitments Management and Corrective Actions processes provide a mechanism for prioritizing and evaluating unclassified deficiencies, concerns, and improvements. It is the responsibility of the Line organizations to ensure that QA requirements are applied in a manner commensurate with the work being accomplished as defined by the Site infrastructure. Line organization is defined as the organizations responsible for the execution of programs and conduct of work.

The Kaiser-Hill Team QAP, Appendix 1, *Graded Approach to the Requirements of 10 CFR 830.120*, describes how graded approach is applied to each of the ten criteria of 10 CFR 830.120.

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9.0 Resource Assessment

Corrective action tasks and schedules for items identified by the baseline assessments are provided in Attachment 1. Budget work authorization document numbers and additional funding requirements were deleted since all items have been reported complete. Based on identified issues, current budget, and projected availability of funds, the existing work packages and identified additional funding should be sufficient to meet the requirements of 10 CFR 830.120. Quality Assurance Program implementation resources are assessed annually during the budget cycle. All Programmatic deficiencies listed in Attachment 1 have been reported complete and either have been verified by the IMC or are in the process of verification. Therefore no funds are identified as being needed for completion of open deficiencies. Funding sources are identified in Attachment 1. In addition, Kaiser-Hill Quality Program activities for FY99 are budgeted at \$1.5 million (burdened) in WBS 1.1.08.03.06.04 as of July 28, 1998.

10.0 Prioritization

Implementation issues identified in the QA baseline assessment have been prioritized in accordance with the Site Commitments Management and Corrective Actions processes. The level of importance to be placed on the correction of a deficiency or action request is evaluated for impact by considering the types of risks that may be encountered, consequences of these risks, and the frequency or probability of occurrence of like deficiencies or action requests. Significance levels are assigned based on the evaluation in relation to the impact on health, safety, the environment, regulatory compliance, safeguards and security, or the operation or mission at the Site. Significance levels are classified as:

- High - Significant Impact
- Low - Minor Impact

The significance levels for the implementation issues included in Attachment 1 are per *Site Corrective Action Requirements Manual, I-MAN-012-SCARM*.

11.0 Milestones and Schedules

All of the implementation issues shown in Attachment 1 have been reported as complete. Milestones and schedules were developed and tracked. Completion dates for identified implementation issues are shown in Attachment 1.

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Intermediate tasks were entered into the Plant Action Tracking System and were entered through the Commitments Management and Corrective Actions Process. Detailed corrective action plans are available through the Kaiser-Hill Quality Program organization.

12.0 Exemptions

No exemptions from the criteria of 10 CFR 830.120 are being requested.

13.0 Compensatory Actions

Compensatory actions for identified implementation issues are documented in Attachment 1.

14.0 Tracking

Implementation issues identified in Attachment 1 are being tracked by the Commitments Management and Corrective Actions processes. All of the 26 issues identified in Attachment 1 have been reported as complete. Completion has either been verified by the IMC, or verification is ongoing. The issues which were open April 1, 1998, were updated to reflect current status. Historical data for each issue can be found in the past revisions to this Implementation Plan.

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**Criteria for Including Issues in the
Quality Assurance 10 CFR 830.120 Implementation Plan**

The DOE expectation is that the Implementation Plan for 10 CFR 830.120 will identify the status of implementing the QA requirements down to the floor level.

Revision 1 of the Implementation Plan, submitted to DOE on February 2, 1996, contained implementation and compliance issues that had a price tag of well over 400 million dollars to correct. DOE provided comments and guidance both in meetings and in writing that clarified DOE expectations.¹ Based on these comments and guidance, the Kaiser-Hill Team evaluated the previously reported issues using the following criteria.

Site programs and functions such as fire protection, conduct of operations, maintenance, safeguards and security, and others are recognized to be enforceable under 10 CFR 830.120; however, detailed plans for these programs and functions will be addressed by other DOE Rules and DOE Orders. The Kaiser-Hill Team is continuing the process of identifying the subset of requirements to support Site activities. Certain deficiencies identified in Appendix 1 of Revision 1 for Site programs and functions may no longer be relevant under the new definition.

The following Implementation Issues are included in the 10 CFR 830.120 Implementation Plan:

1. QA issues that are not governed by another DOE Rule (e.g., 10 CFR 835) or DOE Directive.
2. Programmatic QA issues not addressed by Implementation Plans or Requests for Approval as discussed above.
3. Implementation deficiencies. Implementation means that where a requirement applies, a process is established (i.e. formal training, assessments, and/or inspection/acceptance testing) or a tool is available for use (i.e., procedure, design specifications, and/or procurement records) which fulfills the intent of

¹ Memorandum SIG:NAM:07019 from David A. Brockman to Tony R. Buhl, Rocky Flats Field Office Expectations for Quality Assurance Plan and Implementation Plan, dated April 11, 1996.

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the requirement and allows work to be performed in a safe and effective manner. Lack of such a process or tool is an implementation deficiency.

Lack of budget/resource issues that remain following graded approach consideration, and that are of such extent so as to jeopardize development and/or implementation of the program/process, are considered to fall under the category of Implementation Issues.

