Environmental Management Assessment of the WASTE ISOLATION PILOT PLANT (WIPP) Carlsbad, New Mexico

**U.S Department of Energy
Office of Environmental Audit
Washington DC 20585**

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PREFACE

PREFACE

U.S. DEPARTMENT OF ENERGY ENVIRONMENTAL MANAGEMENT ASSESSMENT OF THE WASTE ISOLATION PILOT PLANT (WIPP)

In a continuing effort to strengthen environmental protection within the U.S. Department of Energy (DOE), the Office of Environment, Safety and Health (EH) has established, as part of the internal oversight responsibilities within DOE, a program within the Office of Environmental Audit (EH-24), to conduct environmental assessments of DOE programs and operating facilities. 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.

This document contains the results of the Environmental Management Assessment of the Waste Isolation Pilot Plant (WIPP). This Environmental Management Assessment was conducted by EH-24 from July 19 through July 30, 1993. The assessment's objective is to advise the Secretary of Energy, through the Assistant Secretary for Environment, Safety and Health, of the adequacy of management systems established at WIPP to ensure the protection of the environment and compliance with Federal, state, and DOE environmental requirements.

July 1993
Washington, D.C.

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of the
WASTE ISOLATION PILOT PLANT (WIPP)**

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report documents the results of the Environmental Management Assessment performed at the Waste Isolation Pilot Plant (WIPP), in Carlsbad, New Mexico. The mission of WIPP is to demonstrate the safe disposal of transuranic (TRU) waste. During this assessment, activities and records were reviewed and interviews were conducted with personnel from the management and operating contractor (M&O), Westinghouse Electric Corporation, Waste Isolation Division (WID); Sandia National Laboratories (SNL); the DOE line management organizations of WIPP Project Site Office (WPSO); WIPP Project Integration Office (WPIO); and DOE Headquarters Program Office of Environmental Restoration and Waste Management (EM). The onsite portion of the assessment was conducted from July 19 to July 30, 1993, 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," established the mission of EH-24 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 utilizing systematic and periodic evaluations of the Department's environmental programs within line organizations, and through use of supplemental activities that serve to strengthen self-assessment and oversight functions within program, field, and contractor organizations.

The Environmental Management Assessment of WIPP was designed to evaluate WIPP's environmental programs, supported by management systems that ensure effectiveness of development and implementation of such programs. Where DOE line management organizations with oversight responsibilities had an impact on the effective implementation of WIPP environmental activities, these organizations were also evaluated. Sandia National Laboratory, scientific advisor to WIPP, was also evaluated on the management of its environmental programs associated with experimental activities directly related to WIPP.

The scope of this assessment was limited by the fact that WIPP's sole mission is to receive and permanently dispose of TRU and TRU-mixed waste from 10 DOE sites. The specificity of the site's mission facilitated determination by the Assessment Team of what environmental programs and management systems must be in place to ensure effective operations in compliance with DOE Orders and regulatory requirements.

This assessment revealed that WIPP's environmental safety, and health programs are satisfactory, and that all levels of the WID management and staff consistently exhibit a high level of commitment to achieve environmental excellence. This commitment is evident in top management support and continues through WID line organizations, staff accountability, and performance in the implementation of day-to-day environmental activities. This demonstration of environmental commitment has persisted despite obvious and apparent confusion among EM line management organizations regarding their defined oversight roles, responsibilities, and authorities for WIPP actions and activities. This issue, on DOE organizational structure, resulted in the only key finding identified in this assessment report.

In October 1991, EM, in an effort to more clearly define oversight roles, responsibilities, and authorities at WIPP, reorganized the DOE line management reporting structure by

creating WPIO. This action was taken in response to an Operational Readiness Review of WIPP in mid-1991 that indicated redundant levels of line management authority. This Environmental Management Assessment, however, revealed that problems still exist in this area; roles and responsibilities are often duplicative, resulting in poor utilization of resources and inefficient management of WIPP environmental activities. These problems will take on a greater importance, if left unchanged, once WIPP becomes operational.

WID, nonetheless, has progressed steadily in its formal development of necessary management programs and systems to ensure good management of all pertinent environmental programs. Environmental protection programs and plans embodying DOE Orders and regulatory requirements have been formalized and fully developed with only minor elements missing or deemed inadequate. While communications *within* line organizations appear strong, some oral guidance and/or direction from EM was not found to be consistent with written directives, thus contributing to confusion surrounding the roles and responsibilities of WPSO and other DOE oversight line management organizations. While a WID training program has been developed, minor problems exist in the systematic tracking and updating of some employee training records. WID has established a formal Self-Assessment Program and Implementation Plan that is fairly comprehensive. WPSO is conducting some self-assessment activities; however, these activities have not been formalized. Most of the deficiencies identified by the Assessment Team were previously identified by WID and WPSO, and corrective actions are planned. Where deficiencies were not previously identified, the site took immediate steps, where possible, to initiate corrective action once they became aware of them.

The Assessment Team identified the following strengths in WIPP environmental management programs:

- Environmental Commitment - Personnel within WID exhibit a strong commitment towards environmental excellence, as demonstrated through their understanding of environmental issues and their desire to continuously improve overall performance. The general belief at WIPP is that WIPP must constantly demonstrate its environmental excellence in order to satisfy the regulators and the public of its ability to safely handle and dispose radioactive waste. Formal and informal systems between WPSO and WID have been established for communicating environmental information that contribute to an excellent understanding of environmental issues by personnel throughout WIPP. Interviews with external oversight regulators also indicated that a culture of environmental excellence is widespread at WIPP.
- Environmental Planning and Risk Management - Strong environmental planning and risk management programs, including a strong NEPA program, have been implemented by WID. This is evidenced by both work-related activities and procedures that receive comprehensive reviews for their potential ES&H and risk management impact. Formal prioritization systems are in place for review of activities, review of procedures, and budgets, in which environmental issues are one of the top priorities. Further, there is excellent communication and interaction between WID and WPSO in reviewing budget plans regarding environmental compliance.

- External Communications - The DOE presence at WIPP has established and implemented a strong, proactive outreach program to effectively inform entities external to WIPP of ongoing activities and the long-term mission of WIPP. The approach has been to keep the public, regulatory agencies, and public interest groups constantly aware of the WIPP mission and changes thereto. Further, there is a cooperative approach to address any environmental concerns raised by these groups by giving immediate, continuing, and thorough attention to resolving such concerns.

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

This report documents the results of the Environmental Management Assessment of the Waste Isolation Pilot Plant (WIPP) located in Carlsbad, New Mexico. The assessment was conducted from July 19 through July 30, 1993, by the 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 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 using systematic and periodic evaluations of the Department's environmental programs within line organizations, and through use of supplemental activities that serve to strengthen self-assessment and oversight functions within program, field, and contractor organizations.

These evaluations function as a vehicle to apprise the Secretary and Cognizant Secretarial Officials (CSOs, formerly called Program Senior Officials) 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;
- periodic routine reaudits;
- environmental management assessments; and
- special issue reviews.

The purpose, scope, and approach of this environmental management assessment is described below.

