**Routine Environmental Audit
of the
Kansas City Plant
Kansas City, Missouri**

**U.S. Department of Energy
Office of Environmental Audit**

November 1994

PREFACE

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Preface

U.S. Department of Energy Routine Environmental Audit Conducted at the Kansas City Plant Kansas City, Missouri

The Secretary of Energy's July 20, 1993, Environment, Safety, and Health Policy establishes daily excellence in protection of the worker, the public, and the environment as the hallmark and highest priority of all DOE activities. That policy also calls for a proactive program of continuous improvement to move the Department beyond minimal compliance with laws and regulations. To further that policy, the Office of Environment, Safety and Health (EH) has established a program to conduct environmental assessments of DOE programs and operating facilities. This program, which is within the Office of Environmental Audit (EH-24), is part of the internal oversight responsibilities within DOE. The ultimate goal of this program is enhancement of environmental protection and minimization of risk to public health and the environment through systematic and periodic evaluations of the Department's environmental programs within line organizations.

Through its environmental evaluation program, which results in measurable goals with milestones, EH-24 is committed to helping establish DOE as a model of responsible environmental stewardship. In addition, this program will reinforce the Secretary's goal of building on the ongoing efforts to attain and maintain compliance in cooperation with regulatory authorities and other stakeholders.

This document contains the findings identified during the Routine Environmental Audit of the Kansas City Plant (KCP) conducted October 24–November 4, 1994. The objective of the audit is to advise the Secretary of Energy, through the Assistant Secretary for Environment, Safety, and Health, of the adequacy of environmental management systems at KCP; to ensure their compliance with Federal, state, local, and DOE environmental requirements; and to evaluate application of proactive management practices. The audit was comprehensive in scope: it addressed all areas of environmental management and included indepth reviews of the Air Quality, Waste Management, and Surface and Drinking Water Quality programs.

November 1994
Washington, DC

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report documents the results of the routine environmental audit of the Kansas City Plant, Kansas City, Missouri. During this audit the activities the audit team conducted included reviews of internal documents and reports from previous audits and assessments; interviews with U.S. Department of Energy (DOE) and contractor personnel; and inspections and observations of selected facilities and operations. The onsite portion of the audit was conducted October 24–November 4, 1994, by the DOE Office of Environmental Audit (EH-24), located within the Office of Environment, Safety, and Health (EH).

DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," establishes the mission of EH-24, which is to provide comprehensive, independent oversight of Department-wide environmental programs on behalf of the Secretary of Energy. The ultimate goal of EH-24 is enhancement of environmental protection and minimization of risk to public health and the environment. EH-24 accomplishes its mission by conducting systematic and periodic evaluations of the Department's environmental programs within line organizations and by using supplemental activities that strengthen self-assessment and oversight functions within program, field, and contractor organizations.

The audit evaluated the status of programs to ensure compliance with Federal, state, and local environmental laws and regulations; compliance with DOE Orders, guidance, and directives; and conformance with accepted industry practices and standards of performance. The audit also evaluated the status and adequacy of the management systems developed to address environmental requirements.

The audit's functional scope was comprehensive and included all areas of environmental management and a programmatic evaluation of air quality, surface water and drinking water quality, and waste management programs. Although the audit was designed to be thorough and to consider a representative sample of KCP environmental activities and programs, it was not intended to be exhaustive in scope. Instead, it was meant to provide DOE organizations, including the Secretary, with an indication of the status of KCP management's effectiveness in achieving its mission in an environmentally responsible manner.

The audit team identified twelve findings; eight were in the environmental management systems area and four were in two technical disciplines. In general, the audit team found that environmental programs and management systems at KCP are well understood and designed. Top management exhibits a strong environmental commitment that is communicated and well understood throughout the entire organization.

Although several findings were identified, none warranted development of a "Key Finding."

The audit team identified the following strengths and weaknesses in KCP's environmental management programs:

- Environmental Commitment. KCAO and AS/KCD have worked as a team to develop a very positive environmental commitment at KCP. The audit team found that formal policy statements, identification of environmental responsibilities, and line management accountability reinforce environmental

commitment at all levels of the organization. Although budget reductions have significantly affected operations throughout the plant, the ES&H staff has a positive attitude toward continuing to meet all environmental goals.

- Communication. Internal communication between KCAO and AS/KCD contributes to a free flow of information and a good working relationship. Monthly and quarterly ES&H meetings are attended by top management from both organizations. TV monitors, a telephone hotline, twice-weekly newsletters, and monthly publications effectively communicate environmental awareness throughout all levels of the organization. External communication is enhanced by a Community Relations Plan prepared under a RCRA Consent Order and by distribution of Focus on the Environment six times a year to 2,000–3,000 stakeholders, which provides a continual update on KCP's focus and activities in the environmental area.
- Formality of Environmental Programs. There is no formal KCAO ES&H appraisal program. Although KCAO conducts frequent walk-throughs, there is no formal program for conducting routine and non-routine oversight activities. AS/KCD has not fully implemented an effective formal management system for contractor accountability in meeting environmental protection standards associated with work activities at KCP.

Overall, the audit team found that KCP has strengthened environmental programs since the 1989 Tiger Team Assessment. Of the 45 findings the environmental subteam identified at that time, 40 have been certified closed, 3 have been completed and are awaiting closure certification, and 2 have not been completed. The audit team, however, did not verify closure of any of the findings.

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

This report documents the results of the routine environmental audit of the Kansas City Plant (KCP), located approximately 12 miles south of downtown Kansas City, Missouri. The onsite portion of the audit was conducted October 24—November 4, 1994, by the U.S. Department of Energy (DOE) Office of Environmental Audit (EH-24).

DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," establishes the mission of EH-24: to provide comprehensive, independent oversight of DOE complex-wide environmental programs on behalf of the Secretary of Energy. The ultimate goal of EH-24 is to enhance environmental protection and minimize risk to public health and the environment. EH-24 accomplishes its mission by conducting systematic and periodic evaluations of the Department's environmental programs within line organizations, and by using supplemental activities that strengthen self-assessment and oversight functions within program, field, and contractor organizations.

These evaluations function as a vehicle to apprise the Secretary and Program Managers of the current status and vulnerabilities of Departmental environmental activities and environmental management systems. Several types of evaluations are conducted, including

- Comprehensive Baseline Environmental Audits;
- Routine Environmental Audits;
- Environmental Management Assessments; and
- Special Issue Reviews.

The purpose, scope, and approach of the routine environmental audit of KCP are described below.

1.1 PURPOSE

The purpose of the audit of KCP was to provide the Secretary of Energy, through the Assistant Secretary for Environment, Safety, and Health, with concise information pertaining to the following areas:

- The adequacy of environmental management programs and organizations;
- DOE vulnerabilities and liabilities associated with environmental management practices;
- Compliance with environmental laws and regulations, DOE Orders, and DOE environmental policies (as identified in Appendix E) that address environmental management programs;
- Adherence to best management (and accepted industry) practices pertaining to environmental management programs;

- Progress and effectiveness of environmental corrective actions resulting from the 1990 Tiger Team Assessment; and
- Noteworthy environmental management practices.

The information gathered during this audit and embodied in this report will assist DOE in determining patterns and trends in environmental deficiencies and strengths. The Office of Defense Programs (DP); the Office of Environmental Management (EM), the DOE Albuquerque Operations Office (AL); the Kansas City Area Office (KCAO); and AlliedSignal Aerospace/Kansas City Division (AS/KCD) are expected to make full use of this information to develop corrective actions, identify root causes, make appropriate modifications to specific programs to prevent recurrence, and implement lessons-learned programs to ensure broad applications to other operations, programs, and facilities.

1.2 SCOPE

The scope of the routine environmental audit was comprehensive, addressing all areas of environmental management and including programmatic assessments of the Air Quality, Waste Management, and Surface Water and Drinking Water Quality programs. Additional consideration was given to reporting and oversight relationships with AL and KCAO.

1.3 APPROACH

The routine environmental audit was conducted in accordance with the DOE Environmental Audit Program Guidance (January 1994 Draft Final) and Protocols for Conducting Environmental Management Assessments of DOE Organizations (DOE/EH-0326, June 1993). Accepted assessment techniques were followed.

The audit was conducted by a team of professionals managed by a DOE Headquarters Team Leader from EH-24 and a Deputy Team Leader from the DOE Oak Ridge Operations Office. Audit staff consisted of two AL technical specialists in air and waste management programs, and nine other technical and administrative support contractor personnel. The names, areas of responsibility, affiliations, and biographical sketches of the team members are provided in Appendix A. The audit included three phases: planning, conducting onsite activities, and reporting.

As part of the planning phase, a memorandum was sent to the KCP announcing the audit and requesting information about the management systems and selected environmental programs. A pre-audit site visit was conducted September 13–15, 1994. The site's response to the information requested, combined with the pre-audit site visit information, formed the basis for the "Plan for the DOE Routine Environmental Audit of the Kansas City Plant," which included a preliminary agenda for onsite activities (see Appendix B). The audit team modified the preliminary agenda during the onsite activities as more information was obtained and additional areas of interest were identified.

Onsite audit activities included interviews with AL, KCAO, and AS/KCD personnel; document reviews, which included previous audit and self-assessment reports; and observations of actual environmental management activities or operations. The audit team conducted daily debriefs with KCP personnel. Using information from site observations, document reviews, and interviews, the audit team developed findings as discussed in

Sections 2 and 3 of this report. Lists of site documents reviewed and interviews performed are provided in Appendices C and D respectively.

Deficiencies the audit team identified were categorized as findings. Findings are conditions that, in the judgment of the team, may not satisfy environmental regulations, DOE Orders, Consent Agreements with regulatory agencies, environmental permit conditions, DOE or contractor environmental policies and procedures, regulatory agency guidance, accepted industry practices or technical standards, DOE guidance, or professional judgment.

Overviews and findings are detailed in Section 3 and organized into the following eight categories: organizational structure; environmental commitment; environmental protection programs; formality of environmental programs; internal and external communication; staff resources, training, and development; program evaluation, reporting, and corrective action; and environmental planning and risk management. In addition, three technical disciplines—Air Quality, Waste Management, Surface Water and Drinking Water Quality Programs—are discussed in detail. Each finding is organized into three sections: the performance objective, the finding statement, and a discussion of the facts and observations supporting the finding. The particular standards against which the finding is being evaluated are specified as performance objectives. The findings are not arranged in order of relative significance.

1.4 BACKGROUND AND PROJECT DESCRIPTION

The DOE Kansas City Plant (KCP) is part of a Federal complex in Kansas City, Missouri, which consists of facilities occupied by the General Services Administration, the U.S. Marine Corps, the Federal Aviation Administration, and the Internal Revenue Service, in addition to the facilities occupied by DOE. The DOE portion of the complex is managed by AlliedSignal Inc.'s Kansas City Division (AS/KCD). KCP is located 12 miles south of downtown Kansas City, Missouri, in a small river valley surrounded by low hills. Figure 1-1 shows the regional setting of KCP. The Blue River (a tributary of the Missouri River) flows from south to north along the eastern edge of the complex. Indian Creek flows west to east along the south side of the complex and merges with the Blue River. Figure 1-2 shows the Kansas City Plant Site Map.

KCP was built by the United States Navy in 1942. In 1949 Bendix/Atomic Energy Commission began operations in the plant, and in 1982 Allied Corporation (now AlliedSignal) acquired the Bendix Corporation. In May 1993 KCP was named the consolidated site for DOE's major facility for non-nuclear components for nuclear weapons manufacturing, its principal mission objectives being to support continued viability of the nuclear weapons defense capability. Its additional mission objectives are to ensure perpetual renewal of the national technology base through partnering with national laboratories, other Federal agencies, academia, and industry. The facility also shares expertise, experience, and technology with industry to enhance U.S. economic competitiveness and environmental technology. In July 1994 KCP opened its Technology Transfer Center to the public.

The majority of the office, manufacturing, and laboratory areas of KCP are under one roof, total floor space comprising about 3 million square feet. Major KCP processes include metals and plastics machining, plastics fabrication, plating, microelectronics and electrical and mechanical assembly, soldering, welding, bonding, lasers, robotics, cleaning,

Figure 1-1. Regional Setting of the Kansas City Plant

Figure 1-2. Kansas City Plant Site Map

wire/sleeving preparation, encapsulation, semiconductor packing, painting and special coatings, molding, and manufacture of special chemicals. No radioactive materials are machined or processed.

The fiscal year (FY) 1995 budget for KCP is \$322.6 million. Of this, 75.3 percent or \$244 million is funded by DOE's Defense Programs; .7 percent or \$2.2 million is funded by the Department of Defense; 20 percent or \$64.2 million comes from work for others; and 4 percent or \$12.2 million dollars comes from DOE's Environmental Management Program (EM). It should be noted that approximately \$4 million of the \$244 million DP funds are allocated to ES&H environmental baseline activities such as air, water monitoring, pollution prevention, and solid waste management activities. This approximates \$16.2 million for both environmental activities. Figure 1-3 shows the general plant operating costs for FY 1989-FY 1995.

KCP directly employs approximately 3,299 people. Of these personnel, 15 of 66 KCAO employees work in the ES&H Branch, and 137 AS/KCD employees work in the ES&H Division.

1.5 ENVIRONMENTAL MANAGEMENT PROGRAMS AND ORGANIZATION

In the DOE line management structure, the AL Manager reports to the Assistant Secretary for Defense Programs and receives programmatic and administrative functional direction from Headquarters organizations for activities within their functional assignments. ES&H activities at AL are managed by the Director of the Environmental Protection Division and the Director of the Waste Management Division, both of whom report directly to the AL Manager.

The KCAO management structure consists of an Acting Area Manager who reports directly to the AL Manager. Within KCAO, the Acting Assistant Area Manager for ES&H reports directly to the Acting Area Manager (see Figure 1-4). The Area Office has primary responsibility for onsite implementation of functional program/policy guidance provided by DOE Headquarters and AL Headquarters. The Area Office is responsible for day-to-day oversight of contractor activities. The Area Office takes independent action with respect to onsite activities. The Area Office is responsible for problem resolution with assistance from AL Headquarters as needed.

The President of AlliedSignal/Kansas City Division (AS/KCD) reports to the President of AlliedSignal Aerospace Company who, in turn, reports to the Chairman and Chief Executive Officer of AlliedSignal, Inc. Within AS/KCD the Director of the ES&H Division reports directly to the President (see Figure 1-5). Within the ES&H Division, there are 10 groups that report directly to the Director (see Figure 1-6).

General Plant Operating Costs

Dollars in Millions

	FY1989	FY1990	FY1991	FY1992	FY1993	FY1994	FY1995
Stockpile Support	423.0	401.5	347.0	352.5	306.2	260.0	244.0
Navy Reimbursables	97.9	60.0	45.0	22.0	20.2	0.5	2.2
Other Reimbursables	67.7	67.8	50.0	32.2	24.4	50.2	64.2
ER/WM	0.0	6.8	7.7	13.0	18.0	14.0	12.2

Source: AlliedSignal Aerospace MP-21 8/26/94

Figure 1-3. General Plant Operating Costs

OFFICE OF THE MANAGER
 Steve C. Taylor, *Acting Area Manager*
 Vacant, *Deputy Area Manager*
 Vacant, *Special Assistant to Area Manager*
 Patrick G. Currier, *Counsel*

OFFICE OF RESOURCES
Acting Assistant Area Manager
 Patrick J. Lillard
Procurement Contract Specialists
 Leona I. Solar
 David M. Katz
 Larry W. Hood (Detail)

Security
Senior Security Specialist
 Richard D. Keck
Security Specialists
 Doug S. MacKinlay
 Thomas F. Worstell
Security Assistant
 Linda A. Kleszkowski

Information Management
Acting Computer Specialist
 John H. Cowan
Computer Assistant
 Mary A. Johnson

Financial Management
Senior Financial & Budget Specialist
 George K. Christensen
Financial & Budget Specialist
 Wayne R. Gempeler

Management Services
Industrial Relations Specialist
 Kerry Weinberg (EOD 10/30)
Emergency Management/Public Affairs Specialist
 David C. Hampton

14

OFFICE OF FACILITY OPERATIONS & MANAGEMENT
Acting Assistant Area Manager
 Gregory A. Betzen
Facilities Technical Assistant
 Elizabeth A. Thomas
Lead Engineer
 Curtis A. Roth
Lead Project Engineer
 D. Mike Roberts
 General Engineer
 Raymond C. Mels
Lead Engineer
 Robert F. Nowak
Property Management Specialist
 Jesse H. Scott, Jr.
Maintenance Engineer
 Richard L. Lujn

Lead Facility Representative
 Vacant
Facility Representatives
 Howard K. Buhl
 Kent E. Davis
 Raymond H. Gann
 Robert E. Schmidt

14

OFFICE OF ENVIRONMENT, SAFETY & HEALTH
Acting Assistant Area Manager
 Patrick T. Hoopes
Industrial Health Manager
 Susan K. Cummons

Environmental Manager
 David M. Caughey
Environmental Engineer
 Kenneth G. Sessa
Environmental Restoration Manager
 G. Phil Keary
Environmental Restoration Specialist
 Vacant
Program Manager Waste Operations
 Margaret E. Stockdale
Waste Operations Specialist
 Vacant
Program Analysts
 Diane M. Solcher
 Susan S. Katz

Safety Manager
 Donald B. Williams
Safety Specialists
 Karol J. Turner
 Kenneth W. Roggenkamp, Jr.
Safety Engineer
 Jerry W. Laughlin
ES&H Technical Program Manager
 Vacant

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OFFICE OF QUALITY & STOCKPILE SUPPORT
Acting Assistant Area Manager
 Gerald M. Jones
Quality Assurance Assistance
 Gerry L. Whiteman
Acting Technology Program Manager
 Thomas Uko
Acting Technology Transfer Program Engineer
 Kenneth H. Bauer
Industrial Specialist
 Mary J. Hurshey
Team 1 Leader
 Ella L. Sykes
Quality Assurance Engineer
 James R. Breed
Staff QA Specialist
 Steven L. DeForest
Quality Assurance Specialists
 David M. Donahue
 Rick L. Pierson
Team 2 Leader
 Glen C. Ellenwood
Quality Assurance Engineer
 Vacant
Staff QA Specialist
 Daniel J. Garvey
Quality Assurance Specialist
 Leta F. Johnson
Team 3 Leader
 Lynn M. Billings (Detail)
Quality Assurance Engineer
 Mark L. Holacek
Staff QA Specialist
 Donald E. Austin (Detail)
Quality Assurance Specialists
 Robert D. Gregerson
 William E. Henderson
Operations Quality Manager
 H. Alan Wells
Quality Assurance Engineer
 Jane F. White
Quality Assurance Specialist
 Clarence E. Raines
Industrial Specialist
 Robert E. Burton

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Figure 1-4. Kansas City Area Office Management Structure

AlliedSignal Aerospace Kansas City Division

3299 employees

Figure 1-5. AlliedSignal/Kansas City Division Management Structure

AlliedSignal Aerospace Kansas City Division ES&H

137 employees

Figure 1-6. AS/KCD ES&H Management Structure

SECTION 2.0

SUMMARY OF ROUTINE ENVIRONMENTAL AUDIT RESULTS

2.0

SUMMARY OF ROUTINE ENVIRONMENTAL AUDIT RESULTS

This report documents the results of the Routine Environmental Audit performed at the Kansas City Plant (KCP). During this audit, activities and records were reviewed and interviews were conducted with DOE and contractor personnel. The following summarizes the results and conclusions of the Routine Environmental Audit of the Kansas City Plant, Kansas City, Missouri, conducted October 24—November 4, 1994.

DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," establishes the mission of EH-24: to provide comprehensive, independent oversight of DOE complex-wide environmental programs on behalf of the Secretary of Energy. The ultimate goal of EH-24 is to enhance environmental protection and minimize risk to public health and the environment. EH-24 accomplishes its mission by conducting systematic and periodic evaluations of the Department's environmental programs within line organizations and by using supplemental activities that strengthen self-assessment and oversight functions within program, field, and contractor organizations.

The Routine Environmental Audit of KCP was designed to evaluate KCP's environmental programs, supported by management systems that ensure effectiveness of development and implementation of such programs.

During the audit, 12 findings were identified; 8 were in environmental management systems and 4 were in specific technical disciplines. The finding numbers and titles are presented in Table 2-1. Overall, KCP was aware of most of the audit team findings, and in many instances, had already initiated steps to correct the deficiencies.

Status of 1990 Tiger Team Assessment Corrective Actions

A Tiger Team Assessment of KCP was conducted November 6—December 7, 1989. The environmental subteam identified 45 findings. A corrective action plan was prepared and transmitted to DOE Headquarters by KCAO and was concurred in by EH-1 on October 21, 1990. Two of the findings applied to KCAO and 43 to AS/KCD. To date, five AS/KCD findings are open. Two of the five have not been completed. The other three have been completed and are awaiting closure certification by AL. The two KCAO findings have been closed. The audit team, however, did not verify closure of any of the findings.

The audit team identified the following strengths and weaknesses in KCP's environmental management programs:

- Environmental Commitment. KCAO and AS/KCD have worked as a team to develop a very positive environmental commitment at KCP. The audit team found that formal policy statements, identification of environmental responsibilities, and line management accountability reinforce environmental commitment at all levels of the organization. Although budget reductions have significantly affected operations throughout the plant, ES&H staff have a positive attitude toward continuing to meet all environmental goals.
- Communication. Internal communication between KCAO and AS/KCD contributes to a free flow of information and a good working relationship. Monthly and quarterly ES&H meetings are attended by top management

TABLE 2-1

ROUTINE ENVIRONMENTAL AUDIT TEAM FINDINGS

Finding		Page
Organizational Structure (OS)		
	No findings identified	
Environmental Commitment (EC)		
	No findings identified	
Environmental Protection Programs (EP)		
EP-1	Groundwater Protection Planning	3-15
EP-2	Waste Minimization and Pollution Prevention Awareness	3-17
Formality of Environmental Programs (FP)		
FP-1	Formality of AS/KCP Management Systems for	3-23
FP-2	Formality of ES&H Program Documentation	3-26
FP-3	Formality of KCAO Oversight for Environmental	3-28
Internal and External Communication (IC)		
	No findings identified	
Staff Resources, Training, and Development (SR)		
SR-1	Staff Resource Needs Assessment	3-36
Program Evaluation, Reporting, and Corrective Action (PE)		
PE-1	Environmental Program Performance Assessment	3-40
Environmental Planning and Risk Management (RM)		
RM-1	Risk Management Program	3-45
Air Quality Programs (AQ)		
AQ-1	Refrigerant Recycling Requirements	3-50
AQ-2	Kansas City Plant Stack Inventory	3-52
Waste Management Programs (WM)		
	No findings identified	
Surface Water and Drinking Water Quality Programs (SW)		
SW-1	NPDES Permit Monitoring Requirements	3-61
SW-2	NPDES Best Management Practices Plan	3-63

from both organizations. TV monitors, a telephone hotline, twice-weekly newsletters, and monthly publications effectively communicate environmental awareness throughout all levels of the organization. External communication is enhanced by a Community Relations Plan prepared under a RCRA Consent Order and by distribution of Focus on the Environment six times a year to 2,000–3,000 stakeholders, which provides a continuous update on KCP's focus and activities in the environmental area.

- Formality of Environmental Programs. There is no formal KCAO ES&H appraisal program. Although KCAO conducts frequent walk-throughs, there is no formal program for conducting routine and non-routine oversight activities. AS/KCD has not fully implemented an effective formal management system for contractor accountability in meeting environmental protection standards associated with work at KCP.

2.1 FINDINGS SUMMARY

The following paragraphs briefly describe the observations and findings in each of the disciplines included in the KCP Routine Environmental Audit.

Organizational Structure (OS)

No findings were identified in the organizational structure portion of the audit. Overall, the environmental organizational structure at KCAO and AS/KCD is sound and is based on current organization charts that define direct reporting to the managers of their respective organizations. Responsibility for environmental performance is clearly defined in job descriptions, including all supervisors and associates at AS/KCD. Performance standards and appraisals at AS/KCD measure environmental performance for both environmental and non-environmental staff.

Environmental Commitment (EC)

No findings were identified in the environmental commitment portion of the audit. The audit team found that the environmental commitment at KCP is "strong and healthy." KCAO and AS/KCD have worked as a team to develop a positive environmental commitment. The team noted that the KCP environmental commitment extends through all levels of the organization.

Environmental Protection Programs (EP)

Two findings were identified in this portion of the audit. The first finding pertains to the extent to which activities conducted under an Administrative Order on Consent (AOC) negotiated between KCAO and EPA under 3008(h) Corrective Action authorities of RCRA were provided for and directed by an overall plan. The second finding identified the adverse impacts that have resulted or may result from the suspension of Process Waste Assessments, a critical process in the KCP Waste Minimization/Pollution Prevention Program; it also identified the subsequent deterioration of data contained in a Hazardous Material Inventory and Tracking System (HMITS) database that supports various environmental planning and compliance activities. Overall, the audit determined that the environmental protection programs at KCP are well conceived, based on a comprehensive

understanding of the regulatory requirements; capable of maintaining compliance; and, with the notable exception of pollution prevention, successfully implemented.

Formality of Environmental Programs (FP)

Three findings were identified in this portion of the audit, pertaining to the oversight and formality of environmental programs. The first finding pertains to the formality of AS/KCD management system for contracted-work operations at KCD. The second finding pertains to the formality of AS/KCP ES&H program documents and records. The third finding pertains to the formality of KCAO environmental oversight. In general, KCP environmental programs and associated activities have been formalized. There are instances, however, in which documents and activities have not been adequately formalized.

Internal and External Communication (IC)

No findings were identified in this portion of the audit. Internal communication between KCAO and AS/KCD both formal and informal and contributes to a free flow of information. Communication between AL and KCAO is issue specific and occurs on an as-needed basis. Internal communication of the environmental mission and responsibilities within AS/KCD is very effective, and associates at all levels appear to be aware of and committed to environmental protection goals. External communication between KCAO and AS/KCD and external stakeholders is excellent. The community relations program, developed in response to a Consent Order, has been well received by EPA. AS/KCD fosters good community relations and effective communication through a series of publications that highlight environmental issues and AS/KCD participation in community programs.

Staff Resources, Training, and Development (SR)

One finding was identified in this portion of the audit. The finding pertains to the lack of an overall systems approach and process to evaluate site environmental staffing requirements in light of the recent downsizing and restructuring. Administrative procedures are in place to ensure that position descriptions, training programs, and opportunities for career development are in place.

Program Evaluation, Reporting, and Corrective Action (PE)

One finding was identified in this portion of the audit. This finding focuses on the lack of a comprehensive mechanism for analyzing lessons learned, trending, and conducting root-cause analysis for environmental issues. Although KCAO and AS/KCD have self-assessment and appraisal programs, the programs are at different levels of formality.

Environmental Planning and Risk Management (RM)

One finding was identified in this portion of the audit. The finding pertains to restructuring a formal risk management program to identify all program elements that might benefit from risk analysis. Overall, KCP planning is performed to meet several requirements, resulting in multiple planning processes and planning documents.

Air Quality Programs (AQ)

Two findings were identified in this portion of the audit. One relates to inadequate maintenance and leak repair requirements for refrigerants, and the other relates to the lack of a stack and vent inventory as requested by the KCMO Air Quality Section and Missouri Department of Natural Resources Air Pollution Control Program.

Waste Management Programs (WM)

No findings were identified in this portion of the audit. AS/KCD has made improvements in its management processes for the identification and characterization of hazardous wastes. Efforts to disposition the classified hazardous wastes have shown significant progress, and these efforts should be realized in the very near future.

Surface Water and Drinking Water Quality Programs (SW)

Two findings were identified in this portion of the audit. The first concerns noncompliance with several aspects of the monitoring requirements currently specified in the KCP NPDES permit. The second cites the incomplete technical scope and lack of appropriate implementation of the Best Management Practices Plan the NPDES permit requires. Otherwise, the planning and implementation of the surface water pollution control and drinking water quality management programs at KCP are considered very effective.

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SECTION 3.0

ROUTINE ENVIRONMENTAL AUDIT OVERVIEWS AND FINDINGS

3.0 ENVIRONMENTAL OVERVIEWS AND AUDIT FINDINGS

The audit findings are presented in the following pages and are not necessarily in order of importance. They are grouped by area of investigation, as listed in Protocols for Conducting Environmental Management Assessments (DOE/EH-0326). This set of protocols is one of the primary tools the Office of Environmental Audit (EH-24) team used to conduct this audit. In addition to these protocols, the technical specialists used the DOE Environmental Audit Program Guidance (January 1994 Draft Final) and Performance Objectives and Criteria for Conducting DOE Environmental Audits (DOE/EH-0229) to conduct the audit. Each area of investigation is introduced by an overview that describes (1) the approach taken by the management or technical specialist in conducting that portion of the audit; (2) Kansas City Plant (KCP) programs and activities related to the area of investigation; (3) characterization of the strengths and weaknesses of KCP activities; and (4) a brief summary of the findings. Each finding is organized into three sections: the performance objectives, the finding statement, and a discussion of the details of the finding. The performance-objectives section specifies the particular practices or standards against which the finding is being evaluated. In many cases, where the phrase "best management practices" appears in the performance objective, there are no specific regulatory or DOE references cited. Where this occurs, the best management practices are often based on the protocols described above. The finding statement provides a concise description of an issue requiring resolution. The discussion section details the facts and observations supporting the finding.

Within each finding, references to other findings, interviews, and documents are presented parenthetically. An example of a referenced finding is "(see Finding OS-1)," in which "OS" represents "Organizational Structure," and "1" is the finding number. The abbreviations used to identify findings are as follows:

OS	Organizational Structure
EC	Environmental Commitment
EP	Environmental Protection Programs
FP	Formality of Environmental Programs
IC	Internal and External Communication
SR	Staff Resources, Training, and Development
PE	Program Evaluation, Reporting, and Corrective Action
RM	Environmental Planning and Risk Management
AQ	Air Quality Programs
WM	Waste Management Programs
SW	Surface Water and Drinking Water Quality Programs

These abbreviations are used rather than the more conventional annotation for environmental management findings (i.e., EM-1) so that the reader can more easily determine the specific areas of investigation from which the finding was derived.

Several of the specialists on the audit team covered more than one of the areas listed above. Therefore, interviews and document reviews were often completed with multiple areas of responsibility in mind. In order to reduce unnecessary duplication when referencing interviews and documents, they are identified as follows. An example of a referenced interview is (I-A-1) where "I" denotes an interview, "A" denotes an individual audit team member, and "1" is the assigned sequential interview number. Documents referenced for this audit are designated first by the letter "D" for document, followed by a letter designation for each specialist as described below, followed by a sequential number (e.g., D-A-1). The lists of documents reviewed and interviews conducted are presented in Appendices C and E respectively.

Designator Letter	Specialist
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A	Robert L. McCleary
B	Ron Kolpa
C	Peter C. Lindahl
D	Gary W. Frey
E	Roger A. Golec
F	Shiv N. Goel
G	Ronald B. Dobbs
H	James K. Alexander

3.1 ORGANIZATIONAL STRUCTURE

3.1.1 Overview

The purpose of the organizational structure portion of the routine environmental audit was to determine whether the KCAO and AS/KCD environmental management functions are congruent with and effectively integrated into other departments and functions. The audit evaluated whether responsibilities and accountabilities are well defined and clearly communicated to manage environmental issues effectively and whether authorities are delegated to organizational levels that can ensure effective implementation of environmental programs.

The general approach to the audit included conducting interviews with AL, KCAO, and AS/KCD personnel and reviewing site documents before and during the onsite portion of the audit. Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was used as guidance in directing the approach in this audit area. A list of regulations, requirements, and guidelines used in the audit appears in Appendix E.

KCAO and AS/KCD organizational structures were examined to determine the organizational design. This examination included organization charts that show reporting levels and span of control; documents that define organization, authorities, and functions; job descriptions that show functional responsibilities and authorities; mission statements that indicate direction and focus; and performance evaluations that indicate the metrics used to recognize and reward performance (D-A-24, 28, 29, 30, 31, 32, 42, 47, and 49).

Organizational structures of KCAO and AS/KCD and the relationship between KCAO and AL were examined from the standpoint of guidance, support, and reporting relationships, and the relationship between KCAO and AS/KCD was examined to determine the effectiveness of oversight (D-A-24 and D-A-50).

In response to the FY 1995 budget reduction to 322.6 million from 333.7 million in FY 1994, and after reviewing AS/KCD business requirements, a reduction in force (RIF) was implemented at AS/KCD. The RIF included both voluntary and involuntary reductions and was completed in mid-July. The AS/KCD ES&H Division was then reorganized based on best use of technical resources (D-A-41 and D-A-48).

The change in the AS/KCD ES&H Division organization, as defined by the organization chart, reassigned a number of responsibilities and changed reporting relationships (D-A-35, D-A-47, and D-A-51). An examination of organization charts, job responsibilities, and training plans, and interviews, indicated that although not all the individuals responsible for all functions have had the requisite training, training plans are either formulated or in the process of being formulated to ensure that the training requirements are in place by the end of CY 1994 (D-A-35, D-A-53, and D-A-54; I-A-7, I-A-9, and I-A-10). Additional interviews at the supervisor and associate level determined that some supervisors were further along with formal training plans than others, but all are aware of the need (I-A-8, I-A-9, and I-A-18).

Management Structure

Within KCAO, the Office of Environment, Safety and Health (KCAO ES&H) has responsibility for environmental programs. The acting Assistant Area Manager is responsible for the office and reports directly to the Acting Area Manager. A review of documents and interviews indicated that there is adequate independence and authority to conduct the environmental support to and oversight of line organizations (D-A-24, D-A-48, and D-A-49; I-A-5, I-A-7, and I-A-14). KCAO has an up-to-date organization chart that reflects the actual alignment and reporting relationships within the organization (I-A-14 and I-A-16). Responsibility and accountability for environmental functions at KCAO are established by AL 1120 (D-A-24). The realignment of KCAO has increased the number of direct reports to the manager, matching overall objectives of DOE (I-A-5 and I-A-7).

The AS/KCD ES&H Division has responsibility for environmental programs at AS/KCD. The director reports directly to the president of AS/KCD. This alignment provides the independence and authority required to implement environmental protection programs. Weekly staff meetings at AS/KCD bring the president and AS/KCD ES&H Division director together on a scheduled and regular basis. Interviews with supervisors and associates on the operations side of AS/KCD indicated that they are empowered to take action and have stop-work authority whenever any unsafe or environmentally unsound practice is observed (I-A-11 and I-A-12).

The AS/KCD ES&H Division has a new and up-to-date organization chart that reflects the actual alignment and reporting relationships within the organization. The recent reorganization of this organization has reduced some preexisting overlaps; it has also increased the number of direct reports to the director, matching an overall objective of AS/KCD (I-A-7). A group of former supervisors with special expertise has been formed into a High Performance Team to be a model for empowerment and to provide special problem-solving skills (I-A-8).

Interviews confirm that both organizations have informal, issue-related points of contact that allow effective working relationships within the formal organization. KCAO and AS/KCD ES&H Division managers have sufficient authority to carry out their assignments. Authorities are identified for specific actions and projects (D-A-10, D-A-24, and D-A-45). Documents provide instruction to allow certain non-critical, issue-specific communication to pass directly between counterparts in KCAO and AS/KCD without the formality of going to top management for review (D-A-10 and D-A-25).

Roles and Responsibilities

Within KCAO, environmental responsibilities are identified in job descriptions for the Office of ES&H but are not included in all the job descriptions of employees in other offices (I-C-20). Specific roles and authorities have been assigned, and working documents show the levels of contact with external agencies and organizations (D-A-10 through 19).

Interviews with individuals at all levels of both KCAO and AS/KCD showed that there is an understanding of the environmental mission of KCP and individual responsibility. The level of understanding by the associates was notable and indicated a concerted and successful effort to communicate this message (I-A-11, I-A-12, I-A-13, and I-A-18). AS/KCD job

descriptions include environmental responsibilities at all levels, including supervisors and associates (D-A-39 and D-A-40).

A review of selected AS/KCD job descriptions and associated performance assessments indicated that the process is in place to establish environmental responsibility and measure progress in attaining established goals (D-A-28, 29, 30, 39, and 40). Interviews indicated the level of environmental commitment and awareness is high at all levels of the organization (I-A-6, 8, 11, 12, 13, 15, and 18).

One method used to ensure continued improvement of responsibility is to recognize exceptional performance formally and provide timely and forceful reprimands for willfully poor performance. There are formal programs for identifying exceptional AS/KCD employee performance in several areas, most notably Total Quality Management (TQM) and continuous improvement (D-A-9). Environmental performance recognition is contained in KCP's Rewards and Recognition Programs. Both associates and teams can receive cash awards for performance resulting in significant ES&H achievements (D-A-67, 68, 69, and 70). The environmental communication identified in detail in the communication protocol contains examples of recognition for environmental actions and activities (D-A-3 and D-A-5). It is important to note that failure to comply with environmental requirements has been the reason for separation of an employee (I-A-13).

Based on the above observations, no findings were identified in the organizational structure portion of the audit.

3.2 ENVIRONMENTAL COMMITMENT

3.2.1 Overview

The purpose of the environmental commitment portion of the routine environmental audit was to determine the extent of the commitment to environmental excellence at KCP. The audit specifically addressed the following areas: organizational environmental policy, senior management support of and involvement in environmental issues and policies, line management and staff accountability for environmental performance, and overall staff environmental commitment. A list of regulations, requirements, and guidelines used in the audit appears in Appendix E.

The approach to this portion of the audit included a presite and onsite review of DOE Orders and KCP-specific documents that AL, KCAO, and AS/KCD provided. Documents reviewed included mission statements, strategic plans, policy statements, and other statements of environmental commitment; statements of environmental goals, priorities, and responsibilities; job descriptions and performance evaluation forms; collective-bargaining agreements; Cost-Plus-Award-Fee (CPAF) Evaluation Plan; and various ES&H status reports. Interviews were conducted with KCAO managers and staff, and with AS/KCD managers and staff in ES&H, production, and support groups. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach in this audit area. This portion of the audit also relied on input from all audit team members.

