

**Office of Independent Oversight
and Performance Assurance**

**Focused Review of Environment, Safety and Health
and Emergency Management at the**

Kansas City Plant **Summary Report**

December 2001



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Abbreviations Used in This Report

| | |
|-----------------|--|
| AL | Albuquerque Operations Office |
| DOE | U.S. Department of Energy |
| ES&H | Environment, Safety, and Health |
| FM&T | Honeywell Federal Manufacturing & Technologies |
| ISM | Integrated Safety Management |
| ISO | International Organization for Standardization |
| KCP | Kansas City Plant |
| NNSA | National Nuclear Security Administration |
| OA | Office of Independent Oversight and Performance Assurance |
| USQ | Unreviewed Safety Question |
| OKCSO | Office of Kansas City Site Operations |

OVERSIGHT

The Secretary of Energy's Office of Independent Oversight and Performance Assurance (OA) conducted a focused review of environment, safety, and health (ES&H) and emergency management programs at the Kansas City Plant (KCP) in November 2001. Independent Oversight's Office of Environment, Safety and Health Evaluations and Office of Emergency Management Oversight performed the review as a joint effort.

The purpose of this review was to assess the effectiveness of selected aspects of KCP ES&H and emergency management programs. The ES&H portion of the review focused on three types of work activities – production, maintenance, and construction – and the environmental management program, as well as feedback and improvement systems. The ES&H portion of the review examined the core functions of safety management as delineated in the U. S.

Department of Energy (DOE) integrated safety management (ISM) policy. The emergency management review focused on four selected elements of the KCP emergency management program: (1) the emergency management program basis, plan, and procedures; (2) hazards survey and hazards assessment; (3) training, drills, exercises, and offsite response interfaces; and (4) feedback and improvement systems.

Current site activities performed at KCP include the manufacture of non-nuclear mechanical, electronic, and engineered material components for U.S. national defense systems. KCP also provides technical support services for national laboratories and government agencies, such as laboratory testing and analysis, training program development, and vehicle safeguarding. KCP is in the midst of construction and facility reconfiguration projects as part of a multi-year program to downsize the site and consolidate



Aerial View of KCP Complex

facilities. As part of this effort, some areas of the plant will be made available to other Federal agencies.

The National Nuclear Security Administration (NNSA) Deputy Administrator for Defense Programs is the cognizant secretarial office for KCP and has overall Headquarters responsibility for programmatic direction and funding of activities at KCP. Within the NNSA, the Albuquerque Operations Office (AL) and its subordinate Office of Kansas City Site Operations (OKCSO) have line management responsibility for KCP. Prior to the recent name change, OKCSO was named the Kansas City Area Office. Under contract to DOE, KCP is managed and operated by Honeywell Federal Manufacturing & Technologies (FM&T).

The chemical hazards at KCP include cyanide, alloys containing beryllium, mercury, chromium, acids, caustics, ammonia, and polychlorinated biphenyls (PCBs). Potential physical hazards include machine operations, noise, high voltage electrical equipment, excavation, pressurized systems, and construction. Small quantities of radionuclides are used on site as well as radiation generating devices.

Because it is a non-nuclear facility and does not store large quantities of hazardous chemicals, KCP has transitioned to a set of industrial standards for many aspects of ES&H and emergency management programs. This transition was approved by AL in 1996. As a result, some DOE orders are not incorporated into the contract between DOE and FM&T for operation of KCP. The contract identifies a set of applicable requirements, which includes some DOE

orders, various industrial standards, and site-specific documents (such as the Emergency Management Plan).

As discussed in this report, KCP has a good safety and environmental record, and its emergency management program is designed to respond to the hazards identified in its hazards assessment. Some aspects of the ISM program are effectively implemented. However, increased management attention is needed to resolve questions about the applicability of the emergency management order to KCP and to enhance hazard analysis and control processes. Improvements are also needed in the OKCSO and FM&T feedback and improvement systems.

Section 2 of this report provides an overall discussion of the results of the review, including positive aspects and items requiring improvement or management attention. Section 3 provides OA's conclusions regarding the overall effectiveness of these programs. Section 4 presents the ratings assigned as a result of this review. Appendix A provides supplemental information, including team composition. Appendix B identifies the specific findings that require a formal corrective action plan.