1.1 PURPOSE

The purpose of the environmental management assessment of WIPP is to provide the Secretary of Energy and CSOs, through the Assistant Secretary for Environment, Safety and Health, with concise information pertaining to the following areas:

- adequacy of environmental management programs and organizations;
- adherence to best management (and accepted industry) practices pertaining to environmental management programs;
- compliance with DOE Orders and environmental policies (as identified in Table 1-1) that address environmental management programs;
- DOE vulnerabilities and liabilities associated with environmental management practices;
- causal factors contributing to the occurrence of findings; and

TABLE 1-1

**LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES**

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
DOE 1000.3B	Internal Control Systems Manual	DOE
DOE 1280.1	Memoranda of Understanding	DOE
DOE 2300.1A	Audit Resolution and Follow-up	DOE
DOE 2321.1A	Auditing of Programs and Operations	DOE
DOE 3410.1B	Training	DOE
DOE 4320.1B	Site Development Planning	DOE
DOE 4700.1	Project Management Systems	DOE
DOE 5000.3A	Occurrence Reporting and Processing of Operations Information	DOE
DOE 5100.3	Field Budget Process	DOE
DOE 5400.1	General Environmental Protection Programs	DOE
DOE 5400.2A	Environmental Compliance Issue Coordination	DOE
DOE 5400.3	Hazardous and Radioactive Mixed Waste Program	DOE
DOE 5400.5	Radiation Protection of the Public and the Environment	DOE
DOE 5400.9	Sealed Radioactive Source Accountability	DOE
DOE 5440.1E	National Environmental Policy Act Compliance Program	DOE
DOE 5480.1B	Environment, Safety, and Health Program for Department of Energy Operations	DOE
DOE 5480.4	Environmental Protection, Safety and Health Protection Standards	DOE
DOE N5480.6	Radiological Control	DOE

TABLE 1-1

**LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (Continued)**

Requirements/ Guidelines	Sections/Title	Authority
DOE 5480.11	Radiation Protection for Occupational Workers	DOE
DOE 5480.15	Department of Energy Laboratory Accreditation for Personnel Dosimetry	DOE
DOE 5480.19	Conduct of Operations Requirements for DOE Facilities	DOE
DOE 5480.20	Personnel Selection Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities	DOE
DOE 5480.25	Safety of Accelerator Facilities	DOE
DOE 5481.1B	Safety Analysis and Review System	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 5500.2A	Emergency Notification Reporting and Response Levels	DOE
DOE 5500.3A	Planning and Preparedness for Operational Emergencies	DOE
DOE 5700.6C	Quality Assurance	DOE
DOE 5820.2A	Radioactive Waste Management	DOE
DOE 6430.1A	General Design Criteria	DOE
DOE/EH-0070	External Dose Conversion Factors for Calculation of Dose to the Public	DOE
DOE/EH-0071	Internal Dose Conversion Factors for Calculation of Dose to the Public	DOE
DOE/EH-0173T	Environmental Regulatory Guide for Radiological Efficient Monitoring and Environmental Surveillance	DOE
DOE/EH-0256T	Radiological Control Manual	DOE

TABLE 1-1

**LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (Continued)**

Requirements/ Guidelines	Sections/Title	Authority
DOE/EH-0326	Protocols for Conducting Environmental Management Assessments of DOE Organizations	DOE
December 1992 Guidance	Self-Assessment Guidance Document	DOE
November 1992 Guidance	Implementation Guide for Radiological Survey Procedures (Draft)	DOE
July 31, 1990, Secretarial Memorandum	Guidance on Environment, Safety, and Health (ES&H) Self-Assessment	DOE
January 26, 1990, Secretarial Memorandum	Preliminary Review of Trends in Tiger Team Assessments	DOE
15 U.S.C. 2601 et seq.	Toxic Substances Control Act	EPA
42 U.S.C. 6901 et seq.	Resource Conservation and Recovery Act	EPA
42 U.S.C. 7401 et seq.	Clean Air Act	EPA
33 U.S.C. 1344	Clean Water Act	EPA
10 CFR 1021	National Environmental Policy Act Regulations	DOE
40 CFR 61	National Emission Standards for Hazardous Air Pollutants	EPA
40 CFR 112	Oil Pollution Control	EPA
40 CFR 141	National Primary Drinking Water Regulations	EPA
40 CFR 261	Identification and Listing of Hazardous Waste	EPA
40 CFR 268	Land Disposal Restriction Program	EPA
40 CFR 302	Designation, Reportable Quantities, and Notification	EPA

TABLE 1-1

**LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (Continued)**

Requirements/ Guidelines	Sections/Title	Authority
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution, and Use Prohibitions	EPA
40 CFR 1501-1508	CEQ NEPA Guidelines	EPA
New Mexico Solid Waste Management Regulations, Part 1	General Provisions, Exemptions	NMED, Environment Improvement Division

- noteworthy environmental management practices.

The information gathered during this assessment and embodied in this report will assist DOE in determining patterns and trends in environmental deficiencies, as well as causal factors contributing to the observed deficiencies. Line management is expected to fully utilize this information to develop corrective actions, to make appropriate modifications to internal self-assessment programs to prevent recurrence, and to supplement their formalized lessons learned programs to ensure broad applications to other operations, programs, and facilities.

1.2 SCOPE

The scope of the WIPP Environmental Management Assessment included a review of all systems and functions necessary for effective environmental management. Specific areas of review included:

- 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; and
- National Environmental Policy Act.

1.3 APPROACH

The WIPP Environmental Management Assessment followed accepted assessment techniques and was guided by implementation of procedures and programs cited in the DOE Environmental Audit Program Guidance (January 1992), and Protocols For Conducting Environmental Management Assessments Of DOE Organizations (DOE/EH-0326). These two documents were the primary tools used by the Team to conduct this Assessment. The assessment was conducted by a team of professionals managed by a Team Leader and Deputy Team Leader from the DOE Headquarters Office of Environmental Audit, and staffed by contractor technical support personnel. The names, area of responsibility, affiliations, and biographical sketches of the team members are provided in Appendix A. The assessment included three phases: pre-assessment preparation, onsite activities, and post-assessment activities.

During the pre-assessment phase, a memorandum was sent to WIPP announcing the assessment and requesting information about WIPP and program activities in general.

Included in this memorandum was a request that WIPP formally notify appropriate Federal, state, and local regulatory agencies of the impending assessment and solicit their participation. A pre-assessment site visit was conducted from June 22 through June 24, 1993. WIPP's response to the information request memorandum, combined with the pre-assessment site visit, formed the basis for the Assessment Plan (Appendix B), including the onsite agenda. Once onsite, the Assessment Team modified the original agenda as more information was obtained and additional areas of interest were identified. The final daily agenda is contained in Appendix C.

Onsite activities were conducted from July 19 through July 30, 1993. These activities included document reviews, and interviews with DOE and contractor personnel, representatives from New Mexico Environmental Department (NMED), and the Board of Regents of New Mexico Institute of Mining and Technology Environmental Evaluation Group (EEG). NMED personnel, responsible for DOE oversight under an Agreement-in-Principle, participated as observers during the assessment process.

Findings identified by the Assessment Team are conditions that, in the judgment of the Assessment Team, may not satisfy DOE Orders, agreements with regulatory agencies, environmental permit conditions, internal DOE or contractor environmental policies and procedures, regulatory agency or DOE guidance, and accepted industry practice or technical standards.

The findings detailed in Section 3.0 are organized into the following nine categories: organizational structure; environmental commitment; environmental protection programs; formality of environmental programs; internal and external communications; staff resources, training, and development; program evaluation, reporting, and corrective action; environmental planning and risk management; and National Environmental Policy Act. 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 performance objectives specify the particular standards against which the finding is being evaluated. The findings are not arranged in order of relative significance.

It is the intent of this Environmental Management Assessment to go beyond the findings and to identify the apparent causal factors of observed environmental deficiencies. If one or more of these apparent causal factors are identified as contributing to a specific finding, it will be included in the supporting discussion. The apparent causal factors are then used to assist in the determination of corrective actions required to rectify identified findings. A listing and definition of causal and contributing factors used by the Assessment Team can be found in Appendix F.