Since the 1989 Tiger Team Assessment, KCAO and AS/KCD have made a concerted effort to strengthen the environmental commitment at KCP. Tiger Team Assessment findings in the environmental commitment area have been addressed. The KCP Community Relations Plan has been strengthened and is cited by EPA as a model plan (D-C-39). In addition, either key organizational and personnel documents for AS/KCD relating to line program responsibilities have been redrafted or new documents have been drafted and approved and the organizational ES&H commitment, responsibilities, and expectations have been delineated (D-C-20; I-C-13).

KCAO and AS/KCD have formal policy statements communicating their organizational environmental commitment (D-C-54 and 55). These policy statements have been distributed to all organizational staff and routinely reinforced in various organizational communications (D-A-3, D-A-5, D-A-66, and D-C-7).

AS/KCD employs a number of vehicles by which ES&H information is transmitted to associates throughout KCP. ES&H Bulletin Boards were observed in the organizational areas visited. Information posted included current ES&H information and ES&H alerts. In addition, ES&H information, e.g., "Reporting a Spill" and "Our Commitment to Integrity," is posted on general bulletin boards. TV monitors throughout the plant regularly broadcast information messages that promote ES&H awareness.

A key element in DOE's commitment to environmental excellence is that the ES&H section of the AS/KCD CPAF in the M&O contract for KCP accounts for 55 percent of the award fee. All AS/KCD associates know well the importance of good performance in the environmental arena. As a commitment to this end, AS/KCD has a disciplinary action system in place for employees who violate ES&H regulations and work rules and an

environmental performance recognition program for teams and associates whose performances result in significant ES&H achievement (D-C-21 and D-A-67). Another element of DOE's environmental commitment is the addition of several staff positions in the KCAO ES&H Branch. In addition, a dedicated Environmental Management Facility Representative position has been developed but not filled. Facility Representatives have an environmental oversight element in their job description (D-C-30). Within AS/KCD, a major downsizing and restructuring effort was just completed in July 1994. A new ES&H Division has been created that currently appears to address the needs of KCP, although staffing will have to be periodically reviewed to ensure that ES&H needs can be met (see Finding SR-1).

The AS/KCD Strategic Plan presents the AS/KCD strategy for ES&H leadership (D-C-7). The plan addresses tactics (1) to initiate appropriate self-assessment programs to monitor progress and demonstrate commitment; (2) to identify and organize a line function ES&H support structure to maximize the effectiveness of ES&H programs; and (3) to initiate and expand, where appropriate, ES&H's public stewardship role.

In addition, KCP maintains a process through KCAO by which Federal, state, and local regulatory personnel can obtain security clearance. This initiative has greatly reduced the complications for these regulators to access the site and demonstrates DOE's commitment to openness and cooperation with regulatory agencies. Further, KCAO and AS/KCD cooperated fully and openly with the audit team; team members noted no "difficulties encountered" during the audit.

Interviews with AS/KCD associates indicated that the KCP environmental commitment and culture permeates the entire system (I-A-11 and 12, I-C-1, 2, 3, 5, 6, 7, 8, 11, 13, and 14). The collective bargaining agreement addresses and extends KCP's environmental commitment to its members. Staff indicated that the emphasis on environmental protection extends not only throughout the work place but to their activities outside it. The one "chink in the armor," and therefore the challenge, is to extend this environmental commitment and culture to the contractors and subcontractors who work at KCP (see Finding FP-1).

Overall, the environmental commitment at KCP can be described as "strong and healthy." KCAO and AS/KCD have worked in concert to develop a very positive environmental commitment and culture.

Based on the above observations, no findings were identified in the environmental commitment portion of the audit.

3.3 ENVIRONMENTAL PROTECTION PROGRAMS

3.3.1 Overview

The environmental protection programs portion of the routine environmental audit evaluated the environmental protection programs and plans required by applicable Federal and state regulations and DOE Orders. The evaluation determined whether each environmental protection program or plan reflects a complete understanding of the applicable regulatory requirements, is sufficiently broad in scope to satisfy all applicable requirements, and is adequately supported in its implementation.

The environmental protection programs evaluated during this audit include the following:

- Air Compliance Program;
- Environmental Restoration Program;
- National Environmental Policy Act (NEPA) Compliance Program;
- Pollution Prevention Program;
- Solid and Hazardous Waste Compliance Program;
- Toxics Compliance Program;
- Wastewater Discharge Compliance Program; and
- Emergency Response Program.

The environmental protection programs and plans prescribed by DOE 5400.1 that were evaluated include the following:

- Environmental Protection Implementation Plan (EPIP) (D-B-15);
- Groundwater Protection Management Program Plan (GPMPP) (D-B-16);
- Waste Minimization and Pollution Prevention Awareness Plan (WM/PPAP) (D-B-17);
- Quality Assurance Program Plan (QAPP) (D-B-13); and
- Environmental Monitoring and Surveillance Plan (D-B-12).

In addition, to determine whether implementation plans for environmental protection programs are adequate, various AS/KCD implementing manuals and guidances were evaluated, including draft Environmental Protection Manual and Process Waste Assessment Guidance for Pollution Prevention Planning (D-B-18 and D-B-37). Some AS/KCD Operational Procedures and Administrative Procedures and Procedure Change Notices relating to environmental protection activities were also reviewed (D-B-28 and

D-B-39 through 46). A list of regulations, requirements, and guidelines used in the audit appears in Appendix E.

Audit activities included reviews of relevant documents, program plans, and site environmental reports. The onsite portion of the evaluation included interviews of personnel from KCAO, AS/KCD ES&H Division, Professional Services Group (PSG), and operators of the Groundwater Treatment Facility (GTF); an inspection tour of GTF; and attendance at an Environmental Restoration Task Force meeting. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach in the audit area. Cross-cutting issues from the Air Compliance Program, the Surface Water and Drinking Water Quality Program, and the Waste Management Program areas of this audit were incorporated in this section.

Environmental Protection Programs

Organizational structures for KCAO and AS/KCD and descriptions on the manner in which KCAO and AS/KCD will meet their respective program management responsibilities as prescribed in DOE 5400.1 are provided in the Environmental Protection Implementation Plan (EPIP). The most current EPIP has not yet been revised to reflect the mid-1994 reorganization that occurred in AS/KCD's Environment, Safety and Health (ES&H) Division. Even so, AS/KCD relies on its own Environmental Protection Manual, Operating Procedures, and Administrative Procedures for day-to-day direction on environmental protection program execution and does not use EPIP as an implementation plan on a daily basis. The EPIP does, however, provide summary information on how major environmental program requirements (e.g., waste management, environmental restoration, spill response, environmental monitoring, quality assurance and data validation, notification and reporting) will be met, and how environmental planning and A-106 budgeting will be accomplished. Finally, EPIP provides a status report on two ongoing special environmental initiatives: environmental restoration under the RCRA Administrative Order on Consent (AOC) and groundwater treatment (see Section 3.8).

Environmental program implementation is the responsibility of the Environment, Safety and Health Division of AS/KCD. The Environmental Compliance Department is responsible for management of all compliance programs at KCP. The Waste Management Department is responsible for managing all solid and hazardous wastes generated at KCP. The Environmental Management Program Management Department is responsible for the general tracking of EM-funded environmental protection program activities. The Environmental Restoration and Waste Management Five Year Plan provides the mechanism for such tracking. In accordance with DOE guidance, the Environmental Restoration and Waste Management Five Year Plan has been developed as a substitute for the Long Range Environmental Protection Plan called for in DOE 5400.1.

Air Compliance Program

The air compliance program at KCP consists of both ambient and stationary source emissions monitoring. Ambient air monitoring is conducted at four locations on the KCP site for some of the criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established, as well as for hydrogen sulfide at two of the monitoring stations. A resiting study for these sampling points was completed in June 1992 and has

resulted in the addition of a fourth monitoring station and a coincident, second meteorological station. Stationary source emission monitoring was conducted monthly on the Department 99 Paint Booth. Operating logs are maintained for this operation in order to demonstrate compliance with emission regulations. Sampling for hazardous air pollutants (asbestos, radionuclides, and mercury) is performed only when process activities at KCP may release these pollutants. Additional details on the air monitoring program are found in Section 3.9, Air Quality Programs. Meteorological monitoring is performed at two locations on the KCP site in order to determine atmospheric transport and diffusion conditions in the vicinity of the KCP site and to calculate the impact of KCP pollutant releases on the surrounding community. Wind speed and direction, temperature, humidity, dew point, relative humidity, and precipitation are all continually monitored. KCP is a "major source," based on its potential to emit pollutants considered by the Title V permit requirements under the 1990 Clean Air Act Amendments. The Environmental Compliance Department has undertaken a survey of all KCP departments to develop an inventory in anticipation of a Title V permit application (see Finding EP-2).

Environmental Restoration Program

The Environmental Restoration Program at KCP is implemented by the Office of Environment, Safety and Health of KCAO and the Environmental Compliance, Facilities Engineering, Waste Management, and Community Relations Departments of AS/KCD. The purpose of the Environmental Restoration Program is to plan and conduct activities required under an Administrative Order on Consent (AOC) negotiated between EPA Region VII (Kansas City, MO) and KCAO in June 1989 under corrective action authorities of Section 3008(h) of the Resource Conservation and Recovery Act (RCRA). The AOC obligates DOE to undertake investigations, corrective-measure studies, and corrective-measure implementation at each of 41 identified release sites throughout the KCP site. All investigations have been completed. Fourteen sites have been determined to need no further remedial actions. Corrective measures studies, or corrective measures implementation, is proceeding on the remaining sites under the schedule of the AOC. Remedial actions currently underway include removal of contaminated alluvial groundwater from seven onsite extraction wells with subsequent pretreatment onsite, before discharge to the City of Kansas City municipal sewer. An additional seven extraction wells installed in the former TCE still area are currently not operational.

To date, KCP is fully compliant with the schedule of deliverables in the AOC. In addition the Community Relations Plan developed as part of the Environmental Restoration Program has been recognized by EPA Region VII as the definitive model for such plans and has been promoted to other facilities in Region VII with similar administrative responsibilities (I-B-1, 2, 4, 5, and 25).

Because the AOC requires a comprehensive identification, evaluation, and monitoring of the groundwater regime, a groundwater protection program separate from the AOC has not been developed. Groundwater sampling and monitoring activities are provided for in the Groundwater Protection Management Program Plan (GPMPP) (D-B-16). The current GPMPP, published in October 1993, provides documentation on groundwater quantity and quality, areas of known or potential contamination, and hydrogeology beneath the KCP site, with most of the technical information being provided from investigations undertaken in satisfaction of the RCRA AOC or completed before the AOC was signed. The groundwater monitoring plan, also derived from RCRA AOC activities, is described,

including procedures for monitoring well installations, groundwater sampling and analysis, data management and validation (see Finding EP-1).

National Environmental Policy Act (NEPA) Compliance Program

The NEPA compliance program is administered by the Environmental Compliance Department of AS/KCD. NEPA compliance coordinators have also been identified within certain KCP divisions to serve as liaisons to the ES&H NEPA coordinator, ensuring early and complete information exchange on projects having NEPA impacts. The NEPA coordinator is also responsible for ensuring that floodplain and wetland assessments are performed as part of the NEPA review process. A checklist has been developed for collection of NEPA-related information. AL has promoted this checklist for use at other AL facilities. NEPA awareness training is also provided by the Environmental Compliance Department for personnel throughout the KCP organization. An Environmental Assessment (EA) has been submitted for review to DOE Headquarters concerning the proposed new Organic Treatment Building that will contain treatment systems for contaminated groundwater and collected flows from footing tile drains. That review, which has been delayed for some time, is expected to be released in the near future and to result in a finding of no significant impact for the proposed facility. Delays in the NEPA reviews for this facility have affected the site's ability to collect and treat contaminated groundwater that seeps into footing tile drains and is subsequently collected in basement sumps throughout the main production building.

Pollution Prevention Program

The Waste Minimization and Pollution Prevention Awareness Plan (WM/PPAP) provides the basic direction and guidance for activities in this program area (D-B-17). Requirements of DOE 5400.1 for a waste minimization program and a pollution prevention awareness plan are both addressed in this single planning document. The WM/PPAP was developed in accordance with the Implementation Guidance for DOE 5400.1, consistent with the Waste Minimization Plan, DOE Waste Reduction Policy Statement, DOE 1994 Waste Minimization Crosscut Plan, the Defense Programs Pollution Prevention Program Strategic Plan, and DOE's Guidance for the Preparation of the Waste Minimization and Pollution Prevention Awareness Plan. EPA's Interim Guidance for Implementing Executive Order 12856 was also consulted. The cornerstone of this program, the Process Waste Assessment methodology, has been recognized and promoted by DP and EM throughout the DOE complex (D-B-37).

The Pollution Prevention Program has had numerous successes. Because of recent budget reductions, however, work funded by DP (e.g., performance of PWAs) has stopped entirely (see EP-2).

Solid and Hazardous Waste Compliance Program

Solid and hazardous wastes generated at KCP, including those generated as part of Environmental Restoration activities, are managed by the Waste Management Department of AS/KCD. Specifically, the Waste Management Department is responsible for procurement and maintenance of waste-accumulation containers; packaging and transporting of hazardous, radioactive, mixed, and non-hazardous wastes; onsite emergency chemical spill response; and other activities (e.g., reports and manifests)

required under RCRA. Waste Management also provides guidance to all KCP departments relative to solid and hazardous waste management. A critical management element of the hazardous waste management program is the Waste Acceptance Criteria (WAC) process by which each waste stream is assigned a specific waste code based on careful review of process inputs and, where necessary, analysis of representative waste samples. The WAC program streamlines the transfer of waste containers from generators to central storage facilities and greatly reduces the potential for error in waste characterizations.

The RCRA compliance program is the responsibility of the Environmental Compliance Department of AS/KCD. Activities include analyzing regulatory impacts, developing permit applications as necessary, and developing and amending guidance in response to changing regulations or policies.

The underground storage tank (UST) program is also managed by the Environmental Compliance Department. Only one UST remains in service at KCP. Other USTs have been removed, as have any associated releases that were addressed either as individual initiatives during tank removals or as part of the RCRA Corrective Action program. Periodic leak testing of the in-service UST is performed as required.

Toxics Compliance Program

The Toxics Compliance Program consists of ensuring KCP's compliance with requirements contained in the following statutes and their implementing regulations: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Superfund Amendments and Reauthorization Act (SARA); Toxics Substance Control Act (TSCA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and the Drug Enforcement Agency. SARA 311 and 312 inventories, as well as SARA 313 reporting, are completed by the Environmental Compliance Department. Polychlorinated biphenyls have been removed from the KCP site, although PCB contamination from past releases is still being addressed within the Environmental Restoration program. Asbestos-monitoring is performed as required when demolition or renovation projects create the potential for friable asbestos releases. A contractor applies pesticides at KCP using only minimal amounts. The contractor is responsible for removal and proper disposal of any residues from these operations. In addition, in order to perform more effective oversight, the AS/KCD ES&H Program Manager has obtained a Certified Pesticide Applicator's license.

Wastewater Discharge Compliance Program

Major activities under this program include routine monitoring of plant discharges, intake water, and receiving streams. Monitoring strategies and procedures are provided for in the Environmental Monitoring and Surveillance Plan (D-B-12). Schedules for monitoring surface waters in the vicinity of KCP (Indian Creek and Blue River) are also provided. Surface water sampling is intended to determine the impact of KCP operations on those water bodies and to demonstrate compliance with KCP's NPDES stormwater discharge permit (see Finding SW-1). In addition, monitoring of industrial wastewater and sanitary wastewater discharges to the Kansas City Municipal sewer system is performed in order to demonstrate compliance with an Industrial Pretreatment Permit (Permit #74) issued to KCP by the City of Kansas City. Contributions to the common sewer discharge from the onsite industrial wastewater pretreatment facility (IWPF) and the groundwater treatment facility (GTF) are both independently monitored to ensure compliance with the discharge permit.

and to verify adequate performance of each of these treatment facilities. Finally, potable water, supplied to KCP by the City of Kansas City, is monitored to establish baseline water-quality data for all water-monitoring programs, although no monitoring relative to Safe Drinking Water Act requirements is required of KCP. Parameters for surface water monitoring formerly included all toxic pollutants listed in 40 CFR 401.15 that are stored or used at KCP, but now extend only to those cited in KCP's NPDES permit. Parameters for discharges to the city sewer include those specified in the Industrial Pretreatment permit. Additional discussions regarding surface water monitoring are provided in the Surface Water and Drinking Water Quality Programs.

Emergency Response Programs

Emergency response planning is the responsibility of the Risk Management and Security Office of KCAO, which is also responsible for Occurrence reporting under DOE 5000.3B. The KCAO Program Manager is also responsible for distribution of information on the KCP Emergency Plan to all KCP personnel and to local emergency planning authorities. Elements of the KCP Emergency Response Plan reflect the results of a sitewide hazard assessment done by a DOE contractor. The plan is reviewed against the requirements of DOE 5500-series Orders and is also reviewed by KCAO and AS/KCD personnel with environmental protection program responsibilities. KCP participates in an emergency planning exercise as party to the Emergency Planning Group for the Bannister Federal Complex Tenants. General Services Administration directs the activities of this planning group. KCP also participates in the emergency planning activities of the Mid America Regional Council.

Miscellaneous Environmental Protection Initiatives

Surface and near-surface soils are monitored at locations throughout the KCP site to determine impacts from KCP operations and to satisfy the requirements in that regard contained in the RCRA AOC. Details of the soil-monitoring activities are contained in work plans produced under the RCRA AOC and reflect the historical record of actual or potential contaminant releases in various areas of the site. Although not required by regulation, three ecological studies were performed at KCP to establish baseline conditions for possible use in future biological surveillance programs. Two of these studies have been published in draft form.

An archeological study was performed for KCP in 1990 by the Army Corps of Engineers in conjunction with a recent floodwall construction project.

Since radioactive materials are neither machined or processed at KCP, continuous monitoring for radioactivity is not performed. Periodic ambient air monitoring is performed to satisfy the National Emission Standards for Hazardous Air Pollutants (NESHAPS) standards contained in 40 CFR 61 and DOE Orders 5400.1 and 5400.5. Total radioactivity studies are conducted every five years on air, soil, and static water and annually on combined sanitary/industrial wastewater effluents, stormwater effluents at each of KCP's four outfalls, and surface water samples taken both up- and downstream of those outfalls. Finally, all sampling and monitoring data described in the above monitoring and surveillance programs are subject to quality assurance/quality control requirements contained in DOE 5700.6C, as provided for in the QAPP (D-B-13).

In general the environmental protection programs at KCP are well conceived; they use appropriate best management practices, and they are based on a thorough knowledge and understanding of applicable requirements and relevant standards. With the exception of some monitoring relative to the KCP NPDES permit, environmental monitoring and surveillance activities provide data of sufficient quality and scope to demonstrate compliance with applicable permits and to identify the impacts of KCP operations on the public and the environment (see Finding SW-1). No significant deficiencies were identified relative to environmental protection programs.

Based on the above observations, two findings were identified in the Environmental Protection portion of the audit. The scope of the GPMPP is inadequate to address all current and anticipated activities at KCP that could affect groundwater; and the WM/PPAP is not being fully implemented, thus affecting the quality and completeness of the Hazardous Material Inventory and Tracking System (HMITs) database on which numerous programs rely for planning as well as future demonstration of compliance.

3.3.2 Findings

EP-1: Groundwater Protection Planning

Performance Objective: DOE 5400.1, Chapter III, Section 4(a) requires that a comprehensive Groundwater Protection Management Program be established for KCP. In addition, plans, permits, and other technical documents such as those associated with compliance with RCRA regulations or Administrative Orders on Consent (AOC) can be used, in whole or in part, to satisfy the requirements of the Groundwater Protection Management Program.

Section 3008(h) of the Resource Conservation and Recovery Act (RCRA) and its implementing regulations and technical guidance require that responsible parties undertake corrective measures investigations, evaluations, and restorations in a manner fully protective of the environment.

Best management practices suggest that a comprehensive strategy is necessary to ensure that KCP remains compliant with the schedule of deliverables contained in AOC and that restoration proceeds in the most cost-effective and environmentally protective manner.

Finding: The KCP Groundwater Protection Management Program Plan does not ensure that all restoration options and initiatives of the current negotiated AOC are systematically evaluated, documented, and approved by the appropriate levels of management (D-B-16).

Discussion: Environmental restoration activities at KCP began in 1983. Since June 1989 those activities have been controlled by the terms and schedules of an AOC that KCAO and EPA Region VII entered into under the authorities of Section 3008(h) of RCRA (D-B-1). The actions taken in association with AOC to investigate areas of contamination, to identify and evaluate remediation options, and to implement negotiated corrective measures have resulted in KCP's establishing an admirable record of compliance with the schedules of deliverables contained in the AOC.

The AS/KCD staff has recognized many of the ramifications of the current course of groundwater restoration and protection activities and has established a forum (the AS/KCD Environmental Restoration Task Force) to provide for the exchange of technical information among personnel involved in the environmental restoration program.

The Environmental Restoration Task Force has identified the need to identify and evaluate the technical and administrative options that may need to be pursued to satisfy fully all the requirements of AOC (D-B-1; I-B-13 and I-B-14). Current issues being addressed by the environmental compliance technical staff and discussed in Task Force Meetings include the following:

- Multisite corrective-measures studies;
- Applicability of Alternative Concentration Levels (ACLs) for establishing cleanup goals and performance standards;
- Abandonment/closure of unnecessary or redundant monitoring wells;

- Verification of natural stratigraphic protection of the bedrock aquifer (with subsequent abandonment/closure of bedrock wells);
- Applicability of Land Disposal Restriction regulations to future remedial actions;
- Impact of final and proposed RCRA Corrective Action regulations (Final Corrective Action Management Unit (CAMU) and Temporary Unit (TU) rules promulgated in 58 FR 8658 and the remainder of 40 CFR Subpart S rules proposed in 55 FR 30798 and expected to be finalized in June 1995);
- Pros and cons for expanding the onsite groundwater treatment capacity; and
- Identification and evaluations of in-situ remediation technologies (I-B-13, I-B-14, and I-B-25).

In addition to informal Task Force discussions, an informal groundwater remediation strategy was prepared by a knowledgeable environmental specialist on the AS/KCD ES&H Division staff. This document anticipates the inability of the ongoing groundwater pump-and-treat system ultimately to attain the negotiated cleanup goals for the Solid Waste Management Unit (SWMU) in which it is applied. The document also identifies the consequences the path of restoration activities has had on the importance given to risk assessment and alternative concentration levels evaluations, and it provides a strategy for future actions that is dictated primarily by groundwater-protection values, rather than by negotiated schedules in the AOC (D-B-27). This document contains well-conceived and justifiable information regarding the overall restoration effort, but it has not enjoyed widespread distribution and therefore has had little or no apparent impact on AOC decision-making.

The efforts of the Environmental Restoration Task Force and the insight of technically competent staff do not have the benefit of an overall systematic and formal planning process that establishes the long-term goal of full satisfaction of AOC requirements with maximum groundwater protection throughout the course of the environmental restoration program activities. Institutionalizing the activities of the Task Force provides reliable sources of technical support for future AOC negotiations and gives direction to Task Force members in setting priorities for their various areas of inquiry. The need for this direction and these priorities is evident in that even though KCP has been responsive to the AOC technical requirements (i.e., investigation and remediation of SWMUs on an individual-unit basis) and has met the schedules for deliverables identified in AOC, the approach to environmental restoration as presently negotiated in AOC has many inefficiencies (e.g., the proliferation of groundwater monitoring wells on the site) and may be at cross purposes with KCP's ultimate responsibility to restore and protect the groundwater regimes beneath KCP to the fullest extent possible (I-B-1, 13, 14, 25, and 33). In addition, the ongoing corrective measures appear adequate to complete remediation of some of the 41 SWMUs and to control the offsite migration of contaminated groundwater. AS/KCD further recognizes, however, that application of this technological approach to restoration of the remaining areas of contamination would be either technically infeasible or prohibitively expensive (I-B-4, 5, 13, 14, and 25).

**EP-2: Waste Minimization and Pollution Prevention Awareness
Program Implementation**

Performance Objective: DOE 5400.1, "General Environmental Protection Program," establishes requirements for specific environmental protection programs for DOE operations, including a Waste Minimization Program and a Pollution Prevention Awareness Program, and further requires that all required environmental protection plans be designed and implemented in a manner that ensures timely and continuous compliance with all applicable requirements.

Section 302 of Executive Order 12856 states that Federal facilities should reduce releases and offsite transfers of certain toxic chemicals reported under Emergency Planning and Community Right-to-Know Section 313 by at least 50 percent by the end of CY 1999.

Federal hazardous waste regulations in 40 CFR 265.75(h) and (i) prescribe Biennial Report requirements for KCP to report on efforts undertaken during the year to reduce the volume and toxicity of wastes generated and to provide a description of changes in volumes and toxicity of wastes actually achieved during the year, compared with previous years.

Title V of the 1990 CAAA will require submission of quantitative data on air emissions from each stationary source at KCP.

Finding: Implementation of the AS/KCD Waste Minimization and Pollution Prevention Awareness Program and the associated Hazardous Material Inventory and Tracking System (HMITS) database are not adequate to ensure that critical compliance data will be available to meet regulatory requirements.

Discussion: In June 1994, as a consequence to DP funds reductions, KCP suspended implementation of the DP-funded elements of its Waste Minimization and Pollution Prevention Awareness Plan (WM/PPAP) (I-B-7, I-B-10, and I-B-11). As a result, the quality and reliability of data in the Hazardous Material Inventory and Tracking System (HMITS) will be jeopardized because of the lack of resources to keep the database current and to maintain and operate the system properly (I-B-10 and I-B-27).

The pollution prevention effort at KCP has historically been very successful by identifying pollution prevention opportunities throughout the KCP facility and raising the pollution prevention awareness of KCP personnel (D-B-19 through 25). Important elements of that initiative include the following:

- Establishment of a Hazardous Materials Advisory Committee (HMAC) to review and approve the use of all hazardous materials at KCP;
- Performance of Process Waste Assessments (PWAs) using a detailed, quantitative methodology, (D-B-37);
- Training of individuals throughout the organization on the use of PWA methodologies;
- Performance of Pollution Prevention Opportunity Assessments (PPOAs); and

- Creation of a central database, the Hazardous Materials Inventory and Tracking System (HMITs), to receive and interconnect data inputs resulting from the activities of the HMAc and PWA teams.

Over 370 AS/KCD personnel have been trained in the application of PWA methodology to their specific processes principally funded by EM funds (I-B-10, I-B-26 and I-B-27). PWAs have been completed on 870 of a possible 1200 processes (I-B-26 and I-B-27). Limited reviews of the resulting reports show that the PWA process provides valuable and accurate information for the full tracking of hazardous materials and wastes at KCP, principally a DP-funded activity and implementing process (D-B-29 through 33). Because of the DP funding shortfall, there is no ongoing effort to amend PWA results in response to changes to a process since a PWA was initially completed (I-B-27).

All AS/KCD Departments were required to arrange the processes under their jurisdiction into a priority order in accordance with a risk-based formula developed by AS/KCD ES&H Division (I-B-10, I-B-11, and I-B-12). Because the overall AS/KCD program commitment was to perform PWAs on all KCP processes, however, individual AS/KCD Departments were allowed to apply a graded approach to PWA completions. Application of this graded approach resulted in assessment of those processes considered most critical to plant viability, but not necessarily representing the greatest environmental vulnerability for KCP. The net result of this approach to performing PWAs is that PWAs were not necessarily performed on the most environmentally significant operations. Furthermore, some of the more difficult activities to assess, such as maintenance, were deferred and have not completed the PWA activity (I-B-11 and I-B-27).

Suspension of PWAs has a direct impact on the KCP pollution prevention initiative. Because of the extent to which the pollution prevention initiative had been integrated into all AS/KCD operations, however, programs other than pollution prevention have also been adversely affected. The HMITs database has supported both environmental planning activities and demonstrations of future compliance in a variety of programs. Because this system is not being maintained, the quality of data continues to deteriorate over time (I-B-27). The incompleteness of the database also directly affects other environmental protection programs, as illustrated in the following paragraphs.

Some environmental programs that have relied on HMITs have identified alternative methods to supply necessary data to fulfill program requirements. For example, the hazardous waste program could conceptually rely on HMITs to form the basis for reports required in the biennial report (40 CFR 265.75). The Waste Acceptance Criteria (WAC) program, however, in conjunction with the automated waste tracking program can also be used to supply the necessary information (D-G-26). Programs that have not identified alternative methods to meet program data needs include the Air Compliance program (D-B-7). One requirement of that program is to assemble an inventory of air emission sources to meet the Title V requirements of the Clean Air Act Amendments. Because of design flaws in HMITs, the Program Manager cannot retrieve relevant data directly from the database. Instead, the information is being collected on long-hand forms (D-B-3 and D-B-4). The laborious effort associated with collecting this information involves approximately 1200 forms with at least 30 fields of data each. Mathematical manipulation of this data will be necessary to create a meaningful emission-source inventory. Because not all processes affected by this program have had PWAs, process custodians are asked to estimate emissions that cannot be precisely calculated from the PWA mass balance

information. The Program Manager expects to double some reported emission estimates to overcome any data uncertainties as well as to allow for process flexibility (I-B-7).

Another program could be affected by the suspension of pollution prevention activities is SARA Section 313 reporting. Again, an unreliable and incomplete database will require the continuation of laborious calculations to complete the required report information (I-B-8).

It is important to note that the suspension of pollution prevention activities in general and PWAs in particular has not resulted in a current condition of non-compliance for KCP. KCAO and AS/KCD officials, however, characterize the HMTS as a critical system to numerous environmental protection programs (I-B-2, 12, 25, and 31). In August 1994 the ES&H Division Director assigned a High Performance Team the responsibility of evaluating the current situation and providing a report containing options and recommendations for remedy (I-B-31).

Although performance of PWAs has stopped completely at KCP, the AS/KCD ES&H Division staff continues to support the DOE Headquarters EM program by training individuals at other DOE facilities on PWA methodologies through workshops held throughout the year (I-B-26 and I-B-27). Some pollution prevention activities are continuing at KCP; Pollution Prevention staff accompany Waste Management staff on Waste Acceptance Criteria (WAC) inspections and provide guidance to the process custodian on readily identified pollution prevention opportunities. Further, it is hoped that the Total Quality Teams that have been assembled to evaluate plant operations will help revitalize PWAs by identifying less resource-intensive mechanisms for their completion (I-B-10).

3.4 FORMALITY OF ENVIRONMENTAL PROGRAMS

3.4.1 Overview

The purpose of the formality of environmental programs portion of the routine environmental audit was to determine whether formal systems and procedures are in place to support environmental protection programs and to ensure quality and consistency in environmental management. The audit focused on systems and processes at KCP and included the KCAO and AS/KCD operations. In addition, the relationship of these operations to AL was also reviewed. An important aspect of the audit was to assess compliance with the requirements embodied in specific DOE Orders. See Appendix E for a list of the regulations, requirements, and guidelines used in the audit. Specifically, the audit addressed the following areas:

- *Regulatory Tracking and Translation.* The systems to transmit, track, and interpret new and/or changed Federal, state, and local environmental regulations and DOE Orders and policies, and to incorporate them into organization-specific policies and procedures.
- *Procedures.* The systems to review, create, update, and approve procedures for organizational implementation.
- *Routine Facility Inspections.* The systems for routine site and equipment inspections and compliance checks, and non-compliance followup.
- *Recordkeeping and Reporting.* The systems for documentation and recordkeeping of environmental performance, for internal and external environmental reporting, and for incident and problem investigation and tracking.

The general approach to this portion of the audit included the presite review of DOE Orders, Federal environmental regulations, and background information provided by AL, KCAO, and AS/KCD. Onsite activities included interviews with management and staff from AL, KCAO, and AS/KCD and a review of documents received onsite. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach employed in this audit area. This portion of the audit also relied on input from all audit team members.

Since the 1989 Tiger Team Assessment, the KCP environmental programs and their associated management by KCAO and AS/KCD have become more formalized. Formal systems have been put in place to address the Tiger Team finding directly related to this area, such as environmental monitoring program laboratory oversight and regulatory tracking and translation. Several of the findings identified during this audit, however, are in areas that are either direct equivalents or derivatives of Tiger Team findings, e.g., "Inadequate Subcontractor Oversight for the Environmental Restoration Program Activities," "Environmental Monitoring Data may not be Verifiable," and "ES&H Oversight Activities are Limited."

KCAO and AS/KCD have formal systems in place for tracking, reviewing, and interpreting new and/or changed environmental regulations and DOE Orders. Both organizations

review documents such as the Daily Federal Register and the Environmental Reporter as sources of new environmental regulatory information. In addition, both organizations have been active in reviewing and commenting on draft DOE environment protection and waste management orders. DOE Orders and regulatory requirements applicable to KCP are transmitted formally to AS/KCD from KCAO through Work Authorization Directives (WADs). Requirement documents such as DOE Orders and regulatory requirements as assigned to AS/KCD in the WADs are formally assigned to the office of primary interest, i.e., the responsible organization, in AS/KCD for implementation.

KCAO and AS/KCD have formal administrative procedures to develop, review, and approve new procedures and program documents, as well as processes to review and update procedures and program documents. Document control systems are in place and, when applicable, Operating Procedures are controlled documents. The audit team found that several of the key environmental protection program documents needed for implementing these programs are in draft form (see Finding FP-2). In addition, records reviewed in the air portion of the audit were found to lack the appropriate information such that these records could not verify compliance with the requirement. This concern regarding environmental program records was also identified in the Tiger Team Assessment.

Within AS/KCD, supervision is responsible for seeing that employees are properly trained and that they use prescribed safety and health equipment and operate it in a safe manner. The primary responsibility of all employees is to perform their tasks in a manner that will contribute to the health and safety of the general public by protecting the environment. The AS/KCD ES&H Division has the responsibility and authority to have jurisdiction and enforcement authority in the fields of environmental protection, etc. To this end, AS/KCD has implemented a suite of assessment and audit programs that conduct routine facility ES&H inspections in a formal manner. In the area of contracted-work operations, such as construction or other activities that are not by design specifically environmental projects, formal AS/KCD management system has not been totally effective (see Finding FP-1).

KCAO conducts routine facility ES&H inspections, but the environmental component of these walk-throughs and inspections is informal (see Finding FP-3). KCAO is in the process of developing and drafting formal protocols and procedures for routine facility inspections.

Environmental compliance report and program document deliverables are assigned in the WADs. Environmental compliance deliverables at AS/KCD, such as NPDES reports, are assigned to a responsible party and tracked using a Department Assignment Record (D-C-35). For other documents requiring review and approval the responsible individual at AS/KCD tracks them. At KCAO, environmental compliance deliverables and program documents requiring review and approval are tracked by the responsible individual. Routine environmental compliance deliverables, reports and documents, required by law or permit prepared for KCP are reviewed, approved, and submitted to regulatory agencies in a timely manner. KCAO and AS/KCD have administrative procedures for document control and record retention. Currently the AS/KCD ES&H Division does not have a formal system in place to track, trend, and assess findings from environmental audits and assessments (see Finding PE-1). Although KCAO is not connected electronically to the AL appraisal tracking system, it can use this system by receiving information in hard copy.

Based on the overall assessment of this area at KCP, three findings were identified in the formality of environmental programs portion of the audit. The first pertains to the formality of AS/KCD management system for contracted-work operations at KCP. The second pertains to the formality of AS/KCD ES&H program documentation. And the third pertains to the formality of KCAO environmental protection oversight.

3.4.2 Findings

FP-1: Formality of AS/KCP Management Systems for Contracted-Work Operations at KCP

Performance Objective: DOE 5400.1, "General Environmental Protection Programs," establishes environmental protection program requirements, authorities, and responsibilities for DOE operations for ensuring compliance with applicable Federal, state, and local environmental protection laws and regulations, Executive Orders, and internal Departmental policies. The provisions of this Order apply to all Departmental elements and contractors performing work for the Department as provided by law or contract or both as implemented by the appropriate contracting officer.

DOE 5700.6C, "Quality Assurance," establishes quality assurance requirements for the Department. The provisions of this Order apply to the work performed by all Departmental Elements and operating (M&O) contractors as provided by law or contract or both and as implemented by the Department's Contracting Officer. Specifically, (1) personnel shall be trained and qualified to ensure that they are capable of performing their assigned work; (2) the organization shall establish and implement processes to detect and prevent quality problems and to ensure quality improvement; (3) work shall be performed to established technical standards and administrative controls; and (4) the organization shall ensure that procured items and services meet established requirements and perform as specified.

Finding: AS/KCD has not fully implemented an effective formal management system for contractor and subcontractor accountability in meeting environmental protection standards associated with work activities at KCP.

Discussion: It is DOE's policy to conduct its operations in an environmentally safe and sound manner. It is DOE's policy that contractors share the Department's commitment to good environmental management. Therefore, DOE expects its M&O contractors to conduct their operations in an environmentally sound manner that limits the risk to the environment and protects public health. To this end, KCAO and AS/KCD have developed, in partnership, a very positive environmental protection culture at KCP. Unfortunately, this culture does not appear to have been formally and effectively extended to contractors and subcontractors to AS/KCD because a number of contracted operations have caused environmental incidents. Notable incidents of concern identified by AS/KCD include the following:

- A non-hazardous 20-cubic-yard roll-off container was observed with several different types of hazardous waste in it (D-C-42);
- A contractor was observed discarding trash, including a bathtub, a dishwasher, floor tile, and miscellaneous material illegally into a disposal dumpster (D-C-43);
- A contractor was observed dumping oil in a dumpster by the tank farm (D-C-44); and
- A subcontractor was found to have been dumping excavated material offsite in other than the AS/KCD-contract-specified landfill (D-C-45 through 50).