This report summarizes the more detailed information provided in two separate volumes of this report. Volume I provides more detailed information on the review of KCP ES&H programs. Volume II provides more detailed information on the review of KCP emergency management programs.

2.1 Positive Program Attributes

- **KCP's management commitment to safety, knowledgeable ES&H professionals, and experienced workforce have contributed to a good safety record at KCP.** OKCSO and FM&T actively track and trend safety performance data such as the ISM performance measures. Their performance measure results indicate that KCP has a good safety record and generally performs better than industry averages and DOE averages in such measures as worker health and safety and environmental releases. For example, the KCP injury and illness rates are significantly lower than the DOE averages. Further, OKCSO and FM&T have had success in monitoring the ISM performance measures and taking actions to improve performance. For example, the ISM performance measures indicate that KCP has achieved a downward trend in injury and illness rates and waste generation over the past five years.

OKCSO and FM&T management have supported processes and programs such as International Standards Organization (ISO) 14001 and the DOE voluntary protection program and have utilized these processes to enhance safety programs at KCP. OA's interviews with management, supervisors, and working-level personnel indicate that FM&T personnel have a high regard for performing work activities safely. Interviews confirmed that FM&T personnel are not subjected to a "production over safety" mentality and that they felt empowered to use their stop-work authority if they encountered any questionable or unsafe condition. FM&T management strongly supports the stop-work authorities and responsibilities. FM&T personnel actively use the Employee Concerns Line process to report ES&H concerns and near misses, and the FM&T ES&H staff has a good record of promptly addressing employee concerns. On

several occasions, ES&H personnel took the initiative to perform non-required actions to enhance safety, such as conducting formal post-job reviews for high voltage electrical work. KCP's various safety committees are well attended and have resulted in good exchange of information, identification and correction of various deficient conditions, and improvements in safety. Notwithstanding weaknesses in procedures and work instructions, the experienced workforce is generally knowledgeable of hazards related to their duties and displayed a high regard for conducting work safely.

- **KCP has established comprehensive beryllium hazard controls through the KCP beryllium program.** KCP has had a beryllium program since the 1960s, and a recent in-depth KCP quality assurance audit concluded that the program is in full compliance with the new DOE Beryllium Rule (10 CFR 850, issued in January 2000). During the past two years, FM&T has expended significant resources in characterizing plant work areas, developing beryllium decontamination work practices, and implementing programs consistent with the new DOE Beryllium Rule. The program has been proactive in identifying beryllium workers and has demonstrated a conservative approach by allowing all FM&T personnel who believe they may have been incidentally exposed to be entered into the beryllium program.
- **KCP management has demonstrated sustained leadership in environmental protection and has effectively applied environmental protection controls.** KCP has attained certification for conformance to the internationally recognized ISO 14001 environmental management system standards. KCP is also a charter member of the Environmental Protection Agency's

environmental performance track program, which requires sustained superior environmental performance and formalized management systems. KCP environmental policies include a commitment to compliance with regulatory requirements, pollution prevention, and continuous improvement. OKCSO and FM&T management have applied sufficient resources to address significant aspects of the site's operations. Over the past decade, nearly all remedial actions have been accomplished to address legacy waste disposal sites, and KCP reduced local environmental impacts and improved efficiency of operations.

In the environmental protection area, FM&T has established process descriptions and associated work instructions for production and support departments to manage and control work activities in accordance with established regulations, applicable DOE orders, and FM&T policies. Policies, procedures, and direction for air pollution control (volatile organic compounds and chromium), wastewater discharges, and waste management contain an appropriate set of operational specifications. Additionally, FM&T has effectively applied engineering controls to many aspects of its operations to reduce potential impacts to the environment, such as scrubber systems on the ventilation exhaust systems for chromium plating lines and secondary containment devices for solvent parts washers and plating tanks. Other engineered systems used to reduce environmental impacts include a groundwater extraction and treatment system to control contaminant migration through environmental pathways, and the operation of the Industrial Wastewater Pretreatment Facility to manage liquid effluents. A particularly noteworthy application of engineering controls was observed within Department 90, which uses gloveboxes to minimize the spread of radiological contamination, high efficiency particulate air filters to control air emissions, and secondary containment for an acid bath and liquid process piping to contain any leaks or spills.