1.4 BACKGROUND AND SITE DESCRIPTION

The Waste Isolation Pilot Plant is a research and development facility of the U.S. Department of Energy. WIPP's primary mission is to demonstrate the safe disposal, in a repository of natural bedded salt formations, of transuranic (TRU) wastes generated by defense programs. WIPP is also designed to include underground areas for research and development activities involving both geotechnical research and specifically approved tests using small quantities of TRU mixed waste. WIPP is located in southeastern New Mexico, 26 miles (42 kilometers) east of Carlsbad, New Mexico (see Figure 1-1, WIPP Location Map).

Regional Location Map of WIPP

FIGURE 1-1. WIPP LOCATION MAP

The WIPP project was authorized by Congress in 1979 in response to the national need for a long-term and safe disposal site of TRU mixed waste accumulated from our defense programs. Initial construction of the WIPP site started in April 1981, and construction was complete in April 1989. Currently, WIPP is not accepting any TRU waste. Presently, WIPP is undergoing a number of Operational Readiness Reviews in preparation for test phase startup. Prior to receiving test phase TRU waste, WIPP will require final approval on two test plans (the Test Plan and Waste Retrieval Plan) that are required by the Land Withdrawal Act. The U.S. Environmental Protection Agency (EPA) has reviewed the first draft of these plans and has subsequently requested additional information. On August 20, 1993, DOE intends to resubmit the two plans to EPA for review. EPA will then utilize a 10-month review period to evaluate the information. EPA acceptance of the supplementary information is expected to result in a final rule-making permitting test phase startup. Once begun, the test phase will take in a limited amount of TRU mixed waste from INEL for a test period lasting from 5-7 years. Once the test phase is approved by EPA, 10 DOE sites will be permitted to ship TRU and TRU mixed waste to WIPP for emplacement.

The 10,240-acre WIPP site consists of facilities on the surface and below the surface. The storage rooms of WIPP are 2,150 feet below the surface (see Figure 1-2, Legend for WIPP Site Map and Figure 1-3, WIPP Site Map). The facilities on the surface are all temporary so that the site can be completely vacated and dismantled after its estimated usage of around 20 to 25 years; the decommissioning of WIPP will leave the surface area in its original natural state.

The Support and Waste Handling building is the principal surface structure. It is 160 feet wide, 430 feet long and 50 feet high, and it also features a 125-foot-high hoist tower. The building is equipped to handle both contact-handled (CH) and remote-handled (RH) TRU waste from the time the waste is initially unloaded until it is lowered through the waste shaft for emplacement underground. There are several out buildings and additional structures at WIPP, including an Exhaust Filter Building, Technical and Maintenance Support Operations, Administration Building, Security and Visitor Center, and a Safety and Emergency Operations Center. Underground facilities include vertical shafts, underground maintenance and storage areas, and rooms specifically designed for experiments on rock mechanics and mine design.

Storage areas are arranged in eight sections or panels. There are seven rooms in each panel. The room size has been established based on the structural stability and ease of use by underground equipment needed to emplace the waste material in canisters. Rooms and connecting passageways are 13 feet high and 33 feet wide. Access to panels is provided by a four-entry ventilation system extending about a mile horizontally, which in turn connects with other rooms where experiments are conducted.

The WIPP site was chosen in southeastern New Mexico mainly for the geologic features of the area and because it is in a sparsely populated area. The salt deposits at the WIPP site are approximately 225 million years old. Studies on the salt have shown that there has been low seismic activity in the area making it a predictable environment. The waste will be emplaced in rooms within the salt deposits. Over time the salt, because of its plastic quality, will eventually encapsulate and permanently entomb the waste.

WIPP Site Surface Facilities Legend

Bldg/ Facility Number	Description	Bldg/ Facility Number	Description
252	SPS Substation	911a	Site Locksmith Trailer
253	13.8 Kv Switchgear	911b	Sandia M101 Trailer
362	Air Intake Shaft (AIS)/Hoist House	911c	Sandia Offices Trailer
371	Salt Handling Shaft	911e	Sandia Trailer
384	Salt Handling Shaft Hoisthouse	911f	Sandia B49 and B49 Annex
384a	Lamphouse	911g	Sandia Labs Trailer
411	Waste Handling Building	912	Training Trailer
412	TRUPACT Maint. Building	914a	Training Trailer
413	Exhaust Shaft Filter Building	915	NM Env Department Trailer
414	Water Chiller Facility	916	Sandia Offices Trailer
451	Support Building	917	Air Intake Shaft Monitoring
452	Safety and Emergency Services Building	918	VOC Trailer
453	Warehouse/Shops Building	918a	VOC Air Monitoring Station
454	Vehicle Service Building	918b	VOC Lab Trailer
455	Auxiliary Warehouse Building	919	ORR Trailer
456	Water Pumphouse	950	Operations Trailer
458	Guard and Security Building	951	XXXXXXXXXX
459	Core Storage Building	971	Human Resources Trailer
459a	Sandia Annex	982	Maintenance Trailer
461	Maintenance Storage	985	Quality Assurance Trailer
463	Compressor Building	986	Publications & Proc Trailer
468	Telephone Hut	988	Training Trailer
474	Hazardous Waste Storage Area	991	Sandia Offices Trailer
482	Exhaust Shaft Hoist Equipment Building	992	Sandia Calibration Lab Trailer
485	Sullair Compressor Building	993	Sandia Offices Trailer
486	Engineering Building	994	Sandia Lab Trailer
906	Underground Operations Trailer	995	Sandia QA Records Trailer
907	Trans and Haz Material Handling Trailer	996	Startup Trailer
908a	Environmental Monitoring Trailer	997	As-Builts Trailer
908b	University Consortium Trailer		
909	Project Control Trailer		
910	Environmental Monitoring Trailer		

FIGURE 1-2. LEGEND FOR WIPP SITE MAP

FIGURE 1-3. WIPP SITE MAP

WIPP is intended to demonstrate the safe disposal of defense-generated CH and RH TRU wastes. CH TRU wastes are contained in metal drums or metal standard waste boxes in specially-designed shipping containers called TRUPACT-II. About 97 percent of the waste to be stored at WIPP will be CH TRU. The radiation level on the outside of the drums and boxes is low enough that they can be safely managed in a hands-on manner. The RH TRU wastes will be housed in shielded shipping casks transported by truck. The casks will be opened in the Waste Handling Building's shielded hot cell by the use of large manipulators, cranes, and grapples. The actual waste canisters will be remotely surveyed for surface contamination, inspected, and transferred into a special shielded cask designed to transfer the RH TRU waste between surface and underground facilities at WIPP. Underground cask transporters and emplacement machines will transfer the casks to horizontally-drilled boreholes in the salt storage areas.

The WIPP Project is designed to allow retrieval of all TRU waste emplaced for experimental use during the Test Phase.

1.5 ENVIRONMENTAL PROGRAMS AND ORGANIZATION

The Office of Environmental Restoration and Waste Management (EM), within DOE Headquarters, is the Program Office with responsibility for establishing environmental policy and program goals and objectives for WIPP (see Figure 1-4, DOE/WIPP Management Structure). The Office of Waste Management Projects (EM-34) has responsibility within EM for management of WIPP. Subsequently, EM-34 has delegated the WIPP Project Integration Office (WPIO), with offices located in Albuquerque, NM, and Carlsbad, NM, with authority for day-to-day implementation of DOE Headquarters policy, program guidance and technical direction of the WIPP Project (see Figure 1-5, WIPP Project Integration Office). The Albuquerque office has a staff of approximately 20 and the Carlsbad office has a staff of 5. The WPIO Manager has assigned responsibility for managing WIPP day-to-day environmental activities to the DOE Project Manager for the WIPP Project Site Office (WPSO) (see Figure 1-6, WIPP Project Site Office). WPSO currently has a staff of approximately 35. Matrix support for environmental activities is provided by the Albuquerque Operations Office.