In reviewing the AS/KCD system for procuring contracted services, the following observations and assessments were made:

- RFPs and Purchase Orders requiring work to be performed at KCP for which AS/KCD is responsible include a Purchasing Standard Paragraph on Safety and Health. This Paragraph requires the seller to comply with all applicable safety, health, fire, and environmental regulations and requirements of the buyer, AS/KCD, or DOE (D-C-41). Although the intent of this Purchasing Standard Paragraph is in the legal arena, evidence provided on contractor environmental protection incidents reports suggests that some of the contractors are not inclined to operate within the KCP environmental protection envelope, in spite of the Paragraph.
- Contractors who enter the bid process are required to affirm that they understand the environmental requirements on the KCP site. In addition, an orientation seminar is offered to the contractors (I-A-13 and I-A-21). Contractors must certify that employees have had training, and contractors assume the responsibility for their subcontractors (D-C-52). Although the administrative procedures in place at the front end of the process are designed to ensure that contractors are informed, the burden of compliance falls to the contractor to inform and manage its staff and its subcontractor's staff. Again, the contractor environmental protection incidents reports suggest that this part of the system is failing in its intent of ensuring contractor environmental protection awareness.
- There is a program of warning and citation based on the volume of incidents (D-C-52 and D-C-53; I-A-15). The program does not address the different levels of potential incidents (e.g., violation of site rules, DOE Orders, or environmental regulations) caused by a contractor. According to the KCP warning and citation process, it appears that a contractor/subcontractor could receive thirty warnings in 12 months before being removed from the bidders' list. It is unlikely that this system will get the contractor's environmental protection attention.
- The Construction Safety Handbook covers environmental protection in approximately three pages (D-C-52). The topics covered include excavation concerns, hazardous work, asbestos abatement, decontamination, disposal of construction materials, storage of hazardous waste, spills and leaks, spill reporting, gross negligence, dust control, prevention guidelines, and transport of equipment. Although several of the areas identify appropriate contacts so the contractor might possibly obtain additional information, the overall assessment is that the Environmental Protection section is not user-friendly unless supplemented by additional job-specific environmental protection information.
- The KCP site brochure, "Inside the Kansas City Division," which is presented to visitors upon site entry, does not address AS/KCD's environmental protection commitment (D-C-52).

- Cure notices may be issued to contractors when their failures are conditions that are endangering the performance of the contract. Of the cure notice correspondence AS/KCD issued on the dumping of excavated material in other than the specified landfill by a contractor and the responses issued by the contractor, there is no evidence that the AS/KCD ES&H organization was formally advised of the incident or involved in the approval process associated with the contractor's corrective action plan to prevent future incidents (D-C-46, 47, 49, 50, and 51).

From an overall perspective, the AS/KCD staff's noting and acting on these incidents clearly demonstrates its environmental protection commitment and awareness. Unfortunately, this approach is reactive rather than proactive, and in spite of the administrative procedures in place to control contractors, some of the contractors do not share KCP's commitment for protecting the environment. The finding indicates that system improvements are in order if contractors are expected to share KCP's environmental protection commitment and contractor/subcontractor environment incidents are to be minimized.

FP-2: Formality of ES&H Program Documentation

Performance Objective: DOE 5400.1, "General Environmental Protection Programs," states that Heads of Field Organizations shall ensure that all operations under their authority comply with applicable environmental protection laws and regulations and directives.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides requirements and guidelines for Departmental Elements to use in developing directives, plans, and procedures relating to the conduct of operations at DOE facilities. This Order states that it is DOE policy that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities. Conformance with the requirements shall be documented.

DOE 5700.6C, "Quality Assurance," states that documents shall be prepared, reviewed, approved, issued, used, and revised to prescribe processes, specify requirements, or establish design.

Finding: Several documents associated with the AS/KCD ES&H Program for KCP lack formality.

Discussion: Formalized documents for ES&H activities are key to the implementation of an effective ES&H program by AS/KCD. In addition, formal documents for all ES&H program elements are critical in AS/KCD's quest to "become preeminent in ES&H matters" and its goal to achieve "world-class performance in ES&H" (D-C-7). For those documents reviewed during the audit, the following were found not to be formalized:

- Draft ES&H Environmental Protection Program section of the KCP ES&H Program Manual (D-C-40). The document has not received final approval within AS/KCD as an official implementing document, though it acts as a functional document for day-to-day decision-making.
- Draft Environmental Protection Program Quality Assurance Program Plan (D-C-14). The document has not received final approval within AS/KCD.
- Draft Community Relations Plan for Environmental Activities and Issues (D-C-39). The document has been submitted to KCAO, but it has not been formally approved.
- The Waste Management Hazardous and Radioactive Waste Acceptance Criteria (WAC), a key document for the AS/KCD's waste management operations at KCP, has been drafted by AS/KCD's ES&H Waste Management. The document has not received final approval within AS/KCD (I-C-21).

FP-3: Formality of KCAO Oversight for Environmental Protection Programs

Performance Objective: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides requirements and guidelines for Departmental Elements to use in developing directives, plans, and procedures relating to the conduct of operations at DOE facilities. This Order states that it is DOE policy that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities.

DOE 5480.1B, "Environment, Safety, and Health Program for Department of Energy Operations," states that Heads of Field Organizations are responsible for ensuring that all operations under their jurisdiction are carried out consistent with sound ES&H practices and in accordance with ES&H Orders. In carrying out this responsibility the Heads of Field Organizations shall execute programs and ensure that contractors and their subcontractors execute programs and policies in a manner that complies with mandatory requirements relating to ES&H.

DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," establishes the ES&H Appraisal Program for DOE. One of the objectives of the ES&H appraisal program is to evaluate the effectiveness of ES&H policies, requirements, and standards and their implementation.

Finding: KCAO oversight for some environmental protection program activities at KCP lack formality.

Discussion: AL 1120 assigns the responsibility for directing and coordinating ES&H inspections, investigations, and appraisals to the KCAO ES&H organization. In addition, the KCAO ES&H organization is responsible for project management, planning, and oversight of all activities under DOE's Environmental Restoration and Waste Management Five-Year Plan. The key area of the KCAO ES&H program lacking formality includes the conduct of routine and non-routine environmental protection oversight activities. For those program areas reviewed during the audit, the following activities were found to be lacking formality:

- There is currently no formal KCAO ES&H appraisal system for the oversight of the environmental compliance, environmental restoration, or waste management programs. KCAO ES&H conducts frequent walk-throughs, but these observations are not formally documented or transmitted to AS/KCD (I-C-9 and I-C-10). A finding of significance might be formally documented or transmitted to AS/KCD by a letter from the KCAO staff, but this documentation is not routine.
- KCAO's ES&H Department is in the process of developing a formal procedure entitled "Quality Assurance Procedures for Conducting Facility Reviews" for conducting facility reviews (D-C-8; I-C-10). Facility reviews are defined as audits performed by KCAO staff on specific production departments of KCP. The procedure has been drafted and is under review.
- Currently, the KCAO Facility Representatives (under the Office of Facility Operations and Management), considered to be the "eyes and ears of the

DOE on the facility floor," interact with and communicate environmental issues and concerns to the KCAO ES&H organization in what is described as an informal manner (I-C-12). In addition, the responsibilities of the current Facility Representatives in the ES&H arena are not formally defined. In an effort to improve the KCAO Facility Representative program in the environmental area, KCAO is in the process of identifying a Lead Facility Representative whose primary emphasis is coverage of the Environmental Management Program, including environmental restoration and waste management activities, at KCP (D-C-29 and D-C-30; I-C-12).

- The current NPDES Best Management Practices (BMP) Plan for KCP mandates the establishment of an AS/KCD BMP committee with a number of assigned responsibilities, including a requirement to meet at least semiannually. It was reported during the audit that the BMP committee has not met within the last year and that the past activities of the committee did not fully address all the assigned responsibilities delineated in the BMP Plan in a structured, programmatic manner (see Finding SW-2).

3.5 INTERNAL AND EXTERNAL COMMUNICATION

3.5.1 Overview

The purpose of the internal and external communication portion of the routine environmental audit was to evaluate whether formal and informal channels of communication are used to facilitate implementation of environmental management systems and programs, to emphasize management's commitment to environmental protection; and whether a sense of environmental awareness and commitment is demonstrated throughout the organization. The emphasis of the review was to determine whether formal and/or informal channels have been established and are being effectively used for top-down, bottom-up, and lateral communication of environmental information and lessons learned. A review of AS/KCD's practices to promote awareness of environmental policies and programs was also included in this portion of the assessment. External communication was reviewed to determine whether AS/KCD has plans and programs in place to ensure positive and proactive relationships with external oversight organizations and stakeholders.

The audit methodology included telephone interviews with AL personnel, onsite interviews with KCAO and AS/KCD personnel, and a review of documents supporting internal and external communication programs. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach in this section of the audit.

Internal Communication

Responsibilities and authorities, which define communication pathways and contacts, are contained in AL 1120, Rev. 2 and other documents (D-A-21 and D-A-32). Communication between AL and KCAO ES&H is generally issue driven and occurs as needed. There are currently two formal budget review meetings (November and May) with KCAO and AL staff (I-A-3). The AL/Environmental Restoration Project Office has scheduled periodic visits to Area Offices including KCAO. These visits will increase the number of formal opportunities for face-to-face communication between these two entities.

Formal (I-A-4, 5, 7, and 9) and informal systems (I-A-8, I-A-16, I-A-18) both within KCAO and the AS/KCD ES&H Division and between the KCAO and AS/KCD ES&H Division are used for communicating environmental-protection-related information. Formal internal communication between KCAO and AS/KCD ES&H Division is enhanced by scheduled monthly and quarterly ES&H meetings attended by top management from both KCAO and AS/KCD and the KCAO ES&H Office and AS/KCD ES&H Division, (D-A-22 and D-A-23). The quarterly meetings, however, do not have summary minutes circulated, nor is there a record of attendance.

Interviews at several levels in KCAO and the AS/KCD ES&H Division indicated close working relationships between the two organizations and a free flow of internal communication between them (D-A-10 and D-A-25; I-A-4, 5, 7, 10, 16, and 18).

AS/KCD has excellent internal communication with its associates. Associates at all levels could paraphrase the KCP environmental mission and their personal responsibilities in such a way that they exhibited strong personal commitment. Internal communication related to

environmental compliance requirements and management's attitude and its determination to meet or exceed the requirements is effectively communicated to all levels in the AS/KCD organization (I-A-8, 10, 11, 12, 13, and 18).

AS/KCD has a telephone hot line advertised throughout the plant. The hotline, which is monitored and responded to, allows personnel to communicate environmental concerns anonymously to upper management without fear of retribution (I-A-6 and I-A-9). Records are maintained of the use of the hot line and the responses given. Interviews with associates indicate that the employee population is well aware of this reporting system (I-A-12 and I-A-13).

Environmental awareness within AS/KCD is conveyed via television monitors that carry specific environmental messages; a twice-weekly newsletter, Newsbreak; a monthly publication, Quest (which is distributed internally and externally); and a monthly Highlights publication. In addition, environmental messages are found on bulletin boards throughout the plant (D-A-3, D-A-4, and D-A-5).

The existence and effectiveness of a system for monitoring potential changes in environmental regulations and requirements is an audited measure of effective internal communication. There are individuals specifically assigned to monitor changes in directives, policies and environmental regulations in both the KCAO ES&H Office and the AS/KCD ES&H division; pending changes are briefed directly within and between KCAO and AS/KCD ES&H division (I-B-30 and I-C-12).

External Communication

External communication among KCAO, AS/KCD, and external stakeholders is very good. The Community Relations Plan for Environmental Activities and Issues (CRP), which was prepared under a 1989 RCRA Consent Order, is the centerpiece of AS/KCD's external communication program (D-A-65). The plan has been cited by EPA Region VII as a model plan. The approved CRP has been updated but has not yet been formally approved by KCAO (see Finding FP-2). CRP identifies external points of contact for stakeholder groups. The AS/KCD Public Affairs department updates the list of external contacts every two months in order to maintain an accurate list of stakeholder contacts for use in an emergency (D-A-2; I-A-6). In addition, in compliance with the consent order, a reading room was established and has been maintained at the Red Bridge Branch of the Mid-Continent Public Library.

To facilitate contact by external stakeholders, internal points of contact have been identified within KCAO and AS/KCD (I-A-4). Appropriate oversight is in place to ensure that stakeholder inquiries are addressed. Formal channels for clearance by KCAO are established for responding to external inquiries (I-A-4 and I-A-6). KCAO has primary responsibility for interacting with external regulatory agencies. Overall, KCAO has established relationships with its respective oversight organizations and maintains an open and cooperative position with them.

AS/KCD proactively fosters good community relations and communication through a series of publications. AS/KCD sends a monthly publication, Quest, to all external stakeholders who responded to an offer made by the Public Affairs Office of AS/KCD. Quest provides information on environmental activities and initiatives and also describes community

involvement programs championed by AS/KCD active and retired employees (D-A-5; I-A-6). Focus on the Environment is the primary external communication document; it is distributed six times each year to 2,000–3,000 stakeholders and provides a continuous update on KCP's focus and activities in the environmental arena. Points of contact and phone numbers are provided in Quest and Focus on the Environment for stakeholders requesting additional information (D-A-66).

Overall, the external communication program meets the intent of the consent order and provides a model system for maintaining effective communication with stakeholders. Special note should be made of the self-assessment effort the AS/KCD Office of Public Affairs conducted to measure the effectiveness of the internal and external communication programs and to implement changes to improve their effectiveness (D-A-1 and D-A-7; I-A-6). Changes in format and content for the twice-weekly internal Newsbreak and Quest were as a result of this assessment.

Based on the above observations, no findings were identified in the internal and external communication portion of the audit.

3.6 STAFF RESOURCES, TRAINING AND DEVELOPMENT

3.6.1 Overview

The purpose of the staff resources, training, and development portion of the KCP routine environmental audit was to determine whether staff resources are adequate to implement the environmental protection program for the Kansas City Plant effectively. The audit focused on (1) the number of staff currently employed in the environmental programs at the site; (2) the methods used to determine staffing needs; and (3) whether appropriate training programs are in place to ensure that the staff is current with the latest environmental regulations and technology necessary for efficient program implementation. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach in this audit area. The regulations, requirements, and guidelines used in the audit are provided in Appendix E.

This portion of the audit included interviewing managers and staff of both KCAO and AS/KCD, and reviewing documents including organizational charts, job descriptions, training plans, and training policy. This portion of the audit received input from virtually all members of the audit team.

The structure of staff resources to support environmental programs at KCP is changing. KCAO conducted an assessment of its staffing needs in late 1991 (D-D-8 and D-D-16). At that time the staffing level for the ES&H Branch was five full-time equivalent (FTE) employees. Using the Environmental Restoration/Waste Management Activities Workforce Needs Assessment Survey, together with the assistance of Battelle, Pacific Northwest Laboratories, the site determined that it would need 14 FTEs to manage the ER/WM Five Year Plan program for KCP adequately. KCAO has not, however, staffed up to that level. More recently the site was authorized an additional five positions based on an allocation by DOE/EM to field offices (I-D-2). It is not clear how that final allocation number was reached. There was no evidence of an updating of the 1991 study to reflect the new level of effort at the site (see Finding SR-1). Interviews with staff indicated that an additional two positions were requested, but five positions were granted, based on new needs identified in the process of applying for those positions (I-D-2). Currently eight positions are dedicated exclusively to the environmental program, as is a component of the ES&H Acting Assistant Area Manager's time that could be allocated to the environmental program. In an attempt to flatten the organizational management structure, all positions within ES&H report to the Acting Assistant Area Manager with team leaders designated for environmental activities, safety activities and industrial hygiene activities (I-D-1).

AS/KCD has undergone a significant restructuring beginning in the spring of 1994 as a result of anticipated downsizing in the production program in FY 1995. The downsizing was a direct result of cuts in Defense Programs production goals and funding levels. Anticipated funding for FY 1995 is expected to be approximately \$11 million less than comparable FY 1994 funding (D-D-18). The ES&H function has been reorganized, and approximately 40 positions, out of approximately 180, were eliminated as a result of this restructuring (I-D-4). In addition, a number of qualified staff were lost to other career opportunities outside KCP. Particular concern was voiced about the risk-management function where staff support levels were reduced approximately 67 percent (I-D-14). Using its strategic planning process, AS/KCD is identifying its approach to accomplishing

program goals against new staffing levels. AS/KCD has reassigned staff through the internal job bid process from non-environmental program areas to ES&H activities. This is particularly true in the Waste Management and the Program Management areas (I-D-11 and I-D-20). Although the current organization of the AS/KCD ES&H Division is new, it appears to be responsive to the overall environmental program needs of KCAO. Through a process of continuous improvement, the AS/KCD will have to reevaluate its environmental resources continually to be responsive to KCAO and its own program needs.

Both KCAO and AS/KCD have systems in place to identify training needs and ensure that training, particularly mandatory training, is provided. KCAO uses the individual development plans to identify individual employees' training needs annually. A good deal of reliance is placed on the employee to identify what training is needed to support performance of his or her job. There is a training coordinator within the area office, but the individual's responsibilities focus on transmitting training requests to AL for approval. Employees generally discuss their training needs with a supervisor who executes the individual development plans.

AS/KCD uses a similar system in that employees develop training plans for their own needs. The plant restructuring reduced the ES&H training support function from eight FTEs to two. These individuals, who were trainers previously, now focus on coordinating training needs. The overall approach for conducting mandatory training is to teach other line staff to perform mandatory training and increase use of outside training resources. There is a system in place that has identified mandatory training requirements for certain positions on the plant site. The training coordinators track this training, ensuring that staff have taken the appropriate courses and, when required, refresher courses. First-line supervisors are notified of the need for employees to take either mandatory training or refresher courses. Discretionary training at AS/KCD is managed individually at the department level. Each department supervisor must develop a training budget and ensure that staff receive the degree of training needed to perform their functions. Although there is a requirement for staff to evaluate training they take and to make that information known to others who might need it, there was concern expressed over maintenance of a valid database on the value of various training programs being provided by others (I-D-7, I-D-8, and I-D-9).

Discussions with a few staff indicated that a significant amount of environmental training is made available to plant personnel. Although some training requests have been turned down because of funding problems, most staff appear to be receiving training adequate to perform their jobs.

Job responsibilities are well defined, and staff appear to be aware of their job responsibilities. Interviews with KCAO staff indicated that all employees have up-to-date position descriptions and elements and standards identifying expectations for their performance. Position descriptions and elements and standards are reviewed at least once a year. No instances were identified where these documents were inaccurate.

AS/KCD uses a system that identifies the responsibilities of a particular job category, and not necessarily the individual occupying that position. Performance plans are developed in consultation with the employee and provide a mechanism for tailoring a job category to a specific position while identifying expected levels of performance. As a noteworthy practice, AS/KCD is implementing a process of continuous improvement wherein

expectations of individuals are identified annually against tactics developed in response to AS/KCD strategic planning. The continuous improvement process is developed at the department level and then incorporated into the overall ES&H action plan.

KCAO and AS/KCD take somewhat different paths in defining career development opportunities. A number of programs within DOE allow for career development. Participation in management development programs, opportunities for interaction with other DOE offices, and job rotation programs are all available. KCAO does not, however, attempt to identify career paths for its employees. That fact, coupled with the relatively small size of the environmental function at KCAO, places some definite limits on career diversity. No individuals have moved to the production side of operations from a background of environmental program management.

Circumstances at AS/KCD are similar. Although there is a greater pool of staff allowing for diversity of experience in environmental sciences, there is little opportunity to move into production activities. The situation is particularly exacerbated by the recent downsizing and ultimate shrinking of opportunities. AS/KCD does have a program of supporting staff in postgraduate studies, and a number of staff were identified who are taking advantage of that program. In addition, the audit team noted that AS/KCD offers a career-development program that attempts to match employees' experience and career desires with opportunities that might be available in the Allied corporation.

Based on the above observations, one finding was identified in the staff resources, training, and development portion of the audit, related to the development of a staff resources needs assessment.

3.6.1 Finding

SR-1: Staff Resource Needs Assessment

Performance Objective: Best management practices suggest that environmental staff resources be sufficient to achieve environmental performance goals, that a system be in place to identify both short- and long-term environmental staffing requirements, and that staffing for environmental protection activities be provided in a timely manner.

Finding: KCAO and AS/KCD have not applied an overall systems approach and process to evaluate their current staffing resource needs against known DOE programmatic requirements and site-specific requirements.

Discussion: Recent downsizing and reorganization of the environmental program at KCP in July 1994 have changed the structural approach to how the environmental program at KCP is managed. The restructuring of the AS/KCD ES&H Division has created eight functional departments and a high-performance team of senior technical experts. Overall staff capability in ES&H, however, has been reduced by approximately 40 positions. KCAO has added staff to the ES&H function, but at levels considerably below those believed to be necessary only a few years ago. KCAO and AS/KCD have each performed resource needs assessments to identify their respective resource needs. Those assessments were performed against different criteria. The following highlights some concerns with those recent efforts to identify needs:

- The site will soon be delegated additional NEPA responsibilities and authorities in accordance with the Secretary of Energy's Policy on NEPA. This program driver will probably require greater attention to how KCAO implements NEPA. The KCAO Environmental Manager is assigned the role of NEPA Line Management Official (LMO) and has NEPA responsibility as a co-lateral duty in addition to his many other duties. The KCAO Environmental Manager is also responsible for managing the Risk Management Program (see finding RM-1). The audit team found no clear evidence that KCAO has evaluated the full breadth of the responsibilities assigned to the Environmental Manager. Currently, the position is required to provide overall program guidance and to perform technical duties.
- Interviews with KCAO staff indicated that there is a reluctance to use short-term staffing resources to address short-term needs (I-D-1 and I-D-2). The 1991 KCAO needs assessment performed by the Pacific Northwest Laboratories identified the potential for using Interagency Personnel Assignments as a means of acquiring additional resources (D-D-8). There is no indication that the assessment results were ever pursued. It was also noted that staff details from other DOE sites, particularly AL and DOE Headquarters, have not been pursued. Although KCAO does not acknowledge that it could use more staff resources, the audit team identified areas that could benefit from the short-term application of outside expertise. In addition, the audit team believes that AS/KCD could also benefit from use of short-term resources in certain areas in light of downsizing and the assignment of less experienced staff to environmental areas. Areas

identified during this audit that could benefit from short-term staffing resources included risk management and air quality.

- In accordance with DOE strategic objectives, AS/KCD committed to retain and develop existing staff who may not currently have the depth of experience necessary to perform immediately at the same levels as individuals they are replacing. The result is that some key compliance-driven programs, e.g., RCRA, will be staffed with individuals who will need a period of training and relearning to make them productive members of the AS/KCD ES&H Division team. AS/KCD has responded to this issue by staffing these individuals in position levels commensurate with their skills.

With the plant restructuring complete, KCAO and AS/KCD now have the opportunity to evaluate their current staff resources against strategies recently identified in the AL strategic planning process and the AS/KCD strategic planning process. Resource-needs assessment is a continuing process that should be periodically evaluated in conjunction with the continuous improvement process driven by the AS/KCD strategic plan.

3.7 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

3.7.1 Overview

The purpose of the program evaluation, reporting, and corrective action portion of the routine environmental audit was to evaluate the self-assessment and oversight programs at AS/KCD and KCAO to ensure that effective systems to evaluate environmental protection activities, anticipate and report environmental concerns, and determine whether formalized corrective action systems are in place. This evaluation also included a review of the management procedures to conduct root-cause analysis, to track and trend assessment findings, and to report lessons learned for ES&H assessments.

AS/KCD and KCAO written plans, prior assessment reports, tracking charts, and organization structure were reviewed as an initial introduction to the site and its ES&H programs. The onsite portion of the audit included interviewing individuals responsible for managing, operating, and assessing the site's environmental programs and reviewing additional key documents. The AS/KCD employees interviewed included the Environment, Safety and Health (ES&H) Division organization staff responsible for environmental compliance, waste management, the high performance team, safety, and special-project programs. In addition, Operations Quality Assurance and Facility Management staff were also interviewed. The KCAO employees interviewed included staff in the Office of Environment, Safety and Health and in the quality assurance area.

Site documents reviewed included ES&H self-assessment program plans and procedures, self-assessment and appraisal reports, corrective-action status reports, trending/tracking reports, and training programs. The regulations, requirements and guidelines used in this audit are provided in Appendix E. DOE's Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) was also used as guidance in directing the approach employed in this audit area. Cross-cutting issues for this audit area came from Formality of Environmental Programs and Environmental Protection Programs.

KCAO and AS/KCD have self-assessment and appraisal programs for evaluating environmental protection activities, implementing corrective actions and monitoring their progress at KCP. KCAO and AS/KCD appraisal programs are, however, at different levels of formality.

KCAO's ES&H appraisal system for oversight of environmental compliance, environmental restoration, and waste management programs is not formalized (see Finding FP-3). As part of the appraisal process, KCAO OQA conducts formal quality assurance program audits of AS/KCD based on the criteria in DOE 5700.6C. Before conducting an assessment in any area, criteria questions are developed specific to the evaluated function(s) and area being developed. KCAO OQA has a formal process for preparation of corrective-action plans and closure of findings (I-E-17). KCAO can receive hard-copy information from the Albuquerque Operations Office database system. In addition, KCAO plans to evaluate IMDB under development by AS/KCD OQA for its own use. The KCAO ES&H Branch also has an environmental self-assessment program. The ES&H self-assessment program has an approved Performance Objectives and Criteria document that is used to conduct quarterly ES&H self-assessments (D-E-24). The quarterly self-assessments include a rating of the branch's performance against the established criteria.

For AS/KCD, appraisal activities of environmental programs are formalized, with the cost-plus-award-fee (CPAF) process incorporating an evaluation of environmental performance based on completion of assigned Work Authorization Directives (WADs) and Special Emphasis Areas (D-E-1 and D-E-71).

AS/KCD management policy on self-assessment and the ES&H Self Assessment Plan describe ES&H appraisal and inspection programs that constitute their self-assessment program (D-E-64 and D-E-70). Their self-assessment program is currently being revised because the SEN requiring self-assessments has been rescinded. Individual appraisals and self-assessment activities, however, are continuing.

AS/KCD ES&H Division has established a formal sitewide environmental appraisal program. Chapter 2 of the Kansas City Plant Safety Manual identifies responsibilities and procedures for conducting the inspections, including inspection scheduling and coordination, report preparation and response, quality control, and recordkeeping (D-E-34; I-E-1 and I-E-2). The findings, along with the corrective-action plans prepared by the line organizations, are documented and entered into the former Operational Surety Division's database and tracked. It should be noted that, as a result of the AS/KCD organizational restructuring, the Operational Surety database system is no longer actively maintained by the Operational Surety Division. Previously, Operational Surety issued a quarterly status report summarizing the status of findings and corrective actions (I-E-2, I-E-9, and I-E-10). The database system is incapable of performing trending analysis. In addition, the ES&H Division is not conducting root-cause analysis and lessons-learned reporting for environmental findings (see Finding EP-1).

The AS/KCD Operations Quality Assurance (OQA) Division has a formal comprehensive assessment program that provides independent oversight for the facility and is organized per the criteria in DOE 5700.6C (D-E-21, 22, 23, 67, and 68). OQA performs three different assessments: Performance Based Assessments (PBA), Operations Quality Assurance (OQA) assessments, and Operation Surveillance Assurance (OSA) assessments. OQA also submitted findings and corrective-action plans into the former Operational Surety database. OQA has conducted audits of two ES&H division areas (D-E-10, D-E-11, and D-E-12). Because of the elimination of the former Operational Surety Division, and because AS/KCD is also seeking ISO 9001 certification, OQA is developing a new system, the Issues Management Data Base (IMDB), to incorporate and administer the findings/action plans from its program. IMDB is being designed to eliminate deficiencies in the Operational Surety database system and is scheduled to be functional during the first quarter of 1995 (I-E-9 and I-E-10).

Oversight of subcontractor operations is also performed by AS/KCD Facilities Management Division Environmental Restoration Team and Project Engineering Group. They monitor subcontractor onsite activities, including compliance with site environmental protection requirements. Written citations are issued to subcontractors who are observed to be in non-compliance. Upon receipt of this citation, the subcontractor must submit a written action plan to AS/KCD. AS/KCD Facilities Management approves and tracks findings and corrective actions, but this information is not entered into an overall database.

Based on the above observations, one finding was identified in the program evaluation, reporting, and corrective action portion of the audit, pertaining to a formal system's not being in place to capture the findings from all assessments conducted onsite.

3.7.2 Finding

PE-1: Environmental Program Performance Assessment

Performance Objective: DOE 5700.6C, "Quality Assurance," Section 9b(1)(e), Criterion 3, "Quality Improvement," requires that organizations implement processes to ensure quality improvement. Items and processes that do not meet established requirements shall be identified, controlled, and corrected. Correction shall include identifying the causes of problems and preventing reoccurrence.

DOE ES&H Self-Assessment Guidance (December 1992) suggests a formal process to document, communicate, and track findings and corrective actions; identify ES&H trends; and communicate root causes, trends, and lessons learned throughout the organization and incorporate them into daily planning and operations.

Finding: AS/KCD has not fully developed and implemented formal systems in the areas of lessons learned, root cause analysis, performance indicators, tracking, and trending to prevent reoccurrence of environmental problems.

Discussion: Before the AS/KCD reorganization in July 1994, a database system was administered by the Operational Surety Division and used for tracking findings and producing status reports. Findings from ES&H inspections, self-assessments, and quality-assurance surveys were entered into this system, as were findings from external audits, including the Tiger Team. The system, however, does not provide a comprehensive mechanism for analyzing lessons learned, trending, and conducting root-cause analysis for environmental issues (I-E-9, I-E-10, and I-E-19). Some selected trending analyses did occur, but not on a consistent or comprehensive basis. For example, the annual AS/KCD ES&H inspection report requires a year-to-date trending of findings, but of the three inspection reports reviewed, only one completed this requirement (D-E-50, D-E-51, and D-E-52).

Employees have received Root Cause Analysis and Corrective Action training (D-E-20), but root cause analysis and contributing causes are not routinely provided in corrective-action plans. In instances where this information is provided, these data are not formally analyzed to identify any overall deficiencies in environmental practices and to provide management basic information to implement sitewide corrective measures.

A benefit of including the information described above into a formal system is that information valuable to AS/KCD can assist in preventing the recurrence of unacceptable environmental practices and consequences. For example, the warnings and citations issued by Facilities Management to subcontractors are not entered into a formal system. Several valuable lessons could have been communicated to AS/KCD personnel involving the potential for environmental impacts due to the subcontractor practices onsite (see Finding FP-1).

As a result of the July 1994 reorganization at AS/KCD, the Operational Surety Division was disbanded, and responsibility for managing the database system was not reassigned, although access to the database is still available for users. For example, the Safety Department enters data on ES&H inspections, and the Office of Quality Assurance uses the system for self-assessment findings. Although the database still exists, the

Operational Quality Assurance Division is developing a new issues-management database to manage findings and corrective actions from their programs in order to obtain ISO-9000 certification. At the present time, it is not clear how environmental issues will be incorporated into this system and how trending, lessons learned, and root-cause analysis will be accomplished for environmental findings.

3.8 ENVIRONMENTAL PLANNING & RISK MANAGEMENT

3.8.1 Overview

The environmental planning and risk management portion of the routine environmental audit evaluated the extent to which environmental planning is conducted and integrated into the overall planning process at KCP. The risk management approach to identifying, evaluating, and managing environmental risk was also assessed.

This audit involved review of documents KCAO and AS/KCD provided and interviews with key managers and staff of both organizations. Documents reviewed include the following:

- AL Strategic Plan (D-D-12);
- KCP Environmental Protection Implementation Plan (EPIP) (D-D-34);
- AS/KCD Five Year Strategic Management Plan (1995–1999) (D-D-10);
- AS/KCD Strategic Planning Discussion Document (D-D-11);
- Draft KCP Environmental Protection Manual (D-D-35);
- AS/KCD Risk Management Plan (D-D-23); and
- Draft Waste Management Program Project Management Plan September 1994 (D-D-4).

DOE's Protocols for Conducting Environmental Management Assessments at DOE Organizations (June 1993) was also used as guidance in directing the approach employed in this audit area. The regulations, requirements, and guidelines used in this audit are provided in Appendix E.

Environmental Planning

A review of the environmental planning efforts at KCP was performed to determine the level of planning and implementation conducted onsite. Overall KCP planning is performed to meet several requirements, principally driven by the Defense Program (DP) and Environmental Management (EM) lines of funding that support operations and environmental restoration and waste management at KCP. Through participation with AL, a strategic plan for the AL Operations Office and all Area Offices reporting to it was developed (D-D-12). The plan identifies seven core values for EM and ES&H environmental activities and lists goals and strategies for achieving goals in each of those core areas. The AL strategic plan does not, however, provide site-specific goals and strategies that can be attributed to KCP operations.

The KCP environmental planning efforts consist of two separate processes, one for DP-funded environmental activities (i.e., operations) and the other for EM-funded environmental activities (i.e., environmental restoration and waste management). The KCP process for EM planning has resulted in the development of WM and ER Baseline reports in

order to address the HQ/EM program initiatives (I-D-10). The reports identify the funding to be earmarked for KCP ER/WM activities and direct how EM funds will be expended. The DP environmental planning effort consists of developing activity data sheets that define environmental activities, associated funding, and milestone schedules. Progress for implementation of both DP and EM environmental programs is measured through the cost-plus-award-fee (CPAF) evaluation process. DOE has established seven priorities for expenditure of DP funds at KCP (I-D-13). The first priority is to meet regulatory requirements; priorities two through five address operations; priority six is to comply with DOE Orders; and seven is to implement best management practices.

In response to the DOE Order 5400.1, KCP developed an EPIP dated November 9, 1993 (D-D-34). During the course of interviews with KCP personnel, it was determined that there was an overall lack of familiarity with the EPIP and that it was not considered a program driver. AS/KCD has conducted strategic planning in order to satisfy both DOE and Allied corporate requirements. This planning has led to the development of the AS/KCD Five Year Strategic Management Plan (1995-1999), which identifies a corporate strategy and associated "tactics" to define goals and objectives for implementing the AS/KCD environmental program (D-D-10). The AS/KCD ES&H Division is implementing the strategic plan by developing the "ES&H Action Plan" (I-D-4). As part of the planning process, the departments within ES&H are required to identify what approach they will take to implement the AS/KCD Five Year Strategic Management Plan for their departments. The draft KCP Waste Management Program Project Management Plan dated September 1994 is an example of the AS/KCD Waste Management Department approach to implementing the AS/KCD Five Year Strategic Management Plan (D-D-4). It establishes waste management project drivers and identifies program and project-management responsibilities. In evaluating the planning process at KCP, a number of concerns were identified that warrant presentation:

- The multiplicity of planning processes, although not unusual at DOE sites with multiple lines of funding, has potentially created an adverse impact on programs, resulting in a potentially greater expenditure of funds. An example of this problem surfaced in the implementation of a Pollution Prevention Program. KCP conducts opportunity assessments to identify ways in which hazardous material may be reduced through either reduction in volume or substitution of alternative materials. These assessments have historically been funded with DP dollars. Recently this program was suspended because of a re-prioritization of funds. The likely outcome will be opportunities lost to reduce hazardous waste streams. This action could affect the hazardous waste management program, which is funded with EM dollars.
- Planning for the EM program has created a number of documents that are duplicative or are at best designed to serve the same purpose. The EM program requires the preparation of Waste Management and Environmental Restoration Baseline Reports. These reports are essentially implementation strategies and are required by the EM program. Similarly, the site creates the Environmental Protection Implementation Plan, a requirement of DOE Order 5400.1, itself designed to be an implementation strategy. Finally, AS/KCD develops its ES&H Action Plan and the Kansas City Plant draft

Environmental Protection Manual, both designed to be implementation strategies.

- The priority system for funds expenditure applies only to the DP program. The level of funding in the DP program that supports Regulatory Compliance (the first priority) is only \$4 million. The vast majority of funding going to support regulatory compliance originates in the EM program and is established as \$12.2 million for FY 1995. Because of the nature of DOE funding, dollars cannot be moved between these two programs. Consequently, the effectiveness of the priority system in supporting regulatory compliance is significantly overstated.

Risk Management

In 1992 AS/KCD began implementation of a risk management program that centered on the requirements described in DOE Order 5481.1B. Seven elements of a program were identified in response to that Order (D-D-23). Key elements currently being implemented include the Preliminary Hazard Analysis program, the Prestart/Restart Review program, the Risk Assessment Code program, and others. Additional consideration is being given to establishing chemical monitoring and inventory programs, as well as integrating existing hazards analysis. When the original program was created, it was staffed at a level of nine FTEs. With the recent restructuring, the program-support level has been reduced to three FTEs.

A stated goal within the environmental management core value of the AL strategic plan is to "manage and eliminate the urgent risk in the AL EM Program." Because of the downsizing, the risk management program has been severely affected. Approximately 67 percent of the resources previously allocated to the program have been lost. Based on the above, there is a concern as to whether the stated goal can be achieved. KCP personnel readily admit that a new program will have to be developed (I-D-19). KCAO has not given AS/KCD any specific instruction on how to redesign the KCP risk management program, but AS/KCD has developed an initial plan for such a program (D-D-23). The plan outlines the objective of the program, its current elements, and staff capability. It is not a comprehensive plan at this time and currently does not address how risk management will be implemented to support the ER program. The restructuring of the KCP environmental program affords the opportunity to develop a risk management program that is responsive to all site programs that are able to benefit from risk management.