Compliance issues are not included in the Implementation Plan. "Compliance is the day-to-day utilization of these processes/tools and conformance to the intent, during the actual performance of work. It is understood that on any given day someone may not comply with a requirement, knowingly, or unknowingly, and that the actual noncompliance with a requirement may be an apparent violation and could also be deemed enforceable in accordance with 10 CFR 820."

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 Implementation Issue Matrix for
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ID No.	10 CFR 830.120 QA Criteria	Imp. Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
1	(c) <u>Quality Assurance Criteria</u> (1) Management (i) Program	Yes	Quality Assurance Program & Implementation Plan (QAP&IP) - Site Quality Assurance Manual.	<p>Deficiency: Guidance needs to be provided on how to build graded approach into Site infrastructure programs and procedures. Instructions need to be provided for documenting the bases for selection using graded approach.</p> <p>Implementation Activity: Graded Approach will be addressed as a requirement in the <i>Site Documentation Requirements Manual</i> which is being developed by the Site Streamlining Initiative Team. For Authorization Basis activities, graded approach will be further formalized through the Activity Definition procedure, application of the DOE Work Smart Standards closure process, and implementation of DOE's 95-2 Plan. The independent review process described in Section 8 of the IP, is implemented to validate the outcome of any of the above initiatives. (KH-H&S)</p> <p>Compensatory Action: The QAP&IP have been revised to describe the Kaiser-Hill Team graded approach, the general and specific criteria and guidelines upon which the graded approach is based, and how graded approach is built into the programs and procedures that implement the ten criteria of 10 CFR 830.120. The Kaiser-Hill Team will continue to implement the infrastructure programs and procedures.</p>	Completed 3/31/97 •95-004370 •Low
2	(c) (1) Management (ii) Personnel Training & Qualification	Yes	Training	<p>Deficiency: Qualification and Continuing Training program for Engineering personnel is not formalized.</p> <p>Implementation Activity: Update the <i>Engineering and Project Manual QA Plan</i> to identify 1-S50-T&Q-QC-002 as the method for compliance to qualification requirements. (KH-SETS)</p> <p>Compensatory Action: The methods used by SETS for complying with the qualification and continued training requirements are addressed in 1-S50-T&Q-QC-002 and the <i>Site Training User's Manual</i>.</p>	Completed 8/7/96 •96-000784 •Low

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3	(c) (1) Management (ii) Personnel Training and Qualification CONTINUED	Yes		<p>Deficiency: Qualification Standard Packages need development and/or revision. The training and qualification program has not been completely implemented for SSOC activities.</p> <p>Implementation Activity: Review and revise Qualification Standard Packages. (RMRS) Develop SSOC Training Improvement Plan, and implement the necessary training for facility and support personnel.</p> <p>Compensatory Action: RMRS has conducted a company-wide assessment to determine the status of existing training and qualifications. Certain QSPs have been prioritized for review and revision, if necessary. For example, the QSP for Non-Destructive Assay Operations has been revised. Other qualifications are being prioritized for revision. (RMRS) SSOC will continue to provide training on an as-identified basis pending implementation of the SSOC Training Plan. Additional management and supervisory attention has been provided, and increased management observation of work activities is being performed. Specialized training has been developed for facility and support personnel to respond to identified needs and areas of weakness. The general experience level and skill level of facility and support personnel is adequate. (SSOC)</p>	<p>Completed 4/30/97 (RMRS) •96-000781 (RMRS) •High (RMRS)</p> <p>•Completed 9/30/97 (SSOC) •DCS171 (and various) (SSOC) •96-000789 (SSOC) •Low (SSOC)</p>

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ID No	10 CFR 830.120 QA Criteria	Imp Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
4	(c) (1) Management (ii) Personnel Training and Qualification CONTINUED	Yes		<p>Deficiency: Applicable Quality Assurance Program requirements are not covered in current training documentation. (NQA-1, 1994, Part 1, Supplement 2S-4, Sections 2 and 3).</p> <p>Implementation Activity: Incorporate requirements into the total rewrite of Level 1 <i>Training and Qualification Program Plan</i>. (KH-T&Q, H&S)</p> <p>Compensatory Action: Document Modification Request 96-DMR-000609 has been issued for 95-PP/T&Q-0026, <i>Training and Qualification Program Plan</i>, to show the responsibilities of Line Managers and Subject Matter Experts include incorporating applicable codes, standards and procedures, applicable QAP elements, and job responsibility and authority into developed training or provided as additional training.</p>	<p>Completed 9/24/96</p> <ul style="list-style-type: none"> •95-004438 •Low
5	(c) (1) Management (ii) Personnel Training and Qualification CONTINUED	Yes		<p>Deficiency: The Training Implementation Matrix (TIM). identifies the qualification and certification requirements for only 14-nuclear facilities, rather than the larger number (23 nuclear facilities) identified in the <i>Site SAR Project Phase I Summary Report No. NSTR-016-94</i>, Rev. 2.</p> <p>Implementation Activity: Training and Qualification Council to develop strategy and revise documentation using a graded approach. (KH-T&Q)</p> <p>Compensatory Action: Managers will ensure that their employees are sufficiently trained, skilled, and knowledgeable to accomplish a task safely and in accordance with requirements before assigning them to do the task. The affected Subcontractors have designated individuals to prepare TIM sections for all nuclear facilities under their responsible control. These individuals are currently using existing TIM sections or QSPs from other facilities with similar operations and personnel as a baseline for assisting facility managers in determining qualification requirements. Managers have detailed knowledge of the processes and activities involved.</p>	<p>Completed 10/31/97</p> <ul style="list-style-type: none"> •WP-81101 •95-004418 •Low