WIPP has one M&O contractor, Westinghouse Electric Corporation Waste Isolation Division (WID). WID has direct responsibility for (1) carrying out daily activities in an environmentally sound manner, and (2) conducting environmental protection activities, subject to DOE direction and approval (see Figure 1-7, Westinghouse Waste Isolation Division). Sandia National Laboratory acts as a scientific advisor to WIPP, conducting approximately twenty-five percent of their experimental activities directly related to WIPP at the site, in the underground.

The WID Environment, Safety and Health (ES&H) Department is independent and equivalent in stature to other WID line organizations and reports directly to the WID General Manager. This Department has management authority concerning day-to-day environmental activities that includes environmental compliance/monitoring, emergency management, environmental strategic planning, and waste program compliance. Further, WID ES&H has a staff of approximately 100 persons, or 12 percent of the total WID staff.

The WID Quality and Regulatory Assurance Department is also independent and equivalent in stature to other WID line organizations. This organization conducts quality assurance

FIGURE 1-4. DOE/WIPP MANAGEMENT STRUCTURE

NOTE: UNDER THIS MANAGEMENT STRUCTURE, THE DOE-AL FIELD OFFICE MANAGER MAINTAINS AUTHORITY AS CONTRACTING OFFICER ON THE WIPP PROJECT PRIME CONTRACTS. THIS AUTHORITY FLOWS FROM THE EM-1 DIRECTOR TO THE DOE-AL FIELD OFFICE MANAGER.

WIPP MANAGEMENT STRUCTURE

FIGURE 1-5. WIPP PROJECT INTEGRATION OFFICE

FIGURE 1-6. WIPP PROJECT SITE OFFICE

FIGURE 1-7. WESTINGHOUSE WASTE ISOLATION DIVISION

functions including oversight of ES&H activities. The WID Operations Department has the line function responsible for waste handling and maintenance activities. The WID Engineering Department is the line organization responsible for test programs and engineering support. The WID Facility Readiness Department is responsible for Operational Readiness Review-related activities. Other WID line organizations include departments for the Controller, Human Resources, External and Governmental Affairs, and Program Management. Except for the ES&H Department, line organizations do not include separate ES&H sub-organizations. Environmental self-assessment within WID has been incorporated into day-to-day line organization activities. WID currently has a total staff of approximately 850.

SECTION 2.0

SUMMARY OF ENVIRONMENTAL MANAGEMENT ASSESSMENT RESULTS

2.0

SUMMARY OF ENVIRONMENTAL MANAGEMENT ASSESSMENT RESULTS

This section of the report summarizes the results and conclusions of the Office of Environmental Audit's (EH-24) Environmental Management Assessment of WIPP that was conducted between July 19 and July 30, 1993.

This report documents the results of the Environmental Management Assessment performed at the Waste Isolation Pilot Plant (WIPP), Carlsbad, New Mexico. The mission of WIPP is to demonstrate the safe disposal of transuranic (TRU) waste. During this assessment, activities and records were reviewed and interviews were conducted with personnel from the management and operating contractor (M&O), Westinghouse Electric Corporation, Waste Isolation Division (WID); and Sandia National Laboratories (SNL); the DOE line management organizations of WIPP Project Site Office (WPSO), WIPP Project Integration Office (WPIO), and DOE Headquarters Program Office of Environmental Restoration and Waste Management (EM).

DOE 5482.1B, "Environment, Safety and Health Appraisal Program," established the mission of EH-24 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 utilizing systematic and periodic evaluations of the Department's environmental programs within line organizations, and through use of supplemental activities that serve to strengthen self-assessment and oversight functions within program, field, and contractor organizations.

The Environmental Management Assessment of WIPP was designed to evaluate WIPP's environmental programs, supported by management systems that ensure effectiveness of development and implementation of such programs. Where DOE line management organizations with oversight responsibilities had an impact on the effective implementation of WIPP environmental activities, these organizations were also evaluated.

The scope of this assessment was limited by the fact that WIPP's sole mission is one only of receipt and permanent disposal of TRU and TRU-mixed waste from 10 DOE sites. The specificity of the site's mission facilitated determination by the Assessment Team of what environmental programs and management systems must be in place to ensure effective operations in compliance with DOE Orders and regulatory requirements.

This assessment revealed that WIPP's environmental, safety, and health programs are satisfactory, and that all levels of the WID management and staff consistently exhibit a high level of commitment to achieve environmental excellence. This commitment begins with top management support and continues through WID line organization, staff accountability, and performance in the implementation of day-to-day environmental activities.

This demonstration of environmental commitment has persisted despite apparent confusion among EM line management organizations regarding their defined oversight roles, responsibilities, and authorities for WIPP actions and activities. This issue alone, on DOE organizational structure, resulted in the only key finding identified in this assessment report. In October 1991, EM, in an effort to more clearly define oversight roles, responsibilities, and authorities at WIPP, reorganized the DOE line management reporting

structure by creating WPIO. This action was taken in response to an Operational Readiness Review of WIPP in mid-1991 that indicated redundant levels of line management authority. This Environmental Management Assessment, however, revealed that problems still exist in this area; roles and responsibilities are often duplicative, resulting in poor utilization of resources and inefficient management of WIPP environmental activities. These problems will take on a greater importance, if left unchanged, once WIPP becomes operational.

WID, nonetheless, has progressed steadily in its formal development of necessary management programs and systems to ensure good management of all pertinent environmental programs. Environmental protection programs and plans embodying DOE Orders and regulatory requirements have been formalized and fully developed with only minor elements missing or deemed inadequate. While communications *within* line organizations appear strong, some verbal guidance and/or direction from EM was not found to be consistent with written directives, thus contributing to confusion surrounding the roles and responsibilities of WPSO and other DOE oversight line management organizations. While a WID training program has been developed, minor problems exist in the systematic tracking and updating of some employee training records. WID has established a formal Self-Assessment Program and Implementation Plan that is fairly comprehensive. WPSO is conducting some self-assessment activities; however, these activities have not been formalized. Most of the deficiencies identified by the Assessment Team were previously identified by WID and WPSO, and corrective actions are planned. Where deficiencies were not previously identified, the site took immediate steps, where possible, to initiate corrective action once they became aware of them.

The Assessment Team identified the following strengths in WIPP environmental management programs:

- Environmental Commitment - Personnel within WID exhibit a strong commitment towards environmental excellence, as demonstrated through their understanding of environmental issues and their desire to continuously improve overall performance. The general belief at WIPP is that WIPP must constantly demonstrate its environmental excellence in order to satisfy the regulators and the public of its ability to safely handle and dispose radioactive waste. Formal and informal systems between WPSO and WID have been established for communicating environmental information that contribute to an excellent understanding of environmental issues by personnel throughout WIPP. Interviews with external oversight regulators also indicated that a culture of environmental excellence is widespread at WIPP.
- Environmental Planning and Risk Management - Strong environmental planning and risk management programs, including a strong NEPA program have been implemented by WID. This is evidenced by both work-related activities and procedures that receive comprehensive reviews for their potential ES&H and risk management impact. Formal prioritization systems are in place for review of activities, review of procedures, and budgets, in which environmental issues are one of the top priorities. Further, there is excellent communication and interaction between WID and WPSO in reviewing budget plans regarding environmental compliance.