- **The concept for initial emergency response adequately supports timely and accurate decision-making, and most associated decision-making tools are adequate.** For all events,



Emergency Management Drill

security, ES&H, and facility management personnel form a unified incident command system through which the event severity can be determined, appropriate protective actions identified, and notifications performed. A separate emergency operations center function is appropriately staffed and promptly activated for all operational emergencies and is available on short notice during normal working hours, which is generally when hazardous material operations are conducted. With some exceptions, the emergency plan implementing procedures, checklists, and other decision-making tools are adequate to support timely and accurate decision-making.

- **Drills and exercises adequately test KCP emergency response capabilities and provide a mechanism for maintaining emergency response cadre proficiency and improving the emergency management program.** Drills and exercises are conducted at an appropriate frequency, and annual drill or exercise participation is required for all KCP emergency responders. Consistent with the range of analyzed events, the drill/exercise scenarios are challenging, and emergency response organization performance is evaluated against defined objectives and performance criteria. Performance improvement items are identified and corrected.
- **Computer-based work control and hazard analysis processes have increased workers' and line management's access to safety and health information and involvement in hazard identification.** FM&T is in the midst of a

significant effort to transition from paper-based work control and hazard analysis processes to computer-based systems. This transition is designed to expand access to health and safety information (e.g., material safety data sheets and job hazard analyses) and increase worker involvement in hazard identification and analysis. During the past two years, FM&T has launched the computer-based MAXIMO work control system for maintenance activities and a comparable Manufacturing Execution System for production activities, and the job hazard analysis process was transitioned from a paper-based system to a computer-based system. The material safety data sheet system is being integrated into the MAXIMO and Manufacturing Execution System. A prototype for a computer-based preliminary hazards analysis process—the Hazard Identification and Control System—has been developed, and implementation is expected during calendar year 2002. Collectively, these computer-based systems provide workers with easier access to a wider spectrum of health and safety information. In addition, the new computer-based systems promote worker involvement as they require more input from line managers, production and maintenance personnel, and ES&H professionals in the identification and analysis of hazards and controls. If properly implemented, the new systems could provide an effective framework for addressing the current deficiencies in work control processes.

2.2 Program Weaknesses and Items Requiring Attention

- **Deficiencies in KCP hazard identification and analysis programs (i.e., preliminary hazards analysis, job hazards analysis, and exposure assessment programs) have resulted in some hazards not being recognized or adequately analyzed.** The principal KCP work activity level hazard analysis processes are the preliminary hazards analysis, the job hazard analysis, exposure assessments, and various departmental hazard analysis processes. Although each of these hazard identification and analysis processes has a number of positive attributes, they are deficient with respect to documentation of some elements of the

processes, the establishment of clear thresholds for initiating or updating the processes, and the application of these processes to routine work activities that have not changed. Most importantly, these processes are not integrated and adequately applied to individual work activities to ensure that hazards for each work activity have been identified, analyzed and documented. As a result, the evaluation team observed exposure hazards (such as vapors, dust, and noise) that were unanalyzed, confined spaces that were not identified, and potential worker hazards.

- **FM&T has not established an effective process to ensure that all hazard controls identified during the hazard analysis process are implemented at the working level.** Hazard controls are developed during hazard analysis processes and in many cases are appropriate for the hazards. However, the controls are not always implemented in working-level documents or otherwise communicated to personnel at the working level. Controls are identified in preliminary hazards analysis evaluation reports and transmitted to the applicable departments; however, there are no requirements to ensure that those controls are implemented. The decision on whether to implement the controls usually rests with the process engineers, who may not possess the appropriate ES&H expertise to make these determinations. Similar problems exist with the controls identified in job hazard analyses, chemical hygiene plans, and construction health and safety plans where the relevance or application of controls to a specific work activity is not well defined in some cases. The method for communicating revisions in the controls contained in general process instructions to the workforce is not consistently effective. Consequently, personnel are not always informed of changes in requirements.
- **OKCSO line management has not established and implemented a fully effective oversight program as specified in DOE Policy 450.5, *Line Environment, Safety and Health Oversight*.** OKCSO is generally effective in monitoring day-to-day work activities and has taken a proactive step to establish a Facility Representative program. However, informality in programmatic monitoring

and assessment, inconsistent documentation of deficiencies in programs and performance and infrequent formal communication of assessment results to the contractor have hindered the effectiveness of the oversight program. Few formal assessments of contractor ES&H performance are conducted, and oversight activities lack sufficient focus on formal evaluation of functional area program adequacy and on observation of work activities. Deficiencies and concerns in contractor processes and performance are not consistently and clearly documented, and the significance of concerns is not always identified. Assessment results are not routinely, formally communicated to the contractor for information and action. OKCSO procedures do not adequately define and detail the program and processes for ES&H oversight of the contractor. Overall, insufficient rigor has been employed in OKCSO oversight processes and activities to identify the weaknesses and deficiencies in ISM processes and performance reflected in this OA evaluation.