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ID No	10 CFR 830.120 QA Criteria	Implementation Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
6	(c) (1) Management (iii) Quality Improvement	Yes	Sitewide Commitments Management and Corrective Actions Process (CM&CAP) - Management Assessment Process [See QA Criteria (3) Assessment (I) Management Assessment] - Cause Analysis Process - Lessons Learned Process	<p>Deficiency: The quality improvement process has not been adequately implemented for SSOC activities. Elements including root cause analysis, trend identification and analysis, and lessons learned are not being performed in an acceptable manner, and the entire quality improvement process needs to be improved, from problem identification to commitment tracking.</p> <p>Portions of the above process are being implemented, but they do not always result in the development of effective corrective actions to prevent recurrence, the timely completion of needed actions, or in notification to other organizations of problems that potentially affect them.</p> <p>Implementation Activity: Fully implement the quality improvement process for SSOC activities.</p> <p>Compensatory Action: Evaluations of events are resulting in the identification of improvements which can be made to existing processes. SSOC is working with other Site contractors and using this information to make incremental improvements in the quality improvement process until full implementation is accomplished for SSOC activities. In the interim, SSOC will continue to rely on other Site contractors (e.g., DynCorp and Kaiser-Hill) for input in the areas for which they have responsibility.</p>	Completed 10/31/97 (Letter DOE-RFFO, 00429-RF-97 approved date change from 3/31/97 to 10/31/97) •DCS1060 •96-001826 •High

Attachment I
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ID No	10 CFR 830.120 QA Criteria	Imp Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
7	(c) (1) Management (iv) Documents and Records	Yes	Site Procedures Process - Integrated Work Control Program (IWCP) - Document Control - Records Management - Configuration Change Control Program (CCCP)/ Conduct of Engineering Manual (COEM)	<p>Deficiency: The Site records management system does not provide appropriate storage of RMRS Quality Assurance Records until those records have been determined by RMRS to be inactive (i.e., no longer needed to conduct business).</p> <p>Implementation Activity: Complete selection and implementation of an appropriate records imaging system. Prepare records for imaging. (RMRS)</p> <p>Compensatory Action: Since active Quality Assurance Records may remain in RMRS' possession for years, adequate controls and procedures are being developed and endorsed by Site records management. An organization and central repository has been assigned to administer the records management program. A team has been established to identify existing RMRS quality records. Records Management is briefing other RMRS personnel on how to identify QA records and implement interim control measures. During the implementation of the imaging system and associated procedures and documentation, RMRS records are being transmitted to the RMRS Records Center for temporary storage until processing can occur.</p>	Completed 5/28/97 •96-000778 •High

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ID No.	10 CFR 830.120 QA Criteria	Imp. Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
8	(c) (1) Management (iv) Documents and Records CONTINUED	Yes		<p>Deficiency: The Document Control Program is not adhered to by the following organizations: Engineering, Analytical Labs, Radiological Engineering, Industrial Hygiene, Environmental Restoration Management, WSLLC. In addition, an unknown number of Site companies have instituted their own document control systems in a variety of other areas.</p> <p>Implementation Activity: Incorporate non-centralized document control systems into the Site Document Control infrastructure. A DMR will be issued by September 30, 1996, to change the <i>Document Control Program (1-77000-DC-001)</i> to include a statement that requires subcontractors to comply with the Site Document Control requirements. An orderly turnover of documents will be coordinated with Source One Management. (KH-F&A)</p> <p>Compensatory Action: The Kaiser-Hill Vice President for Finance and Administration will issue a memorandum by August 15, 1996, to all Site Management to direct all subcontractors to immediately comply with the Site Document Control System, under the purview of Source One Management, Inc.</p>	<p>Completed 11/22/96 •96-000385 •High</p>
9	(c) (1) Management (iv) Documents and Records CONTINUED	Yes		<p>Deficiency: Records of special nuclear material inventory are incomplete or have not been verified.</p> <p>Implementation Activity: In conjunction with a baseline physical inventory, prepare a baseline Record Review Plan. Define Source Records to be maintained for existing risk reduction activities. SSOC</p> <p>Compensatory Action: The initial sampling review of records and verification activities provides sufficient confidence that the preponderance of records are available to continue activities.</p>	<p>Completed 12/31/96 •96-001739 •Low</p>