- External Communications - The DOE presence at WIPP has established and implemented a strong, proactive outreach program to effectively inform entities external to WIPP of its ongoing activities and the long-term mission of WIPP. The approach has been to keep the public, regulatory agencies, and public interest groups constantly aware of the WIPP mission and any changes thereto. Further, WIPP has a cooperative approach to address any environmental concerns raised by these groups by giving immediate, continuing, and thorough attention to resolve such concerns.

2.1 FINDINGS SUMMARY

The following paragraphs briefly describe the findings in each of the disciplines included in the WIPP Environmental Management Assessment.

Organizational Structure (OS)

There was one finding identified in this portion of the assessment. The finding (OS-1) addresses the structure of DOE management organizations with oversight responsibility at WIPP. There is a general lack of understanding and formality of roles and responsibilities with respect to the various DOE oversight organizations, including the WIPP Project Site Office, the WIPP Integration Office, the Albuquerque Operations Office, the Office of Waste Management Projects, and the Office of Environmental Restoration and Waste Management. The lack of understanding and formality within these organizations contributes to inefficiencies in the management of environmental issues at WIPP.

Environmental Commitment (EC)

There were no findings identified in this portion of the assessment. The Assessment Team found a strong level of environmental commitment at all levels of WIPP. The commitment is embodied in specific management policies regarding waste minimization and hazardous materials management, and is reinforced by an awareness that WIPP must demonstrate to the general public and independent oversight organizations the ability to "start clean, stay clean."

Environmental Protection Programs (EP)

There was one finding in this portion of the assessment (EP-1). Although WIPP has developed many elements of the required environmental protection programs, some elements are missing or inadequate. For example, WIPP lacks comprehensive systems to track hazardous waste generated onsite or to provide the most accurate data on toxic and chemical materials used onsite. The air monitoring network may not provide confirmatory measurements in the event of an unplanned release, and there were deficiencies related to WID's Environmental Compliance Assessment Program and training.

Formality of Environmental Programs (FP)

There were three findings in this portion of the assessment. The first finding (FP-1) concerned a lack of certain formal plans, procedures, and schedules within the WPSO oversight program. The second finding (FP-2) describes deficiencies within the WID

procedure system that could result in operating procedures not being immediately updated to reflect the most recent site environmental requirements. This finding also identified a lack of formality with the review of procedures by the WID Environment, Safety and Health Department (ES&H). The third finding (FP-3) addresses the need to add formality to specific environmental protection program elements, including regulatory tracking, training records, some reporting requirements, and some oversight/inspection activities.

Internal and External Communications (IC)

There were no findings identified in this portion of the assessment. Internal communications between WPSO and WID ES&H organizations have been established through regular weekly meetings. External communication with regulatory agencies and independent oversight groups are open and responsive.

Staff Resources, Training, and Development (SR)

There was one finding in this portion of the assessment (SR-1). The WID training program, which manages training for all of WIPP, does not adequately track and maintain employee training records. The hard copy files are often incomplete or inconsistent with the computer data base listing. In addition, reports on training status can produce misleading or inconsistent information, leading to the conclusion that regulatory training is required when in fact it is not.

Program Evaluation, Reporting, and Corrective Action (PE)

There were two findings in this portion of the assessment. The first finding (PE-1) notes that WPSO has not developed a comprehensive, integrated self-assessment program. The second finding (PE-2) notes that the WID self-assessment program has not incorporated all WID self-assessment activities currently being conducted; and finding tracking and analysis mechanisms do not ensure that all of the relevant data are used in trend analyses, root cause analyses, and lessons learned activities.

Environmental Planning and Risk Management (RM)

There were no findings in this portion of the assessment. The systems in place at WIPP for environmental planning and risk management adequately ensure that activities at WIPP, including modifications, maintenance, and new projects or experiments, are reviewed to assess potential environmental impacts.

National Environmental Policy Act Programs (NEPA)

There was one finding in this portion of the assessment (NEPA-1). WPSO directives to WID result in review criteria that do not ensure proper NEPA review. The screening tool used by WID is broader than the scope of the WIPP Final Environmental Impact Statement and Final Supplement Environmental Impact Statement and could therefore result in the inappropriate approval of activities that require an Albuquerque Operations Office Manager determination for NEPA applicability.

During the assessment, nine findings were identified. The titles of the findings by management discipline are shown in Table 2-1.

TABLE 2-1

ENVIRONMENTAL MANAGEMENT ASSESSMENT TEAM FINDINGS

Finding Number	Title of Finding	Page No.
Organizational Structure (OS)		
OS-1	Organizational Structure of DOE	3-5
Environmental Commitment (EC)		
	No findings identified	
Environmental Protection Programs (EP)		
EP-1	WIPP Environmental Protection Programs	3-15
Formality of Environmental Programs (FP)		
FP-1	WPSO Oversight	3-23
FP-2	WID Procedure System	3-25
FP-3	Formality of WID Environmental Programs	3-27
Internal and External Communication (IC)		
	No findings identified	
Staff Resources, Training, and Development (SR)		
SR-1	Environmental Training Program	3-33
Program Evaluation, Reporting, and Corrective Action (PE)		
PE-1	WPSO Self-Assessment Program	3-37
PE-2	WID Self-Assessment Programs	3-39
Environmental Planning and Risk Management (RM)		
	No findings identified	
National Environmental Policy Act Programs (NEPA)		
NEPA-1	NEPA Review	3-47

2.2

CAUSAL FACTORS SUMMARY

In an effort to understand why a finding occurred, a systematic approach was initiated in order to perform a "root cause" analysis. This is a two-step process — the first step being conducted by the assessment team. The team identifies the likely underlying reasons deemed to contribute to each specific finding. This is completed by asking a series of "why" questions to determine the apparent cause(s) for the findings. These "causal factors" and related rationale(s) are identified at the end of the discussion section of the appropriate finding. The next step is for line management to identify the "root cause(s)" for the findings. Root causes are the most basic fundamental cause which, if corrected, will prevent recurrence of the issues of concern.

The causal factors considered by the Assessment Team are defined in Appendix F of this report. The team identified eight causal factors it believes contributed to occurrence of the findings. There are three causal factors that occurred more than once. The following discussion includes some of the issues that are associated with these three causal factors and are further elaborated in Section 3 for each of the findings in this report (see Table 2-2).

Policy Implementation - appeared as a causal factor in seven of the nine findings. WPSO does not have all the necessary plans, procedures, corrective action systems, and schedules that are required in a formal oversight program, pursuant to DOE 5700.6C and DOE 5480.19. WID has not performed annual reviews of all Environmental Monitoring Section procedures as required by WID. WID has not formalized some elements of environmental programs as required by DOE 5400.1 and DOE 5480.19. WID has not developed a plan to ensure that a training program will be implemented consistent with their RCRA Part B application. WID has not developed a waste minimization QA plan required by DOE 5400.1. WPSO and WID have not fully implemented certain elements of self-assessment programs in accordance with DOE directives and guidance. The DOE 5440.1E requirement for appropriate NEPA review may not be achieved because improper criteria have been incorporated into the NEPA review process.

Design - appeared as a causal factor in five of the nine findings. The design of the DOE organizational structure at WIPP contains multiple levels of review and approval authority that contribute to inefficient environmental management. The WID Procedure System is not designed to ensure that all procedures are immediately revised to contain the current environmental requirements applicable to the site. Certain WID environmental programs are not designed to ensure the timely review and communication of assessment findings. The WID waste tracking system is not designed to quantify waste minimization progress.