Production Area

- **FM&T feedback and improvement mechanisms have not been fully developed and rigorously implemented to identify and effectively resolve ISM program and performance deficiencies and to drive continuous improvement as specified in DOE Policy 450.4, *Safety Management System Policy*, and DOE Policy 450.5, *Line Environment, Safety and Health Oversight*.** Many assessments and audits of ES&H elements are performed, resulting in the identification and correction of deficiencies. However, insufficient rigor in the assessment of

programs and performance by both ES&H and line management has resulted in undetected and uncorrected deficiencies. Assessments do not provide for a thorough and continuing monitoring of program and procedure adequacy and/or the observation of work activities. ES&H issues are not consistently and effectively managed to ensure that all issues are properly documented, evaluated for significance, and effectively resolved. Many deficient conditions and performance are not formally documented, obscuring accountability for the categorization and resolution of the condition and preventing effective trend analysis. Corrective actions for some events and conditions inadequately resolve the problem or fail to identify or address root causes and recurrence controls. ES&H issues are not routinely evaluated for trends and precursors. Lessons learned are not consistently and effectively used in the preparation of work packages and training for workers, and historical lessons-learned information is not readily accessible. Some feedback and improvement processes and key elements of some assessment processes are not addressed or adequately detailed in KCP procedures, hindering the overall effectiveness of mechanisms for feedback and improvement and for continuous improvement. The lack of rigorous assessment of the adequacy of ES&H programs, weaknesses in issues management, and inadequate trending of issues have contributed to failure to identify and correct some systemic and recurring deficiencies in ISM implementation.

- **The emergency management hazards assessment does not serve as a technically sound foundation for the KCP emergency management program in that it does not evaluate a complete spectrum of accidents and contains some important analytical weaknesses.** The hazards analysis event spectrum is limited to “credible” events that only include spills of hazardous materials and mixing of incompatible chemicals. The hazards analysis does not quantitatively evaluate events such as fires, explosions, and malevolent acts. In addition, the hazards analysis does not evaluate the maximum amount of material that may be at risk to determine the maximum consequences for certain postulated events, such as a spill of nitric acid during

transportation on site, and the hazards analysis utilizes a computer code that does not accurately model heavy gas dispersion close to the release source; therefore, the analysis of the potential consequences of some events is not conservative. As a result, all appropriate emergency planning and response provisions, such as pre-determined protective action recommendations, may not have been identified.

- **Compliance with DOE Order 151.1A, *Comprehensive Emergency Management System*, is not a contractual requirement, and no formal exemption has been requested.** The KCP emergency management program is based on a set of “best practice” industrial standards that was developed and implemented several years ago as part of an initiative to reduce the costs associated with maintaining an adequate emergency management program. The transition to the current set of standards was informally approved by AL (although not documented), but no exemption to DOE Order 151.1A requirements was ever developed, nor is there any evidence that DOE Headquarters line management approved the permanent adoption of the standards in lieu of the order. Because the KCP Emergency Plan requires that only “credible” accidents be analyzed in the

hazards analysis, the potential consequences of the worst-case accidents at KCP are unknown. A process is needed to formally provide senior DOE line management with the information necessary to understand and acknowledge the complete range of risks of operating KCP outside of the DOE emergency management system.

- **Initial response decision-makers did not demonstrate adequate proficiency in identifying and implementing protective actions for responders and other affected groups during tabletop performance tests.** While performance was generally adequate in the areas of event recognition, categorization, and notification, some initial decision-makers appeared to have difficulty in formulating and implementing protective actions appropriate for the scenario conditions. In addition, some initial decision-makers were uncertain regarding their responsibilities for recommending protective actions to nearby Federal facilities and potentially affected offsite entities following onsite events. In part, this can be attributed to weaknesses in the emergency response refresher-training program, including the lack of job-specific training in protective-action decision-making.