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10	(c) (2) Performance (i) Work Processes	Yes	Price-Anderson Process - IWCP - Radiological Control Program - Nuclear Material Control & Accountability (NMC&A) - COOP - Site Procedures Process - Procurement Process - Nuclear Safety - CCCP/COEM - Emergency Preparedness - Waste Management	Deficiency: Lack of acceptance criteria and process controls for RMRS receipt of products and services from other contractors. Implementation Activity: Develop criteria for the acceptance of products and services. RMRS will develop case-specific letters of agreement with other Principal Subcontractors for acceptance of products and services until specific acceptance criteria can be developed. (RMRS) Compensatory Action: RMRS has trained its Quality Engineers (QEs) on the requirements of existing procurement systems. QEs are required to review all purchase requisitions for proper quality controls and adherence to existing procurement requirements. RMRS will continue to use existing procedures and documentation including the PQE processes for product and services acceptance as they relate to outside contractors. However, the PQE process is not applicable to products and services between Principal Subcontractors. Accordingly, the \$60K is to establish case specific letters of agreement between same-tier subcontractors providing products and services to each other. The compensatory action currently being utilized for acceptance between same-tier subcontractors, is to notify Kaiser-Hill of deficiencies in the receipt of products and services.	Completed 4/28/97 •96-000782 •High

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11	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Deficiency: RMRS waste and environmental operations have several nuclear activities not adequately controlled by approved procedures. 10 CFR 830.120 specifically states the need for nuclear activities to be controlled by "approved work instructions, procedures, or other appropriate means."</p> <p>Implementation Activity: RMRS will review the set of existing instructions and the activities to determine the adequacy and effectiveness of the instructions. Examples include operations orders that have not been turned into procedures, procedures from '80 under Rockwell title that refer to non-existent organizations, new activities with inadequate or no procedure, and significant activities controlled by other non-approved controls such as worker aids. After reviewing the existing controls and activities, RMRS will prioritize the needed control, using a graded approach, and begin to develop appropriate controls using an approved instruction development process. Review existing controls and activities, and determine the number and extent of revisions, rewrites, or new instructions required. Develop adequate work controls and instruction under an approved instruction development process.</p> <p>Compensatory Action: RMRS will continue to use existing work controls and instructions, where available. These work controls and instructions are determined to be appropriate by management during the course of pre-evolution activities and other work control processes. Where adequate work controls do not exist for an activity, the controls will be developed prior to initiating the process.</p> <p>Note: RMRS will perform procedure adequacy reviews for the following activities transferred from K-H: Nuclear Safety, Criticality Safety, Rad Engineering, Authorization Basis Training, and Engineering. These activities were transferred from K-H to RMRS subsequent to the completion of the baseline assessment used in the development of this QAIP. Should the adequacy reviews result in the need to perform revision to existing procedures or developing new ones, RMRS will submit an extension request to the completion of this corrective action.</p>	<ul style="list-style-type: none"> •3/31/98 - Completed •96-000779 •High •During June 1996, RMRS met with a DOE, RFFO, representative to explain and provide justification for the cost associated with this implementation activity. During these meetings objective evidence was presented that depicted the need for procedural revisions, rewrites, and original document development. It was indicated in these meetings that the current cost is only an estimate based on the number of procedures requiring revision or origination. Further, it was explained that, if funding was provided, RMRS would first assess the actual number of revisions or procedures requiring development. At the close of these meetings it was understood that no further information would be required and that the justification would be forwarded to the appropriate organizations within DOE, RFFO.

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ID No.	10 CFR 830.120 OA Criteria	Imp Issues	Implementing Infrastructure Programs	Deficiency Implementation Activity (Responsible Organization) Compensatory Action	Scheduled Completion Funding Source PATS Number Significance Level
12	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Deficiency: Price-Anderson Implementation Process and Reporting are not adequately covered in existing procedures.</p> <p>Implementation Activity: Revise procedures to include the entire Price-Anderson process, including a reporting procedure to be developed. (KH-H&S)</p> <p>Compensatory Action: Utilize <i>DOE Handbook #DOE-HDBK-1089-95 (Rev. 1) (Guidance for Identifying, Reporting and Tracking Nuclear Safety Noncompliance's)</i> as well as a draft internal procedure and flowchart for this process.</p>	<p>Completed 9/30/96</p> <p>•95-004412 95-004413</p> <p>•High High</p>