Based on the above observations, one finding was identified in the environmental planning and risk management portion of the audit, related to KCAO's and AS/KCD's not having restructured the risk management program and not having identified all program elements that might benefit from risk analysis at KCP

3.8.2 Finding

RM-1: Risk Management Program

Performance Objective: DOE Order 5400.1 identifies the policy of the Department with respect to Environmental Protection: "DOE is committed to good environmental management of all its programs and at all its facilities to correct existing environmental problems, to minimize risks to the environment or public health, and to anticipate and address potential environmental problems before they pose a threat to the quality of the environment or the public welfare." Best management practices suggest that organizations have a disciplined formal program in place that identifies potential areas of risk to the environment and to the general public welfare. Further, best management practices suggest that a program have cross-cutting capabilities to identify and address risk in the multiplicity of activities on the site.

Finding: KCAO and AS/KCD have not restructured the risk management program and have not identified all program elements that might benefit from risk analysis at the Kansas City Plant.

Discussion: Although there is AL guidance for the implementation of a risk management program on the site, DOE has not issued specific instruction or direction on how AS/KCD will use risk management techniques in evaluating onsite activities (D-D-23). Further, no specific program objectives were developed or communicated to AS/KCD to serve as either guidance or instruction in the development of a risk management program.

There is a history of implementing a risk management program on the site. As early as 1992 AS/KCD led a concerted effort, through consultation with KCAO and AL, to establish the direction for, and elements of, a risk management program. A risk management organization was formed within the ES&H function in July 1992. The restructuring of the plant has resulted in a significant downsizing of the risk management program within the AS/KCD organization. This downsizing has the potential to affect the KCP RM Program's ability to function. The audit identified the following issues related to the risk management programs at KCP:

- A goal in the AL Strategic Plan under the Environmental Management Core Area is to manage and eliminate the urgent risks and threats in the AL environmental management program (D-D-12). In addition, the CPAF Performance Evaluation Plan identifies risk management as a special emphasis area under the ES&H Performance Area, Conduct of ES&H Activities (D-D-17). No specific guidance and direction, however, has been given to AS/KCD by KCAO on what would constitute satisfactory implementation and consideration of risk management principles at KCP. Consequently, the current Risk Management Plan under development is relying exclusively on DOE Order 5481.1B, Safety Analysis Review System, and Management Policy Statement 25, Safety and Health as implementation guidance.
- AS/KCD went through an analysis of resource needs in April 1992 to identify an appropriate level of support to the risk management function. A decision was made to staff the function at a level of nine full-time equivalent

(FTE) employees in July 1992. The recent restructuring of the risk management function, which occurred in August 1994, has reduced the resource base from nine positions to three. That magnitude of reduction has raised concerns about the ability of the program to keep pace with the needs of the plant site (I-D-14). This is particularly a concern because of increased site activity in the environmental restoration area.

- The environmental restoration program is currently investigating the potential for using risk-based techniques to identify potential regulatory standards for restoration activities. The current groundwater pump-and-treat program seeks to achieve regulatory standards that are unlikely to be met through application of the chosen conventional existing technology. An application of risk management techniques might be appropriate to assist in negotiations for an achievable standard (i.e., an Alternate Concentration Level (ACL)) that better acknowledges site characteristics and that could identify a less stringent cleanup requirement and possibly bring closure to the program.
- A risk management plan (D-D-23) is currently under development by AS/KCD. It identifies the history of the program and its prior accomplishments. It further identifies the objective for the Risk Management Program. What has not been done yet is a comparison of program goals against existing and potential future program elements, as well as an analysis of resources available to determine whether implementation of the program is reasonably achievable.

KCAO recognizes the need for a comprehensive risk management program, and AS/KCD is moving toward establishing a risk management program for the plant—a program that will be responsive to the departmental objectives of ensuring consideration of risk in the management of environmental resources. KCP restructuring and reorganization provides an opportunity to evaluate the role risk management can play in the implementation of the environmental restoration program and the support it can give to the day-to-day operations of the facility.

3.9 AIR QUALITY PROGRAMS

3.9.1 Overview

The purpose of the air quality appraisal portion of the routine environmental audit was to evaluate the extent to which KCP has developed and implemented specific programs, plans, and standards to ensure compliance with Federal, state, and local environmental laws and regulations and site air permits. In addition, this appraisal evaluated whether KCP provides for timely and correct implementation of DOE Orders designed to protect the environment and public health.

The scope of this appraisal covered the requirements of the Clean Air Act as amended; Missouri Department of Natural Resources Air Pollution Control Regulations; Kansas City, Missouri, Air Quality Control Code; and requirements under DOE Orders. The air program review focused on non-radioactive air emissions and monitoring programs only. The regulations, requirements, and guidelines used in this audit are provided in Appendix E.

The general approach included an inspection of site air emission sources; interviews with management and staff at KCAO and AS/KCD; and a review of site documents, including applications for permits to construct, correspondence with regulatory agencies, standard operating procedures, environmental reports, and various other internal documents, including air emissions inventories. Two DOE publications, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) and Performance Objectives and Criteria for Conducting DOE Environmental Audits (January 1994) were used as guidance in conducting this audit.

The air quality program at KCP is under the overall management of the DOE Assistant Area Manager, Office of Environment, Safety, and Health (ES&H). This office is responsible for all of the environmental programs, including air quality compliance. This portion of the audit focused on the air quality program as performed by a staff of one, i.e., the Environmental Engineer for air, water, and toxics programs. Duties performed by the Environmental Engineer entail work performance planning, contractor performance appraisals, and review of the technical elements of air quality compliance programs. Other duties and responsibilities include assisting in reviewing NEPA compliance activities. KCD directs air quality programs through the Environmental Compliance Department (ECD). ECD has only one Environmental Compliance Specialist to oversee air quality programs. Because of program demands, ECD is actively recruiting for additional staff in this area.

Air pollution control and permitting at the Kansas City Plant is regulated by the City of Kansas City, Missouri, Health Department, Air Quality Section (KCMO AQS) and the Missouri Department of Natural Resources (MDNR), Air Pollution Control Division. Kansas City enacted Air Quality Regulations in 1972 requiring an air quality permit application before constructing a new source or modifying an existing one. Because the Kansas City Plant was constructed before 1972, it was not required to apply for an air quality permit or identify emission points and sources existing before 1972. AS/KCD processes instituted after 1972 must obtain an air quality permit. KCP currently has two air quality permits, one for the "Burn-off Oven for Use in Dept. 187" and one for Paint Booth D/99 issued by KCMO AQS.

The primary sources of air pollution emissions at KCP are from the West Boilerhouse operations, solvent metal cleaning operations, and surface coating paint operations. KCP has approximately 850 multiple-discharge points to the atmosphere on the roof of the main production building. Stack testing done by Shell Engineering & Associates, Inc., in July 1987 indicated KCP is in compliance with particulate, opacity, and sulfur dioxide emission rates from the West Boilerhouse. In addition, KCP has four emergency backup generators that have the potential to emit nitrogen oxides and other pollutants.

Currently four air monitoring stations at KCP monitor selected National Ambient Air Quality Standard (NAAQS) criteria pollutants. The Kansas City metropolitan area is in attainment of all NAAQS criteria pollutants, and consequently there are no requirements in the Missouri's State Implementation Plan (SIP) for KCP to conduct ambient air monitoring. Because of funding cutbacks, KCP plans to review, and possibly reduce, the extent to which it conducts ambient air monitoring.

KCP maintains an air emissions inventory, which is updated annually as required by KCMO AQS. The emissions inventory is prepared based on the amount of natural gas consumed by boilers and quantities of solvents used (for calculating emissions of volatile organic compounds (VOCs)). AS/KCD has not carried out a stack and vent inventory as KCMO AQS requested in its inspection report to KCAO dated March 24, 1993 (D-F-32) (see Finding AQ-2).

KCP has been proactive in planning for the installation of scrubbers at its chromium plating operations. On December 16, 1993, EPA proposed Maximum Achievable Control Technology (MACT) Standards on December 16, 1993, which would require KCP to install controls for these types of operations within 18 months of the effective date of the Final Regulations. Final regulations are likely to be promulgated by November 15, 1994.

In general, AS/KCD has a very effective program for phasing out the use of ozone-depleting substances (ODSs). Compared with ODS baseline year of 1988, there has been a 96 percent reduction of CFCs. AS/KCD has specifically stated that the use of 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) and 1,1,1-trichloroethane (TCA) will stop in January 1995 (D-F-20). Although there is a program to recycle and recover refrigerants in the plant, the program is inadequate to meet specific maintenance and leak repair requirements of 40 CFR 82 (see Finding AQ-1).

Operating permit requirements promulgated by EPA under Title V of the 1990 CAAA in 40 CFR 70 require that any "major source" that emits or could emit 100 tons per year (TPY) or more of any pollutant, or emits or could emit, on an aggregate basis, 25 TPY or more of any combination of hazardous air pollutants (HAPs), or emits or has the potential to emit 10 TPY or more of any single HAP must apply for an operating permit. The KCP is a "major source" based on its potential to emit Nitrogen Oxides (NO_x) and HAPs. It would be required to submit an operating permit application no later than November 15, 1995, according to 40 CFR 70 under the EPA Federal program, or earlier if the state MDNR requirements are approved by EPA before September 15, 1995. KCP may also, however, pursue an option to assume voluntary, federally enforceable limitations on the types of materials combusted or processed, operating rates, and hours of operation in order to administratively lower potential emissions below the "major source" operating permit thresholds. In the State of Missouri, this is called an "Intermediate Operating Permit."

The information required to complete Title V permit applications includes a comprehensive emissions inventory, a facility description, alternative operating scenarios, and compliance and monitoring plans for the facility. In order to meet Title V permitting requirements of the 1990 CAAA, AS/KCD has initiated data-gathering to characterize its process emissions and to identify stacks and pollution-control equipment through the use of an emissions data reporting form. The AS/KCD ES&H Division Director distributed the forms and instructions to all Division Directors whose operations are affected by the requirements, and he requested them to complete the forms by December 15, 1994 (D-B-4).

Based on the above observations, two findings were identified in the air quality programs portion of the audit: the first identifies the need to amend the program for maintenance of ODS to meet the maintenance and leak requirements of 40 CFR 82 Subpart F; the second addresses the need to respond to the written request from KCMO AQS to submit a stack and vent inventory.

3.9.2 Findings

AQ-1: Refrigerant Recycling Requirements

Performance Objective: DOE 5400.1, "General Environmental Protection Program," requires that DOE operations be conducted in compliance with all applicable regulations.

40 CFR 82, Subpart F, "Recycling and Emissions Reduction," establishes requirements for a program to recover and recycle ozone-depleting refrigerants during the service and disposal of air conditioning or refrigeration equipment for stationary sources. Pertinent requirements are as follows:

- "Appliances normally containing more than 50 pounds of refrigerant . . . must have all leaks repaired if the appliance is leaking at a rate such that the loss of refrigerant will exceed 15% of the total charge during a 12-month period."
- "Owners must repair leaks . . . within 30 days of discovery or within 30 days of when the leak(s) should have been discovered" or "owners are not required to repair the leaks . . . if within 30 days, they develop a year retrofit or retirement for the leaking equipment."

Finding: The Kansas City Plant (KCP) ODS Management Program is inadequate to meet the specific maintenance and leak-repair requirements of 40 CFR 82.

Discussion: Section 608 of the Clean Air Act establishes requirements for recovery and recycling of refrigerants from stationary sources. The EPA issued a final rule, 40 CFR 82, Subpart F, "Recycling and Emissions Reduction," implementing Section 608 on May 14, 1993 (58 Federal Register 28660). The regulations require persons servicing air conditioning and refrigeration equipment to use approved equipment or equipment meeting certain performance standards and to document certain service and recordkeeping practices. The regulations also establish mandatory technician certification requirements and require the repair of leaks when annual leak rates exceed specified amounts. Leak repair requirements became effective on June 14, 1993. Certification of recovery and recycling equipment according to specific criteria was to have been submitted by August 12, 1993.

KCAO sent certification of the recovery and recycling equipment to EPA by the due date of August 12, 1993 (D-F-12). KCP has a total of 23 chillers and 4 dehumidifiers with refrigerant charges greater than 50 pounds, but the audit team reviewed the operating records of only the four dehumidifiers located in the Polystyrene Equipment Room, D/187-1. Each dehumidifier has a charge of 800 pounds of CFCs. A leakage rate of 15 percent would result in an allowed release of 120 pounds of CFCs from each unit during a 12-month period. From July 1993 to June 1994, operating logs indicated the following recharge amounts for each of the four dehumidifiers (213F-07, 214F-07, 215F-07, and 216F-07) (D-F-24):

213F-07—recharged 12 times for a total of 3,000 pounds
214F-07—recharged 22 times for a total of 4,625 pounds
215F-07—recharged 18 times for a total of 4,750 pounds
216F-07—recharged 6 times for a total of 1,500 pounds.

Although these leakage rates are as high as 600 percent within a 12-month period, there was no obvious evidence in the operating log as to why leakages continued to occur. AS/KCD is pursuing a project to replace these dehumidifiers sometime before December 1995, but this replacement project does not meet the regulatory requirements of preparing a 1-year retrofit or retirement plan within 30 days of leak discovery (D-F-37).

AQ-2: Kansas City Plant Stack Inventory

Performance Objective: DOE 5400.1, "General Environmental Protection Program," states that Heads of Field Organizations shall ensure that all operations under their authority comply with applicable environmental protection laws and regulations. Chapter III establishes requirements for DOE operations to develop and implement specific program plans for each facility. The implementing plan shall provide environmental protection goals and objectives for the organization and identify strategies and timetables for attaining them.

Title 10, Chapter 6 of the Missouri Register dated September 17, 1993, Proposed Rule 10 CSR 10-6.06, "Operating Permits," regulations defines air contaminant sources that are required to obtain operating permits and establishes procedures for obtaining and complying with operating permits.

The Code of General Ordinances of Kansas City, Missouri, Article III, Section 18.84(E), "Air Quality: Reports; Emission Inventory," states that the Director of KCMO AQS under Kansas City, Missouri, Air Quality Control Code "may require persons owning or responsible for the operation of any air contaminant source to file reports and information relating to the rate, period of emission, and composition of any effluent from any air contaminant source. The information in these reports shall include the location of such source, size, and height of air contaminant outlets, processes employed, fuels used, the nature and time periods and duration of emission. . . . Such information shall be used to maintain an emission inventory."

Finding: An AS/KCD stack and vent inventory has not been completed as requested during an inspection conducted by the Kansas City, Missouri Air Quality Section and the Missouri Department of Natural Resources Air Pollution Control Program.

Discussion: Historically the Kansas City Plant has not been required to apply for an air quality permit and identify emission points and sources because most KCP emission points are grandfathered under the Kansas City Air Quality Regulations of June 9, 1972. AS/KCD processes instituted after 1972, however, have been issued air quality permits and are in conformance with Kansas City Health Department requirements.

KCMO AQS and MDNR conducted a routine rooftop inspection of KCP in March 1993. During the inspection, the inspectors identified a pipe emitting smoke or an oil vapor. AS/KCD was unable to identify the source of the emission during the inspection. The representative from MDNR requested AS/KCD to do an inventory of all stacks, relating stacks and vents with processes in the plant. AS/KCD indicated that a report was already underway, which was due in September 1994, that would probably meet the MDNR request.

This request is summarized in the KCMO inspection report (D-F-32). The inspection report also includes a comment by KCMO that the inability to identify the source of an emission noted during the inspection lends support for the necessity of such an inventory.

As of this audit date, the stack and vent inventory has not been completed. Without an accurate inventory that identifies which stack serves which equipment and process, AS/KCD cannot characterize and monitor gases or air streams exhausted or vented to the

outside atmosphere. Although MDNR did not make a formal written request for the inventory, their verbal request and AS/KCD's verbal response is documented in the inspection report.

3.10 WASTE MANAGEMENT PROGRAMS

3.10.1 Overview

The purpose of the waste management portion of the routine environmental audit was to evaluate the hazardous waste management and compliance programs at KCP. For the purpose of this audit, the specific regulations, requirements, and guidelines used to evaluate the facility are provided in Appendix E. Specifically, the waste management portion of the audit focused upon the following four areas of interest: (1) programmatic effectiveness of the hazardous waste management and compliance programs, with emphasis on waste characterization activities; (2) AS/KCD's approach to evaluating hazardous waste issues and concerns proactively; (3) determining the emphasis and direction KCP has placed on the disposition of classified and mixed hazardous waste; and (4) followup on corrective actions taken for past audits and appraisals. Two DOE publications, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) and Performance Objectives and Criteria for Conducting DOE Environmental Audits (January 1994) were used as guidance in directing the approach employed in this audit area. There was also one cross-cutting issue in the Formality of Environmental Programs area.

The audit was conducted by interviewing AL and Headquarters staff and AS/KCD and KCAO staff and management. Supporting documentation and records were reviewed during or after the interviews. In general, onsite inspections of satellite storage areas were not performed as part of the scope of this audit since an AL Environmental Protection Division appraisal in 1992 confirmed that satellite accumulation and permitted storage areas were conforming to the requirements under the Resource Conservation and Recovery Act (RCRA). This audit did, however, inspect the KCP classified hazardous waste storage area.

The waste management program at KCP is under the overall management of the DOE Assistant Area Manager, Office of Environment, Safety, and Health (ES&H). This office is responsible for all environmental program areas: waste management, air and water, and environmental restoration activities. The office is supported by five staff members and three managers. This portion of the audit focused on the waste management area as performed by the Program Manager for Waste Operations. Duties performed by the Program Manager entail work performance planning, budgeting, contractor performance appraisals, and technical matter subject reviews of the waste management and compliance programs.

AS/KCD directs waste management issues of its solid and hazardous waste operations through the Waste Management Department (WMD). The WMD has a staff of 10 technical personnel who interact daily with generators. Oversight of WMD and the generators is performed by the Environmental Compliance Department (ECD), composed of a staff of 12 technical personnel responsible for all environmental media.

Significant improvements in the hazardous waste management program have occurred since the DOE Tiger Team evaluated the program. WMD is currently implementing a Waste Acceptance Criteria (WAC) program. This extensive effort ties into the newly implemented, and EM-mandated, automated electronic waste tracking system. This model tracking system's success will depend on strict adherence to WAC since the tracking

system is fully automated and any variability to the wastestreams outside WAC will defeat the system. The potential for this to occur has been documented. The improper disposal of solid waste and one incident involving disposal of hazardous wastes have been found in rolloff containers (see Finding FP-1).

KCP has made significant improvements to the tracking and verification of hazardous wastestreams. AS/KCD has devised and implemented an electronic waste tracking system that meets the mandate for all DOE facilities to implement such a system (see D-G-25). This system deserves particular mention, however, in that it requires minimal, error-prone manual entries into the system; it is a user-friendly, fully automated system, and it eliminates the generator for input into the system. A caveat, however, should be noted about the system. Since the system is fully automated (drums are bar coded and pre-labeled upon dispensing the drums), the value and advantage of this waste tracking system can only be realized if the waste acceptance criteria are firmly adhered to. Any changes by outside organizations (Maintenance Department or subcontractors) to change the wastestreams would defeat the entire purpose of this system.

WMD has made strides in reducing the quantities of classified hazardous wastes stored onsite since the Tiger Team Assessment identified classified hazardous waste as a finding. As discussed later, WMD has reduced the inventory of classified hazardous wastes from 100 drums to 14. Past appraisals and audits have also identified the failure of KCP to provide characterization and identification of its wastestreams. As a result, WMD has dedicated a staff position for the sole purpose of certifying generating organizations for waste acceptance. Through a past effort to identify all generated wastes onsite, a Process Waste Assessment (PWA) initiative was begun in FY 1991. The PWA process completed approximately 780 assessments and encompasses most of the generating organizations (especially since the downsizing of AS/KCD took place). These PWA's are being used as tools to further identify and quantify the wastestreams at KCP through the WAC certification process. The WAC certifications are currently being performed, and completion within 12 months is expected.

ECD actively evaluates hazardous waste issues and concerns. ECD tracks and monitors new regulations that may potentially affect their operations. All Federal Registers are reviewed for environment-related subjects by ECD, and responsible organizations are then notified. The topics of "Debris Rule," and whether or not AS/KCD attempted to take advantage of this regulatory window for the disposition of mixed wastes, were broached with the WMD staff (I-G-3). AS/KCD pursued this option and sought avenues for the disposition of its mixed wastestreams, but because of permit limitations by one of the few commercial facilities available to take mixed wastes (Envirocare), AS/KCD was unable to disposition these wastes.

AS/KCD has significantly reduced amounts of classified hazardous waste in storage. A 1992 AL Environmental Protection Division (EPD) appraisal identified approximately 100 drums of waste that had been in storage since 1989. Currently, only 14 drums remain. These remaining wastes are currently proposed for desanitization by an outside contractor to remove the classified nature of the wastestream.

Past internal audits and appraisals of KCP include the Tiger Team Assessment of 1989, (seven findings and four best management practices in the waste management portion of the assessment) and the AL Environmental Protection Division (EPD) Appraisal of April

1992, (two findings, and one observation). The EPD appraisal reviewed the waste management and compliance operations of KCP and determined that the controls and corrective actions in response to the findings the Tiger Team identified were being implemented, except in the storage of classified hazardous waste.

The Tiger Team findings centered much of their interest around waste generators. The team was interested in how they were segregating their wastestreams, whether or not they were receiving training, and whether they were performing waste characterization. KCP currently institutes better controls to manage and account for its wastestreams by use of an advanced waste tracking system. WMD has interfaced and inspected all the organizations on a regular basis, and ECD provides oversight of these generators. The current priority for WMD is to complete implementation of the WAC for all organizations at KCP.

In general, the waste management program has made significant progress in addressing waste management issues and developing corrective actions for deficiencies identified in past environmental audits. Efforts for instituting controls of AS/KCD's waste streams and educating generators has been a key component of WMD's program. Based on the above observations, no findings were identified in the waste management programs portion of the audit.

3.11 SURFACE WATER AND DRINKING WATER QUALITY PROGRAMS

3.11.1 Overview

The purpose of the surface water and drinking water quality portion of the routine environmental audit was to determine whether current site activities and operations comply with applicable Federal, state, and local statutes and regulations; state and local permits; other legally enforceable requirements that relate to surface water pollution control and drinking water quality; and DOE Orders. The scope of the audit included reviewing the status of compliance with the KCP National Pollutant Discharge Elimination System (NPDES) permit requirements; the City of Kansas City, Missouri (KCMO), pretreatment permit requirements; Missouri guidelines for potable water distribution systems; and DOE Order 5400.1. Corrective actions to address previous appraisal and audit findings were also evaluated. The audit methodology included reviews of plant records and documents, interviews with KCAO and AS/KCD personnel, inspections of various plant facilities, and observations of selected environmental monitoring activities. Two DOE publications, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) and Performance Objectives and Criteria for Conducting DOE Environmental Audits (January 1994), were also used as guidance in directing the approach in this audit area.

Direct discharges of once-through, non-contact cooling water and stormwater runoff from the plant are regulated by the Missouri Department of Natural Resources (MDNR) NPDES Permit #MO-0004863, issued in 1987 (D-H-49). The plant also discharges domestic sewage, various treated process wastewaters, an effluent from a groundwater treatment facility, and several miscellaneous non-sewage wastewater sources to the KCMO Publicly Owned Treatment Works (POTW) under a letter of authorization-type permit (KCMO Permit #74) issued in 1968 (D-H-53). The plant receives potable and clean process water supplies from the municipal system KCMO operates. AS/KCD manages the potable and process water distribution system within the plant according to guidelines developed by the American Backflow Prevention Association. KCMO-supplied water enters the plant at two locations, both of which are equipped with large containment valves to prevent backflow into KCMO's system. In the plant distribution system, 289 backflow preventer (BFP) valves have been installed at appropriate locations to isolate potable water supply lines from process water hook-up lines. This is a major accomplishment since the Tiger Team Assessment in 1989, when only a few BFPs were being used at the plant. Currently, all sections of the water distribution system serving as potable water supply points are protected with backflow preventers. An administrative system to control new hook-ups to the system and to prevent improper cross-connections has been developed and is being implemented, but the program has not been formalized in a system configuration control plan similar to a plan that has been established for the plant wastewater systems. A maintenance planner in the AS/KCD Facilities Engineering Division has been certified by the American Backflow Prevention Association as a BFP trainer and has developed a formal training/certification program for the AS/KCD maintenance workers (D-H-58).

At the time of the audit, the Kansas City Plant was using approximately 700,000 gallons per day of supplied water. Roughly 275,000 gallons of this water are used for normal domestic purposes (toilets, sinks, water fountains, etc.) and is routed directly to the plant sanitary sewer. Approximately 100,000 gallons per day are used for once-through,

non-contact cooling water that is discharged to the plant storm-drain system. The once-through cooling water, depending on the point of generation, may exit the plant through one of four discharges to surface water under the plant's NPDES permit. Currently, this is the only process wastewater source that can be discharged from the plant directly to surface water receiving streams. Other discharge flows at the NPDES outfalls are limited to uncontaminated stormwater runoff.

Approximately 300,000 gallons per day of the supplied water are used as industrial process water. Several plant operations generate wastewaters subject to the pretreatment standards prescribed by 40 CFR 413: Electroplating Point Source Category and 40 CFR 433: Metal Finishing Point Source Category. This process wastewater, and some other contaminated process wastewaters not specifically covered by the 40 CFR 433 pretreatment standards, are pumped to the Industrial Waste Pretreatment Facility (IWPF) through one of five process wastewater collection systems: (1) Industrial Waste, (2) Dilute Caustic Waste, (3) Dilute Acid Waste, (4) Dilute Cyanide Waste, and (5) Dilute Chromium Waste. Relatively small volumes of concentrated waste solutions from several plant operations are transported to the IWPF in portable tanks for batch treatment. AS/KCD has instituted an excellent control program to verify and maintain control of wastewaters generated at the plant, the Drain Systems Configuration Management Program (D-H-46). A CAD as-built file has been established for all five of the plant process waste systems, the sanitary sewer, and the storm sewer. Any new connections and system modifications are controlled by a Drain System Change Control Approval permit and a work permit.

Current operations at IWPF for the dilute waste streams consist of pretreatment modules for the cyanide and chromate wastes, followed by the treatment of the combined pretreated cyanide and chromate effluents and the industrial, dilute acid, and dilute caustic wastes through a common hydroxide precipitation and filtration treatment process. Concentrated acid and caustic wastes are pumped from separate waste-tank receiving and storage bays at IWPF to a special batch treatment tank, where waste-specific treatment processes determined from jar testing are administered. Two other discrete sources of treated plant wastewater, the Groundwater Treatment Facility (GTF) discharge and the BQ-37 footing tile drain treatment facility effluent, are also being discharged to the KCMO sanitary sewerage system.

Only one source of untreated wastewater discharge was identified during this audit. Wastewater contaminated with trichloroethylene (TCE) and other trace organics from much of the footing tile drainage collection system under the main plant complex is currently routed directly to the sanitary sewer without pretreatment. The current discharge of this source, however, is in conformance with the KCMO pretreatment permit requirements. Project planning is underway to install the necessary equipment and piping to collect this wastewater and transfer it to a planned new facility, the Organics Treatment Building (OTB). The use of the BQ-37 treatment equipment will be discontinued when the footing tile drainage collection equipment and the OTB become available. The OTB facility project, which was stalled for several years pending DOE Headquarters approval action on the project's NEPA documentation, will also replace GTF. Current plans call for the ultraviolet H_2O_2 light treatment units at GTF to be relocated and supplemented with additional equipment. In the current GTF, operations and maintenance access space is severely limited, and strong acid and basic chemical feed tanks are located relatively close together—situations that will be remedied when the new OTB facility becomes operational.

Under the current situation, secondary containment for the acid and basic chemical feed tanks is adequate, and the building provides tertiary containment.

Over 500 discrete wastewater sources were identified in the 1988 George Butler Associates (GBA) study and in the 1989 Tiger Team Assessment as being improperly routed to the storm sewer (D-H-72). This audit determined that these wastewater sources have now been rerouted, in most cases to the sanitary sewer. A considerable amount of "in-situ form" sewer rehabilitation work, primarily performed in 1991, and continued maintenance performed since then have reduced groundwater infiltration into the sanitary sewer and stormwater systems to acceptable levels.

At the time of this audit both the NPDES permit and the KCMO Pretreatment permit for the Kansas City Plant had technically expired. Reviews of correspondence files indicated that KCAO has submitted renewal applications and other modification request information for both permits to the regulatory agencies in a timely manner (D-H-21 and D-H-55). According to provisions of the Federal Administrative Procedures Act, and pursuant to Missouri State Regulation 10 CSR 20-6.010(10)E, all terms and conditions of the expired permits remain enforceable pending action by the regulatory agencies to issue new permits. Although formal and informal communication concerning NPDES compliance issues has continued, there are currently no definite indications of when administrative action by MDNR on the new permit might begin. Reissuance of the new KCMO permit for the sanitary sewer has been delayed pending the city's enactment of a new sewer-use ordinance that can be reconciled with current CWA-mandated pretreatment requirements (D-H-52). Recent communication with KCMO indicates that adoption of the updated ordinance and issuance of the new KCP pretreatment permit are both imminent. Negotiations with KCMO are underway to establish flexible effluent limitations as allowed by 40 CFR 403.6 for IWPF that take into account both operational flexibility and the presence of some diluting, non-regulated wastewater sources into the facility. The pending arrangements to calculate concentration limits for the IWPF effluent based on six consecutive days of operations once every six months, rather than using permanent concentration limits, are well conceived and will allow a considerable degree of operational flexibility.

KCAO and AS/KCD reporting and remedial response actions relative to occasional NPDES and KCMO permit noncompliance situations have been positive. Following MDNR's notification to KCAO that the reported intrusion of contaminated groundwater into the 001 discharge constituted noncompliance with the NPDES permit, a particularly well-planned project was implemented to eliminate the problem.

Several other miscellaneous uncontaminated discharge sources have been identified at the plant that present regulatory anomalies relative to discharge options. According to the KCMO sewer-use ordinance, uncontaminated wastewaters that tend to dilute domestic sewage and limit the effectiveness of biological treatment processes are specifically prohibited from discharge into the POTW collection system. Accordingly, KCAO included plans to discharge these sources to the storm-sewer system in the 1992 NPDES permit renewal application to MDNR (D-H-59). Although MDNR has taken no other formal action on the permit application to date, a letter was received from MDNR shortly after the submission of the permit application, specifically advising that discharge of the specific miscellaneous wastewater sources identified in the permit application was prohibited (D-H-21). Following the notification from MDNR that the miscellaneous wastewaters

could not be routed to the storm drainage system, KCAO staff informally approached KCMO staff to seek to obtain a variance from the KCMO ordinance discharge prohibitions. KCMO and MDNR staffs subsequently scheduled a meeting to discuss this wastewater management dilemma, at which time it was agreed that the miscellaneous discharges should be routed to the sanitary sewer. KCMO's draft of the new pretreatment permit specifically lists the miscellaneous wastewater sources that will be accepted by the POTW (D-H-57).

Based on observations made during this audit, the current IWPF operations appear to fulfill the substantive requirements of 40 CFR 433 metal finishing pretreatment standards. EPA Region VII's inspection of the IWPF operations in 1989 made this same basic conclusion (D-H-11). An inspection conducted by KCMO in May 1994 also revealed no deficiencies (I-H-13). Following issuance of the new KCMO pretreatment permit, operational compliance with the 40 CFR 433 pretreatment requirements will be explicitly demonstrated on a continuing basis by the permit monitoring reporting.

All areas of the plant inspected during this portion of the audit appeared to be well maintained and to be operated in conformance with good industry practices. Appropriate oil and hazardous chemical spill containment provisions were observed at all locations inspected.

The status of the Bannister Federal Complex Flood Protection Project was reviewed. Although behind schedule, this \$12 million Army Corps of Engineer's project is nearing completion and will provide protection to the plant operations and hazardous materials management areas during the high-water conditions that will accompany extreme rainfall in the area, alleviating a concern identified in the 1989 Tiger Team Assessment. The entire Bannister Road Federal Complex is located in the 100-year floodplain of the Blue River. The top elevation of the floodwall-and-levee system that now protects the plant is three feet above the calculated 500-year flood-event elevation.

Although some limited offsite monitoring of surface water in Indian Creek and the Blue River that was not specifically required by the NPDES permit had previously been conducted as part of the plant's environmental monitoring program pursuant to DOE Order 5400.1, recent DOE budget reductions have resulted in AS/KCD's discontinuing all surface-water monitoring not strictly required by the NPDES permit. Currently, the only instream sampling conducted in Indian Creek and the Blue River above and below the plant discharge points is for water temperature; the permit requires this sampling. For routine operations, the discharge monitoring required by the current NPDES permit should be sufficient to establish that plant operations do not significantly degrade the natural conditions in the plant's receiving streams.

Overall, the planning and implementation of the surface-water pollution control and drinking water quality-management programs at KCP are considered to be very effective. KCAO and AS/KCD personnel have established good lines of communication with each other and with regulatory agency staff. No serious project coordination, professional staffing, or staff training problems were identified. The success of the IWPF operations and the backflow preventer and cross connection control training program are considered particularly noteworthy.

Based on the above observations, two findings were identified in the surface water and drinking water quality portion of the audit, pertaining to compliance with the NPDES monitoring requirements and the NPDES Best Management Practices Plan requirements.

3.11.2 Findings

SW-1: NPDES Permit Monitoring Requirements

Performance Objective: Part 1, Section A of the National Pollutant discharge Elimination System (NPDES) permit for the Kansas City Plant specifies that all NPDES samples and measurements shall be representative of the nature and volume of the monitored discharge. Water samples must be obtained at each outfall before the effluent joins or is diluted by any other body of water or substance. Provisions of the NPDES permit also require continuous-flow monitoring and the collection of twice-monthly, 24-hour flow-proportional composite samples for total dissolved solids (TDS) and PCB analysis at all four plant outfalls (D-H-49).

Finding: The NPDES sampling procedures currently in use at the Kansas City Plant do not conform with the requirements specified in the permit.

Discussion: The NPDES monitoring procedures currently being implemented at KCP do not conform with the NPDES permit requirements in that (1) the sampling locations used for several outfalls may not always be representative of the plant effluent, and (2) continuous flow-monitoring is not performed and flow-proportional samples are not collected. Discussion of these deficiencies follows.

Sampling Locations:

The NPDES sampling locations for outfalls 002, 003, and 004 are inappropriate for two reasons: (1) the samples are collected at uncontrolled access points well beyond the plant boundaries and could be negatively impacted by other nearby dischargers to Indian Creek on Bannister Avenue, and (2) samples collected from pooled back-water during high-flow conditions in Indian Creek are not representative of the plant effluents and could also be negatively affected by numerous upstream dischargers.

AS/KCD and KCAO personnel report that the current Indian Creek sampling locations are being used in response to specific oral directions received from an MDNR employee (I-H-27). No formal correspondence to or from the Missouri Department of Natural Resources (MDNR), however, was found documenting this oral direction for significant departures from standard NPDES monitoring practices.

Lacking any firm, written direction from the appropriate level of authority in MDNR regarding the appropriateness of the current sampling locations, locations for outfalls 002, 003, and 004 need to be placed where they are representative of the plant effluents and are consistent with the enforceability provisions of the NPDES permit. The new floodwall sluice gate structures now in place on all three outfalls provide locations to obtain fully representative, properly controlled samples.

Continuous-Flow Monitoring and Flow-Proportional Sampling:

Continuous-flow monitoring is not being performed, and flow-proportional samples for total dissolved solids and PCB analysis are not being collected at any of the NPDES outfalls. AS/KCD staff reports that flow-monitoring equipment for all four outfalls has been out of service for several years and that estimated flows, calculated from onsite precipitation

data using flow-correlation factors developed as part of the George A. Butler Associates study of the plant's stormwater sewer system, have been provided in the NPDES quarterly reports (D-H-24). This was done reportedly with the informal concurrence of cognizant staff at MDNR (I-H-27). Written correspondence from KCAO to MDNR dated April 22, 1994, confirms that a meeting was held with MDNR staff on March 18, 1994, to discuss the substitution of estimated flow information for the required flow monitoring. The April 22, 1994, letter provided additional information requested by MDNR personnel concerning DOE's methods of estimating the storm sewer outfall flows, but did not document oral MDNR acceptance of this approach (D-H-25).

Information in KCAO's transmittals of the NPDES quarterly Discharge Monitoring Reports (DMRs) to MDNR during 1993 confirmed that new flow monitoring equipment was being evaluated that would be installed as part of a project to upgrade the stormwater discharge monitoring system (D-H-77 and D-H-78). The transmittals of the DMRs in 1994, however, indicated that although the new flow monitoring equipment had been selected, procurement and installation was being delayed pending the resolution of issues concerning the locations of the new flow meters (D-H-79, 80, 81, and 82).

MDNR has not provided written confirmation that the routine substitution of calculated flow data for monitored flows is acceptable; consequently, the current flow estimating procedures are not in conformance with the NPDES permit requirements. In addition, unless it can be documented and approved by MDNR that equal-volume, equal-time interval composite samples are representative of the total discharge, real-time flow measurements and flow-proportional sampling equipment are necessary to strictly comply with the monitoring requirements currently specified for total dissolved solids and PCBs. Therefore, procurement and installation of appropriate flow-monitoring and proportional-sampling equipment will be necessary to meet the NPDES permit requirements.

SW-2: NPDES Best Management Practices Plan

Performance Objective: Part C.6 of the National Pollutant discharge Elimination System (NPDES) permit for the Kansas City Plant specifies requirements for the development and implementation of a Best Management Practices (BMP) Plan that is subject to formal approval and enforcement by the Missouri Department of Natural Resources (MDNR). The definition for best management practices in 40 CFR 122.2 states, "Best Management Practices means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage."

Finding: The current NPDES Best Management Practices Plan for the Kansas City Plant is out-of-date, is not being continuously implemented, and lacks a number of technical elements traditionally addressed by an NPDES BMP Plan.