KCP has a generally good safety and environmental record and has established an emergency management program that is generally commensurate with the recognized and analyzed hazards. Some of KCP's ES&H programs are notably effective, including several aspects of the environmental management program. In addition, the beryllium program has received significant management attention and support. The workforce is experienced and displayed a high regard for safety and environmental compliance. OKCSO and FM&T management support for environmental protection and safety was demonstrated in their aggressive approach to addressing legacy waste disposal sites, reducing pollution, supporting stop-work policies, and ensuring prompt response to employee concerns. The concept of emergency operations described in the KCP Emergency Plan and associated implementing procedures establishes an emergency response organization that can adequately respond to mitigate incidents within the range of initiating events considered in the KCP hazard analysis.

In many cases, hazards are effectively analyzed and controls are in place for production, maintenance, and construction activities. The ongoing efforts to transition to computer-based hazards analysis processes is a positive step that, if effectively implemented, could address some of the identified weaknesses. However, the work control and hazard control processes are not comprehensive and are not fully effective. The most significant concern is that deficiencies in certain aspects of hazards analysis and control processes result in a situation where FM&T personnel at the working level have not been provided with clear and rigorous expectations in procedures or work documents for implementing safety provisions during specific work activities. There were also instances of failure to rigorously follow established procedures and deficiencies in defining the scope of work. Collectively, the identified deficiencies create a situation where worker and facility safety relies too heavily on

individual initiative. ISM requires a more rigorous and formal approach to safety based on clear standards and work documents that incorporate approved safety provisions.

In the environmental protection area, FM&T management has established effective management systems to implement their environmental responsibilities. KCP has attained certification for conformance to the internationally recognized ISO 14001 environmental management system standards. Nearly all remedial actions have been accomplished to address legacy waste disposal sites, and pollution prevention and pollution control projects have been implemented to reduce local environmental impacts and improve efficiency of operations. With few exceptions, hazards analysis processes and controls for environmental pathways at KCP were systematic and effectively implemented. However, KCP has not effectively analyzed environmental hazards, established appropriate controls, or implemented requirements in some cases. Operational events involving the failure to implement administrative and engineering controls for operation of the Industrial Wastewater Pretreatment Facility and groundwater extraction system have recently been experienced. Waste management activities at several locations outside the main manufacturing areas were not consistent with established requirements, indicating inattention to detail, lack of training, or lack of appropriate self-assessments by departments controlling these areas. While deficiencies were identified, the KCP environmental management program has a number of significant positive attributes and is effectively implemented in areas where the most significant potential environmental hazards are located. Most of the deficiencies occurred in specialized technical areas or in locations outside main manufacturing facilities, indicating a need for additional attention in these areas. While corrective actions are warranted, the identified deficiencies are judged to be anomalies in an overall effective environmental protection system.

In the emergency management area, KCP has implemented a program that, within the range of analyzed hazards, provides the structure, mechanisms, and resources necessary for mounting an effective response to a site accident. With certain important exceptions, initial decision-makers demonstrated acceptable overall proficiency in executing their assigned roles and responsibilities. The KCP hazards analysis includes many of the elements required by DOE Order 151.1A, *Comprehensive Emergency Management System*, in the manner described in the accompanying emergency management guide, even though this is not a KCP programmatic requirement. The emergency management training program meets most responder needs for the hazards that the site has identified, and drills and exercises are used effectively to validate the key elements of the emergency management program and maintain responder proficiency. Additionally, the necessary offsite response resources have been identified, integrated into the overall response approach, and periodically tested to assure a comprehensive response.

However, the effectiveness of the KCP emergency management program is limited by a hazards assessment that does not address the full spectrum of events that may cause the release of hazardous materials, and hence does not provide a complete programmatic foundation. Consequently, the emergency preparedness and planning aspects of the KCP program may be incomplete and could contain vulnerabilities that have not been formally acknowledged and accepted by senior Departmental line managers. This situation is a consequence of a DOE and KCP decision to implement an emergency management program that is based on a set of industrial standards that is not equivalent to the DOE emergency management system without having received a formal exemption to the requirements of DOE Order 151.1A from the appropriate level of DOE line management. Even for events covered by the hazards assessment assumptions, the potential for classifiable emergencies may have been missed due to analytical weaknesses and inappropriate assumptions regarding the maximum amount of materials that could be involved in some events. In addition, weaknesses in certain emergency response procedures and tools, particularly in the areas of categorization and protective action identification and implementation, contributed to initial responder difficulties in performing critical time-sensitive actions, including protecting onsite workers and affected offsite populations. Further, the lack of function-specific training in the emergency response

organization's annual refresher training program could have contributed to some of the observed performance weaknesses.