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13	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Deficiency: Site procedures and other work control documents (excluding IWCP work packages) need to be reviewed and updated, revised, rewritten as a job instruction, deleted or developed, as appropriate to reflect the IMC concept, organization, and desired method of doing work. Some SSOC facility-specific and support organization procedures need to be developed/revised and implemented.</p> <p>Implementation Activity: Define the requirements for the documentation life cycle. Review and revise the Site document hierarchy, as appropriate. Develop the criteria for elimination of unnecessary or obsolete documentation. Develop a Site Documentation Requirements Manual. Develop an implementation plan for revising procedures and work control documents. (KH-H&S) Based on assigned scope of work, and applicable documentation requirements, prepare/revise facility and support organization procedures. (SSOC)</p> <p>Compensatory Action: The schedule for procedural updates will be driven by Responsible Managers on an as needed basis, but as a minimum, will meet the periodic review requirements specified in 1-A03-PPG-004, Procedure Edit, Review, and Comment (superseded by <i>Site Documents Requirements Manual 1-MAN-001-SDRM</i>, effective 1/3/97). Kaiser-Hill Team activities will be conducted in accordance with current practices until needed procedures are developed/revised. Revision 1 of the SDRM will require program owners and appropriate subcontractors to identify their respective implementing procedures, bring them into compliance with the IMC structure, and to maintain those procedures in accordance with the requirements of the SDRM.</p>	<ul style="list-style-type: none"> •6/18/98 - Completed •95-004416 •96-001847 •Low

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14	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Deficiency: Building 991 procedures have not been developed and approved for operation of certain vital safety systems, including Utilities Operations Procedures.</p> <p>Implementation Activity: Material movements to/from B991 and B886 will be performed using currently approved procedures. Trained and qualified Operations Support Specialists from B707 are used in the performance of B991 material transfers. Surveillance procedures for Fire Suppression and Fire Detection Systems will be prepared. Existing Standard Operating Procedures (SOPs) will be converted to Level 4 procedures. (SSOC)</p> <p>Compensatory Action: All fissionable material is contained in sealed Department of Transportation shipping containers, and will continue to be stored in these containers. Operations personnel conduct system walkdowns to ensure the adequacy of process operations, and the operation of vital safety systems and administrative programs in preparation for performing activities.</p>	<p>Completed 3/31/97 •95-004414 •Low</p>

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15	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Deficiency: Current nuclear safety authorization basis documents need to be revised. The new Site Authorization Basis Process currently being developed and demonstrated has not been completely institutionalized in procedures. The existing authorization basis documents for Site nuclear facilities were not developed for the current facility missions. The existing authorization bases define a conservative safety envelope that is sufficient for safe execution of near-term baseline and risk-reduction activities which support the Site's cleanup mission. However, the facilities have not had the appropriate maintenance to ensure reliability or availability of the identified safety-related equipment. Because of this degradation of safety equipment which results in out-of-tolerance to OSRs, compliance some activities have been authorized using JCOs and resulting compensatory actions to ensure adequate safety margins exist for safe performance of the activity. As discussed in other sections of this Attachment, Personnel Training and Qualifications, Quality Improvement, Document and Records, Work Processes, Design, Inspection and Acceptance Testing, Management Assessment, and Independent Assessment have not been fully implemented at the Site. This makes operation of the facilities in compliance with these requirements very difficult and results in frequent and repeated noncompliances, many of which are noncompliances with 10 CFR 830.120.</p> <p>Implementation Activity: Nuclear safety Authorization Basis (AB) documents have been or are to be developed for all Site nuclear facilities for which nuclear activities are conducted or planned. These documents are developed, updated, or upgraded by using a graded approach to provide an AB document appropriate for the level of hazard in the facilities. Facilities that pose the greatest risk to workers and the general public require the highest level of analysis and documents, while facilities that pose little or no risk require a much less rigorous evaluation and controls. DOE Standards DOE-STD-3009-94, DOE-STD-3011-94, DOE-STD-1027-92, and DOE-EM-STD-5502-94 identify the level of nuclear safety AB documentation necessary, commensurate with facility hazards.</p> <p>The Site Nuclear Safety Manual specifies the actions needed to provide Site-wide nuclear safety authorization basis documentation. The formal process to assess and document the nuclear and non-nuclear hazards from Site nuclear facility operations and activities will be addressed through development of nuclear safety AB documentation (continued)</p>	<ul style="list-style-type: none"> •(Institutionalization) •Completed 9/30/97 •96-000788 •High •(Development of authorization basis documents) • Completed 7/30/98 •96-000788 •High

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15	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>reflecting up-to-date hazard assessments and safety analyses. Annual, or real time, review and update of the nuclear safety AB document is important to ensure that the evaluated safety basis is current and adequate. RFETS nuclear facilities are to be operated and maintained within the safety basis established by the DOE, RFFO-approved nuclear safety AB documents. Hazards used to derive the AB in a facility change as the mission of the facility changes and as the facility cycles through the phases of operation and maintenance, to decommissioning and decontamination (D&D), and eventually, to final closure.</p> <p>Based on planned changes in facility hazards, AB documentation development for most of the former plutonium operations facilities, given the remaining mission life is short prior to closure (two to five years), is to be addressed by a cost-effective, hazard-based graded safety basis documentation approach. Interim safety basis documentation for these facilities will be provided using a DOE Standard DOE-STD-3011-94 basis for interim operation approach and appropriate technical safety requirements. For facilities which may be a longer mission life (e.g., Building 371, nuclear waste storage facilities such as Buildings 664, 440, and 906).</p> <p>Formal approval by DOE, RFFO is required to change the classification of a Site facility or activity from nuclear to non-nuclear (i.e., classification as less-than-a-Hazard Category 3 nuclear facility). This approval process is needed as Site nuclear facilities undergo D&D activities to remove nuclear hazards. Based on removal of hazards during Site closure activities, re-classification of facilities will govern the required AB document.</p> <p>Each nuclear facility at RFETS either has a recent approved AB document, has a new AB document being prepared, or has an established path forward for development of necessary AB documentation. Specifically, each of the following RFETS nuclear facilities has a new and/or current DOE, RFFO approved AB document:</p> <ul style="list-style-type: none"> • Buildings 371/374 (BIO) • Building 440 (BFO) • Building 569 (BIO) • Building 664 (SAR) • Building 707 (BIO) • 750/904 Pads (SAR) • Building 771 (BFO) • Building 886 (BIO) • Building 906 (SAR) (continued) 	