Discussion: The existing NPDES BMP Plan for the Kansas City Plant is a single page of text in Section 4 of the KCP Spill Control Plan (SCP) (D-H-36). The BMP Plan narrative includes specific language that states that the plan "incorporates the SPCC plan for both oil and hazardous substances as specific elements of best management practices." This narrative appears to be out-of-date and is somewhat confusing because the former Spill Prevention, Control, and Countermeasures (SPCC) Plan, a document that was previously required for the Kansas City Plant pursuant to 40 CFR 112.3, and which is no longer legally required, has now been functionally replaced by SCP. As stated above, the current BMP Plan is technically only a subsection of SCP, which would make the "incorporation by reference" citation inappropriate.

AS/KCD personnel report that SCP, including the BMP Plan subsection, was sent to MDNR by KCAO in early 1992 for review and approval, but no formal approval or other informal acknowledgement of the plan has been received from MDNR (I-H-35).

The current BMP plan mandates the establishment of a BMP committee with a number of assigned responsibilities, including a requirement to meet and prepare a report at least semiannually. A review of the file records for the committee indicated that the last meeting was held over a year ago in August 1993. Meetings previous to that were held in February 1992 and August 1991 (D-H-75 and D-H-76). Although the BMP committee records present a number of examples of the work the committee was trying to perform, and although they document honest efforts by the committee members to define their mission, it does not appear that the committee was fully successful in addressing all the responsibilities delineated in the BMP Plan in a structured, programmatic manner.

Many manufacturing facilities with operations similar to KCP's have opted to prepare "stand-alone" BMP Plans that in addition to describing oil and hazardous substance spill prevention and control measures, also address other surface-water pollution prevention initiatives that are incorporated into operating procedures, preventive maintenance programs, housekeeping practices, facility inspection schedules, recordkeeping, reporting, trends evaluations, and employee training programs. Additional guidance for BMPs related to stormwater runoff can be found in EPA publication 832-R-006: Storm Water

Management for Industrial Activities; Developing Pollution Prevention Plans and Best Management Practices (September 1992).

The current SCP already covers many of the NPDES BMP concerns for routine operations at KCP. Other initiatives relevant to surface-water pollution control best management practices are also being implemented as components of other documented environmental management programs. Any operational commitments included in an NPDES BMP Plan submitted for regulatory approval, however, are legally enforceable under the Clean Water Act. The Kansas City Plant NPDES BMP Plan, therefore, should incorporate only those specific elements of SCP, the "Emergency Plan and Implementing Procedures" document, or other existing documents deemed appropriate for such regulatory and enforcement oversight. This is another strong incentive for the development of a "stand-alone" NPDES BMP program document that has no other complete documents "incorporated by reference." Such an approach precludes the potential for inappropriate regulatory oversight and enforcement authority over parts of referenced documents that may not be directly related to surface-water pollution control. Retention of the provision for a formal BMP committee with a set of defined functional responsibilities in the NPDES BMP program will require upper-level management oversight of the committee's activities to ensure that the committee performs its assigned duties and that all BMP Plan implementation activities are properly documented.

APPENDIX A

BIOGRAPHICAL SKETCHES OF AUDIT TEAM MEMBERS

NAME: Andrea J. Heintzelman

AREA OF RESP: Team Leader

ASSOCIATION: U.S. Department of Energy, Office of Environmental Audit

EXPERIENCE: 20 Years

- U.S. Department of Energy
 - Team Leader and Environmental Protection Specialist in the Office of Environmental Audit. Team Leader on Environmental Management Assessments, Routine Environmental Audits, and Environmental Baseline Audits.
 - Environmental Subteam Leader for Tiger Team Assessments at two major DOE non-defense facilities and Environmental Deputy Subteam Leader at six major DOE defense facilities. Team Member on ES&H Progress Assessments conducted at the Mound Plant and the Rocky Flats Plant.
 - DOE HQ team member responsible for input to development of a 1993–1994 Agency ES&H Mission Statement and Strategic Plan.
 - Assistant Program Manager for Prioritization of Environmental Survey findings for DOE-wide, major defense and non-defense production facilities.
- U.S. Federal Energy Regulatory Commission
 - Project Coordinator and Environmental Compliance Specialist, assessing cumulative environmental impacts on proposed and existing hydroelectric dams, and assessment of noncompliances on operating hydroelectric projects nationwide.
- Deleuw, Cather/Parsons
 - Project Site Director and Site Resources Manager, reviewing engineering construction design impacts and assessing environmental impacts on the upgrading of the Northeast Corridor (Amtrak corridor between Washington, DC, and Boston).
- James F. MacLaren, Ltd.
 - Project Coordinator and Site Resources Manager, assessing environmental impacts (e.g., flora, fauna, fisheries, surface water, geology, and archaeology) from the proposed construction of hexafluoride, thermal, coal-fired, and hydrogenerating nuclear facilities located throughout five provinces of Canada.

EDUCATION: M.A., Applied Anthropology, American University
B.A., Anthropology, Kansas State University

NAME: Margaret Wilson

AREA OF RESP: Deputy Team Leader

ASSOCIATION: U.S. Department of Energy, Oak Ridge Operations

EXPERIENCE: 14 Years

- U.S. Department of Energy, Oak Ridge Operations Office
 - Supervisory Environmental Engineer in the Environmental Protection Division. Primary responsibilities include supervising a professional staff of environmental specialists in performing independent oversight and technical assessments of DOE contractor environmental programs.
 - Environmental Engineer in the Environmental Protection Division responsible for environmental permitting and associated negotiations, project management for remedial investigation studies at Fernald, Ohio, and environmental compliance auditing.
- University of Tennessee, Department of Civil/Environmental Engineering
 - Graduate Research Associate with the Department of Civil/Environmental Engineering responsible for performing stack emissions testing at the Oak Ridge National Laboratory under a research contract with Union Carbide, data interpretation, in-stack instrumentation calibration, and recommended improvements.
 - Graduate Student responsible for operation and maintenance of the Department's air pollution analytical laboratory in support of University research contracts.
- University of Tennessee Space Institute, Department of Atmospheric Sciences
 - Graduate Research Assistant with the Department responsible for operation and maintenance of the mobile ambient air monitoring program, data collection, equipment calibration, and air modeling in support of the impacts assessment of the Department of Energy coal conversion to energy facility (magnetohydrodynamics) located onsite.
- State University of New Jersey, Department of Environmental Sciences
 - Undergraduate Research Assistant responsible for soils data evaluation and statistical analysis in support of graduate research on local site suitability for a hazardous waste landfill in Central New Jersey.

EDUCATION: M.S., Environmental Engineering, University of Tennessee
B.S., Environmental Sciences, Rutgers—State University of New Jersey

NAME: Susan Barisas
AREA OF RESP: Technical Coordinator
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 18 Years

- Argonne National Laboratory
 - Participant in the Tiger Team Assessments of Savannah River Site and Lawrence Berkeley Laboratory and Environmental Audits at the Environmental Measurements Laboratory, Southwestern Area Power Administration, Uranium Tailings Remedial Action Project, Alaska Power Administration, the Laboratory for Energy-Related Health Research, and the Component Development and Integration Facility sites. Provided technical assistance to DOE in the development and execution of environmental survey and audit programs. Principal responsibilities include conducting environmental surveys at eight major DOE operating facilities, evaluating audit and appraisal procedures used by DOE and private industry, and developing guidance manuals to be used by DOE facilities and field organizations.
 - Worked on various projects related to hazardous waste materials management. Responsibilities included developing hazardous waste and materials management plans, evaluating applicability of treatment and disposal options for synthetic-fuels facilities, evaluating technologies for the treatment and disposal of PCB waste, and assessing the environmental impacts of alternative energy scenarios.
- Iowa Natural Resources Council
 - Developed task force reports on Water for Energy Production, Water for Commercial and Recreational Navigation, and Water Quality for a State Comprehensive Water Plan. Aided in the development of a public participation program.

EDUCATION: M.S., Water Resources/Agricultural Engineering, Iowa State University
B.A., Biology, Grinnell College

NAME: James K. Alexander

AREA OF RESP: Surface Water and Drinking Water Quality

ASSOCIATION: Roy F. Weston, Inc.

EXPERIENCE: 20 Years

- Roy F. Weston, Inc.
 - Project Director and Operations Manager for Weston's Oak Ridge, Tennessee, Branch Office. Day-to-day oversight and administration of technical and administrative staff in three technical sections: (1) Hydrogeological Services, (2) Ecological Services, and (3) Environmental Engineering Support. Project Director or Manager for specific task contracts from the Tennessee Department of Environment and Conservation Division of Superfund, the South Carolina Department of Health and Environmental Control, the Georgia Department of Transportation, EG&G-Mound, Martin Marietta Energy Systems, and numerous private-sector clients.
- PAI Corporation
 - Program Manager and Chief Environmental Engineer for PAI's environment, safety, health protection, and quality assurance oversight support contracts to DOE/ORO, DOE/NV, DOE/SAN, and the DOE Pinellas Plant. Project assignments included support to DOE field office ESH&QA functional appraisals, pre-Tiger Team self-assessments, ESH&QA management appraisals, preparation of quality assurance procedures, preparation of the Pinellas Plant HAZCOM plan, and NEPA documentation support.
- Advanced Sciences, Inc.
 - Senior Environmental Engineer/Quality Assurance Specialist at ASI's Oak Ridge Office. Provided technical support to environmental QA and CERCLA RI/FS activities at the DOE Y-12 Plant and the Fernald Environmental Management Project Site.
- U. S. Department of Energy, Oak Ridge Operations Office
 - Environmental Engineer assigned to Clean Water Act compliance and NPDES permitting oversight, NEPA compliance coordination, Clean Air Act compliance and permitting coordination, low-level radioactive waste management programs, and EIS coordination for several major projects.

EDUCATION: B.S., Environmental Engineering, University of Tennessee
M.S., Environmental Engineering, Polytechnic Institute of Brooklyn
M.P.A., Public Administration, New York University

OTHER: Certified Hazardous Materials Manager
Adjunct Instructor, Environmental Engineering Graduate School,
University of Tennessee

NAME: Lee Carpenter
AREA OF RESP: Technical Editor
ASSOCIATION: Development Technologies, Inc.
EXPERIENCE: 9 Years

- Development Technologies, Inc.
 - Technical Editor, providing support to the Department of Energy, Office of Environmental Audit, in conducting environmental assessments of DOE sites. Participated in the routine environmental audits of Sandia National Laboratories, California; the Lawrence Livermore National Laboratory; and the National Institute for Petroleum and Energy Research.
- The Library of Congress
 - Editor-in-Chief of *In Focus*, a divisional organ of the Library of Congress Photoduplication Service. Delegated article assignments, copy-edited submissions, pasted up layout, and supervised the printing.
 - System Administrator of a monitoring database. Assisted in writing the application in Paradox 3.5, meeting regularly with division section-heads and Library management to ensure suitability of the completed system and to report on production progress. Trained staff to use the system and performed regular system maintenance.
 - Senior administrative clerk, providing information on Library services to Congressional offices, university libraries, and the public.
- Freelance Author and Editor
 - Style consultant to *PC Magazine*.
 - Contributing editor of *The Ace Occasionally*, a contemporary arts magazine.
 - Author of "Today's Music," a weekly column on the music of the Church of the Ascension and St. Agnes in Washington, DC.
 - Assistant to colleagues at the Library of Congress, helping with style considerations in the production of reports, memorandums, résumés, and the like.
 - Style consultant to Tax Analysts for their daily publication *Tax Notes*.
 - Style consultant to the Washington Conservatory of Music.

EDUCATION: Gallaudet University
St. John's College, Annapolis, MD

NAME: Ronald B. Dobbs

AREA OF RESP: Waste Management

ASSOCIATION: U.S. Department of Energy, Albuquerque Operations Office (AL)

EXPERIENCE: 14 Years

- U.S. Department of Energy
 - Environmental Engineer with the Environmental Protection Division. Responsible for conducting independent hazardous waste management and compliance oversight of ten DOE/AL facilities. Conducted ten appraisals from 1991 to 1994 as part of a team effort or independently. Other primary duty requires providing Resource Conservation and Recovery Act (RCRA) regulatory assistance and guidance to these facilities.
- U.S. Environmental Protection Agency, Region IV.
 - Hazardous waste permit writer for the Waste Engineering Section. Issued Hazardous and Solid Waste Amendment (HSWA) permits to facilities seeking treatment, storage, and disposal permits under RCRA. Conducted RCRA Facility Assessments for those facilities requiring a HSWA permit.
 - Federal On-Scene Coordinator, responsible for the mitigation and cleanup of hazardous wastes at abandoned Comprehensive Environmental Response Compensation and Liability Act sites throughout Region IV. Sites identified to the EPA for immediate or emergency response were assessed and cleaned up in coordination with a hazardous-waste-removal contractor.
- Georgia Department of Natural Resource, Municipal Grants Program
 - Project engineer providing technical and administrative assistance for the construction of municipal wastewater treatment facilities. Reviewed and assisted in the design and construction of wastewater collection and treatment systems.
 - Field sampling engineer participating in an interprogram assistance to the Water Quality Support Program. Sampled wastewater media to verify compliance of municipal wastewater facilities with National Pollution Discharge Elimination System permit limits.

EDUCATION: B.S.E., (Bachelor of Science in Engineering), Environmental Engineering, University of Florida

NAME: Gary W. Frey

AREA OF RESP: Environmental Planning & Risk Management;
Staff Resources, Training, & Development

ASSOCIATION: Argonne National Laboratory

EXPERIENCE: 28 years

- Argonne National Laboratory
 - Manages an array of programs for laboratory sponsors providing a wide area of services in the environmental sciences. Program areas include environmental compliance and natural resource protection and enhancement.
- Resolution Trust Corporation
 - Managed a program to ensure that environmental commitments required by RTC were implemented in the sale and/or disposition of properties under the jurisdiction of RTC in the Denver Consolidated Field Office. Activities included remediation of contaminated properties and evaluation of properties with special resources.
- Western Area Power Administration, U.S. Department of Energy
 - At the inception of the agency with the creation of the Department of Energy, developed, organized, and managed the environmental program. Areas of responsibility included policy development and implementation in environmental planning and environmental compliance.
- Bureau of Reclamation, U.S. Department of the Interior
 - Performed a wide array of tasks in numerous aspects of the agency's activities, including management of construction activities; planning for water and power development; special projects, including participation on Reclamation's Underwater Investigation Team; and Environmental Engineering duties, including development and oversight of the agency's environmental compliance program in the Lower Colorado Region.

EDUCATION: B.S., Civil Engineering, Northeastern University

NAME: Shiv N. Goel, M.S., P.E.

AREA OF RESP: Air Quality Protection, EPCRA, Pollution Prevention Program, and Waste Minimization

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 25 Years

- U.S. Department of Energy, Albuquerque Operations Office
 - Environmental Engineer. Responsible for providing technical support and expert advice in the areas of the Pollution Prevention Act, EPCRA, and Clean Air Act for all Albuquerque Operations Office facilities. Conducted environmental appraisals at Pinellas; Pantex; Mound; Kansas City Plant; Sandia National Laboratories, California and New Mexico; Grand Junction Project Office operations; et al.
- City of Albuquerque, Environmental Health Department
 - Supervisor, Engineering Section. Supervised environmental health professionals in the air quality permit review and enforcement section. Approved air quality permits and performed inspections of complex sources, including Federal facilities, located within the county of Bernalillo.
- State of New Mexico, Environmental Improvement Division
 - Supervisory Engineer/Environmental Engineer. Supervised compliance inspection program in the state's Air Quality Bureau. Evaluated air quality permits and conducted compliance inspections and audits of various types of industrial operations, which also included Federal facilities.
- Coal India Ltd. (A Government of India Enterprise)
 - Superintendent of Mines/Mine Manager. Directed environmental, civil, and operations engineers, accountants, personnel officers, and medical officers in open pit and underground mines.

EDUCATION: M.S., Environmental Engineering, University of New Mexico
B.S. (Honors), Mining Engineering, Indian School of Mines, Dhanbad, India

OTHER: Registered Professional Engineer in the States of New Mexico and California
Registered Mine Manager (India)

NAME: Roger A. Golec

AREA OF RESP: Program Evaluation, Reporting, and Corrective Action

ASSOCIATION: Argonne National Laboratory

EXPERIENCE: 28 Years

- Argonne National Laboratory
 - ESH/QA Compliance Specialist responsible for closing Tiger Team action plans, developing ESH procedures, performing incident investigations, and designated ECR.
- Amoco Corporation/Amoco Oil
 - Senior Safety Staff Engineer with oversight responsibilities for personnel and process safety, fire protection, and training for the consolidated petroleum operations.
 - Conducted more than 120 safety and loss prevention audits in Amoco's refining, marketing, and pipeline operations and provided safety staff assistance to the Refining Department.
 - Participated in fire investigations of major incidents at Amoco's Milford Haven Refinery, the largest single tank fire in the petroleum industry; a \$12 million multiple-tank fire in Singapore; and a series of fires at the Whiting refinery.
- Quaker Oats Company
 - Coordinated the design, equipment purchase, and scheduling activities between the engineering contractor and Quaker Furans, Belgium, for doubling the capacity of a furfural alcohol plant.
- E.I. Du Pont de Nemours & Co., Inc.
 - As survey engineer in the Corporate Safety/Loss Prevention Department, conducted 22 safety/fire protection audits at U.S. and Canadian operations.
 - Project engineer responsible for design and construction of major organic chemical operations.

EDUCATION: M.S., Chemical Engineering, University of Notre Dame
B.S., Chemistry, University of Illinois

OTHER: Registered Professional Engineer

NAME: Ron Kolpa
AREA OF RESP: Environmental Protection Programs
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 21 Years

- Argonne National Laboratory
 - Staff Scientist, Regulatory Compliance Group Leader, Environmental Research Division. Principal responsibilities include CERCLA preliminary assessments and site investigations for DOE, DOD, the Department of Commerce, and the National Guard Bureau. Also served as the project manager for property assessments required on Army properties as a result of the Base Closure and Realignment Act, and as Team Leader for site characterizations of Army National Guard properties throughout the United States. Participated in the Tiger Team Assessment of Lawrence Berkeley Laboratory; environmental audits of the Southwestern Area Power Administration, Uranium Mill Tailings Remedial Action Project (UMTRA), the Component Development and Integration Facility (CDIF), the Environmental Measurements Laboratory (EML), Alaska Power Administration (APA), and the Laboratory for Energy-Related Health Research (LEHR); and an environmental management audit of the UMTRA project. Also participated in Environmental Compliance and Management Plan (ECAMP) Audits at Department of the Air Force facilities under the control of Air Force Space Command, Air Force Materiel Command, and Air Combat Command, and RCRA Training and Management System Evaluations for Air Force Materiel Command. Participated in DOE's development and evaluation of mixed waste management protocols for DOE installations. In addition, serves on the Environmental Research Division's Environment, Safety, and Health Committee and previously served as the Environmental Compliance Representative for the Environmental Research Division. Responsible for regulatory assessments for the Division's field investigation efforts.
- Iowa Department of Natural Resources
 - Technical program specialist and Environmental Program Supervisor for regulatory programs in air, solid waste, and hazardous waste for the State of Iowa. Included during this period was a 2-year detail to the U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC, where responsibilities included the development of Federal and state implementation strategies for hazardous waste programs developed under RCRA authorities.

EDUCATION: M.S., Inorganic Chemistry, Iowa State University
B.S., Chemistry, St. Procopius College

NAME: Peter C. Lindahl
AREA OF RESP: Formality of Environmental Programs; Environmental Commitment
ASSOCIATION: Argonne National Laboratory
EXPERIENCE: 22 Years

- Argonne National Laboratory
 - Group Leader. Principal responsibilities include supervision of environmental analysis group. Served as a detailee to DOE's Office of Environmental Restoration and Waste Management in the Technology Development's Laboratory Management Division, as analytical chemistry laboratory project manager for the DOE Environmental Survey Program, and as task manager for the development of gas analysis methods and associated quality assurance requirements for the DOE Waste Isolation Pilot Plant Pretest Waste Characterization Program. Also, participated in the DOE Tiger Team Assessments of Savannah River Site and Lawrence Berkeley Laboratory; the DOE environmental audits of the Southwestern Area Power Administration, Uranium Mill Tailings Remedial Action Project, Component Development and Integration Facility, Environmental Measurements Laboratory, and Alaska Power Administration; the DOE Operational Readiness Review of the Defense Waste Processing Facility at the Savannah River Site; and the DOE Environmental Management Audit of the Uranium Mill Tailings Remedial Action Project.
- Exxon Production Research Company
 - Senior Research Specialist. Responsible for supervision of inorganic analytical chemistry laboratory in support of coal, oil shale, and hydrothermal research projects.
- Perkin-Elmer Corporation
 - Senior Product Specialist. Responsible for atomic absorption spectrophotometry and analytical technical support.
- Illinois State Geological Survey
 - Associate Chemist. Responsible for the development of analysis methods for the determination of trace elements in coal.

EDUCATION: Ph.D., Analytical Chemistry, Southern Illinois University
M.A., Inorganic Chemistry, Southern Illinois University
B.A., Chemistry, Lake Forest College

NAME: Robert L. McCleary

AREA OF RESP: Organizational Structure; Internal and External Communication

ASSOCIATION: Argonne National Laboratory

EXPERIENCE: 30 Years

- Argonne National Laboratory
 - Facilitated integrated planning team responsible for developing Integrated Planning Process and Road Map for Rocky Flats. Developed assessments of, designed training for, and managed the delivery of Environmental Quality Management training and designed environmental management audit format for U.S. Air Force Space Command. Researched and provided recommendations for the public participation process required in environmental impact studies.
- Time Warner Communications
 - Corporate Vice President responsible for developing and implementing Total Quality Process in a service organization. Developed assessments of skills and proficiencies, directed development of organizational training program. Implemented corporate Quality Recognition system.
- Corning Incorporated
 - Manager of Productivity and Projects, responsible for defining Total Quality implementation processes. Assessed and defined training needs and developed programs for implementing team process and leadership training. Manager of Consumer Affairs, responsible for product quality, product safety and liability, information services, and liaison with CPSC, FTC, and FDA.

EDUCATION: B.S., Business Management, Pennsylvania State University
M.S., Business Management, Pennsylvania State University

NAME: Vee Richardson
AREA OF RESP: Administrator
ASSOCIATION: Development Technologies, Inc.
EXPERIENCE: 28 Years

- Development Technologies, Inc.
 - Administrative Team Coordinator providing support to the Department of Energy, Office of Environmental Audit, in conducting environmental assessments of DOE sites. Participated as Administrator for the routine environmental audits of Sandia National Laboratories, California, the Hanford Site, and the National Institute for Petroleum and Energy Research, and for the baseline environmental audit of the Nevada Test Sites Offsite Areas.
 - Provided administrative and technical support to an interdepartmental, 27-agency task force and five of its working groups to update the National Response Plan. The Plan defines the Federal government's response to natural and manmade disasters.
- Consultant
 - Coordinated Inaugural Prayer Service honoring President-elect Bill Clinton, and was responsible for logistical arrangements; coordination with Presidential Inaugural Committee, Secret Service, and religious leaders; recruiting and briefing volunteers; and supervising onsite activities.
 - Wrote information materials for national convocation attended by more than 2,000 people.
 - Served as Deputy to the Managing Director of Administration for the Desert Storm National Victory Celebration; coordinated and supervised set-up of headquarters operation, making facilities for more than 125 staff and volunteers fully operational within one week; designed and managed computer system; scheduled transportation systems; and supervised staff.
- The Ability Group
 - Owned and managed business services bureau; managed projects, hired and trained support staff and contractors, marketed and maintained working relationships with clients.
- Other Experience
 - 15 years in administrative management with law firms, staff assistant at Department of State, member of trial team during *U.S. v. AT&T*, and high-level secretarial positions.

EDUCATION: Oklahoma Baptist University

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APPENDIX B

AUDIT PLAN

**PLAN FOR THE DOE
ROUTINE ENVIRONMENTAL AUDIT OF THE
KANSAS CITY PLANT
KANSAS CITY, MISSOURI
OCTOBER/NOVEMBER 1994**

1.0 INTRODUCTION

The DOE Environmental Audit Program is carried out by the Office of Environmental Audit (EH-24) within the Office of Environment, Safety and Health (EH). The program was created in 1985 with the goal to provide a continuing program of internal, independent oversight of line management's environmental performance, in support of DOE's broader goal of achieving full compliance and excellence in the environmental area. The objectives of the program in achieving this goal include:

- Providing continued follow-on to the environmental component of Tiger Team Assessments;
- Conducting comprehensive baseline environmental audits of sites that were not addressed in an Environmental Survey and did not receive a Tiger Team Assessment;
- Conducting environmental management assessments within line programs, including adequacy of self-assessment programs;
- Conducting a continuing program of field/technical re-audits of major and other DOE facilities;
- Conducting special issues assessments to evaluate high priority issues at a particular site, or which cut across site and program lines; and
- Supporting line management self-assessment programs through continuing updates of audit/assessment protocols, training, and other mechanisms of transferring the special auditing expertise of EH-24 to the field.

The audit of the Kansas City Plant (KCP) during the period of October 24-November 4, 1994, will be a Routine Environmental Audit. It will evaluate the effectiveness of environmental management programs established by DOE line organizations and their support contractors. The audits are conducted in accordance with the DOE Environmental Audit Program Guidance (January 1992) and protocols developed for conducting Environmental Management Assessments (May 1993).

From an organization perspective, the scope of the audit will include evaluation of environmental management systems at the DOE Albuquerque Operations Office (AL), DOE Kansas City Area Office (KCAO), and at the site level the Kansas City Plant (KCP). The audit Team will focus on the performance of line management and support organizations in developing and implementing environmental programs, consistent with DOE expectations for environmental excellence.

From a functional perspective, the scope of the KCP audit is comprehensive in that it covers a full range of relevant environmental management systems, including:

- Organizational Structure;
- Environmental Commitment;
- Environmental Protection Programs;
- Formality of Environmental Programs;
- Internal and External Communication;
- Staff Resources, Training, and Development;
- Program Evaluation, Reporting, and Corrective Action;
- Environmental Planning and Risk Management;
- Waste Management
- Surface and Drinking Water Quality
- Air Quality

This Routine Environmental Audit Plan is based on information received by the Audit Team as of October 12, 1994.

2.0

ENVIRONMENTAL AUDIT IMPLEMENTATION

The Kansas City Plant (KCP) Routine Environmental Audit will be conducted by a team consisting of a Team Leader from the DOE Office of Environmental Audit (EH-24), a Deputy Team Leader from the Oak Ridge Operations Office (OR), six environmental management specialists from Argonne National Laboratory (ANL), a waste management and air quality specialist from the Albuquerque Operations Office (AL), a water quality specialist from Roy F. Weston, Inc. (Weston) and an administrator and technical editor from Development Technologies, Inc. (DevTech). The names and responsibilities of the team members are listed below:

Andrea Heintzelman	DOE EH-24	Team Leader
Margaret Wilson	DOE-OR	Deputy Team Leader
Susan Barisas	ANL	Team Coordinator
Gary Frey	ANL	Staff Resources, Training, and Development; and Environmental Planning and Risk Management
Roger Golec	ANL	Program Evaluation, Reporting and Corrective Action
Ron Kolpa	ANL	Environmental Protection Programs
Peter Lindahl	ANL	Environmental Commitment; and Formality of Environmental Programs
Robert McCleary	ANL	Organizational Structure; and Internal and External Communication
Ron Dobbs	DOE-AL	Waste Management
Shiv Goel	DOE-AL	Air Quality
Jake Alexander	Weston	Surface and Drinking Water Quality
Vee Richardson	DevTech	Administrator
Lee Carpenter	DevTech	Technical Editor

2.1

PRE-AUDIT ACTIVITIES

Pre-audit activities for the KCP Routine Environmental Audit included the issuance of an introduction and information request memorandum, a site visit, and initial review of documentation that was sent to the Audit Team by KCP as a result of the information request memorandum.

Four audit team members conducted a pre-audit site visit September 13-16, 1994, including the Team Leader from DOE EH-24, the Deputy Team Leader from DOE-OR, and two team members from ANL. An environmental representative/coordinator from DOE-AL also participated in the pre-audit visit. The purpose of the visit was to brief site personnel on the purpose and scope of the Routine Environmental Audit; to become familiar with KCP and its operations; to interview key personnel and identify additional personnel to be interviewed; to review information being supplied by KCP and request additional information; and to coordinate activities for the upcoming audit. The visit included presentations by KCP and KCAO.

2.2 ONSITE ACTIVITIES AND REPORTS

The onsite activities for the Routine Environmental Audit will begin October 24 and continue through November 4, 1994. These activities will include interviews with KCP management and staff, reviews of documents and record, and observations of field activities. Selected interviews will be conducted with AL and KCAO.

A draft schedule for the audit is shown in Table 1. The team has made an attempt to identify relevant personnel to be interviewed. Based on past experience, these schedules will change as additional information is gathered by the Audit Team members. Modifications to this initial interview schedule, or other elements of the agenda will be coordinated with the designated KCP and KCAO contacts.

To ensure the quality of this audit, the Audit Team will conduct daily debriefs with KCP management to review progress and issues to date. In addition, a factual accuracy review of all findings will be conducted during the second week of the audit. A closeout briefing will be conducted at the conclusion of the onsite portion of the audit, during which a summary of the results of the audit, including key findings, will be presented by the Audit Team Leader. Also at the closeout, a draft audit report will be provided to KCP for review and comment.

2.3 POST-AUDIT ACTIVITIES

Following the onsite activities, KCP and other organizations will have the opportunity to submit final comments on the draft audit report. After reviewing these comments, EH-24 will issue a final report. KCP will be responsible for preparing a corrective action plan that will be reviewed by EH-24. Following is a tentative schedule for completion for completion of these post-audit activities.

November 18	Site comments on draft report due to EH-24
January 6	Final audit report issued by EH-24
December 9	Draft action plan due to EH-24
January 6	Comments on draft action plan by EH-24
January 31	Final action plan due to EH-24

3.0 ORGANIZATIONAL STRUCTURE

3.1 ISSUE IDENTIFICATION

The Routine Environmental Audit for Performance Objectives and Criteria (POC) EM.1, Organizational Structure, will assess whether the organizational structures of AL, KCAO, and KCP are adequate to ensure environmental protection, compliance, and excellence. The audit will focus on the organizational structure and the clarity of lines of authority, and roles and responsibilities, to enable and support effective environmental management.

This will include a review of documents regarding organizational structure and interviews with KCP, KCAO, and AL management and staff. Particular attention will be focused on the changes that resulted from downsizing and the impact of redistributed reporting relationships. The audit will focus on the following:

- The effectiveness of the organization structure in supporting the environmental management process, and communicating its importance;
- How actual environmental responsibility and authority compare with the responsibility and authority implied in the organization charts;
- The impact of the vertical position on organization charts on environmental managers effectiveness;
- The role of AL, KCAO, and KCP in defining environmental standards and performance;
- • Whether environmental accountability at KCP is reinforced in job descriptions, performance standards and awards and recognition; and
- The frequency and manner in which the effectiveness or organization charts and organizational alignments are reviewed.

3.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Organization charts prior to the reorganization and currently in effect for KCAO, KCP and D-900 and its predecessor organizations;
- Parallel organization charts illustrating command parity and communication pathways;
- Mission statements for KCAO and KCP management related to environmental management and compliance;
- A summary document identifying transfer of responsibilities from D-900 as a result of downsizing;

- Statements of policy for reacting to environmental threats at the several employment levels of the KCP;
- A plan for, or results of, skill assessments that ensure that currently responsible staff are capable of meeting assigned responsibilities;
- Position descriptions or similar documents that describe the ES&H responsibilities at manager and supervisor level;
- Position descriptions for DOE Staff:
 - Chief, Environment, Safety and Health Branch
 - Environmental Manager
 - All Environmental Staff
 - Chief, Operations Management and Surety Branch
 - Staff in Facilities Branch and Operations and Surety Branch that have co-lateral duties regarding environmental management
- Performance standards for key ES&H positions;
- Cost Plus Awards Information re: Environmental Management Effectiveness;
- Policy statements for oversight procedures and responsibilities for subcontractors; and
- Documents which establish the reporting and management oversight between KCP and KCAO.

3.3 CROSS CUTTING ISSUES

The need for close coordination with other Audit Team members will be emphasized in this particular audit due to the recent downsizing and the reorganization that resulted. Not only have individuals left positions that contribute to the day-to-day operations in environmental management, others have of necessity assumed new roles. Since the same Audit Team member has responsibility for Organizational Structure and Communications, these will both be considered in each interview. Close coordination with the team members responsible for Staff Resources, Training and Development is required and combined interviews have been requested where the issues are obvious. The critical areas for measurement in the foregoing will relate to assignment of environmental responsibilities, through job descriptions and appraisals, and the plan or completion of training to ensure professional competencies. Frequent debriefings will be also be scheduled with team members responsible for Environmental Commitment, Environmental Monitoring, and Program Evaluation, Reporting and Corrective Action.

4.0 ENVIRONMENTAL COMMITMENT

4.1 ISSUE IDENTIFICATION

The Routine Environmental Audit activities for Performance Objectives Criteria (POC) EM.2, Environmental Commitment, will review and evaluate whether a commitment to environmental excellence is demonstrated throughout all levels of the organization (KCP, AL, and KCAO). Some key indications of environmental commitment that will be evaluated include the following:

- Comparison of stated priority given to environmental protection in formal KCP and KCAO policies with actual practices (reporting, managerial actions, existence and distribution of environmental policies);
- Evidence of commitment outside the ES&H structure;
- Individuals' recognition of the direct and indirect environmental aspects of their jobs and their understanding of the relevant environmental requirements;
- Integration of environmental planning with business planning processes; and
- Relationship with employees and external oversight groups.

The general approach to the audit will include a review of documentation related to environmental management and interviews with AL, KCAO, and KCP management and operation staff. Areas of particular interest will include:

- The existence of a formal policy statement that addresses environmental protection goals and priorities at the site and statements that address specific issues or concerns;
- The degree to which environmental awareness is included in all aspects of the organization, such as public affairs, legal, and procurement;
- Evidence of a sense of "ownership" of environmental protection responsibilities by personnel at all levels and functions in the organization;
- Top management's allocation of resources to environmental programs;
- Communications of environmental commitment to managers, staff, and subcontractors; and
- Top management encouragement and acceptance of input on environmental issues from employees.

4.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Organizational mission statements and formal statements of environmental policy;
- Additional issue specific policies addressing more focused environmental concerns;
- Community Relations Plan, Environmental Affairs Manual and similar procedures or guidance documents;
- Senior management statements of support for the environmental management effort that are included in internal and external reports, speeches, letters, internal newsletters and other documents;
- Agendas and minutes of routine senior management meetings;
- Examples of environmental reporting requested by top management;
- Contracts and other communication with subcontractors regarding KCP's environmental performance expectations; and
- Accounts of employee or organization involvement in, or work with, environmental task forces, environmental professional associations, or local community organizations.

4.3 CROSS CUTTING ISSUES

Coordination with other audit team members will be routine and extensive. All team members will be asked to consider whether KCP personnel take personal responsibility for environmental protection. In addition, special attention will be paid to coordination with team members responsible for evaluation of Internal and External Communication regarding communication of policies, reporting, and interaction with external groups; and Staff Resources, Training and Development regarding resource allocation.

5.0 ENVIRONMENTAL PROTECTION PROGRAMS

5.1 ISSUE IDENTIFICATION

The Environmental Protection Programs protocol (EM.5) of the Routine Environmental Management Audit of the Kansas City Plant (KCP) will assess KCP's compliance with the environmental protection planning requirements contained in DOE Order 5400.1 General Environmental Protection Program.

The specific environmental protection plans required by DOE 5400.1 that will be reviewed as part of this audit include:

- Environmental Protection Implementation Plan (EPIP)
- Long Range Environmental Protection Plan
- Groundwater Protection and Groundwater Monitoring Plans
- Waste Minimization Plan
- Pollution Prevention Awareness Program
- Environmental Monitoring and Surveillance Plan
- Meteorological Monitoring Program Plan
- Emergency Preparedness Program Plan
- Quality Assurance Program Plan

The evaluation will also determine whether these programs, if successfully implemented, can ensure KCP's compliance with all applicable federal and state laws and regulations, Executive Orders, other DOE Orders, and KCP-specific compliance requirement contained in operational permits, Administrative Orders on Consent (AOCs), Compliance Agreements, or other compliance enforcement documents issued to KCP by federal, state, or local environmental regulatory authorities.

The emphasis of the audit will be on evaluating both the substance and scope of environmental protection programs, as well as their effectiveness in identifying and satisfying specific regulatory or DOE requirements and providing for continued compliance. In addition, the audit will review the mechanisms and procedures in place for establishing environmental protection programs, periodically reviewing them for their effectiveness, and modifying or amending them in light of new or changed requirements or identified program deficiencies. The audit will also extend to a review of those programs that relate to oversight and control of contractors working at KCP whose activities may have environmental compliance impacts.

Based on pre-audit information, the key compliance issues against which KCP's environmental protection programs will be evaluated include applicable regulatory requirements contained in implementing regulations for the following federal statutes and their State of Missouri equivalents:

- Resource Conservation and Recovery Act (RCRA)
- Hazardous and Solid Waste Amendments (HSWA)
- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Toxic Substance Control Act (TSCA)

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- National Environmental Policy Act (NEPA)

A special emphasis of the audit will be the review of management programs that have been established in support of environmental restoration activities occurring at the KCP as required by a RCRA 3008(h) Corrective Action Administrative Order on Consent issued to the DOE by Region 7 of the Environmental Protection Agency.

The general approach to the audit will involve interviews with personnel from KCP and DOE's Kansas City Area Office (KCAO) who are responsible for development, implementation, and documentation of KCP's environmental protection programs. The audit will also extend to interviews of contractor personnel responsible for operation of pollution control and pollution abatement facilities and equipment at KCP. Areas of interest will include:

- The manner in which DOE's environmental liabilities and interests are represented in negotiations and interactions with regulatory officials;
- Identification and satisfaction of environmental monitoring requirements (as contained in both operating permits and DOE Orders);
- Pollution prevention and waste minimization programs (including internally conducted opportunity assessments);
- Mechanisms for enforcement of, and amendment to, environmental protection programs;
- Emergency response planning and capabilities;
- Preventative maintenance programs for pollution control and pollution abatement facilities and equipment; and
- Evidence that environmental programs include an understanding of applicable regulatory requirements, recordkeeping and reporting systems, training and oversight (including contractor and subcontractor activities).