Procedures - appeared as a causal factor in three of the nine findings. Certain aspects of WID environmental programs lack procedures that formalize tracking and reporting requirements. The WIPP Training Program lacks clear procedures to ensure that training is kept current. WID lacks a formal procedure to address Superfund Amendment and Reauthorization Act (SARA) Title III reporting requirements.

The following section presents in detail the nine findings identified during this assessment. It also provides an overview of each assessment discipline. Finally, it discusses in greater detail the causal factors that appeared to contribute to the findings.

TABLE 2-2

SUMMARY OF APPARENT CAUSAL AND CONTRIBUTING FACTORS IDENTIFIED BY ASSESSMENT FINDING

FINDING NUMBER	CAUSAL AND CONTRIBUTING FACTORS													
	Policy	Policy Implementation	Procedures	Personnel	Resources	Training	Change	Risk	Design	Human Factors	Barriers and Controls	Supervision	Quality Assurance/Control	Contributing Factor Appraisals/Audits/Reviews
Organizational Structure (OS)														
OS-1	✓								✓					
Environmental Commitment (EC)														
No findings identified														
Environmental Protection Programs (EP)														
EP-1		✓	✓						✓	✓		✓		
Formality of Environmental Programs (FP)														
FP-1		✓												
FP-2		✓							✓					
FP-3		✓	✓						✓					
Internal and External Communication (IC)														
No findings identified														
Staff Resources, Training, and Development (SR)														
SR-1			✓		✓		✓							
Program Evaluation, Reporting, and Corrective Action (PE)														
PE-1		✓												
PE-2		✓							✓					
Environmental Planning and Risk Management (RM)														
No findings identified														

TABLE 2-2

SUMMARY OF APPARENT CAUSAL AND CONTRIBUTING FACTORS IDENTIFIED BY ASSESSMENT FINDING (Continued)

FINDING NUMBER	CAUSAL AND CONTRIBUTING FACTORS													
	Policy	Policy Implementation	Procedures	Personnel	Resources	Training	Change	Risk	Design	Human Factors	Barriers and Controls	Supervision	Quality Assurance/Control	Contributing Factor Appraisals/Audits/Reviews
National Environmental Policy Act Programs														
NEPA-1		✓												
Totals	1	7	3	0	1	0	1	0	5	1	0	1	0	0

SECTION 3.0

ENVIRONMENTAL OVERVIEWS AND ASSESSMENT FINDINGS

3.0

ENVIRONMENTAL OVERVIEWS AND ASSESSMENT FINDINGS

The assessment 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 the Protocols for Conducting Environmental Management Assessments (DOE/EH-0326), and are preceded by an overview. This set of protocols is one of the primary tools used by the Office of Environmental Audit (EH-24) team to conduct this assessment. Each overview describes the approach taken by the technical specialist in conducting that portion of the assessment; Waste Isolation Pilot Plant (WIPP) programs and activities related to the area of investigation; characterization of the strengths and weaknesses of WIPP activities; and a brief summary of the findings. Each finding is organized into three sections: the performance objectives, the finding statement, and a discussion. The performance objective section specifies the particular practices or standards against which the finding is being evaluated. Further, in many cases where the phrase "best management practice" (BMP) appears in the performance objective, there are no specific regulatory or DOE references cited. Where this occurs, the BMP is often based upon the protocols described above. The finding statement provides a concise description of an issue requiring resolution. The discussion section (1) details the facts and observations supporting the finding, and (2) provides a summary of the causal factors for the deficiency.

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" stands for "Organizational Structure," and "1" is the finding number. Other 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 Communications
SR	Staff Resources, Training, and Development
PE	Program Evaluation, Reporting, and Corrective Action
RM	Environmental Planning and Risk Management
NEPA	National Environmental Policy Act 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 technical specialists on the Assessment Team covered more than one of the areas listed above. As such, interviews and document reviews quite often were 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" signifies an interview, "A" represents an individual Assessment Team member, and "1" is the specifically assigned sequential interview number. Documents referenced for this Environmental Management Assessment are designated first by the letter "D" for document, followed by a letter designation for each specialist as described below, and followed by a sequential number (e.g., D-A-1). The list of documents reviewed and interviews conducted are presented in Appendices D and E, respectively. Additionally, apparent causal factors are discussed for 1 each finding and are defined in Appendix F.

3.1 ORGANIZATIONAL STRUCTURE

3.1.1 Overview

The organizational structure portion of the assessment examined whether WIPP's organizational structure ensures environmental protection, compliance, and excellence. The following issues were addressed: the degree to which WIPP's environmental management organization is consistent with and effectively integrated into the overall organizational structure; whether environmental roles, responsibilities, and authorities are formally and clearly defined and communicated; the degree to which the organizational structure and roles and responsibilities ensure thorough and efficient management of environmental programs; the effectiveness of the formal relationships linking environmental staff in the key organizations responsible for WIPP; and whether environmental decision-making authorities exist at appropriate levels within the line organizations.

The approach taken during the assessment included interviews with key WIPP staff, and review of documents. This assessment focused on the organizational structure of the key organizations involved in the daily environmental management of the site, including Westinghouse Electric Corporation, Waste Isolation Division (WID), WIPP Project Site Office (WPSO), and WIPP Project Integration Office (WPIO), and the relationship of these organizations to each other and to Albuquerque Operations Office (AL) and DOE Office of Waste Management Projects (EM-34). Interviews were conducted with members of DOE (EM-34, AL, WPIO, and WPSO), SNL, and WID, and included senior-, middle-, and lower-level managers and staff. Documents reviewed included organizational charts; departmental charters; individual position descriptions; formal program management documents that define organizational and individual responsibility, authority, and accountability for environmental programs; program management plans; and environmental manuals, policies, and procedures. This portion of the assessment relied on input from all members of the Assessment Team.

Within WID, environmental management authority on day-to-day environmental activities resides primarily in the Environment, Safety, and Health Department (ES&H), whose manager reports directly to the WID General Manager. The Environmental Programs section within ES&H is responsible for managing the majority of environmental programs onsite, including environmental compliance and support, environmental strategic planning, environmental monitoring, and waste program compliance. The roles and responsibilities of ES&H, including the different sections within ES&H, are defined in formal charters (D-A-5). Environmental management authorities within WID are distinct, and there is little duplication of responsibility. Where environmental authority resides outside of the WID ES&H Department (e.g., Operations Department, Hazardous Waste and Self-Assessment Section), there is strong formal and informal communication between these sections and WID ES&H (I-A-5 and I-A-6).

The structures of the WPSO and WPIO organizations are logically designed and clear lines of environmental management authority have been established within each organization. Both WPSO and WPIO are relatively small organizations and environmental managers have ready access and formal reporting relationships to upper management. However, the roles and responsibilities between WPSO and WPIO are not as clearly defined for many functions. Furthermore, the roles, responsibilities, authorities, and reporting relationships among all of the DOE organizations responsible for management of the WIPP site (WPSO,

WPIO, AL, EM-34, and EM-1) have not been clearly established. The need for very clearly defined authorities among DOE line management organizations is especially critical given the multiple DOE organizations involved in reviewing and approving documents to ensure that there is no duplication of effort and that timeliness is considered in document review or in the final decision-making authority in the environmental management of WIPP.

There is one finding in the area of organizational structure that pertains to the DOE organizations responsible for management and oversight of WIPP.

3.1.2 Finding

OS-1: Organizational Structure of DOE

Performance Objective: DOE Order 5400.1 requires that DOE organizations develop management plans that clearly define the roles and responsibilities for environmental management activities.