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15	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>Each of the following RFETS nuclear facilities has a new AB document which is undergoing DOE, RFFO review and approval:</p> <ul style="list-style-type: none"> • Building 991 (SAR) Site SAR (includes Building 881 and Transportation) • Building 776/777 (B10) • Building 779 (B10) <p>Development of required nuclear safety AB documentation for all RFETS nuclear facilities is scheduled to be submitted to DOE, RFFO by July 30, 1998.</p> <p>In addition to the above facilities Building 559, which has a resumption-era, FSAR, will be revised in the annual update to align more with recent AB documents.</p> <p>Also Building 774, for which a draft B10 has previously been submitted to DOE, RFFO will be incorporated into Building 771 BFO.</p> <p>Compensatory Action: Nuclear safety AB documentation currently exists for all RFETS nuclear facilities. The majority of this AB documentation has formal DOE approval. Notwithstanding pending, formal DOE approval of new or upgraded AB documents under development, all RFETS nuclear facilities have adequately defined nuclear safety bases. These safety bases and, as necessary, compensatory measures allow the Site to safely accomplish current, on-going activities. Interim safety basis controls and compensatory measures (e.g., via JCOs) have been put into effect, in order to ensure that nuclear safety is maintained for facilities awaiting DOE approval of new ABs.</p> <p>Development of AB documentation was expedited in FY97 for nuclear facilities lacking any DOE, RFFO approved AB documentation. All RFETS nuclear facilities now have some form of hazard assessment, accident analysis, and nuclear safety control set documentation. These facilities, with or without formal DOE AB approval, conduct operations within safety bases that provide fore protection of the public, workers, and the environment. Formal, DOE-approval for interim and/or upgraded AB documentation is underway or planned to occur within FY98. (continued)</p>	

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15	(c) (2) Performance (i) Work Processes CONTINUED	Yes		<p>To ensure existing safety bases are maintained, processes exist to evaluate and address the nuclear safety impact of challenges to nuclear safety AB. These challenges and the associated, parenthetical AB maintenance processes include:</p> <ul style="list-style-type: none"> • Control set, e.g., OSRs or TSRs, out-of-tolerances (Justifications for Continued Operation, with appropriate compensatory measures) • Proposed changes to control sets (OSR/TSR page changes, USQDs) • Proposed modification to procedures or facility configuration (SESS/USQDs, JHAs, ACEs) • Disposition of "discovery issues" such as design deficiencies, analytical efforts, as-found AB non-compliances (USQDs). <p>Ongoing efforts are also provided to make revisions to OSRs or TSRs, through page changes, to ensure these control sets properly reflect the controls and limits required by existing hazards, accident analysis, and credited safety features (i.e., accident analysis-credited safety structures, systems and components; administrative controls; and design features).</p>	
16	(c) (2) Performance (ii) Design	Yes	CCCP / COEM - Software Management Program	<p>Deficiency: Failures of various organizations to comply with the Site Software Management Program constitutes programmatic breakdown. Quality assurance controls for developing, obtaining, deploying, or using software contained in 1-45000-CSM-001 are not being followed; the procedure is outdated since the cancellation of DOE 1330.1C.</p> <p>Implementation Activity: Issue will be addressed by revision of 1-45000-CSM-001 to incorporate 10 CFR 830.120 requirements using a graded approach. (KH-F&A)</p> <p>Compensatory Action: Use existing procedure until revised. Software with significant safety implications (for example: WEMS and SAN) have existing user organization-specific enhanced design and configuration controls; these will be maintained until incorporated into Site process via procedure revision.</p>	Completed 2/6/97 •96-000787 •Low