5.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Correspondence and submittals related to the RCRA 3008(h) Administrative Order on Consent (AOC) issued by EPA-7 (Docket #VII-89-11-0026, June 23, 1989)
- Technical documents and reports required by the RCRA AOC, including: RFI Work Plan, RCRA Facility Investigation Report (RFI), Corrective Measures Study (CMS), Corrective Measures Implementation Plan (CMI)

- Individual environmental project plans, including NEPA-required studies
- Operating procedures and operating records for the Groundwater Treatment Facility required under the RCRA AOC
- Emergency response plans
- Hazardous waste contingency plans (if separate from site's spill response plan)
- NESHAPS agreements
- EPCRA inventories and agreements
- Reports to DOE (including Annual Environmental Reports required under DOE 5400.1 and all Notifications of Environmental Occurrences as required by DOE 5484.1 and 5000.3A) as well as 5-year plan reports on pollution abatement projects as required by DOE guidance related to compliance with OMB Circular A-106)
- Documentation relating to temporary or permanent exemptions from environmental protection planning requirements granted to KCP under waiver provisions of DOE 5400.1
- Reports to regulatory officials (as required in operating permits, AOC's or other agreements)
- Other relevant documents that may be identified during the course of the audit.

5.2 CROSS CUTTING ISSUES

Evaluation of the Environmental Protection Programs at KCP will necessarily involve coordination with other Audit Team members. In particular, cross-cutting issues are recognized with Formality of Environmental Programs regarding the formality of program elements and with Staff Resources, Training, and Development regarding qualifications and training of staff responsible for implementation of environmental protection programs. Interaction with the air quality, surface water quality and waste management Audit Team members will also be essential to address the inclusion of specific activities into the required programs and plans.

6.0 FORMALITY OF ENVIRONMENTAL PROGRAM

6.1 ISSUE IDENTIFICATION

The Routine Environmental Audit activities for POC EM.4, Formality of Environmental Programs, are designed to determine whether environmental protection activities are conducted in accordance with formal programs supported by controlled documentation. The emphasis of the review will be to determine whether policies and procedures are documented and implemented through formal, disciplined auditable systems. The audit is designed to evaluate:

- The existence and effectiveness of formal systems to track and interpret regulations and DOE Orders and incorporate them into policies, standards, and procedures specific to KCP operations;
- The extent to which environmental programs and procedures are developed and effectively implemented throughout the system;
- System for conducting inspections, developing corrective action plans, and follow-up; and
- Systems for maintaining and retaining records, and for ensuring timely completion of regulatory and management reporting requirements.

The general approach to the audit will include interviews with KCP and KCAO personnel responsible for environmental policy development and implementation and a review of documentation supporting environmental programs. Areas of particular interest include:

- Systems to track and translate regulatory requirements into policies, standards, and procedures;
- The development of guidance documents to assist staff in assuring a high level of environmental compliance and protection and the systems to distribute this guidance and regulatory information to all relevant personnel and operational groups within DOE, contractor and subcontractor organizations.
- The development and distribution of procedures for the implementation of environmental protection programs;
- Contractor oversight procedures and systems;
- Quality assurance and data validation systems for environmental-related parameters;
- Recordkeeping and document control systems; and
- Formal systems to identify, report, correct, track and monitor environmental problems.

6.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Program specific and general ES&H policies, procedures, and guidance manuals;
- Environmental protection and management plans;
- Regulatory tracking protocols and procedures;
- Examples of environmental records and reports;
- Reports of internal audits and self assessments;
- Reports of corrective action implementation;
- Documentation and records of environmental performance; and
- Incident and occurrence reports.

6.3 CROSS CUTTING ISSUES

Coordination with other audit team members will be extensive. Formality is an important component of all the protocols. Special attention will be paid to coordination with other team members in the following areas: Environmental Protection Programs, regarding the extent of their formality; Program Evaluation, Reporting and Corrective Action regarding the formality of inspections, corrective action, and reporting-related activities; and Staff Resources, Training, and Development regarding formality of training and job descriptions.

7.0 INTERNAL AND EXTERNAL COMMUNICATION

7.1 ISSUE IDENTIFICATION

The Routine Environmental Audit for Performance Objective and Criteria (POC) EM.5, Internal and External Communication, will assess whether formal and informal channels of communication are designed, exist and are utilized in a manner that demonstrates the commitment of management to environmental protection, increases awareness and engenders support for environmental policies and programs throughout the organization. The Audit will also examine the plans, policies and activities for sharing information with external stakeholders such as regulatory agencies, environmental groups, and community at large. The focus will be on the policy statements, plans, frequency, and modes of communication used and the metrics used to measure the effectiveness of current programs. Key issues to be addressed include:

Internal Communication

- The existence of formal channels of communication for communicating environmental policies, standards, guidance and performance throughout the organization;
- Communication of environmental activities and best management practices across KCP and between KCAO and KCP (top-down, bottom-up and lateral);
- The existence, use, and follow-up of systems for anonymous communication of environmental concerns. This includes quality and timeliness of response;
- The process for communicating environmental protection directives and methods used to determine the effectiveness of distribution and the level of real understanding at various levels;
- Informal channels of communications and their relationship to the organization chart. This includes recording of information and actions taken;
- The flow and effectiveness of communications between KCAO and AL; and
- The use and effectiveness measures of communications dedicated to recognizing outstanding performance in environmental management/pollution prevention areas.

External Communication

- Quality relationships with external oversight organization;
- Periodic, ongoing formal communication of environmental management initiatives and updates of performance to various stakeholders;
- Public participation mechanisms to provide involvement in key environmental protection decisions;

- Response to environmental concerns expressed by external parties;
- Effectiveness of communication as demonstrated by external recognition of KCP commitment to environmental protection; and
- The policies and effectiveness measures that guide the frequency and objectives of various communication methods.

The audit will include interviews with KCAO and KCP personnel responsible for communicating environmental policy and programs. In addition management, staff, and production personnel will be interviewed. Documents will be reviewed to establish the existence of policies, plans, and implementation and quality assessment programs.

7.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Policy statement defining the objectives and purpose of internal and external communication;
- Meeting agendas and attendance records from quarterly ES&H meetings;
- Samples of formal and informal communications between KCP departments and between KCP and KCAO;
- KCAO Review and Submittal Plan;
- Policy statements regarding responsibilities of line managers for ES&H activities;
- Records of Comments Please and ES&H Concern Line showing frequency of use, quality of response and actions taken;
- Press release, evidence of use by recipients and other documents relating to environmental activities;
- Record of use of information provided through library reading room;
- Policy statements regarding required internal awareness and sign off prior to release to external communication of sensitive information or extraordinary circumstances;
- Records of feedback and disposition of issues from external community relations communications, such as Focus on the Environment;
- Communications plan for informing other site residents of ES&H efforts and issues; and
- Plan for maintaining current list of external stakeholders.

7.3

CROSS CUTTING ISSUES

Internal communications includes meetings, memos, training, newsletters, all relevant forms of communication in an organization. Constant review with the other Audit Team members will be required to determine the existence, quality and effectiveness of the organization's communication system. Interaction with the entire team will be necessary. The existence and use of clearly understood procedures relating to the reporting of critical events and evidence of their effective use will be of particular interest and evidence of this will be observed by the entire team.

8.0 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

8.1 ISSUE IDENTIFICATION

The Environmental Audit for POC EM.6, Staff Resources, Training, and Development, will involve reviewing and analyzing KCP's operations to verify that staff resources are sufficient to develop and implement environmental protection programs; that all personnel have received training appropriate for their responsibilities; and that professional development opportunities for environmental staff are available. The audit will address the following:

- Adequacy of environmental staffing to meet the environmental goals and responsibilities of the Kansas City Plant;

Process for identifying staff resource needs against DOE and site based requirements,

The extent to which KCP relies on support contractors to perform environmental protection activities,

- Adequacy of the technical mix of staff to address the environmental responsibilities of the Kansas City Plant;
- Adequacy of the education, training, and experience of the environmental support staff to effectively conduct their assigned duties;
- Documentation of line management and staff environmental responsibilities and adequate training to accomplish their mission(s);
- Adequacy of the system for job performance measurement and awareness of job performance expectations;

Elements and standards for job performance are in place; are reviewed and revised periodically; and are concurred with by employees,

Performance reviews are conducted with staff periodically and performance is documented,

- Existence of training programs that ensure that staff obtain the necessary training to perform the responsibilities of their positions;

There are appropriate training policies, directives and/or plans in place for the KCP to assure that staff receive adequate training to perform job responsibilities and enhance career opportunities,

There are individual training plans for staff that are reviewed periodically,

There is an overall training plan identifying necessary training for environmental staff,

Training records are maintained in a satisfactory record system.

8.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Organization Chart for Environmental Program(s) for DOE and Allied Signal
- Organization staffing plans for DOE and Allied Signal
- Any resources needs studies conducted for either DOE or Allied Signal
- Office policy documents, directives, or program documents describing the overall training program for DOE and Allied Signal.
- Position Descriptions, Elements and Standards, Resumes or SF-171's, Training Histories and Training Plans for the following key individuals:

DOE Personnel

Chief, Environment, Safety and Health Branch

Environmental Manager

All staff in the Environmental Section

Chief, Facilities Branch

Chief, Operations Management and Surety Branch

Staff in the Facilities Branch and Operations and Surety Branch that have co-lateral duties regarding environmental management

Allied Signal Personnel

Director, Division 900, ES&H

Supervisor, Environmental Compliance

Environmental Protection Specialist

Supervisor, EM Program Management

Supervisor, Pollution Prevention/Risk Management

Supervisor, Waste Management

Environmental Protection Specialist-Waste Management Technical Support

Technical Project Specialist, High Performance Team

8.3 CROSS-CUTTING ISSUES

There will be extensive coordination with other Audit Team members throughout the audit. Particular attention will be paid to coordination with the following protocol areas:

- **Organizational Structure:** Recent downsizing has led to reassignments within the organization, including the environmental function. In addition the training function has been decentralized and incorporated within individual organizational units.

- **Environmental Commitment:** Restructuring of the workforce creates the potential for de-emphasizing certain areas due to competition for positions in a shrinking workforce.
- **Formality of Operations:** A restructuring of the training function in the organization creates a issue regarding implementation of a meaningful training and development program.

9.0 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

9.1 ISSUE IDENTIFICATION

The Routine Environmental Audit activities for POC EM.7, Program Evaluation, Reporting, and Corrective Action, will assess whether the organization has self-assessment and oversight programs in place to effectively evaluate environmental protection activities, report environmental concerns, implement corrective actions, and progressively improve environmental management activities. The key elements of the review are the following:

- Design of self assessment and appraisal programs, including their objectives, scope, frequency, training, and assignment of responsibilities;
- Program implementation;
- Follow-up from the assessments/appraisals, including reporting format and distribution; corrective action planning, tracking, and implementation; performance trending and analysis; and continuous improvement actions based on lessons learned; and
- Selection of qualified staff to conduct audits and appraisals.

The general approach to assessing this management area will include interviews with KCP and KCAO staff who are responsible for environmental oversight, and interviews with line management who are responsible for self-assessment. The Audit Team will also review other relevant documentation not previously provided in the pre-audit documents. Based on the review of pre-audit information, the following issues will be further evaluated during the audit:

- Understanding of all required program evaluation mechanisms, including self-assessments, audits, and appraisals;
- Scope and approach of self-assessments and appraisals;
- Adequacy of self-assessments in meeting the intent of DOE self-assessment policy and guidance;
- The type, frequency and coverage of oversight activities with potential environmental impacts and the depth and frequency of the reviews;
- Assignment of responsibilities for self-assessments/appraisals and qualifications/training of those conducting the assessments;
- Documentation, reporting, and distribution of assessment findings and reports to appropriate managers at KCP, KCAO, and AL;
- System for setting priorities for corrective actions and specific plans with respect to recurring causes (e.g., mechanical failure);
- Systems for tracking and ensuring completion of corrective actions;

- Existence of "lessons learned" initiatives or programs;
- Assessment of late/incomplete corrective actions; and
- Identification of performance indicators.

9.2 RECORDS REQUIRED

- Description of the programs, procedures, and responsibilities relating to environmental performance evaluation;
- Reports of audits and appraisals conducted by both internal and external organizations;
- Meeting minutes from senior management meetings, advisory committees, and ES&H working group meetings;
- Corrective action plans;
- Documentation of the corrective action tracking system;
- List of environmental performance indicators and reports demonstrating evaluation against these indicators (e.g., ES&H status reports);
- Methodology for selecting and reevaluating specific performance indicators;
- Trend analysis or lessons learned documentation; and
- Documentation of the qualifications/training of staff responsible for conducting environmental oversight activities.

9.3 CROSS-CUTTING ISSUES

Coordination with other Audit Team members will be routine and extensive. Special attention will be paid to coordination with other team members in the following areas: Internal Communications regarding effective internal communication of self-appraisal findings and corrective actions to appropriate level of management; Staff Resource Training and Development regarding training of audit and assessment personnel; and Formality of Environmental Programs regarding documentation of the corrective action system.

10.0 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

10.1 ISSUE IDENTIFICATION

The Environmental Audit for POC EM.8, "Environmental Planning and Risk Management", will include evaluating the effectiveness of environmental planning activities and risk management procedures. The planning portion of the audit will examine environmental planning activities and also assess the extent to which environmental considerations are integrated into standard business planning activities, such as budgeting, priority setting, and allocation of resources. In addition to planning, this portion of the audit will evaluate the adequacy of systems designed to identify environmental hazards and to minimize and control environmental risks.

The general approach to the audit will be to interview personnel responsible for environmental planning, budgeting and risk management, and to review documentation supporting that effort. The audit will focus on the following areas:

Environmental Planning

- Technical and financial planning relating to environmental management and the extent to which such planning is conducted and integrated with overall organizational planning;
- The adequacy of funding for environmental protection activities and planning not associated with the EM 5-year plan;
- The relative priority that environmental issues are given with respect to production in the planning and budgeting process; and
- The adequacy of the site's planning for its needs in the areas of pollution control technology and related equipment and services for supporting environmental protection activities.

Risk Management

- Systems for formal review of programs and activities that have the potential to represent a risk to the environment;
- Systems for assessing risk to the environment from existing and planned operations, including the specific mechanisms for identifying hazards and associated risks, assessing the acceptability of identified risks, and risk mitigation actions;

10.2 RECORDS REQUIRED

Documents requested for review prior to or during the audit of the Kansas City Plant include:

- Environmental Protection Implementation Plan;

- Long Range Environmental plan;
- Strategic Planning documents for activities at the site;
- Budget documents regarding environmental planning activities or the environmental planning process;
- Any policy documents, directives, or guidance issued by the site regarding roles and responsibilities for risk management at KCP.

10.3 CROSS-CUTTING ISSUES

There will be extensive coordination with other Audit Team members throughout the audit. Particular attention will be paid to coordination with the following protocol areas:

- **Organizational Structure:** Recent downsizing has led to reassignments within the organization, including the environmental function. In addition the training function has been decentralized and incorporated within individual organizational units.
- **Environmental Commitment:** Restructuring of the workforce creates the potential for de-emphasizing certain areas due to competition for positions in a shrinking workforce.
- **Formality of Operations:** DOE procedures require the preparation of various documents that identify the planning and budgeting process
- **Environmental Protection Programs:** Environmental protection programs in place at KCP will form the foundation for environmental planning and risk management activities on the site.
- **Air Quality:** Air quality activities at the site require development of various risk management plans to meet stipulation requirements

11.0 AIR QUALITY

11.1 ISSUE IDENTIFICATION

The air-related environmental audit activities involve an assessment of facility-wide air emissions, emission control and emission monitoring procedures and equipment, and acquisition and processing of ambient air quality data. Areas of particular interest are the process emissions of particulates, organic vapors, inorganic compounds, and air toxics. Operational and procedural practices associated with emission control equipment will be evaluated. Compliance with the local air program authority's regulations, State of Missouri Air Quality Control Regulations, National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements, and DOE Order requirements will be assessed. In particular, the air emissions inventory, operating permit program and sources of hazardous air pollutants (HAPs) will be investigated.

The general approach to the assessment will involve a review of existing air permits, operating procedures, stack test reports, and other relevant documents to identify significant sources of air emissions. Following the document review, a physical inspection of significant processes or operations and emissions control and monitoring equipment will be accomplished.

11.2 RECORDS REQUIRED

Documents and files to be reviewed during the audit include, but will not be limited to, the following:

- Air permits;
- Source and source emission inventories;
- Environmental monitoring reports;
- Ambient air dispersion calculations;
- Air monitoring program documentation:
 - Sample location rationale and documentation,
 - Sampling collection procedures,
 - Calibration procedures and records,
 - Ambient air monitoring data, and
 - Maintenance procedures and records.
- Meteorological monitoring program documentation:
 - Meteorological tower location rationale and documentation,
 - Sample collection procedures,
 - Calibration procedures and records, and
 - Maintenance procedures and records.
- Reports on accidental releases of airborne substances;

- Description/documentation on existing and proposed add-on emission controls and ventilation system drawings;
- Operating and testing/maintenance procedures for control equipment;
- Air related correspondence with regulatory agencies;
- Stack Monitoring/sampling program documentation;
- Usage and releases of EPCRA chemicals.

12.0 SURFACE WATER AND DRINKING WATER QUALITY

12.1 ISSUE IDENTIFICATION

The Routine Environmental Audit activities for Surface Water and Drinking Water Quality, will result in a current determination whether site activities comply with applicable federal, state, and local statutes and regulations, DOE Orders, permits, agreements, and other legally enforceable requirements that relate to surface water and drinking water quality. The evaluation of surface water and drinking water issues at the Kansas City Plant will be primarily based on an assessment of compliance with requirements mandated by the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA).

The State of Missouri has passed enabling legislation to allow the Missouri Department of Natural Resources (MDNR) to manage the National Pollutant Discharge Elimination System (NPDES) mandated by Section 201 of the Clean Water Act on behalf of the U.S. Environmental Protection Agency. Similarly, the municipal government of Kansas City, Missouri, (KCMO) operates a CWA-mandated permit program for the pretreatment and discharge of industrial wastewater to the city's sanitary sewer system. In addition to compliance issues related to direct discharges to surface receiving streams and the KCMO sewer system, related CWA-compliance issues have been identified concerning infiltration of contaminated groundwater into the plant wastewater management systems, exfiltration of contaminated wastewater to groundwater, potential risks associated with inundation by floodwaters, and spill control and countermeasures for oil and hazardous chemicals stored and/or used at the plant.

Potable drinking water issue involve the treatment, storage, and distribution of drinking water onsite. The Kansas City Plant purchases its potable water from the local utility, but must take steps to protect the integrity of the supply through an aggressive backflow prevention/cross-connection control program. The adequacy of the program at the Kansas City Plant was raised as an issue during the Tiger Team evaluation in 1989, and will be re-evaluated as part of this audit.

Specific environmental programs related to surface water management that will be evaluated for adequacy, quality and effectiveness during this audit will include, but will not necessarily be limited to, the following:

- Current status of renewal applications and projections of update terms and conditions of the NPDES and KCMO Pretreatment permits for the plant.
- Status of improvements to the plant wastewater systems to control infiltration and exfiltration.
- Adequacy and effectiveness of communications with wastewater management regulatory contacts.
- Comprehensive review of all documented NPDES and KCMO permit noncompliance issues in the last two years.
- Status of remedial actions to eliminate trace sources of PCB and organics to surface water discharges.

- Adequacy of plant programs for oil and hazardous substance spill prevention, controls, and countermeasures (SPCC); and best management practices (BMP) for prevention of surface water pollution.
- Status of Army CoE project to protect the plant facilities from inundation by floodwaters.
- Adequacy of wastewater discharge monitoring programs relative to permit and other regulatory requirements.
- Adequacy of operations and maintenance of plant wastewater treatment facilities.
- Status of efforts to develop and implement a backflow prevention/cross-connection control program for the plant's potable water system.
- Review of current status and evaluation of the long-term efficacy of the ongoing groundwater treatment program.
- Review of contractual arrangements for analytical laboratory services related to wastewater discharge monitoring.
- Adequacy of the current surface water environmental monitoring program relative the requirements of DOE Order 5400.1.
- Evaluation of current status of staffing and qualifications of personnel involved in wastewater management programs.

12.2 RECORDS REQUIRED

- Current NPDES and KCMO Pretreatment permits, latest renewal applications, and all related correspondence.
- Draft of pending new KCMO ordinance regulating wastewater discharges to the municipal sewer system.
- Operations Plan and Procedures for Industrial Waste Pretreatment Facility (IWPF).
- Operations Plan and Procedures for Groundwater Treatment Facility
- Operations and Maintenance Plans and Procedures for the Plant Wastewater Collection and Conveyance Systems
- Past and Current Environmental Monitoring Plans (EMPs) and Sampling and Analysis Plans (SAPs)
- Project Description Documents for the Flood Wall Projects
- Backflow Prevention and Cross-Connection Control Plan and Training Manual

- **George Butler and Associates, Inc. (GBA) Report for the City Water and Sewerage Systems Evaluation and Computer Mapping Study, and the Supplemental Report for the "Z" Lateral Investigation**
- **GBA Report for the Metal Finishing Pretreatment Category Study**
- **Recent Annual Site Environmental Monitoring Report**
- **Current functional equivalents of SPCC and BMP documents (if available).**

13.0 WASTE MANAGEMENT

13.1 ISSUE IDENTIFICATION

The Routine Environment Audit activities for Waste Management will assess KCP's programmatic effectiveness for hazardous waste management and compliance.

The approach to this audit will include a review of documentation and interviews and KCAO, and KCP management and staff to identify specific areas of concern. Areas of interest for this audit will be:

- How have classified wastes been dispositioned, how long have they been stored, and has complete hazardous waste characterization been performed;
- Is there available staffing and resources to fulfill the hazardous waste management and compliance requirements;
- How is waste characterization and identification performed;
- What has been accomplished in recent waste minimization and pollution prevention efforts;
- How and who tracks new regulations and identifies issues and impacts to the Kansas City Plant;
- Have offsite waste disposal and/or treatment facilities been inspected prior to initiating contracts with these companies;
- The interface between the Area Office, the contractor, and the Albuquerque Operations Office;
- Determine if the contractor is adhering to all requirements for weapon components disassembly which generate radioactive sources; and
- Follow-up on corrective actions taken for audits and appraisals.

13.2 RECORDS REQUIRED

In addition to those records and documents reviewed prior to the audit, the following records will be examined at the KCP:

- Other Allied Signal Operating Procedures for conducting operations at the KCP;
- Environment, Safety and Health (ES&H) Manual and program plans;
- U.S. DOE KCP RCRA Part B Permit Application for Storage and treatment facilities, April 1992;
- Final Action Plan to the DOE Tiger Team, October 31, 1990.

13.3 CROSS-CUTTING ISSUES

Issues and concerns identified during the audit which cross over or overlap into other team members functional areas will be discussed and coordinated as appropriate. Preliminary review of these topics indicate potential crosscutting areas. These areas are identified as follows:

- Waste minimization and pollution prevention;
- Organizational structure and management, and internal quality control assurance;
- Solvent reduction and reported usage under the Clean Air Act.

APPENDIX C

**SITE DOCUMENTS REVIEWED
BY THE AUDIT TEAM**

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author	Organization	Recipient	Document Date
ROBERT L. McCLEARY—ORGANIZATIONAL STRUCTURE (OS); INTERNAL AND EXTERNAL COMMUNICATION (IC)					
D-A-1	Newsbreak, Vol. 17, #18		AS/KCD—Public Affairs		October 7, 1993
D-A-2	Emergency Contact List		AS/KCD—Public Affairs		September 1994
D-A-3	Newsbreak		AS/KCD—Public Affairs		October 2, 1994
D-A-4	Newsbreak		AS/KCD—Public Affairs		October 18, 1994
D-A-5	Quest, Vol. 1, Number 1		AS/KCD—Public Affairs		October 1994
D-A-6	RCRA Public Involvement Manual		EPA—Solid Waste and Emergency Response		September 1993
D-A-7	Measurements		AS/KCD—Public Affairs		1994
D-A-8	Construction Safety Letters	J. Adlich	AS/KCD		May, June, July, and October 1994
D-A-9	Jack A. Knuth Continuous Improvement Award	Director of Quality	AS/KCD		
D-A-10	Communications—Branch Managers and AS/KCD Counterparts	S. Taylor	KCAO	All ES&H Associates	July 6, 1994
D-A-11	Letter transmitting response to comments	P. Keary	KCAO—ES&H	K.S. Ritchey, EPA Region VII	October 7, 1994
D-A-12	Letter re request for approval of KCP excavated soil management plan	P. Keary	KCAO—ES&H	G. Williams, MO Hazardous Waste Program Permits Section	October 11, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-13	Memorandum re waste management baseline review	M. Stockdale	KCAO-ES&H	E. Brown, AS/KCD WM Program Support	October 12, 1994
D-A-14	Memorandum re baseline change proposal, KCP-95-001	D. Solcher	KCAO-ES&H	J. Coody, AL Project Control Branch	October 11, 1994
D-A-15	Response to review and comment on KCMO proposed sewer use ordinance	D. Caughey	KCAO-ES&H	M. Lappin, KCMO Water and Pollution Control Dept.	October 6, 1994
D-A-16	Memorandum re abandoned Indian Creek outfall remediation	D. Caughey	KCAO-ES&H	R. Sena, ERPO	October 21, 1994
D-A-17	Memorandum re round II cost quality management comments and action plan for KCP	D. Caughey	KCAO-ES&H	R. Scott, DOE/EM-242	October 5, 1994
D-A-18	Memorandum re draft DOE Order 5400.1	P. Hoopes	KCAO-ES&H	L. Smith	October 3, 1994
D-A-19	Memorandum re waste minimization funding guidance	S. Taylor	KCAO-Manager	R.F. Pippert	October 7, 1994
D-A-20	Memorandum re FY 1995 stockpile support program budget submissions (priorities)	B. Twining	AL	Distribution	March 10, 1993
D-A-21	Performance objectives as a document, KCD 149D		AS/KCD		
D-A-22	Quality environmental briefing announcement (canceled)	R. Bennett	AS/KCD-ES&H	Distribution	September 14, 1994
D-A-23	Joint monthly environmental staff meeting agenda	B.A. Heacock	AS/KCD-ES&H	Distribution	August 3, 1994
D-A-24	Organization, Authorities, and Functions, DOE/AL 1120, Rev. 2	B. Twining	AL		October 2, 1989 forward
D-A-25	Memorandum re copies of correspondence for Lou Smith	R. Bennett	AS/KCD-ES&H	ES&H Associates	April 22, 1994
D-A-26	Law Department review of ES&H issues	D. Sosinski	AS/KCD-Legal Counsel	R. Bennett	October 3, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-27	Approved funding program change requests for ER/MM	M.A. Hanson	AL		July 8, 1994
D-A-28	Performance objective results	B. Heacock	AS/KCD-ES&H		January 1994
D-A-29	KCAO position descriptions		KCAO		Various
D-A-30	Salaried classification description (job description)		AS/KCD		Various
D-A-31	ES&H Responsibilities Within AL Office	B. Twinning	AL	Distribution	April 15, 1991
D-A-32	Field Management Plan		AL-Waste Management Division	Distribution	September 1994
D-A-33	Letter transmitting quarterly report generators of controlled industrial waste	M. Stockdale	KCAO-ES&H	J. Roberts, OK Dept. of Health Hazardous Waste Management Section	October 19, 1994
D-A-34	Memorandum re Waste Operations teleconference	M. Bange	AL-Waste Management Division	Distribution	October 11, 1994
D-A-35	Memorandum re D/900 [ES&H] Job Responsibilities	C.C. Gentile	AS/KCD-ES&H	All ES&H Associates	September 29, 1994
D-A-36	KCP Safety Manual, Chapter 2: Annual ES&H Inspections	J.H. Richardson	AS/KCD-Loss Prevention and Safety		May 25, 1993
D-A-37	Community Relations Plan for Environmental Activities and Issues		AS/KCD-Community Relations Dept.	Stakeholders and EDA	May 1993
D-A-38	Purchasing Standard Paragraph #8102	A. Kilbride	AS/KCD-Purchasing and MHS	Service Contractors	October 12, 1994
D-A-39	Salaried Classification Description		AS/KCD	R. Van Hoose	April 20, 1994
D-A-40	Job Description		AS/KCD	S. Mayfield	October 11, 1987
D-A-41	CPAF Self-Assessment Report		AS/KCD	DOE	September 30, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-42	PMRS/PMS Performance Rating	S. Taylor	KCAO	G.A. Betzen	July 1, 1994
D-A-43	DOE Performance Appraisal Plan		DOE		
D-A-44	AL-ES&H Appraisal Guidance	D.L. Krenz	AL		January 11, 1993
D-A-45	Environmental Restoration and Waste Management Responsibilities	B.G. Twining	AL		February 14, 1992
D-A-46	Performance Based Assessment of Environmental Protection, Kansas City Division	C. L. Walter	AS/KCD	DOE	May 1994
D-A-47	Environmental, Safety & Health Organization Chart	R.H. Bennett	AS/KCD-ES&H		September 8, 1994
D-A-48	D/900 Organization Chart	R.H. Bennett	AS/KCD-ES&H		September 13, 1994
D-A-49	KCAO Organization Chart	S. Taylor	KCAO		
D-A-50	Kansas City Plant Environmental Protection Implementation Plan		ASA-Environmental Compliance Dept.		November 9, 1993
D-A-51	D/900 Organization after RIF		AS/KCD-ES&H		
D-A-52	Proposed Structure and Responsibilities for KCP's ES&H Training Programs	P. Barton L. Taylor	AS/KCD-ES&H	R. Bennett	October 15, 1994
D-A-53	KCD ES&H Division Training Program Manual (Draft)				October 1, 1994
D-A-54	ES&H Training by Course ID		AS/KCD-ES&H		April 3, 1991
D-A-55	Internal Procedure		AS/KCD-Facility Engineering		June 24, 1994
D-A-56	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	ASA	D.L. Stoltz	October 15, 1993
D-A-57	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	ASA	D.L. Stoltz	April 8, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-58	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	L.L. Holland	ASA	D.L. Stoltz	October 20, 1992
D-A-59	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	ASA	D.L. Stoltz	January 20, 1994
D-A-60	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	G.L. Nichols	ASA	C.L. Valle	August 30, 1994
D-A-61	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	ASA	D.L. Stoltz	January 20, 1993
D-A-62	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	L.L. Holland	ASA	D.L. Stoltz	July 20, 1992
D-A-63	Kansas City Plant Quality Assurance Program Plan, Kansas City Division		ASA-Environmental Compliance Dept.		August 1994
D-A-64	Examples of environmental reporting requested by top management: AlliedSignal Aerospace Company Monthly Report; Monthly Environmental Issues Agenda; Quarterly Environmental Management Briefing Agenda				
D-A-65	Consent Order		EPA Region VII	KCAO	June 23, 1989
D-A-66	Focus on the Environment		AS/KCD-Public Affairs	Internal and External Stakeholders	
D-A-67	KCP Rewards and Recognition Programs		AS/KCD		1994
D-A-68	Procedure Change Notice Recognition and Award Programs	S.K. Thomas	AS/KCD		August 10, 1994
D-A-69	Recognition Program Award Nomination		AS/KCD		September 12, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-70	Recognition and Award Program, Call for Award Nominations	R. Pippert	AS/KCD		September 12, 1994
RON KOLPA – ENVIRONMENTAL PROTECTION PROGRAMS (EP)					
D-B-1	Environmental Task Force Weekly Meeting agenda			Environmental Restoration Task Force	October 15, 1994
D-B-2	Memorandum re CHC/CFC Usage Waiver Requests	D.L. Stoltz S.C. Hinds	AS/KCD-ES&H	Distribution	October 17, 1994
D-B-3	Memorandum re list of KCD materials that may contain hazardous air pollutants	B.D. Heacock	AS/KCD–Environmental Compliance Dept	Distribution	October 13, 1994
D-B-4	Memorandum re air operating permit information request	R.H. Bennett	AS/KCD–ES&H	Distribution	September 19, 1994
D-B-5	Ambient Air and Meteorological Stations Siting Study—Department of Energy (Kansas City Facility) (with cover letter)	H.D. Shell	Shell Engineering and Associates, Inc.	B. Stone, AS/KCD	July 1, 1992
D-B-6	Memorandum re Internal procedure for publication	S.E. White	AS/KCD–Environmental Compliance Dept.	S.D. Bryan	October 19, 1994
D-B-7	Memorandum re Regulatory Information Sources	R. Gough	AS/KCD–ES&H	R. Kolpa	October 28, 1994
D-B-8	Newsbreak newsletter				October 27, 1994
D-B-9	Procedure Change Notice—KCP Environmental, Safety and Health Program Manual Requirements and Responsibilities		AS/KCD–ES&H		October 21, 1994
D-B-10	Site Environmental Report for Calendar Year 1993, Kansas City Plant, Kansas City, Missouri		AS/KCD	DOE	July 1994
D-B-11	Performance Based Assessment of Environmental Protection	C.L. Walker	AS/KCD	DOE	May 1994
D-B-12	U.S. Department of Energy Kansas City Plant Environmental Monitoring Plan		AS/KCD	DOE	January 1992

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-13	Kansas City Plant Environmental Protection Implementation Plan		AS/KCD-Environmental Compliance Dept.		November 9, 1993
D-B-14	Community Relations Plan for Environmental Activities and Issues		AS/KCD-Community Relations Dept.	DOE	May 1993
D-B-15	Kansas City Plant Environmental Protection Implementation Plan		AS/KCD-Environmental Compliance Dept.		November 9, 1993
D-B-16	Groundwater Protection Management Program Plan		AS/KCD	DOE	October 1993
D-B-17	Waste Minimization and Pollution Prevention Awareness Plan				May 1994
D-B-18	Kansas City Plant Environmental Protection Manual		AS/KCD-Environmental Compliance Dept. & Environmental Restoration Technical Support Dept.		Draft, August 1994
D-B-19	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	G.L. Nichols	AS/KCD	C.L. Valle	August 30, 1994
D-B-20	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	AS/KCD	D.L. Stoltz	January 20, 1994
D-B-21	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	AS/KCD	D.L. Stoltz	October 15, 1993
D-B-22	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	AS/KCD	D.L. Stoltz	April 8, 1993
D-B-23	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	C.A. Borchers	AS/KCD	D.L. Stoltz	January 20, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-24	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	L.L. Holland	AS/KCD	D.L. Stoltz	October 20, 1992
D-B-25	Memorandum re KCP Pollution Prevention/Waste Minimization Program: Quarterly Progress Report Reminder	L.L. Holland	AS/KCD	D.L. Stoltz	July 20, 1992
D-B-26	Operating Procedure: Environmental Restoration and Waste Management Five-Year Plan		AS/KCD		August 14, 1994
D-B-27	Kansas City Plant—Groundwater Remediation Strategy				January 1992
D-B-28	AS/KCD Procedure Change Notice, Environment, Safety and Health Program Manual Requirements and Responsibilities				October 21, 1994
D-B-29	Process Waste Assessment Report: BKC 62501, Dry Film Lubricant	R.R. Edinger, et al.	AS/KCD—Plastics Development Engineering		April 1993
D-B-30	Process Waste Assessment: Metallography	B. Rowe, et al.	AS/KCD—Plastics Development Engineering		November 1992
D-B-31	Process Waste Assessment: Factory Cleanup	K. Sikes, et al.	AS/KCD		November 11, 1992
D-B-32	Final Report: Executive Summary, PWA Title: D/439 Electronics Performance Testing	K. Sikes, et al.	AS/KCD		June 8, 1994
D-B-33	Process Waste Assessment: D/47 Forming and Curing	G.K. Manke, et al.	AS/KCD—Plastic Products Engineering		September 18, 1992
D-B-34	Performance Based Assessment of Environmental Protection, Kansas City Division	C.L. Walter	AS/KCD	DOE	May 1994
D-B-35	Environmental Restoration Program Project Management Plan, Volume I (Draft)				December 1992
D-B-36	Corrective Action Administrative Order on Consent, U.S. EPA Docket No. VII-89-H-0026		EPA		June 23, 1989