DOE Order 5480.19 states that, for operations, clear lines of authority and responsibility should be established.

DOE Order 4700.1 establishes guidelines for project management systems that entail establishing clear lines of authority and other bases for managing programs.

Best management practices suggest that the structure of the organization should be such that environmental management functions are congruent and effectively integrated with other functions and processes. Roles, responsibilities, and accountabilities should be well defined and clearly communicated to effectively manage environmental issues. Authorities should be delegated to organizational levels that can ensure the effective implementation of environmental programs.

Finding: The structure of DOE management organizations, along with unclear roles, responsibilities, and authorities, does not ensure that environmental issues at WIPP are managed efficiently.

Discussion: Management of the WIPP site involves Westinghouse Electric Corporation's Waste Isolation Division and the following main DOE organizations:

- Office of Environmental Restoration and Waste Management, Washington, DC (EM);
- Office of Waste Management Projects, Washington, DC (EM-34);
- Albuquerque Operations Office, Albuquerque, NM (AL);
- WIPP Project Integration Office, Albuquerque, NM (WPIO); and
- WIPP Project Site Office, Carlsbad, NM (WPSO).

Prior to 1991, the line organization structure was defined as WID to WPSO to AL to EM-34 to EM-1. In mid-1991, an Operational Readiness Review (ORR) of WIPP conducted by EM found shortcomings in AL and EM's management of WPSO, including multiple authorities from AL and EM directing WPSO and a lack of defined decision-making authority below the EM level (D-A-2). In response to the ORR, EM and AL established WPIO in October 1991, and revised responsibilities, authorities, and reporting relationships for all DOE organizations involved with WIPP (D-A-7; I-A-24 and I-A-29). The EM actions taken in response to the ORR were designed to provide "clear definition of authority and responsibility with a single line of direction and reporting;" the reporting structure being WID to WPSO to WPIO to EM, with AL only in a matrix support role (D-A-1, 3, 6, and 7). The Assistant Secretary for Environmental Restoration and Waste Management (EM-1)

provides policy and program guidance to EM-34 (I-A-29 and I-A-33). EM judged that these actions adequately addressed the ORR's concerns (D-A-10).

Interviews with DOE staff and managers in WPSO, WPIO, AL, and EM, as well as with WID staff, revealed an unclear understanding of specific assigned roles, responsibilities, and authorities among DOE environmental management organizations (I-A-2, 6, 19, 24, and 29). This apparent confusion is due to several factors, including: (1) multiple levels of management authority, (2) inconsistent guidance and directions within multiple documents that define roles, responsibilities, and authorities, (3) disparities in verbal line management reporting relationships from that which is formally written in documents, (4) current organizational and functional changes between WPSO and WPIO, and (5) new program management initiatives. These factors are discussed in more detail below.

Multiple Management Levels. The existence of multiple DOE line management organizations for WIPP (including WPSO, WPIO, AL, EM-34, and EM-1) complicates effective and efficient environmental management. The multiple levels have placed a burden on the timely and consistent review of key environmental documents. Most DOE and WID staff interviewed indicated that the majority of key environmental documents generated at WIPP proceed through the DOE chain of authority, often receiving as many as three or more reviews by DOE organizations, in addition to reviews by other organizations (e.g., WID and/or SNL). Many of the staff interviewed question the necessity of, and value added by, these multiple DOE reviews (I-A-19, 20, 21, 26, and 31).

Some environmental managers are concerned that continued multiple reviews will result in inconsistencies or factual errors in the final reports, delays in the issuing of reports, and/or a strain on available resources (I-A-20, I-A-21, and I-A-26). The Final Safety Analysis Report Addendum, for example, proceeded through WID, WPSO, and WPIO review within 5 months, but took a total of 18 months to receive final review by HQ (I-B-27 and I-B-32). Because AL provides matrix support to WPSO and WPIO in the area of legal counsel, documents are also often reviewed by AL (I-A-33). As another example, AL comments on WID's Environmental Protection Implementation Plan were not received until after the implementation date of the plan (I-C-22). In cases where startup activities depend on the final approval of a report, delays in report approval could have a much greater effect.

In general, the greater the number of line management organizations that become involved in document management, the greater the difficulty in ensuring timeliness and consistency in the review process. In addition, best management practice suggests that the existence of multiple DOE line management organizations only reinforces the need for unambiguous document review procedures, and for a clear rationale that supports the need for each level of review. DOE management is cognizant of this problem and is developing streamlined procedures for document management and review, including "interactive involvement" and concurrent reviews (D-A-4). However, documented rationales supporting the need for each level of review have not yet been developed.

Inconsistencies in Documents Describing Roles and Responsibilities. Inconsistencies and vague wording in current DOE documents describing roles and responsibilities have caused further confusion and have resulted in varying interpretations of responsibilities. For example, different documents appear to assign "day-to-day management" authority to different organizations, including WPSO, WPIO, AL, and EM. Some documents describe the Director of WPIO as responsible and accountable for "the execution and

implementation of all WIPP-related activities" (D-A-6 and D-A-11) and for "day-by-day management responsibility" for WIPP (D-A-12). However, the WPSO Project Manager is charged with the "direction, coordination, and administration of on-site, day-to-day operational activities" (D-A-6). Similarly, in the EM Quality Management Plan, EM-1 assigns daily responsibilities to EM-34, stating that "EM-34 provides day-to-day program management, technical direction, and oversight using the resources of [EM-342]" (D-A-11). Finally, the current Environmental Protection Implementation Plan (EPIP) states that AL has "the responsibility and authority for managing WIPP, including WIPP environmental activities" (D-A-13), although the draft Program Management Plan being developed by WPIO and EM and the AL Manager indicate that AL provides only "matrix support" to WPSO and WPIO (D-A-3; I-A-33).

Many of these statements refer to WIPP without specifying WPIO, WPSO, or WID, which clouds the intended roles and responsibilities. WPSO management, for example, believes that they are responsible only for daily management of operations and that they have the authority to make only minor environmental decisions (I-A-19 and I-A-31). However, EM-34 stated that WPSO has the authority to take more direct responsibility for environmental affairs and, therefore, should use that authority to make more environmental management decisions (I-A-24).

There is also confusion regarding the level of review certain environmental documents must receive and which DOE organizations have "review" versus "approval" authority. This confusion appears to be caused by the lack of written procedures for document reviews and approval authority. There is currently a disagreement, for example, between WPIO and EM-34 regarding which organization has review and approval authority for the Quality Assurance Plan (I-A-25). Another example of this confusion is the Underground Mine Management Plan, developed with the expertise of WPSO. This document has been delayed in review at HQ, although mine expertise resides at WPSO (I-A-19 and I-A-29). Some of this confusion may be alleviated by the document review procedures currently being developed by DOE management (see below).

In the case of NEPA, no formal decision-making authorities have been established at WIPP (see NEPA Overview). An informal oral agreement exists, in which AL has direct line management authority over WIPP NEPA issues and interacts directly with WPSO; WPIO is only minimally involved (I-G-17 and I-G-24) (see NEPA Overview).

Actual Versus Formal Line Management. Interviews with DOE managers indicated that the actual line management organization differs from that described in many formal documents. Most organizational charts and documents describing reporting relationships indicate that EM-34 manages WPSO through WPIO. Despite this linear reporting chain, EM-34, in conjunction with the DOE WIPP Project Division (EM-342), is frequently directly involved in the day-to-day management of WPSO, without WPIO's direct involvement (I-A-19, I-A-24, and I-A-31). Although EM-34 stated that day-to-day management of WPSO was not intended to be their responsibility, EM-34's Quality Management Plan assigns daily management authority to EM-34 (D-A-11, see above). Such differences between actual line management and that described in writing adds to the confusion regarding organizational responsibilities.