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17	(c) (2) Performance (ii) Design CONTINUED	Yes		<p>Deficiency: Criticality safety evaluations performed prior to March 1991, do not clearly document double contingency.</p> <p>Implementation Activity: Review criticality safety evaluations performed prior to March 1991 and validate double contingency.</p> <p>Compensatory Action: When new activities are scheduled and the corresponding criticality safety evaluation predates March 1991, a review for double contingency is performed and documented before the activity is carried out.</p> <p>Note: Formal request for date change was submitted to DOE, RFFO during August, 1997, Card to Roberson, RCG-172-97. Verbal approval for the change was received from RFFO by R. Stachowiak.</p>	<ul style="list-style-type: none"> • Completed - 2/27/98 •96-001822 •High
18	(c) (2) Performance (ii) Design CONTINUED	Yes		<p>Deficiency: There is unmeasured fissile material in process systems managed by SSOC. The criticality safety of this hold-up has not been evaluated.</p> <p>Implementation Activity: Measure the suspected high hold-up in process systems. Based on measurement data, develop safety bases for material held-up in process systems. Ninety-six (96) suspected high hold-up locations have been identified which all of have been measured and reported. Ninety-five (95) of the suspected hold-up locations were actually found to have hold-ups. The additional hold-up in 90 of these were found to be bounded by the currently posted Criticality Safety Evaluations. Four (4) of the remaining are bounded by generic criticality safety evaluations. Only one required the generation of a new criticality evaluation. These areas were temporarily infracted until new limits could be posted. Authorization Basis in the affected areas were reviewed to assure safety bases were not affected.</p> <p>Compensatory Action: When criticality safety evaluations are performed for activities which could disturb hold-up materials, conservative evaluation assumptions are used regarding the amount of material held-up in process systems, or measurements of the hold-up are performed.</p>	<ul style="list-style-type: none"> • Completed - 7/31/98 •96-001825 •High

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19	(c) (2) Performance (ii) Design CONTINUED			<p>Deficiency: The methodology for placement of criticality detectors has not been fully validated.</p> <p>Implementation Activity: Validate methodology for placement of criticality detectors.</p> <p>Compensatory action: The methodology has been reviewed by the Site criticality safety staff and by criticality safety specialists from Los Alamos National Laboratories, the Savannah River Site, and an independent contractor. Questions about the methodology were raised, but no actual deficiencies have as yet been identified. The developer of the methodology has been contracted to answer these questions. If resolution of the questions results in deficiencies, appropriate actions will be taken.</p>	<ul style="list-style-type: none"> •Complete 9/30/97 •96-001821 •High
20	(c) (2) Performance (ii) Design CONTINUED	Yes		<p>Deficiency: Criticality detector placement evaluations have not been updated and properly documented for Buildings 771, 776/777, 779, and 991 consistent with present requirements.</p> <p>Implementation Activity: Confirm the validity of the criticality detector placement evaluations and documentation: (1) Survey the identified buildings to determine where documentation is lacking. Initiate proper compensatory actions for any areas where coverage is not documented. (8/30/96) (2) Formally document detector coverage for the identified buildings. (6/15/97) (Letter DOE-RFFO, 00132-RF-97 approved date changed from 12/30/96 to 6/15/97).</p> <p>Compensatory Action: Where detector coverage is questioned, or is determined to be deficient, the appropriate restrictions will be placed on the facility, up to termination of operations and evacuation of the facility. These restrictions will remain in place until proper coverage is confirmed.</p>	<ul style="list-style-type: none"> Completed 6/14/97 •96-001824 •High

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21	(c) (2) Performance (ii) Design CONTINUED	Yes		<p>Deficiency: Design controls for nuclear-related environmental software need to be validated. [Waste and Environmental Management System (WEMS), Rocky Flats Environmental Data System (RFEDS)].</p> <p>Implementation Activity: <i>Revise 1-V51-COEM-DES-210, Design Process Requirements</i> to establish verification and validation for software. (KH-SETS)</p> <p>Compensatory Action: A revision to 1-V51-COEM-DES-210 is in process to incorporate the requirements for necessary design controls to System Category 1&2 software. A memo from L. R. Bailey, 4/16/96, to Site Engineering Managers requests that changes to Category 1&2 software be as design changes until the procedure is revised.</p>	<p>Completed 8/12/96</p> <ul style="list-style-type: none"> •96-000785 •Low
22	(c) (2) Performance (ii) Design CONTINUED	Yes		<p>Deficiency: SSOC has not identified design authority/design agent responsibilities.</p> <p>Implementation Activity: The following action will be accomplished to implement the Site Engineering and Design infrastructure program and procedures: Establish design authority and design agent responsibilities. (SSOC)</p> <p>Compensatory Action: Letter RMS-018-95 was issued giving SSOC technical support managers the authority to approve Engineering products.</p>	<ul style="list-style-type: none"> •Completed 5/23/97 •Low
23	(c) (2) Performance (iii) Procurement	No	Procurement - IWCP - CCCP / COEM.		