OKCSO and FM&T have various assessment programs in place. OKCSO management was proactive in establishing a Facility Representative program, although not mandated at a non-nuclear facility. The Facility Representative program is generally functioning adequately, and OKCSO ES&H personnel are involved in monitoring and evaluating ES&H performance. OKCSO program personnel have identified and documented program and performance deficiencies. FM&T has established a variety of mechanisms to assess ES&H programs and performance and has formal processes to address employee concerns, corrective actions, and lessons learned. These mechanisms are identifying deficient conditions and performance, many corrective actions are being taken, and lessons learned are regularly disseminated. The assessment programs in the emergency management area include a combination of assessment activities and exercises that provide feedback to management, consistent with the expectations established in the KCP emergency management plan.

However, the OKCSO and FM&T feedback and improvement programs have several important weaknesses that reduce their effectiveness in improving ES&H and emergency management. Many planned OKCSO formal assessment activities are not being performed, and OKCSO's ES&H oversight is hindered by insufficient rigor in the planning and execution of assessments and documentation and communication of findings to the contractor. Many deficiencies are not formally transmitted to the contractor in a manner that enables OKCSO to hold the contractor accountable for correcting program and performance deficiencies. There are weaknesses in the FM&T assessment and issues management processes, as well as a lack of rigor in the documentation and evaluation of deficiencies and in the implementation of corrective actions. Historical lessons-learned information is not readily accessible, or is not typically employed in developing work instructions or training. These process weaknesses and implementation deficiencies preclude identification and correction of inadequate ES&H-related processes and performance. The deficiencies in facility conditions (e.g., obstructed access to eyewash stations), some of which were readily observable in facility walkdowns, also indicate a lack of attention to detail by line management and ES&H.

OKCSO generally has sufficient personnel to perform its line management and oversight roles. The Facility Representatives are actively involved in monitoring site operations and have a good understanding of day-to-day status and events related to ES&H. The environmental personnel are also actively involved in monitoring the status of environmental protection programs. The OKCSO environmental group recognizes that it currently lacks expertise in the areas of air and water quality compliance and health physics. They have advertised for a new hire to fill the air and water quality compliance need. OKCSO generally has sufficient numbers of safety and health staff, although some of the staff have limited experience in ISM application.

Overall, OKCSO and FM&T have had considerable success in using the ISM performance measure as a management tool for monitoring and improving safety performance. KCP has maintained a good safety record, including injury and illness rates

significantly lower than DOE averages. OKCSO and FM&T have also examined the ISM performance measures and taken actions to further improve performance. These efforts have resulted in a downward trend in injury and illness rates and waste generation over the past five years. However, increased management attention is needed to ensure that ISM programs are fully effective. In particular, increased attention is needed in the near term to improve the processes for analyzing hazards, establishing controls, and communicating information about required controls to the workforce in both the ES&H and emergency management arenas. Line management attention is necessary to ensure that a comprehensive, technically based path forward is developed to implement an emergency management program at KCP. Timely improvements are also needed in OKCSO and FM&T line and ES&H department assessments and self-assessments of ES&H and emergency management, and in issues management.

The ES&H and emergency management program ratings reflect the current status of the reviewed elements of the KCP programs:

ES&H program ratings:

| | |
|--|-----------------------|
| Core Function #1 – Define the Scope of Work | EFFECTIVE PERFORMANCE |
| Core Function #2 – Analyze the Hazards | NEEDS IMPROVEMENT |
| Core Function #3 – Develop and Implement Hazard Controls | NEEDS IMPROVEMENT |
| Core Function #4 – Perform Work Within Controls | EFFECTIVE PERFORMANCE |
| Core Function #5 – Feedback and Continuous Improvement | NEEDS IMPROVEMENT |
| Environmental Protection | EFFECTIVE PERFORMANCE |