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-37	Process Waste Assessment Guidance for Pollution Prevention Planning		AS/KCD	DOE	December 1992
D-B-38	Administrative Procedure: Preliminary Hazard Analysis (PHA) Process		AS/KCD		June 30, 1994
D-B-39	Procedure Change Notice: Segregating and Disposing of Radioactive, Mixed Waste, and Radiation Generating Devices (RGDs)		AS/KCD		July 1, 1992
D-B-40	Procedure Change Notice: Facility Surveys to Evaluate Hazardous Waste Disposal and Treatment Facilities		AS/KCD		May 23, 1994
D-B-41	Procedure Change Notice: Control of Scrap/Waste Containers		AS/KCD		March 1, 1994
D-B-42	Procedure Change Notice: One-Time-Buy Purchase Requisitions, Preparation and Approval		AS/KCD		July 1, 1994
D-B-43	Procedure Change Notice: Preliminary Hazard Analysis (PHA) Process		AS/KCD		June 30, 1994
D-B-44	Procedure Change Notice: Implementation of the National Environmental Policy Act		AS/KCD		August 31, 1993
D-B-45	Procedure Change Notice: Hazardous Material Inventory		AS/KCD		July 12, 1993
D-B-46	Procedure Change Notice: KCD Pollution Prevention Program		AS/KCD		June 7, 1993
PETE LINDAHL -- FORMALITY OF ENVIRONMENTAL PROGRAMS (FP); ENVIRONMENTAL COMMITMENT (EC)					
D-C-1	1994 Health, Safety and Environmental Assurance Letter, Concurrence/Exception Statement	B.D. Heacock	AS/KCD-Environmental Compliance	R.H. Bennett, AS/KCD	May 23, 1994
D-C-2	Letter re audit of the groundwater sample crew, laboratory audit, review of August QA/QC Report	M.E. Stites	AS/KCD-ES&H	C.M. Scharff, Pace, Inc.	November 2, 1993
D-C-3	Letter re audit of the groundwater sample crew	M.E. Stites	AS/KCD-ES&H	C.M. Scharff	May 5, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-4	AS/KCD Procedure Change Notice: Environment, Safety and Health Program Manual; Requirements and Responsibilities		AS/KCD		July 20, 1994
D-C-5	AS/KCD Administrative Procedure: Development, Distribution, and Revision of Manuals Containing Mandatory Provisions		AS/KCD		November 17, 1992
D-C-6	AS/KCD Administrative Procedure: Formulation and Issue of Policies, Procedures, Organization Charts, and Indexes		AS/KCD		May 12, 1994
D-C-7	1995-1999 Strategic Plan, AlliedSignal Aerospace, Kansas City Division		AS/KCD		
D-C-8	KCAO Quality Assurance Procedure for Conducting Facility Reviews (Draft)		KCAO		September 12, 1994
D-C-9	Managing Waste Generated by Construction Projects, Training Session Agenda		AS/KCD		March 15-17, 1994
D-C-10	AS/KCD Internal Procedure 3-2.6: Assessments (page 13 of 17)		AS/KCD		June 6, 1994
D-C-11	Quarterly Management Environmental Briefing Agenda		AS/KCD		July 1, 1994
D-C-12	Environmental Issues Monthly Report		AS/KCD		August 11, 1994
D-C-13	Memorandum re ES&H monthly activity report	B.D. Heacock	AS/KCD-ES&H	D.S. Ward	August 1, 1994
D-C-14	KCP Quality Assurance Program Plan and Draft Environmental Protection Program Quality Assurance Program Plan		AS/KCD-Environmental Compliance Dept		August 1994
D-C-15	Action Plan in response to the Facility Review of KCP				July 29, 1994
D-C-16	Site Environmental Report for Calendar Year 1993		AS/KCD-Environmental Compliance Dept.		July 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-17	Performance Based Assessment of Environmental Protection	C.L. Walter	AS/KCD-OQA Engineering		May 1994
D-C-18	Corrective Action Administrative Order on Consent, EPA Docket No. VII-89-H-0026		EPA-Region VII		June 23, 1989
D-C-19	Agreement in Principle Between the United States Department of Energy and the State of Missouri		KCAO		June 14, 1994
D-C-20	Performance Appraisal Behaviors and Skill form		AS/KCD		
D-C-21	Achieving Compliance with ES&H Regulations and Work Rules. Attachment: Comments and Credits		AS/KCD		May 1991
D-C-22	Memorandum re employee rights, protections, and obligations relative to the reporting of environmental, safety and health concerns	C.F. Kircher	AS/KCD-ES&H	AS/KCD Employees	October 31, 1990
D-C-23	Operating Procedure for the DOE/KCAO Operations Quality Assurance Program	C.C. Ross	KCAO, QAB		June 15, 1993
D-C-24	KCAO Operations Quality Assurance Audit Schedule Master				
D-C-25	KCAO Operations Quality Assurance Audit Schedule FY95				
D-C-26	Quality Assurance Report Survey—Industrial Hygiene Ventilation Program	J.F. White	KCAO		December 2, 1993
D-C-27	Memorandum re Industrial Hygiene Ventilation Program Quality Audit Operations Report	C. Thompson	AS/KCD	C.C. Ross	February 28, 1994
D-C-28	Environmental Restoration Program Project Management Plan, Volume I (Draft)		KCAO		December 1992
D-C-29	KCAO Facility Representatives Area Assignments		KCAO		September 1994
D-C-30	Position description for KCAO Office of Facility Management, Interdisciplinary, General Engineer or Physical Scientist (Lead Facility Representative)		KCAO		July 6, 1994
D-C-31	Work Authorization Directive, ES&H Programs		KCAO	AS/KCD	October 5, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-32	Procedure Change Notice: Facility Surveys to Evaluate Hazardous Waste Disposal and Treatment Facilities	C.D. Miller	AS/KCD		May 23, 1994
D-C-33	Internal Procedure: Hazardous Waste Off-Site Shipments		AS/KCD		October 17, 1994
D-C-34	Internal Procedure: Environmental Monitoring Program Audits and Quality Assurance		AS/KCD		August 7, 1991
D-C-35	Form: Department 922 Assignment Record		AS/KCD-ES&H		
D-C-36	Accident Investigation Team Report of July 16, 1994: Scissors Lift Accident	M. Kahnke, et al.	AS/KCD-ES&H		July 29, 1994
D-C-37	Brochure: Hazardous Waste Satellite Accumulation (Satellite Storage) Self-Assessment		AS/KCD		January 1994
D-C-38	KCP Pilot Configuration Management Program—Drain System		AS/KCD		
D-C-39	Community Relations Plan for Environmental Activities and Issues (Draft)		AS/KCD		May 1993
D-C-40	KCP Environmental Protection Manual (Draft)		AS/KCD		August 1994
D-C-41	Purchasing Standard Paragraph—Safety and Health		AS/KCD		
D-C-42	Memorandum re Satellite Accumulation Deficiency	R.H. Bennett	AS/KCD	P.C. Black	September 30, 1994
D-C-43	Memorandum re Disposal of Trash Illegally	E.A. Winkley	AS/KCD	R. Hartman	July 2, 1994
D-C-44	Response Log	D. Gron	AS/KCD		October 13, 1994
D-C-45	Letter: Proj. No. 1708, Replace Microminiature Electronics	S.D. Hurst	AS/KCD	K. Andrews	December 20, 1993
D-C-46	Letter: Cure Notice—Proj. No. 1708, Replace Microminiature Electronics	S.D. Hurst	AS/KCD	R.M. Bryan	December 22, 1993
D-C-47	Letter: New Microminiature Electronics Facility, Proj. No. 1708 Cure Notice	B. Schrader	Midwest Mechanical Contractors	S. Hurst	December 30, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-48	Memorandum: Replace Microminiature Electronics Facility, Proj. 1708	A.R. Diemer	AS/KCD	P.T. Hoopes	January 6, 1994
D-C-49	Letter: Cure Notice Response on Proj. No. 1708, Replace Microminiature Electronics	S.D. Hurst	AS/KCD	B. Adams	January 20, 1994
D-C-50	Letter: New Microminiature Electronic Facility Cure Notice Response	W.M. Adams	Midwest Mechanical Contractors	S. Hurst	February 14, 1994
D-C-51	Letter: Landfill Receipt on Proj. No. 1708, Replace Microminiature Electronics	S.D. Hurst	AS/KCD	B. Adams	March 4, 1994
D-C-52	Construction Safety Handbook, KCD-2570		AS/KCD		September 1993
D-C-53	Service Subcontract Safety Handbook, KCD-2764		AS/KCD		April 1994
D-C-54	Memorandum re Management Policy Statement-Safety & Health	J. Knuth	AS/KCD		June 23, 1989
D-C-55	Environmental Policy Statement	B. Twining	ALO		1990
GARY W. FREY—STAFF RESOURCES, TRAINING, AND DEVELOPMENT (SR); ENVIRONMENTAL PLANNING AND RISK MANAGEMENT (RM)					
D-D-1	Waste Management Continuous Improvement Plan, 2nd-Half FY94				September 19, 1994
D-D-2	Waste Management-D/975, FY 1995 Strategic Plan				
D-D-3	Waste Management-D/975, Mission Statement				
D-D-4	Waste Management Program Project Management Plan (Draft)				September 1994
D-D-5	Proposed Structure and Responsibilities for the KCP's ES&H Training Program	P. Barton L. Taylor	AS/KCD		October 15, 1994
D-D-6	ES&H Division Training Program Manual (Draft)				October 1, 1994
D-D-7	ES&H Training by Course ID		AS/KCD		April 3, 1991

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-8	Memorandum re workforce needs assessment survey	R. Lewis	Pacific Northwest Laboratories	ER/WM Manpower Survey Participants	1991
D-D-9	Environmental Management Program Full-Time Equivalent Bid Process Implementation Plan		DOE, Albuquerque Operations Office, Office of Environment/Project Management		August 29, 1994
D-D-10	Five Year Strategic Management Plan	1995-1999	AS/KCD		July 1994
D-D-11	Strategic Planning Discussion Document		AS/KCD		July 1994
D-D-12	U.S. Department of Energy-Albuquerque Operations Office Strategic Plan		AL		
D-D-13	Fueling a Competitive Economy Strategic Plan		DOE		April 1994
D-D-14	Leadership Through Quality Strategic Plan		AL		May 30, 1991
D-D-15	Total Quality Management Implementation Guideline		DOE		December 1993
D-D-16	Memorandum re ER/WM Manpower Assessment Survey	D. Caughey	KCAO	R.E. Lewis, Battelle, Pacific Northwest Laboratory	December 12, 1991
D-D-17	Memorandum re Performance Evaluation Plan for the second half FY 1994	E.W. Bean	KCAO	L.W. Smith	March 1, 1994
D-D-18	General Plant Operating Costs		KCD		August 26, 1994
D-D-19	Gross Plant Operating Costs		KCD		October 18, 1993
D-D-20	ES&H Management Plan		KCD		June 24, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-21	Paper: Kansas City Plant—Groundwater Remediation Strategy	J. L. Baker N.E. Korte	KCD		January 1992
D-D-22	Ambient Air and Meteorological Stations Siting Study, Department of Energy (Kansas City Facility)	H.D. Shell	Shell Engineering & Assoc.	B. Stone	July 1, 1992
D-D-23	Risk Management Plan		KCD		October 1994
D-D-24	Memorandum re October 17, 1994 HPT Meeting	R.F. Bitter	KCD	File	October 27, 1994
D-D-25	Administrative Procedure—Preliminary Hazard Analysis Process		KCD		June 30, 1994
D-D-26	Memorandum re Staffing	P. Hoopes	KCAO	E. Bean	May 27, 1992
D-D-27	Operational Procedure—OP 240 Environmental Restoration and Waste Management Five Year Plan		KCD		August 14, 1992
D-D-28	Memorandum re 1995–1999 Strategic Plan	L. Smith	KCD	All Associates	October 6, 1994
D-D-29	Supplemental Directive—AL 5440.1D Department of Energy Albuquerque Field Office National Environmental Policy Act Compliance Program		DOE/AL		March 19, 1992
D-D-30	Order—AL 1120 Organization, Authorities and Functions		DOE/AL		August 2, 1991
D-D-31	Site Environmental Report for Calendar Year 1993, Kansas City Plant, Kansas City, Missouri		ASA	DOE	July 1994
D-D-32	Current telephone directories for the site		Kansas City Division		August 19, 1994
D-D-33	Examples of environmental reporting requested by top management: AlliedSignal Aerospace Company Monthly Report; Monthly Environmental Issues Agenda; Quarterly Environmental Management Briefing Agenda				
D-D-34	Kansas City Plant Environmental Protection Implementation Plan		ASA—Environmental Compliance Dept.		November 9, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-35	Kansas City Plant Environmental Protection Manual		ASA-Environmental Compliance Dept. & Environmental Restoration Technical Support Dept.		Draft, August 1994
ROGER A. GOLEC - PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION (PE)					
D-E-1	Performance Evaluation Report (October 1, 1993-March 31, 1994)				
D-E-2	Agenda, List of Key Environmental Topics				September 23, 1993
D-E-3	Memo re Joint Monthly Environmental Staff Meeting	B.D. Heacock	AS/KCD-Environmental Compliance	Distribution	October 5, 1994
D-E-4	Environmental Issues Monthly Report				September 9, 1993
D-E-5	Quality Assurance Procedure for Conducting Facility Reviews (Draft)				September 12, 1994
D-E-6	KCAO-ES&H Quarterly Reports, and accompanying distribution memos				October 1994
D-E-7	Memo re OQA Assessment #57-94-0019 of Environmental restoration and consent order management	K.J. Strasburg	AS/KCD-Quality Administration	A.K. Thoeni	December 15, 1993
D-E-8	Memo re OQA Assessment #57-94-0032, radioactive waste and protection	K.J. Strasburg	AS/KCD-Quality Administration	D.L. Long	March 4, 1994
D-E-9	Performance Based Assessment of Environmental Protection	C.L. Walter	AS/KCD-OQA Engineering		May 1994
D-E-10	Performance Based Assessment of Waste Management	J. Neet	AS/KCD-OQA		January 1992
D-E-11	Performance Based Assessment of Waste Management	E.P. Benedict	AS/KCD-OQA		December 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-12	Performance Based Assessment of Environmental Protection	J. Neet	AS/KCD-OQA		March 1992
D-E-13	Hazardous Waste Satellite Accumulation (Satellite Storage) Self-Assessment brochure				January 1994
D-E-14	Report of Observed Employee ES&H Violation				September 21, 1994
D-E-15	Memo re Contributions to the Performance Indicator (PI) report for September 1994	J.D. Huyett	AS/KCD-ES&H	T. Randolph	October 11, 1994
D-E-16	Letter re AS/KCD award fee, October 1, 1993-March 31, 1994	B.G. Twining	DOE-AOO	L.W. Smith	June 6, 1994
D-E-17	Waste Management Continuous Improvement Plan, 2nd-Half FY94				September 19, 1994
D-E-18	Memo re Performance Evaluation Plan (PEP) for First Half FY 1995; and Performance Evaluation Plan, October 1, 1994-March 31, 1995	S.C. Taylor, Acting Area Manager	KCAO	L.W. Smith	September 1, 1994
D-E-19	ESAP modules				
D-E-20	Root Cause Analysis and Corrective Action Workshop Participant's Guide				1993
D-E-21	Internal Procedure-Performance Based Assessment		AS/KCD-Operations Quality Assurance		July 25, 1994
D-E-22	Internal Procedure-Assessment Scheduling Process		AS/KCD-Operations Quality Assurance		October 20, 1993
D-E-23	Internal Procedure-Assessments		AS/KCD-Operations Quality Assurance		June 6, 1994
D-E-24	Performance Objectives and Criteria		KCAO-ES&H		June 1993
D-E-25	IP 920-31—Coordination of Drilling Related Fieldwork			Distribution	March 18, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-26	Completion Certificate for Finding EPD-92-AQ/1 (Environmental Protection Division, Air Program and Waste Management Appraisal), with attachments		AS/KCD-ES&H		October 13, 1994
D-E-27	ES&H Quarterly Report, July-September 1994		KCAO-ES&H	Distribution	October 1994
D-E-28	Self-Assessment Program Description Plan for Environmental, Safety and Health (ES&H); Safeguards and Security (S&S); and Technical Programs (Draft)		KCAO		April 1993
D-E-29	Operating Procedure for the DOE/KCAO Operations Quality Assurance Program		KCAO		June 15, 1993
D-E-30	Memorandum re MDNR Notice of Violation resulting from annual RCRA facility inspection	P.T. Hoopes	KCAO-ES&H	L.W. Smith	October 20, 1993
D-E-31	Performance Evaluation Report for the period October 1, 1993-March 31, 1994				
D-E-32	Award Fee Performance Evaluation Report for the period: April 1, 1993-September 30, 1993	J.W. Culpepper	AL		November 5, 1993
D-E-33	Quarterly Summary of Noteworthy Achievements, CPAF ES&H Performance Area, October 1-December 31, 1993	C.P. Wright	AS/KCD	P.T. Hoopes	January 1994
D-E-34	KCP Safety Manual, Chapter 2, "Annual ES&H Inspections"				May 25, 1993
D-E-35	CY94 Annual ES&H Inspections	M.D. Davis	AS/KCD-ES&H		October 25, 1994
D-E-36	Action Plan System Reports				August 14, 1991
D-E-37	Status report of the July 1986 Occupational Health and Medical Review performed by R. Rhodes				February 1990
D-E-38	Memorandum re revised protocol for reviewing Internal Reporting Systems	P. Yates	AlliedSignal, NJ	P.H. Arbesman, et al.	July 11, 1994
D-E-39	Memorandum re revised corporate audit schedule	P. Arbesman	AlliedSignal, CA	Aerospace SBU HS&E Leaders	May 24, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-40	Memorandum re functional area and facility summary rating definitions	R.L. Rhodes	AlliedSignal, NJ	P.H. Arbesman, et al.	May 10, 1994
D-E-41	Memorandum re 1993 Health, Safety and Environmental audit findings	J. Weber	AlliedSignal, CA	Aerospace HS&E Coordinators	February 10, 1994
D-E-42	AlliedSignal Health, Safety and Environmental Audit Program				January 1993
D-E-43	Internal Procedure—Operational Surety Reviews				April 29, 1992
D-E-44	Response to annual ES&H inspection report, Department 69	B.A. McCauley	AS/KCD—Manufacturing Operations	L.L. Holland	August 10, 1994
D-E-45	Corrective action to annual ES&H inspection tour of Department 634, September 9, 12, and 14, 1994	L.W. Lang	AS/KCD—Stores Operations	D.F. Fitzpatrick	October 14, 1994
D-E-46	Response to findings found in annual ES&H inspection of Department 007-390 on April 26, 1994	K.W. Crouch	AS/KCD—Tooling and Development Support	L.L. Holland	May 10, 1994
D-E-47	Notification of annual ES&H inspection—Department 634 production and 634 non-production	D.J. Fitzpatrick	AS/KCD—ES&H	C.C. Mears	August 18, 1994
D-E-48	Notification of annual ES&H inspection—Departments 55, 65, 69	L.L. Holland	AS/KCD—ES&H	D. Bullocks R.A. Hile	June 27, 1994
D-E-49	Notification of annual ES&H inspection—Department 007-390	L.L. Holland	AS/KCD—ES&H	K.W. Crouch	April 14, 1994
D-E-50	Inspection report—annual ES&H inspection, Department 007-390	L.L. Holland	AS/KCD—ES&H	K.W. Crouch	April 26, 1994
D-E-51	Inspection report—annual ES&H inspection, Departments 634 production and 634 non-production	D.J. Fitzpatrick	AS/KCD—ES&H	C.C. Mears	September 9, 1994
D-E-52	Inspection report—annual ES&H inspection, Departments 55, 65, and 69	L.L. Holland	AS/KCD—ES&H	D. Bullocks	July 21, 1994
D-E-53	General Environmental Management Information List (Examples of environmental reporting requested by top management)				

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-54	Fire, Health, Safety, and Environmental Oversight Relative to Construction, Rearrangement, Maintenance, and Equipment Installation Projects				September 16, 1994
D-E-55	Typical project Flowcharts—Budget Call and Estimates (from AS/KCD—Facilities Engineering Orientation Manual)		AS/KCD—Facilities Management		
D-E-56	Contractor Performance Evaluation Form: Laidlaw Environmental Services	J.H. Frerichs	AS/KCD—Facilities Management		September 28, 1994
D-E-57	Example safety citation and corrective action plan for a construction project		AS/KCD—Facilities Management		July 18, 1994
D-E-58	KCAO Operations Quality Assurance Audit Schedule Master				
D-E-59	KCAO's Quality Audit Report on the Industrial Hygiene Ventilation Program, and corrective action response	J.F. White	KCAO	L.W. Smith, AS/KCD	December 2, 1993/January 10, 1994
D-E-60	KCAO's Quality Audit Report on the Occurrence Reporting Program, and corrective action response	J.F. White	KCAO	L.W. Smith, AS/KCD	January 21, 1994/March 7, 1994
D-E-61	KCAO's Quality Audit Report on Fire Protection Engineering	J.F. White	KCAO	L.W. Smith, AS/KCD	April 15, 1994
D-E-62	KCAO's Quality Audit Report on Waste Management Operations	J.F. White	KCAO	L.W. Smith, AS/KCD	December 17, 1993
D-E-63	Construction Safety Handbook KCD-2570		KCD		March 1, 1993
D-E-64	Management Policy Statement 66: Self-Assessment Program	L.W. Smith	AS/KCD		September 27, 1993
D-E-65	D/975 Internal Procedure Index		AS/KCD-ES&H		October 26, 1994
D-E-66	Internal Procedure 975-3: Hazardous Waste Off-Site Shipments	D. Huyett	AS/KCD-ES&H		October 26, 1994
D-E-67	Introduction to the Quality Assurance Program Plan		AS/KCD-OQA		July 1, 1994
D-E-68	KCD Quality Assurance Program Plan		AS/KCD		July 1, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-69	Division 400 Quality Assurance Program Plan		AS/KCD		January 3, 1994
D-E-70	ES&H Self Assessment Plan for the KCP—KCP 613-5297, Dept. 482		AS/KCD		October 1993
D-E-71	Kansas City Plant FY 1994 Work Authorization Directive	E.W. Bean	KCAO		October 1, 1993
D-E-72	D/400 Operational Business Plan	D.G. Schilling		Distribution	September 7, 1994
D-E-73	Assessments FY 1994 Fourth Quarter Activities	C. Thompson, Jr.	AS/KCD—Quality	C.C. Ross	September 22, 1994
SHIV N. GOEL—AIR QUALITY PROGRAMS (AQ)					
D-F-1	City of Kansas City Missouri Air Quality Section Asbestos Project Notification				December 1, 1993
D-F-2	Memorandum re Chromium Emission Control Projects	R.H. Bennett	AS/KCD—ES&H	P.T. Hoopes	February 4, 1994
D-F-3	Asbestos Related Policies and Procedures		AS/KCD—Facilities Engineering		September 20, 1994
D-F-4	Memorandum re Air Operating Permit information request	R.H. Bennett	AS/KCD—ES&H	Distribution	September 19, 1994
D-F-5	Letter re Missouri's Operating Permit Program	R. Raymond	MDRN	P.T. Hoopes, AS/KCD	May 4, 1994
D-F-6	Ambient Air Monitoring Stations				October 26, 1994
D-F-7	Hazardous Material Inventory Related Policies and Procedures				July 12, 1993
D-F-8	Spray Cleaning Solvent Recovery Results		AS/KCD		June 22, 1992
D-F-9	Memorandum re boiler stack emissions, CY 1993	M.E. Schick	AS/KCD—Plant Projects	L.A. Suina, Environmental Applications	February 3, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-F-10	Emissions Inventory Questionnaire (EIQ) (1993)				March 28, 1994
D-F-11	Recommended Approaches to Management of Refrigerants at Department of Energy Facilities		DOE, Office of Environmental Guidance		August 1994
D-F-12	The United States Environmental Protection Agency (EPA) Refrigerant Recovery or Recycling Device Acquisition Certification Form, with accompanying letters and memos				August 1993–March 1994
D-F-13	Memorandum re action plan for items identified by the March 24, 1993, air quality inspection	K.K. Clegg	AS/KCD–ES&H	P.T. Hoopes	June 2, 1993
D-F-14	Letter re sludge testing	P.T. Hoopes	KCAO–ES&H	KCMO Air Quality Section	April 25, 1991
D-F-15	Letter re hydrogen chloride stack testing completion	P.T. Hoopes	KCAO–ES&H	A.C. Moll, KCMO Air Quality Section	December 31, 1991
D-F-16	Memorandum re D/187 heat cleaning oven stack test results	C.F. Kircher	AS/KCD–ES&H	P.T. Hoopes	December 10, 1991
D-F-17	Permit to Operate Air Contaminant Source (unsigned and undated)		KCMO Air Quality Section	KCP	
D-F-18	Hydrogen Chloride Emissions Test Report for the Department of Energy Kansas City Plant Department 187		Burns & McDonnell	KCP	December 1991
D-F-19	Memorandum re D/187 surface coating burn off oven quarterly report	C.F. Kircher	AS/KCD–ES&H	P.T. Hoopes	October 28, 1991
D-F-20	Memorandum re CHC/CFC Usage Waiver Requests	D.L. Stoltz S.C. Hinds	AS/KCD	Distribution	October 17, 1994
D-F-21	CHC/CFC Usage FY92 (October–July)		AS/KCD		
D-F-22	CHC/CFC Usage Exemptions				
D-F-23	Preliminary Emissions Inventory and Title V Permit Applicability		Engineering-Science, Inc.	Government Services Group/AS/KCD	September 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-F-24	Recharging Logs of Dehumidifiers		AS/KCD-Utilities		
D-F-25	D/187 Surface Coating Burn Off Oven Quarterly Report		AS/KCD-ES&H	KCAO	October 28, 1991
D-F-26	Preliminary Emissions Inventory and Title V Permit Applicability		Engineering Science, Inc.	AS/KCD	September 1994
D-F-27	Air Quality Inspection Report	J. Klaus	Kansas City Air Quality Section	KCAO	May 5, 1994
D-F-28	Response to Inspection Report of May 5, 1994	D. Caughey	KCAO	Kansas City Air Quality Section	June 1, 1994
D-F-29	Ambient Air and Meteorological Stations Siting Study		Shell Engineering & Associates, Inc.	KCAO	July 1, 1992
D-F-30	Sludge Testing Study	P.T. Hoopes	KCAO	Kansas City Air Quality Section	April 1, 1991
D-F-31	Air Operating Permit Information Request	R.H. Bennett	AS/KCD-ES&H	Distribution	September 19, 1994
D-F-32	Air Quality Inspection Report	J. Klause	KCMO Air Quality Section	KCAO	March 24, 1993
D-F-33	Chromium Emission Control Projects	R.H. Bennett	AS/KCD-ES&H	KCAO	February 4, 1994
D-F-34	33/50 Pollution Prevention Program Reportable Releases	C. Valle	AS/KCD	Distribution	
D-F-35	Kansas City Plant Environmental Protection Manual		ASA-Environmental Compliance Dept. & Environmental Restoration Technical Support Dept.		Draft, August 1994
D-F-36	Stack Emission Testing		Shell Engineering & Associates	AlliedSignal Bendix	July 17, 1994
D-F-37	Replace Dehumidification Systems, Project No. 1667		Clark Richardson and Biskup	AS/KCD	July 10, 1992

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
RONALD B. DOBBS — WASTE MANAGEMENT PROGRAMS (WM)					
D-G-1	Kansas City Plant Waste Minimization and Pollution Prevention Awareness Plan	C.L. Valle, Pollution Prevention Site Coordinator	AS/KCD-ES&H		May 1994
D-G-2	Environmental Protection Appraisal	S. Goel R. Dobbs	AL-Environmental Protection Division	E.W. Bean	April 21-30, 1992
D-G-3	Memorandum re consolidation of Kansas City Plant Findings	N.S. Dienes	AL-ES&H	S.C. Taylor	September 26, 1994
D-G-4	Site Environmental Report for Calendar Year 1993		AS/KCD-Environmental Compliance Dept.		July 1994
D-G-5	Letter transmitting corrective actions in response to RCRA Notice of Violation	P.T. Hoopes	KCAO-ES&H	A. Groner, MDNR	October 28, 1993
D-G-6	Memorandum re response to EPA—request for information on LDR wastes	B.G. Wilson	AS/KCD-ES&H	P.T. Hoopes	December 17, 1992
D-G-7	Memorandum re March 13, 1992—Notice of Violation pursuant to RCRA requirements	B.G. Wilson	AS/KCD-ES&H	P.T. Hoopes	March 20, 1992
D-G-8	Memorandum re Closure Certificates EPD-92-WM/1 and EPD-92-WM/2	D.B. Williams	KCAO	L.W. Smith	November 2, 1993
D-G-9	Memorandum re response to RCRA training review, DOE/DP-9	B.G. Wilson	AS/KCD-ES&H	D.M. Caughey	November 30, 1992
D-G-10	Memorandum re DOE/AL waste management program evaluation observations	J.D. Huyett	AS/KCD-Waste Management	C.L. Valle	June 10, 1992
D-G-11	Kansas City Area Office's Quarterly Audit Report on Waste Management Operations.	J.F. White	KCAO	L.W. Smith	December 17, 1993
D-G-12	Memorandum re response to OQA Assessment #57-94-0028: KCD Waste Management, Hazardous Wastes Awaiting Disposal	D.E. Long	AS/KCD-ES&H	K.J. Strasburg	February 17, 1994
D-G-13	Inspection Report—Annual ES&H Inspection, Departments 161 and 162	J.H. Richardson	AS/KCD-ES&H		April 29, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-G-14	Memorandum re QA Survey Report #93-QA-0002, Industrial Wastewater Pretreatment Facility, Allied-Signal Aerospace Co., Kansas City Division Corrective Action	D.C. Long	AS/KCD-ES&H	C. Thompson, Jr.	February 3, 1993
D-G-15	Memorandum re OQA Audit #57-92-18 of the KCD Emergency Preparedness Program	D.E. Long	AS/KCD-ES&H	K.J. Strasburg	May 26, 1992
D-G-16	Memorandum re internal audit of classified waste	J.D. Huyett	AS/KCD-Waste Management	File	February 17, 1994
D-G-17	Memorandum re fourth quarter internal audit response	D.E. Long	AS/KCD-ES&H	L.E. Rice	November 22, 1993
D-G-18	Memorandum re CY93 Waste Management Operations first quarter internal audit—inspection program, WMO-113	J.D. Huyett	AS/KCD-Waste Management	Record	April 28, 1993
D-G-19	Memorandum re FY 1992 Waste Management Operations second quarter internal audit—waste analysis program, WMO-125	J.D. Huyett	AS/KCD-Waste Management	Record	June 30, 1992
D-G-20	Memorandum re internal audit of WMO-303	D.L. Brown	AS/KCD-Waste Management	D.E. Long	August 26, 1992
D-G-21	Facility Review—Environmental Findings				May 5, 1993
D-G-22	Facilities Process Documentation for Work Orders, General Plant Projects, and Line Items				
D-G-23	Work Authorization Directive		KCAO	AS/KCD	October 1, 1994
D-G-24	Memorandum re Classified Hazardous Waste Management	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	June 28, 1994
D-G-25	Memorandum re automatic/electronic and verification tracking systems	N.S. Dienes	AL-Waste Management and Operational Surety Division	P.M. Ramey, et al.	July 31, 1992
D-G-26	Bar-Code Automated Waste Tracking System	T.E. Hull	AS/KCD-Waste Management		October 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-G-27	Memorandum re satellite accumulation deficiency	R.H. Bennett	AS/KCD-ES&H	P.C. Black	September 30, 1994
D-G-28	Memorandum re review of waste acceptance criteria—Envirocare, Utah	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	March 3, 1994
D-G-29	Memorandum re shipment of mixed waste to Envirocare	D.L. Brown	AS/KCD—Waste Management	J.D. Huyett	February 11, 1994
D-G-30	Waste Management Continuous Improvement Plan, 2nd-Half FY94 (Performance evaluation plan)				September 19, 1994
D-G-31	AlliedSignal's standard operating procedures for conducting waste management operations	D. Huyett	AS/KCD—Waste Management		Various
D-G-32	Staffing plans and analyses	D. Huyett	AS/KCD—Waste Management		
D-G-33	Internal Procedure, Waste Management Operations #139, Maintaining and Updating the RCRA Part B Permit Application		AS/KCD—Waste Management		September 28, 1993
D-G-34	Internal Procedure, Waste Management Operations #161-001, Regulatory Review		AS/KCD—Waste Management		January 3, 1994
D-G-35	Memorandum re classified hazardous waste management	P.T. Hoopes	KCAO-ES&H	R.H. Bennett	July 8, 1994
D-G-36	Vapor Degreaser CHC/CFC Usage	W.H. Schlosberg	AS/KCD-ES&H, Pollution Prevention/Risk Management		October 26, 1994
D-G-37	Memorandum re OQA Audit #57-92-04 Industrial Wastewater Pretreatment Facility	D.E. Long	AS/KCD-ES&H	K.J. Strasberg	January 21, 1992
D-G-38	Fax re by-product material	B. Fortune	DOE-HQ	R. Dobbs	October 31, 1994
JAMES K. ALEXANDER—SURFACE WATER AND DRINKING WATER QUALITY PROGRAMS (SW)					
D-H-1	Site Environmental Report for Calendar Year 1993, Kansas City Plant, Kansas City, Missouri		AS/KCD	DOE	July 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-2	U.S. Department of Energy Kansas City Plant Environmental Monitoring Plan		AS/KCD	DOE	January 1992
D-H-3	Facility Review of the Kansas City Plant	Office of Inspections	DOE, Office of Defense Programs		June 1993
D-H-4	Kansas City Plant Environmental Protection Implementation Plan		AS/KCD-ES&H, Environmental Compliance Dept.		November 9, 1993
D-H-5	Kansas City Plant Environmental Protection Manual (Draft)		AS/KCD-ES&H, Environmental Compliance Dept. & Environmental Restoration Technical Support Dept.		August 1994
D-H-6	Letter re wastewater discharge permit	R. Johnson	KCMO, Water & Pollution Control Dept.	P. Hoopes	January 27, 1989
D-H-7	Letter re determination of applicability of NPDES permit to discharge of chlorinated solvents	P.T. Hoopes	KCAO-ES&H	R.H. Hentges, Water Pollution Control Program, MDNR	January 8, 1990
D-H-8	Letter re discharge of chlorinated solvents	J.R. McConathy, Regional Administrator	MDNR	P.T. Hoopes	February 2, 1990
D-H-9	Letter re discharge of contaminated groundwater; attachments: Action Plan, Schedule, Stormwater Drainage Report	P. Hoopes	KCAO-ES&H	J.R. McConathy	February 15, 1990
D-H-10	Memorandum re notification of changed discharges	C.F. Kircher	AS/KCD	P.T. Hoopes	February 21, 1990
D-H-11	Performance Audit Inspection Report, November 27-30, 1989	D.I. Bates	EPI-Region VII	P.T. Hoopes	July 13, 1990
D-H-12	Memorandum re response to IWPF Performance Audit Inspection report	C.F. Kircher	AS/KCD-ES&H	P.T. Hoopes	August 14, 1990