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24	(c) (2) Performance (iv) Inspection and Acceptance Testing	Yes	Control of M&TE - IWCP - CCCP / COEM - Procurement	<p>Deficiency: Reverse traceability of out of calibration M&TE inadvertently used for acceptance testing is not addressed by program procedures as required by NQA-1, Section 3.2. Not all gages needed for safety systems are identified or calibrated. Most of the required gauges are known and in the calibration system, but ongoing activities such as OSR verifications and readiness activities are resulting in the identification of additional needs.</p> <p>Implementation Activity: Procedure <i>1-197-ADM-12.01, Control of Measuring and Test Equipment</i> will be revised to address this issue. (DCI) Complete the identification and calibration of gauges needed for safety systems. (SSOC)</p> <p>Compensatory Action: For M&TE found out of calibration, Metrology has been and is continuing to notify the M&TE users of the condition through instructions and the issuance of a Metrology Variance Report per <i>SOP MLA-008, Metrology Control of Measuring and Test Equipment</i> so that appropriate corrective action and recalibration can be accomplished and documented. (DCI) Most gauges are already in the calibration system. As additional needs are identified during readiness activities, OSR verification activities, and other reviews, gauges are entered into the calibration system. (SSOC)</p>	<p>Completed 9/27/96 (DCI) •95-00435 (DCI) •Low (DCI)</p> <p>Completed 6/30/97 (SSOC) •96-001848 (SSOC) •Low (SSOC)</p>

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25	(c) (2) Performance (iv) Inspection and Acceptance Testing CONTINUED	Yes		<p>Deficiency: Nuclear facilities have not fully implemented the Inspection & Acceptance Testing requirements of procedure 1-62300-HSP-11.03.</p> <p>Implementation Activity: Identify and develop actions satisfying 1-62300-HSP-11.03.</p> <p>NOTE: A task team of SSOC, DynCorp and IMC personnel has been formed to assess the adequacy of previously proposed actions. Kaiser-Hill Independent Assessment has identified this noncompliance as a Site-wide mission-critical issue. A cost and schedule for programmatic activities and implementation is to be updated. (SSOC)</p> <p>Compensatory Action: The number of pressure vessels in service has been reduced by Lockout/Tagout (procedure 1-15320-HSP-2.08), and several important systems have been walked down (procedure 2-D80-COEM-6.3.13) to identify key valves for priority replacement as funding becomes available. Continued operation without immediate replacement of PRVs is justified based on the premise that the risk associated with continued degradation of confinement equipment and the increased uncertainty associated with material aging under curtailment of operations is high when compared to the lower risk associated with operation of systems without replacement of PRVs. A formal analysis has not been performed for the active pressure vessels in the nuclear facilities. However, management judgements leading to the prioritization of maintenance repairs support the premise.</p>	<p>Completed 9/30/96 •96-001145 •High</p>

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26	(c) (3) Assessment (i) Management Assessment	Yes	Commitments Management and Corrective Action Process - Management Assessment - Compliance Management	<p>Deficiency: Self-evaluations and Management Assessments are not being performed consistently across the Site due to procedural inadequacy.</p> <p>Implementation Activity: Develop and implement company-specific Management Assessment procedures to implement the Site Level Management Assessment Program. [(KH-SSOC)-9/30/96, (RMRS)-9/30/97]</p> <p>Compensatory Action: Site managers will continue to apply established assessment approaches (e.g. procedures 1-11000-ADM-16.10, Self Evaluation Program, and 2-B52-ADM-02.01, Independent Assessment) until the company-specific management assessment procedures are developed.</p> <p>Note: The action required by Kaiser-Hill and SSOC was reported completed by 9/30/96. A subsequent assessment indicated that the management assessment was not implemented on Site. A root cause analysis was performed and Noncompliance Tracking System Report, NTS-RFO-KHLL-SITEWIDE-1997-0002, was submitted 5/23/97 to DOE. A number of corrective actions are identified on the report, completion of which is scheduled for 11/26/97 and a follow-on Site-wide assessment to be completed by 6/12/98.</p>	<ul style="list-style-type: none"> •Complete 9/30/97 •WP-83402 (K-H) •93-003824 (K-H) •Low •DCS171 (SSOC) •96-001157 (SSOC) •High •96-000780 (RMRS) •High

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27	(c) (3) Assessment (ii) Independent Assessment	Yes	Independent Assessment	<p>Deficiency: Although independent assessments are being performed, Sitewide programmatic compliance and audit planning methodology has not been defined or applied to ensure overall Quality Program coverage. SSOC does not have independent assessor resources.</p> <p>Implementation Activity: Revise the assessments procedure to include a Sitewide programmatic audit planning methodology to address overall quality program coverage. (KH-H&S) Staff SSOC QA organization with the appropriate skill mix (including independent assessment resources). Issue schedule and begin conducting independent assessments. (SSOC)</p> <p>Compensatory Action: Utilize the existing independent assessment procedure until revised and apply appropriate programmatic audit planning pending procedure revision. Current Independent Assessment activities are being performed to meet the intent of the requirement. Kaiser-Hill has developed a schedule to cover the appropriate requirements for Independent Assessment including SSOC programs. SSOC continues to provide team members to participate in selected Kaiser-Hill Independent Assessments.</p> <p>Note: Programmatic audit planning procedures were revised and documented in the Site Integrated Oversight Manual, 1-MAN-013-SIOM, effective October 1, 1997.</p>	<p>Completed 9/30/96 (K-H) •94-007511 (K-H) •High (K-H)</p> <p>Completed 12/31/96 (SSOC) •96-001801 (SSOC) •High (SSOC)</p>