Emergency management program ratings:

| | |
|--|-----------------------|
| Emergency Management Program Basis, Plan, and Procedures | NEEDS IMPROVEMENT |
| Hazards Survey and Hazards Assessment | NEEDS IMPROVEMENT |
| Training, Drills, Exercises, and Offsite Response Interfaces | EFFECTIVE PERFORMANCE |
| Emergency Management Feedback and Improvement | EFFECTIVE PERFORMANCE |

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APPENDIX A

SUPPLEMENTAL INFORMATION

A.1 Dates of Review

| | Beginning | Ending |
|-------------------------|-------------------|-------------------|
| Planning Meeting | October 17, 2001 | October 18, 2001 |
| Onsite Review | November 5, 2001 | November 15, 2001 |
| Report Writing | November 19, 2001 | December 3, 2001 |
| Validation and Outbrief | December 4, 2001 | December 6, 2001 |

A.2 Review Team Composition

A.2.1 Management

Glenn S. Podonsky, Director, Office of Independent Oversight and Performance Assurance
Michael A. Kilpatrick, Deputy Director, Office of Independent Oversight and Performance Assurance
Charles Lewis, Director, Office of Emergency Management Oversight
Patricia Worthington, Director, Office of Environment, Safety and Health Evaluations
Thomas Staker, Deputy Director, Office of Environment, Safety and Health Evaluations (Team Leader)

A.2.2 Quality Review Board

Michael Kilpatrick
Patricia Worthington
Charles Lewis
Dean Hickman
Robert Nelson

A.2.3 Review Team

Thomas Staker, Team Leader

ES&H Review Team

Bill Eckroade
Ronald Stolberg
Ching-San Huang
Mark Good
Jim Lockridge
Ed Stafford
Robert Compton

Emergency Management Team

Steven Simonson (Emergency Management Topic Lead)
James O'Brien
Jeffrey Robertson
David Schultz

A.2.4 Administrative Support

Mary Anne Sirk
Tom Davis

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APPENDIX B

SITE-SPECIFIC FINDINGS

Table B-1. Site-Specific Findings Requiring Corrective Action Plans

| FINDING STATEMENT |
|---|
| Deficiencies in KCP hazard identification and analysis programs (i.e., preliminary hazards analysis, job hazards analysis, and exposure assessment programs) have resulted in some hazards not being recognized or adequately analyzed. |
| FM&T has not established an effective process to ensure that all hazard controls that were identified during the hazards analysis process are implemented at the working level. |
| OKCSO line management has not established and implemented a fully effective oversight program as specified in DOE Policy 450.5, <i>Line Environment, Safety and Health Oversight</i> . |
| FM&T feedback and improvement mechanisms have not been fully developed and rigorously implemented to identify and effectively resolve ISM program and performance deficiencies and to drive continuous improvement as specified in DOE Policy 450.4, <i>Safety Management System Policy</i> , and DOE Policy 450.5, <i>Line Environment, Safety and Health Oversight</i> . |
| OKCSO, AL, and NNSA have not ensured either that the DOE Order 151.1A exemption process has been appropriately used to demonstrate programmatic equivalency or that senior DOE line management has been given the information necessary to understand and acknowledge the complete range of risks of operating KCP outside of the DOE emergency management system, as required by DOE Order 151.1A. |
| The KCP Emergency Plan, implementing procedures, and other response documents do not in all cases accurately reflect actual response practices, define required emergency response actions, or adequately support accurate and timely decision-making during operational emergencies, as required by the KCP Emergency Plan. |
| Not all FM&T initial decision-makers effectively implemented emergency response actions in a timely manner to ensure event mitigation and adequate protection for all members of affected onsite and offsite organizations, as required by the KCP Emergency Plan. |
| Not all OKCSO duty officers were proficient in assessing initial contractor decisions and ensuring that adequate protective actions were promptly initiated, as required by DOE Order 151.1A. |
| OKCSO and AL have not ensured that DOE's emergency planning policy for analyzing the complete spectrum of events has been implemented at KCP, as required by DOE Order 151.1A. |
| FM&T has not appropriately evaluated and documented the consequences of some credible events, such as the release of hazardous materials from spills and mixing of incompatible materials, as required by the KCP Emergency Plan. |
| Emergency response organization annual refresher training does not include all required course topics and is not specific to functional or support positions, as required by the KCP Emergency Plan. |

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