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-13	Memorandum re update of sanitary sewer PCB reduction plan. Attachment: KCP Plan to Reduce PCB Discharges to the KCMO Sanitary Sewer System	C.F. Kircher	AS/KCD-ES&H	P.T. Hoopes	January 29, 1991
D-H-14	Memorandum re report on investigation of zinc in stormwater outfalls. Attachment: Zinc Investigation Report	C.F. Kircher	AS/KCD-ES&H	P.T. Hoopes	April 15, 1991
D-H-15	Memorandum re solvent discharges to outfall 001 and attached letter to Robert Hentges dated May 20, 1991	P.T. Hoopes	KCAO-ES&H	L.W. Smith	May 20, 1991
D-H-16	Memorandum re outfall 001 solvent discharge—supplemental information	C.F. Kircher	AS/KCD-ES&H	P.T. Hoopes	May 28, 1991
D-H-17	Cover letter transmitting supplemental information re outfall 001 solvent discharge	P.T. Hoopes	KCAO-ES&H	R. Hentges, MDNR	May 30, 1991
D-H-18	Memorandum re notification of changed discharge to sanitary sewer. Attachment: "Proposed Changes in Discharge to the KCMO Sanitary Sewer System"	C.F. Kircher	AS/KCD-ES&H	P.T. Hoopes	June 3, 1991
D-H-19	Memorandum re report of meeting with GSA on stormwater discharge permits	B.D. Heacock	AS/KCD-ES&H	File	June 13, 1991
D-H-20	Memorandum re report of meeting with KCMO concerning PCB discharge ordinance limit	B.D. Heacock	AS/KCD-ES&H	File	March 3, 1992
D-H-21	Letter re renewal application for NPDES State Operating Permit	H.K. Geiger	MDNR	E.W. Bean	May 19, 1992
D-H-22	Letter re status update on investigation of exceeding of limitations for PCBs	P.T. Hoopes	KCAO-ES&H	J.R. Macy, MDNR	May 22, 1992
D-H-23	Memorandum re notification of changed discharge: introduction of reverse osmosis (RO) reject water to sanitary sewer	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	March 25, 1994
D-H-24	Letter re notification of changed discharge: introduction of reverse osmosis (RO) reject water to sanitary sewer	D.M. Caughey	KCAO-ES&H	R. Jackson, KCMO, Water and Pollution Control Dept.	April 1, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-25	Letter providing additional information on method of estimating storm sewer outfall flows	P.T. Hoopes	KCAO-ES&H	D. Schuettee, MDNR	April 22, 1994
D-H-26	Memorandum re notification of changed discharge, revision of permit flow limit, and clarification of permit requirements for pH	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	May 12, 1994
D-H-27	Memorandum re revised permit reapplication for groundwater treatment	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	May 20, 1994
D-H-28	Memorandum re revised permit reapplication for groundwater treatment	R.H. Bennett	AS/KCD-ES&H	P.T. Hoopes	June 2, 1994
D-H-29	Letter re notification of change in discharge to sanitary sewer system	D.M. Caughey	KCAO-ES&H	KCMO Water and Pollution Control Dept.	June 5, 1994
D-H-30	Regulatory Agency Contact Form re discussion with KCMO Industrial Waste Division	K. Sessa	KCAO-ES&H		August 9, 1994
D-H-31	Letter transmitting update information on elimination of solvent discharges in outfall 001	D.M. Caughey	KCAO-ES&H	D. Schuettee, MDNR	August 19, 1994
D-H-32	NPDES Permit to Discharge: 1993 Quarterly Monitoring Reports		AS/KCD	KCAO-ES&H	January 25, 1994
D-H-33	NPDES Permit to Discharge: 1994 First and Second Quarter Monitoring Reports		AS/KCD	KCAO-ES&H	July 25, 1994
D-H-34	City Water and Sewerage Systems Evaluation and Computer Mapping		George Butler Associates, Inc.	AS/KCD	July 1989
D-H-35	City Water and Sewerage Systems Evaluation and Computer Mapping - Appendix I		George Butler Associates, Inc.	AS/KCD	July 1989
D-H-36	Spill Control Plan/BMP (Draft)		AS/KCD		August 1994
D-H-37	Scope of Work (SOW) for the Operation and Maintenance of an Industrial Wastewater Pretreatment Facility and a Groundwater Treatment System				June 7, 1993
D-H-38	Memorandum re Analytical Services Contract Scope of Work	M.E. Stites	AS/KCD-ES&H, Environmental Compliance	J.P. Stevinson	August 16, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-39	Environmental Characterization Program—Program Overview				September 1992
D-H-40	Environmental Monitoring Program				April 1990
D-H-41	Industrial Wastewater Pretreatment Facility Operating Procedures				August 1994
D-H-42	Environmental Monitoring and Characterization Project Quality Assurance Project Plan		Pace, Incorporated	AS/KCD	December 1992
D-H-43	Draft Environmental Assessment—Separate Process Wastewaters, Part A: Contaminated Flow Collection and Treatment System for the Kansas City Plant		DOE		February 1994
D-H-44	Bioaccumulation Monitoring and Toxicity Testing in Streams and Groundwater Wells at the U.S. Department of Energy Kansas City Plant	G.R. Southworth A.J. Stewart M.J. Peterson T.L. Ashwood	Oak Ridge National Laboratory/Martin Marietta Energy Systems, Inc.	AS/KCD/DOE	August 1991
D-H-45	Polychlorinated Biphenyls and Pesticides in Fish From Streams Near the U.S. Department of Energy's Kansas City Plant (Draft)	T.L. Ashwood G.R. Southworth M.J. Peterson	Oak Ridge National Laboratory/Martin Marietta Energy Systems, Inc.	AS/KCD/DOE	January 1993
D-H-46	Plant Configuration Management Program—Drain Systems		AS/KCD—Facilities Engineering		June 1993
D-H-47	Environmental Assessment: Completion of Flood Protection Works, Bannister Road Federal Complex		Army Corps of Engineers—Planning Division		September 1990
D-H-48	Environmental Assessment: Separate Process Wastewaters, Part A Contaminated Flow Collection and Treatment System for the Kansas City Plant (Draft)		Oak Ridge National Laboratory—Environment Sciences Division		February 1994
D-H-49	NPDES Permit: MO-0004863		MDNR	KCAO	July 17, 1994
D-H-50	Pace Inc. Chain-of-Custody Record Form #155090		Pace, Inc.	Pace KC Lab	October 25, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-50	Pace Inc. Field Notebook	T. Perry	Pace KC Lab		October 1994
D-H-51	NPDES Monitoring Trend Data: January 1990–May 1994		AS/KCD	KCAO	September 1994
D-H-52	Revised KCMO Industrial Pretreatment Ordinance (Draft)		KCMO Water/ Pollution Control Dept.		August 30, 1994
D-H-53	Letter authorization for KCP discharges to KCMO sanitary sewer	B. Benson	KCMO	U.S. AEC	June 19, 1968
D-H-54	Letter transmitting current KCMO Administrative Code; Part II, Article V, Div. 10: Sewer Use Ordinance	N. Khilnani	KCMO Water/ Pollution Control Dept.	KCAO/AS/KCD	June 7, 1990
D-H-55	Revised Application for New KCMO Wastewater Discharge Permit		AS/KCD	KCMO Water/ Pollution Control Dept.	October 1994
D-H-56	Memorandum transmitting comments and annotations on KCMO August 2, 1994, draft of proposed new wastewater discharge permit	R. Bennett	AS/KCD–ES&H	P.T. Hoopes, KCAO	September 6, 1994
D-H-57	KCMO Draft Permit for KC Plant Sewer Discharges	D. Burkett	KCMO Water/ Pollution Control Dept.	D. Caughey, KCAO	August 2, 1994
D-H-58	Backflow Prevention and Cross-Connection Control Training Manual	W. Munholland	AS/KCD–Utilities Operations and Engineering		
D-H-59	AS/KCD/KCAO NPDES Permit Application		AS/KCD	MDNR	October 1991
D-H-60	AS/KCD Internal Procedure: Environmental Monitoring Program Audits and Quality Assurance		AS/KCD		August 7, 1991
D-H-61	Sampling Quarterly Audit Checklist	S. Ramm M. Stites	AS/KCD–ES&H		July 19, 1993
D-H-62	Sampling Quarterly Audit Checklist	S. Ramm M. Stites	AS/KCD–ES&H		April 22, 1994
D-H-63	Sampling Quarterly Audit Checklist	S. Ramm M. Stites	AS/KCD–ES&H		August 1, 1994

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-64	Memorandum transmitting additional comments and annotations on KCMO August 2, 1994, draft of proposed new wastewater discharge permit	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	September 27, 1994
D-H-65	Memorandum transmitting NPDES Quarterly Monitoring Report; 2nd Quarter, 1994	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	July 25, 1994
D-H-66	Memorandum transmitting NPDES Quarterly Monitoring Report; 1st Quarter, 1994	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	April 22, 1994
D-H-67	Memorandum transmitting NPDES Quarterly Monitoring Report; 4th Quarter, 1993	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	January 25, 1994
D-H-68	Memorandum transmitting NPDES Quarterly Monitoring Report; 3rd Quarter, 1993	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	October 22, 1993
D-H-69	Memorandum transmitting NPDES Quarterly Monitoring Report; 2nd Quarter, 1993	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	July 28, 1993
D-H-70	Memorandum transmitting NPDES Quarterly Monitoring Report; 1st Quarter, 1993	R. Bennett	AS/KCD-ES&H	P. Hoopes, KCAO	April 22, 1993
D-H-71	Metal Finishing Report		George Butler Associates	AS/KCD	December 1988
D-H-72	City Water and Sewerage Systems Evaluation and Computer Mapping		George Butler Associates	AS/KCD	August 1989
D-H-73	Memorandum transmitting Analytical Services Contract Scope of Work	M. Stites	AS/KCD-ES&H	J. Stevinson	August 16, 1994
D-H-74	Technical Review of Pace Inc. KC Lab	N. Korte	Oak Ridge National Laboratory-Environmental Sciences Division	M. Stites, AS/KCD	October 11, 1994
D-H-75	BMP Committee Meeting Minutes	D. Stoltz	AS/KCD-ES&H	K. Clegg	August 25, 1993
D-H-76	BMP Committee Meeting Minutes	D. Stoltz	AS/KCD-ES&H	K. Clegg	March 20, 1992
D-H-77	Letter re quarterly discharge monitoring report—April 1, 1993–June 30, 1993	D.M. Caughey	KCAO-ES&H	J.R. Macy, MDNR	July 28, 1993

SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM (continued)

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-78	Letter re quarterly NPDES discharge monitoring report—July 1, 1993–September 30, 1993	D.M. Caughey	KCAO–ES&H	J.R. Macy, MDNR	October 23, 1993
D-H-79	Letter re quarterly NPDES discharge monitoring report—October 1, 1993–December 31, 1993	D.M. Caughey	KCAO–ES&H	J.R. Macy, MDNR	February 4, 1994
D-H-80	Letter re quarterly NPDES discharge monitoring report—January 1, 1994–March 31, 1994	D.M. Caughey	KCAO–ES&H	J.R. Macy, MDNR	April 29, 1994
D-H-81	Letter re quarterly NPDES discharge monitoring report—April 1, 1994–June 30, 1994	D.M. Caughey	KCAO–ES&H	J.R. Macy, MDNR	July 17, 1994
D-H-82	Letter re quarterly NPDES discharge monitoring report—July 1, 1994–September 30, 1994	D.M. Caughey	KCAO–ES&H	J.R. Macy, MDNR	October 28, 1994

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APPENDIX D

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM

Ref. #	Date	Organization	Topic
ROBERT L. McCLEARY – ORGANIZATIONAL STRUCTURE (OS); INTERNAL AND EXTERNAL COMMUNICATION (IC)			
I-A-1	10-14-94	AL-Waste Management Division	Organizational structure; communication
I-A-2	10-20-94	AL-ES&H	Organizational structure; communication
I-A-3	10-21-94	AL-Environmental Protection Division	Organizational structure; communication
I-A-4	10-24-94	KCAO-ES&H	Organizational structure
I-A-5	10-24-94	KCAO-ES&H	Organizational structure
I-A-6	10-25-94	AS/KCD-Human Resources	External communication
I-A-7	10-25-94	AS/KCD-ES&H	Organizational structure
I-A-8	10-25-94	AS/KCD-ES&H	Organizational structure
I-A-9	10-25-94	AS/KCD-ES&H	Organizational structure
I-A-10	10-26-94	AS/KCD-ES&H	Organizational structure
I-A-11	10-26-94	AS/KCD-Manufacturing, Heavy and Precision Shapes	Internal communication
I-A-12	10-26-94	AS/KCD-Manufacturing, Heavy and Precision Shapes	Internal communication
I-A-13	10-26-94	AS/KCD-Purchasing and Materiel	Internal communication
I-A-14	10-26-94	KCAO-ES&H	Organizational structure
I-A-15	10-27-94	AS/KCD-Facilities Management	Organizational structure
I-A-16	10-27-94	KCAO-ES&H	Organizational structure
I-A-17	10-27-94	AS/KCD-ES&H	Organizational structure
I-A-18	10-28-94	AS/KCD-ES&H	Organizational structure; communication
I-A-19	10-28-94	AS/KCD-Total Quality Management and Planning	Organizational structure; communication
I-A-20	10-28-94	KCAO-ES&H	Organizational structure; communication
I-A-21	10-31-94	AS/KCD-Purchasing & Materiel	Communication

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-A-22	10-31-94	AS/KCD-Purchasing & Materiel	Communication
I-A-23	10-31-94	AS/KCD-Purchasing & Materiel	Communication
RON KOLPA—ENVIRONMENTAL PROTECTION PROGRAMS (EP)			
I-B-1	10-24-94	KCAO-ES&H	RCRA 3008(h) corrective actions
I-B-2	10-24-94	KCAO-ES&H	RCRA corrective action strategy, NEPA activities, Process Waste Assessments (PWAs), Annual Environmental Report CY 1993, environmental monitoring
I-B-3	10-24-94	KCAO—Office of Resources Management and Security	Emergency Spill Plan, Site Hazard Inventory, occurrence reporting, emergency planning
I-B-4	10-25-94	AS/KCD-ES&H	RCRA 3008(h) corrective actions; Environmental Restoration Task Force
I-B-5	10-25-94	AS/KCD-ES&H	RCRA 3008(h) corrective actions; Environmental Restoration Task Force
I-B-6	10-25-94	AS/KCD-ES&H	Environmental compliance program; environmental monitoring; contract reform; Environmental Protection Implementation Plan; reorganization of staff
I-B-7	10-25-94	AS/KCD-ES&H	Air emissions inventory; Title V air permit
I-B-8	10-25-94	AS/KCD-ES&H	SARA reporting; UST program; pesticides program
I-B-9	10-25-94	AS/KCD-ES&H	NEPA program; NPDES program
I-B-10	10-25-94	AS/KCD-ES&H	Pollution prevention program; PWAs; Pollution Prevention Opportunity Assessments (PPOAs)
I-B-11	10-25-94	AS/KCD-ES&H	Pollution prevention program; PWAs; PPOAs
I-B-12	10-26-94	AS/KCD-ES&H	PWAs
I-B-13	10-26-94	AS/KCD-ES&H	RCRA 3008(h) corrective actions; new technical initiatives; data management; future restoration activities
I-B-14	10-26-94	AS/KCD-ES&H	RCRA 3008(h) corrective actions; new technical initiatives; data management; future restoration activities
I-B-15	10-26-94	AS/KCD-ES&H	GTF operation and design
I-B-16	10-26-94	Professional Services Group (PSG)	GTF operation; spill response training
I-B-17	10-26-94	PSG	GTF operation; spill response

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-B-18	10-26-94	PSG	GTF operation and maintenance
I-B-19	10-26-94	AS/KCD-ES&H	RCRA program operation; training; regulatory impact analysis
I-B-20	10-26-94	AS/KCD-ES&H	Risk assessments; site safety assessments
I-B-21	10-26-94	AS/KCD-ES&H	Environmental program management
I-B-22	10-27-94	KCAO-ES&H	Air program; NPDES program; toxics program; EPCRA; KCAO/ASA interface
I-B-23	10-27-94	AS/KCD-ES&H	RCRA 3008(h); HMITS database; High Performance Team
I-B-24	10-27-94	KCAO-O&SS	Self-assessment activities
I-B-25	10-27-94	KCAO-ES&H	RCRA 3008(h); groundwater strategy
I-B-26	10-27-94	AS/KCD-ES&H	PWAs; Total Quality (TQ) teams; PWA training programs
I-B-27	10-27-94	AS/KCD-ES&H	PWAs; TQ teams
I-B-28	10-28-94	KCAO-ES&H	RCRA program, KCAO oversight, KCAO and ASA interface
I-B-29	10-28-94	AS/KCD-ES&H	Regulatory impact analysis; program changes and interpretations
I-B-30	10-28-94	AS/KCD-ES&H	Program changes and interpretations
I-B-31	10-28-94	AS/KCD-ES&H	HMITS; PWAs
I-B-32	10-28-94	AS/KCD-ES&H	White paper on groundwater remediation strategy
I-B-33	10-31-94	AS/KCD-ES&H	Groundwater data management; future corrective actions under RCRA 3008(h)
I-B-34	10-31-94	AS/KCD-ES&H	Groundwater data management; future corrective actions under RCRA 3008(h)
PETER C. LINDAHL - FORMALITY OF ENVIRONMENTAL PROGRAMS (FP); ENVIRONMENTAL COMMITMENT (EC)			
I-C-1	10-24-94	AS/KCD-ES&H	Formality of environmental programs; environmental commitment
I-C-2	10-24-94	AS/KCD-ES&H	Formality of environmental programs; environmental commitment
I-C-3	10-25-94	AS/KCD-ES&H	Formality of waste management programs; environmental commitment
I-C-4	10-25-94	KCAO-ES&H	Formality of environmental programs; environmental commitment

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-C-5	10-25-94	AS/KCD-ES&H	Formality of environmental compliance programs; environmental commitment
I-C-6	10-25-94	AS/KCD-ES&H	Formality of waste management operations; environmental commitment
I-C-7	10-25-94	AS/KCD-OQA	Formality of environmental program audits; environmental commitment
I-C-8	10-25-94	AS/KCD-OQA	Formality of environmental program audits; environmental commitment
I-C-9	10-26-94	KCAO-ES&H	Formality of waste management programs; environmental commitment
I-C-10	10-26-94	KCAO-ES&H	Formality of environmental programs; environmental commitment
I-C-11	10-26-94	AS/KCD-ES&H	Formality of environmental programs; environmental commitment
I-C-12	10-27-94	KCAO-ES&H	Formality of environmental programs; environmental commitment
I-C-13	10-27-94	AS/KCD-ES&H	Formality of environmental programs; environmental commitment
I-C-14	10-27-94	AS/KCD	Environmental commitment
I-C-15	10-28-94	AS/KCD-ES&H	Tracking system for environmental findings
I-C-16	10-28-94	AS/KCD-ES&H	Tracking system for environmental reports
I-C-17	10-28-94	AS/KCD-ES&H	Document control and records management procedures
I-C-18	10-28-94	KCAO-ES&H	Formality of environmental restoration programs; environmental commitment
I-C-19	10-28-94	AL-ERPO	Formality of environmental restoration programs
I-C-20	10-28-94	KCAO-ES&H	Environmental commitment
I-C-21	10-31-94	AS/KCD-ES&H	Contractor/subcontractor environmental incidents
I-C-22	11-1-94	AS/KCD-ES&H	KCP WAC
GARY W. FREY – STAFF RESOURCES, TRAINING, AND DEVELOPMENT (SR); ENVIRONMENTAL PLANNING AND RISK MANAGEMENT (RM)			
I-D-1	10-24-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-D-2	10-24-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-3	10-25-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-4	10-25-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-5	10-25-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-6	10-25-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-7	10-26-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-8	10-26-94	AS/KCD	Training program
I-D-9	10-26-94	AS/KCD	Training program
I-D-10	10-26-94	KCAO-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-11	10-26-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-12	10-26-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-13	10-26-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-14	10-27-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-15	10-27-94	AS/KCD-ES&H	Staff resources, training, and development; environmental planning and risk management
I-D-16	10-28-94	AS/KCD-ES&H	NEPA; environmental planning; training
I-D-17	10-28-94	AS/KCD-ES&H	High Performance Team
I-D-18	10-28-94	KCAO-ES&H	Environmental planning and risk management; staff resources, training, and development
I-D-19	10-28-94	AS/KCD-ES&H	Environmental planning and risk management; staff resources, training, and development

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-D-20	10-27-94	AS/KCD-ES&H	Environmental planning and risk management; staff resources, training, and development
ROGER A. GOLEC—PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION (PE)			
I-E-1	10-24-94	AS/KCD-ES&H	ES&H organization, assessment programs tracking
I-E-2	10-24-94	AS/KCD-ES&H	Annual ES&H inspection program
I-E-3	10-25-94	KCAO-ES&H	KCAO environmental oversight program
I-E-4	10-25-94	AS/KCD-ES&H	Waste management assessment program
I-E-5	10-25-94	AS/KCD-ES&H	High performance teams; PI determination tracking/trending
I-E-6	10-25-94	AS/KCD-ES&H	High performance teams; PI determination tracking/trending
I-E-7	10-25-94	AS/KCD-ES&H	Environmental compliance
I-E-8	10-26-94	KCAO-ES&H	KCAO environmental oversight program
I-E-9	10-26-94	AS/KCD-QA	QA independent environmental oversight program
I-E-10	10-26-94	AS/KCD-QA	QA independent environmental oversight program
I-E-11	10-26-94	KCAO-ES&H	KCAO environmental oversight program
I-E-12	10-27-94	AS/KCD-ES&H	Environmental project oversight
I-E-13	10-27-94	KCAO—Quality and Stockpile Support	KCAO environmental oversight program
I-E-14	10-27-94	KCAO—Quality and Stockpile Support	KCAO environmental oversight program
I-E-15	10-27-94	AS/KCD—Facilities Management	Construction Division environmental oversight
I-E-16	10-27-94	AS/KCD—Facilities Management	Construction Division environmental oversight
I-E-17	10-28-94	KCAO—Quality and Stockpile Support	KCAO—QA environmental oversight program
I-E-18	10-28-94	KCAO-ES&H	KCAO environmental oversight program
I-E-19	10-28-94	AS/KCD-ES&H	Tracking/trending program
I-E-20	11-1-94	AS/KCD-ES&H	Division self-assessment program
I-E-21	11-1-94	AS/KCD-QA	QA independent environmental oversight program
SHIV N. GOEL—AIR QUALITY PROGRAMS (AQ)			
I-F-1	10-24-94	AS/KCD-ES&H	Emissions inventory; operating permit

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-F-2	10-25-94	AS/KCD-Utilities Dept.	Refrigerant recycling & recovery
I-F-3	10-25-94	AS/KCD-Maintenance Dept.	Refrigerant recycling & recovery and boiler operations
I-F-4	10-25-94	AS/KCD-Utilities Dept.	Boiler operations
I-F-5	10-25-94	AS/KCD-Utilities Dept.	Refrigerant recycling & recovery
I-F-6	10-25-94	AS/KCD-ES&H	Air quality permits; regulatory inspections; MACT source categories
I-F-7	10-25-94	KCAO-ES&H	Air quality permits; regulatory inspections; MACT source categories
I-F-8	10-25-94	AS/KCD-ES&H	EPCRA reporting
I-F-9	10-25-94	AS/KCD-ES&H	EPCRA reporting
I-F-10	10-26-94	AS/KCD-Facilities Management	Asbestos management program
I-F-11	10-26-94	AS/KCD-Industrial Hygienist Dept.	Asbestos management program
I-F-12	10-26-94	AS/KCD-ES&H	Air monitoring stations
I-F-13	10-27-94	AS/KCD-Material Sciences Dept.	Solvent substitution and phaseout of ozone-depleting substances
I-F-14	10-27-94	AS/KCD-Special Projects Dept.	Solvent substitution and phaseout of ozone-depleting substances
I-F-15	10-27-94	AS/KCD-ES&H	Management of air quality program; areas of concerns identified
I-F-16	10-27-94	KCAO-ES&H	Oversight air quality program; areas of concerns identified
I-F-17	10-28-94	AS/KCD-ES&H	33/50 pollution prevention & EO 12856
I-F-18	10-28-94	AS/KCD-ES&H	33/50 pollution prevention & EO 12856
I-F-19	10-28-94	AS/KCD-ES&H	Previous audit findings; compliance with refrigerant recycling & recovery regulations
RONALD B. DOBBS - WASTE MANAGEMENT PROGRAMS (WMI)			
I-G-1	10-24-94	AS/KCD-ES&H	Organizational responsibilities and classified wastes
I-G-2	10-24-94	AS/KCD-ES&H	Review of Federal Registers responsibility, Debris Rule
I-G-3	10-24-94	AS/KCD-ES&H	Mixed waste disposition, Debris Rule
I-G-4	10-25-94	AS/KCD-ES&H	Organizational responsibilities, resources, and reduction in force impacts
I-G-5	10-25-94	AS/KCD-ES&H	Offsite facility inspections, plant oversight inspections

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-G-6	10-25-94	AS/KCD-ES&H	Plant oversight facility inspections
I-G-7	10-25-94	KCAO-ES&H	Staff resources, directives to overview contractor, AL assistance.
I-G-8	10-25-94	AS/KCD-ES&H	Pollution prevention limitations due to funding constraints, EM v. DP
I-G-9	10-25-94	AS/KCD-ES&H	Pollution prevention accomplishments
I-G-10	10-26-94	AS/KCD-ES&H	Hazardous waste tracking and bar coding system
I-G-11	10-26-94	AS/KCD-ES&H	Waste analysis, and verification of wastestream
I-G-12	10-26-94	AS/KCD-ES&H	Waste Acceptance Criteria and Certifications
I-G-13	10-26-94	AS/KCD-ES&H	Classified hazardous wastes accomplishments and efforts
I-G-14	10-26-94	AS/KCD-ES&H	Classified wastes and improper disposal of non-hazardous wastes by subcontractor
I-G-15	10-26-94	AS/KCD-ES&H Management	Position requirements and functions
I-G-16	10-27-94	KCAO-ES&H	Assignments, contractor performance appraisal mechanisms, and KCAO reviews of contractor decisions
I-G-17	10-27-94	KCAO-ES&H	Subcontractor overview, interactions with DOE/AL, KCAO review of contractor decisions
I-G-18	10-27-94	AS/KCD-ES&H	AS/KCD-Waste Management interface with Facilities Dept.
I-G-19	10-27-94	AS/KCD-ES&H	Classified hazardous wastes
I-G-20	10-28-94	AS/KCD-ES&H	Regulatory interpretations input
I-G-21	10-28-94	RCRA, Office of Environmental Guidance	Regulatory interpretation of by-product material
I-G-22	10-28-94	AS/KCD-ES&H	Onsite inspection of classified hazardous wastes
I-G-23	10-28-94	AS/KCD-ES&H	By-product material interpretation
JAMES K. ALEXANDER -- SURFACE WATER (SW)			
I-H-1	9-14-94	AS/KCD-ES&H	Wastewater sources and discharge permits
I-H-2	9-14-94	AS/KCD-ES&H	IWPF and GTF operations
I-H-3	9-14-94	AS/KCD-ES&H	GTF operations and outfall 001 groundwater
I-H-4	9-30-94	KCAO-ES&H	Wastewater sources and discharge permits
I-H-5	10-12-94	AS/KCD-ES&H	General wastewater management

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-H-6	10-18-94	AS/KCD-ES&H	Clarifications on Documents and files
I-H-7	10-24-94	AS/KCD-ES&H	Wastewater sources
I-H-8	10-24-94	AS/KCD-Metal Finishing	Plating shop wastes
I-H-9	10-24-94	AS/KCD-Micro Electronic Assembly	Wastewater sources
I-H-10	10-24-94	AS/KCD-Micro Electronic Assembly	Wastewater sources
I-H-11	10-24-94	AS/KCD-Circuit Boards	Wastewater sources
I-H-12	10-24-94	AS/KCD-Circuit Boards	Department wastewater
I-H-13	10-25-94	AS/KCD-ES&H	IWPF operation
I-H-14	10-25-94	PSG-M&E Services	IWPF operation
I-H-15	10-25-94	PSG-M&E Services	GTF operation
I-H-16	10-25-94	AS/KCD-ES&H	GTF operation
I-H-17	10-25-94	AS/KCD-Chemical Receiving and Stores	Hazardous chemical spill control
I-H-18	10-25-94	KCAO-FO&M	Floodwall project
I-H-19	10-25-94	AS/KCD-Facilities Engineering	AICO project
I-H-20	10-26-94	AS/KCD-ES&H	Sewer rehabilitation
I-H-21	10-26-94	KCAO-ES&H	Sewer rehabilitation
I-H-22	10-26-94	AS/KCD-Facilities Engineering	Sewer rehabilitation
I-H-23	10-26-94	AS/KCD-Facilities Engineering	Storm sewer intrusion rerouting and OTB project
I-H-24	10-26-94	AS/KCD-ES&H	GTF discharge sampling
I-H-25	10-26-94	PSG-M&E Services	GTF discharge sampling
I-H-26	10-26-94	Pace Labs	GTF discharge sampling
I-H-27	10-26-94	AS/KCD-ES&H	NPDES outfalls
I-H-28	10-26-94	AS/KCD-ES&H	NPDES outfalls
I-H-29	10-26-94	AS/KCD-ES&H	Sampling contracts
I-H-30	10-27-94	AS/KCD-ES&H	BQ-37 treatment system

CONTACTS AND INTERVIEWS CONDUCTED BY THE AUDIT TEAM (continued)

Ref. #	Date	Organization	Topic
I-H-31	10-27-94	AS/KCD-Facilities Engineering	Potable water system
I-H-32	10-27-94	AS/KCD-ES&H	Best management practices
I-H-33	10-27-94	AS/KCD-Facilities Engineering	Potable water system
I-H-34	10-27-94	AS/KCD-ES&H	NPDES outfalls and CSS discharge
I-H-35	10-28-94	AS/KCD-ES&H	NPDES and KCMO permits
I-H-36	10-28-94	AS/KCD-ES&H	Plant spill controls
I-H-37	10-28-94	AS/KCD-West Boilerhouse Operations	Steam plant spill controls and wastewater
I-H-38	10-28-94	AS/KCD-ES&H	Spill response capability

APPENDIX E

REGULATIONS, REQUIREMENTS, AND GUIDELINES USED IN EVALUATING THE KANSAS CITY PLANT

**REGULATIONS, REQUIREMENTS, AND GUIDELINES
USED IN EVALUATING THE KANSAS CITY PLANT**

Requirements/ Guidelines	Sections/Title	Authority
Executive Order 11514 and 11991	Protection and Enhancement of Environmental Quality	Office of the President
Executive Order 12088	Federal Compliance with Pollution Control Standards	Office of the President
Executive Order 12580	Superfund Implementation	Office of the President
Executive Order 12856	Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements	Office of the President
Public Law 94-52	National Environmental Policy Act	CEQ
Public Law 99-499	Superfund Amendments and Reauthorization Act (SARA) Title III, Emergency Planning and Community Right-to-Know Act	EPA
Public Law 102-386	Federal Facilities Compliance Act	EPA
15 U.S.C. 2601 et seq.	Toxic Substances Control Act	EPA
33 U.S.C. 1251 et seq.	Clean Water Act	EPA
40 U.S.C. 9601	Comprehensive Environmental Response, Compensation, and Liability Act	EPA
42 U.S.C. 6901 et seq.	Resource Conservation and Recovery Act	EPA
42 U.S.C. 7401 et seq.	The Clean Air Act	EPA
42 U.S.C. 13101-13109	Pollution Prevention Act	EPA
Titles I-VI	Clean Air Act Amendments of 1990	EPA
SEN-29-91	Performance Indicators and Trending Program for DOE Operations	DOE
DOE 1324.5	Records Management Program	DOE
DOE 5000.3B	Occurrence Reporting and Processing of Operations Information	DOE
DOE 5400.1	General Environmental Protection Program	DOE

**REGULATIONS, REQUIREMENTS, AND GUIDELINES USED
IN EVALUATING THE KANSAS CITY PLANT (continued)**

Requirements/ Guidelines	Sections/Title	Authority
DOE 5400.2A	Environmental Compliance Issue Coordination	DOE
DOE 5400.3	Hazardous and Radioactive Mixed Waste Program	DOE
DOE 5400.4	Comprehensive Environmental Response, Compensation, and Liability Act Requirements	DOE
DOE 5440.1E	National Environmental Policy Act Compliance Program	DOE
DOE 5480.1B	Environment, Safety, and Health Program for DOE Operations	DOE
DOE 5480.4	Environmental Protection, Safety and Health Protection Standards	DOE
DOE 5480.19	Conduct of Operations Requirements for DOE Facilities	DOE
DOE 5482.1B	Environment, Safety, and Health Appraisal Program	DOE
DOE 5484.1	Environmental Protection, Safety, and Health Protection Information Reporting Requirements	DOE
DOE 5500.2B	Emergency Categories, Classes, and Notification and Reporting Requirements	DOE
DOE 5500.3A	Planning and Preparedness for Operational Emergencies	DOE
DOE 5700.6C	Quality Assurance	DOE
DOE/EH-0125	DOE Environmental Audit Manual	DOE
DOE/EH-0326	Protocols for Conducting Environmental Management Assessments of DOE Organizations	DOE
DOE/EH-0358	Performance Objectives and Criteria for Conducting DOE Environmental Audits	DOE
January 1994 Draft Final	Doe Environmental Audit Program Guidance	DOE

**REGULATIONS, REQUIREMENTS, AND GUIDELINES USED
IN EVALUATING THE KANSAS CITY PLANT (continued)**

Requirements/ Guidelines	Sections/Title	Authority
July 31, 1990 Secretarial Memorandum	Guidance on Environment, Safety, and Health Self-Assessment	DOE
December 1992 Guidance	Self-Assessment Guidance Document	DOE
10 CFR 1021	National Environmental Policy Act Regulations	DOE
AL 1120	Rev. 2, Chg. 1, Organization, Authorities, and Functions	DOE/AL
29 CFR 1910.120	Occupational Safety and Health Standards; Hazardous Waste Operations and Emergency Response	EPA
29 CFR 1910.1200	Hazard Awareness Training	OSHA
40 CFR 50-88	Clean Air Act Implementing Regulations	EPA
40 CFR 50	National Ambient Air Quality Standards	
40 CFR 58	Ambient Air Quality Surveillance	
40 CFR 60	Standards of Performance for New Stationary Sources	
40 CFR 61	National Emission Standards for Hazardous Air Pollutants	EPA
40 CFR 82	Protection of Stratospheric Ozone	
40 CFR 110	Discharge of Oil	EPA
40 CFR 112	Oil Pollution Prevention	EPA
40 CFR 117	Reportable Quantities for Hazardous Substances	EPA
40 CFR 122	National Pollutant Discharge Elimination System (NPDES)	
40 CFR 123	State Pollution Discharge Elimination System (SPDES)	EPA
40 CFR 125	Criteria and Standards for the National Pollutant Discharge Elimination System	EPA

**REGULATIONS, REQUIREMENTS, AND GUIDELINES USED
IN EVALUATING THE KANSAS CITY PLANT (continued)**

Requirements/ Guidelines	Sections/Title	Authority
40 CFR 131	Water Quality Standards	EPA
40 CFR 141	National Primary Drinking Water Regulations	EPA
40 CFR 165	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Pesticide Storage/Disposal Regulations	EPA
40 CFR 171	Certifications of Pesticide Application	EPA
40 CFR 260-280	Hazardous Waste Regulations	EPA
40 CFR 261	Identification and Listing of Hazardous Waste	EPA
40 CFR 262	Standards Applicable to Generators of Hazardous Waste	EPA
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	EPA
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	EPA
40 CFR 268	Land Disposal Restrictions	EPA
40 CFR 270	EPA-Administered RCRA Permit Program	EPA
40 CFR 300	National Oil and Hazardous Substances Contingency Plan	EPA
40 CFR 302	Designation, Reportable Quantities, and Notification	EPA
40 CFR 355	Emergency Planning and Notification	EPA
40 CFR 370	Hazardous Chemical Reporting: Community Right-To-Know	EPA
40 CFR 372	Toxic Chemical Release Reporting: Community Right-To-Know	EPA
40 CFR 433	Metal Finishing Pretreatment Standards	EPA
40 CFR 704	Reporting and Recordkeeping	EPA
40 CFR 710	Topic Chemical Inventory Reporting	EPA

**REGULATIONS, REQUIREMENTS, AND GUIDELINES USED
IN EVALUATING THE KANSAS CITY PLANT (continued)**

Requirements/ Guidelines	Sections/Title	Authority
40 CFR 1500-1508	CEQ NEPA Guidelines	EPA
40 CFR Subchapter N	Effluent Guidelines and Standards (400 Series, Including Stormwater Regulations)	EPA
OSWER Directive 9283.1-2	Guidance on Remedial Actions for Contaminated Groundwater at Superfund Sites	EPA
OSWER Directive 9502.00-6D	RCRA Facility Investigation (RFI) Guidance	EPA
OSWER Directive 9950.1	RCRA Ground Water Monitoring Technical Enforcement Guidance Document Guidance for Conducting Remedial Investigations	EPA
10 CSR 10-2	Control of Emissions from Solvent Metal Cleaning	MDNR
10 CSR 10-6.065	Operating Permits; see Missouri Register, vol. 18, no. 18, September 17, 1993	MDNR
10 CSR 20-6	Missouri State Regulations; NPDES	MDNR
10 CSR 25	Hazardous Waste Operations and Emergency Response	MDNR
10 CSR 80	Solid Waste Management	MDNR
City Ordinance	Air Quality Control Code	City of Kansas City, Missouri
City Ordinance	KCMO Sewer Use Regulations	City of Kansas City, Missouri

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APPENDIX F

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ACL	Alternate Concentration Level
AL	Albuquerque Operations Office
AOC	Administrative Orders Consent
AQ	Air Quality
AS/KCD	AlliedSignal Aerospace Company, Kansas City Division
BFP	Backflow preventer
BMP	Best Management Practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAMU	Corrective Action Management Unit
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMI	Corrective Measures Implementation Plan
CMS	Corrective Measures Study
CPAF	Cost Plus Award Fee
CRP	Community Relations Plan
CSO	Cognizant Secretarial Official
CWA	Clean Water Act
CY	Calendar Year
DMR	Discharge Monitoring Reports
DOE	U.S. Department of Energy
EA	Environmental Assessment
EC	Environmental Commitment
ECD	Environmental Compliance Department
EH	DOE Office of Environment, Safety and Health
EH-1	DOE Office of the Assistant Secretary for Environment, Safety and Health

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (continued)

Acronym	Definition
EH-24	Office of Environmental Audit
EM	Environmental Monitoring
EM	Office of Environmental Management (formerly Office of Environmental Restoration and Waste Management)
EP	Environmental Protection Programs
EPA	U.S. Environmental Protection Agency
EPD	Environmental Protection Division
EPIP	Environmental Protection Implementation Plan
ES&H	Environment, Safety, and Health
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FP	Formality of Environmental Programs
FTE	Full-time equivalent
FY	Fiscal Year
GBA	George Butler and Associates, Inc.
GPMP	Groundwater Protection Management Program Plan
GTF	Groundwater Treatment Facility
GWPMPP	Groundwater Protection Management Program Plan
HAP	Hazardous air pollutants
HMAC	Hazardous Materials Advisory Committee
HMIS	Hazardous Material Information System
HMITS	Hazardous Material Inventory and Tracking System
HSWA	Hazardous and solid Waste Amendments
IC	Internal and External Communication
IMDB	Issues Management Data Base
IWPF	Industrial Waste Pretreatment Facility
IWTF	Industrial Wastewater Treatment Facility
KCAO	Kansas City Area Office
KCMO AQS	Kansas City, Missouri, Air Quality Section
KCMO	City of Kansas City, Missouri

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (continued)

Acronym	Definition
KCMO DOH	Kansas City, Missouri, Department of Health
KCP	Kansas City Plant
LMO	Line Management Official
M&O	Management and Operating
MACT	Maximum Achievable Control Technology
MDNR	Missouri Department of Natural Resources
MOA	Memorandum of Agreement
MRI	Midwest Research Institute
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
ODS	Ozone-depleting substances
OQA	Operations Quality Assurance
OQA	Operations Quality Assurance
OR	Oak Ridge Operations Office
OS	Organizational Structure
OSA	Operation Surveillance Assurance
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
OTB	Organics Treatment Building
PBA	Performance Based Assessment
PCB	Polychlorinated Biphenyl
PE	Program Evaluation, Reporting, and Corrective Action
POC	Performance Objectives and Criteria
POTW	Publicly Owned Treatment Works
PPOA	Pollution Prevention Opportunity Assessment
PSG	Professional Services Group

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (continued)

Acronym	Definition
PWA	Process Waste Assessment
QA	Quality Assurance
QAPP	Quality Assurance Program Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation Report
RFP	Request for proposal
RGD	Radiation Generating Device
RIF	Reduction in force
RM	Environmental Planning and Risk Management
SA	Self-Assessment
SARA	Superfund Amendments and Reauthorization Act
SCP	Spill Control Plan
SEN	Secretary of Energy Notice
SIP	State Implementation Plan
SPCC	Spill Prevention Control and Countermeasure
SR	Staff Resources, Training, and Development
SWMU	Solid Waste Management Unit
TCA	Trichloroethane
TCE	Trichloroethylene
TCM	Toxic and Chemical Materials
TDS	Total dissolved solids
TPY	Tons per year
TQ	Total Quality
TQM	Total Quality Management
TSCA	Toxic Substance Control Act
TU	Temporary Unit
UST	Underground storage tank
VOC	Volatile organic compounds

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (continued)

Acronym	Definition
WAC	Waste acceptance criteria
WAD	Work Authorization Directives
WCD	Waste Compliance Department
WM	Waste Management
WM/PPAP	Waste Minimization and Pollution Prevention Awareness Plan
WMD	Waste Management Department

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