Organizational Change. The issues discussed above are further complicated by the relatively recent formation of WPIO. As discussed above, WPIO has existed for less than

two years. Prior to WPIO, the main organizations responsible for WIPP management were WPSO, AL, and EM. The WPIO Director stated that it has taken some time to fully define WPIO's responsibility (I-A-29). Additional functional changes in the structure of WPIO and WPSO are currently being discussed.

New Initiatives. DOE management has recognized that confusion exists in roles, responsibilities, and authorities, especially regarding document reviews and approval authority responsibilities. To clarify these issues, new DOE initiatives are under way, including a Program Management Plan that is under development by WPIO and EM-34 (D-A-3; I-A-24 and I-A-29). This Draft Plan includes guidance that specifies which DOE organizations have review, approval, and issuing authority for certain key WIPP environmental documents. This draft guidance represents a significant improvement over the existing guidance, as it sets in writing specific responsibilities for certain key WIPP environmental documents. However, the draft guidance may result in continued confusion for some of those documents for two reasons:

- More than one DOE organization is assigned "final approval authority" for some documents (D-A-3). This could lead to complications in determining which group has the "last word" in document review.
- The DOE organization with final approval authority and/or issuing authority is lower in the DOE hierarchy than DOE organizations with "review" authority for certain documents. This could lead to delays as reports proceed both up and down the line management chain, as well as to frustration on the part of the approving/issuing personnel, who may not feel they have final review authority and, therefore, may be reluctant to issue a document for which they may be held liable. This issue may be particularly relevant regarding the legal liability that is involved with the RCRA Part B permit under development.

The multiple levels of DOE management authority for WIPP make the need for very clearly defined roles, responsibilities, and authorities essential to effectively and efficiently manage environmental issues at WIPP. It is essential that responsibilities for environmental documents be thoroughly described to ensure that multiple reviews do not result simply in the "checking of the checker."

The apparent causal factors for this finding are design, in that the design of the DOE organizational structure includes multiple levels of review, responsibility, and approval authority at WIPP which contribute to inefficient environmental management, and policy, in that roles, responsibilities, and authorities have not been clearly defined by the DOE management organizations that establish these responsibilities and authorities (i.e., EM, AL, and WPIO).

3.2 ENVIRONMENTAL COMMITMENT

3.2.1 Overview

The Environmental Commitment portion of the Environmental Management Assessment was conducted to assess WIPP's overall awareness of relevant environmental issues and its commitment to environmental excellence. More specifically, the review included an assessment of WIPP's environmental policy, senior management's support of and involvement in environmental initiatives, the extent to which all employees take personal responsibility for the potential environmental impacts of their activities and decisions, and WIPP's overall culture with respect to environmental excellence.

The general approach used in the assessment was to review DOE Orders and background documents provided by DOE and WID prior to the onsite portion of the assessment. Onsite activities included interviews with DOE and WID personnel who are responsible for or who affect WIPP's environmental performance, and a review of environmental statements, policies, and procedures, and other documents exhibiting environmental commitment.

Interviews were held with WPSO and WPIO managers and staff, WID senior managers, and selected managers and staff from the following WID departments: Environment, Safety, and Health; Operations; Engineering; Quality and Regulatory Assurance; Human Resources; and External and Governmental Affairs. Representatives of the New Mexico Environment Department and the Environmental Evaluation Group (EEG), under the jurisdiction of the Regents of the New Mexico Institute of Mining and Technology, were also interviewed. Documents reviewed included WIPP's site mission statement, annual report, Award Fee Performance Evaluation Report, external speeches, environmental policies and procedures, and other pertinent documents. This portion of the assessment relied on input from all members of the Assessment Team.

WPSO's management generally demonstrates a commitment to environmental excellence. For example, under a WPSO directive, ES&H managers are required to spend four hours per week on the site walking their areas. While not every manager can do this every week because of time constraints, this additional interaction with WID helps keep WPSO informed and demonstrates to all levels of WID personnel WPSO's interest and commitment. Interviews with WPSO ES&H managers indicated that they expect no less than excellent environmental performance from WID. This was confirmed by WID personnel. However, one element of commitment that WPSO has not established is a comprehensive and integrated ES&H Self-Assessment Program that formalizes management accountability (see Finding PE-1).

This emphasis on environmental performance was repeated by WID management. Interviews with WID senior and line management repeatedly touched on the importance of environmental compliance and excellence as a critical piece of WIPP's strategy toward achieving its mission. Sufficient environmental resources and staff have been dedicated to reach this goal. In addition, WID has implemented an ES&H Self-Assessment Program to promote accountability and excellence. These areas are discussed in more detail in the Staff Resources, Training, and Development; and Program Evaluation, Reporting, and Corrective Action sections of this assessment report. The general belief stated by the interviewees is that WIPP must constantly demonstrate its environmental excellence in

order to satisfy the regulators and the public of its ability to safely handle and dispose of radioactive waste. WIPP's commitment to "start clean, stay clean" is evident at all levels of the organization. Interviews with external regulators also indicated that a culture of environmental excellence is widespread at WIPP.

While WID does not have a general environmental management policy, there are specific management policies regarding hazardous materials and waste minimization. In addition, there are environmental policies issued by Westinghouse Electric Corporation that are distributed to each Section's controlled document library. The lack of a general environmental policy has not affected WID's environmental performance and commitment.

Although WID's Quality Improvement Plan was not evaluated as part of this assessment, total quality concepts were frequently identified as part of the strategy to achieve environmental excellence. Managers and staff discussed the importance of responding to stakeholders' concerns and of continuously improving processes as part of a commitment to total quality in environmental performance.

Based on the demonstrated commitment to environmental performance and excellence at all levels of the WIPP organization, there were no findings in this portion of the assessment.

3.3 ENVIRONMENTAL PROTECTION PROGRAMS

3.3.1 Overview

The purpose of the environmental protection programs portion of the Environmental Management Assessment was to evaluate the extent to which WIPP has developed and implemented specific environmental protection programs and plans as embodied in DOE Orders and best management practices. Because of the nature of this assessment, environmental programs were reviewed from a programmatic perspective to determine quality of programs, if specific program elements exist, and the effectiveness of those programs. Specific environmental protection programs that were evaluated during this assessment include:

- Air emissions source identification, control, and monitoring;
- Surface water protection including source identification, spill prevention control, and reporting;
- Potable water supply protection including backflow prevention systems;
- Groundwater protection programs including monitoring;
- Management and control of toxic and chemical materials;
- Management of solid, hazardous and radioactive waste including source identification, characterization, training, minimization, contingency planning, record keeping, and treatment, storage and disposal practices;
- Environmental As Low As Reasonably Achievable (ALARA) program including radiological environmental surveillance, evaluation of unplanned releases, and evaluation of exposure to the public; and
- Underground storage tank management systems.

Formal environmental protection programs and/or plans required by DOE Order or regulatory statute that were evaluated include:

- Environmental Protection Implementation Plan;
- Long Range Environmental Protection Plan;
- Groundwater Protection Management Program;
- Waste Minimization and Pollution Prevention Awareness Program;
- Environmental Monitoring and Surveillance Plan;
- Emergency Preparedness Program;
- Quality Assurance Program; and

- Preventative Maintenance Program for ES&H-related equipment.

Specific program elements considered in this review included identification of applicable regulatory requirements, assignment of program responsibilities, identification of and monitoring systems for emission sources, training requirements, notification and reporting to regulatory agencies, and program evaluation and oversight. This portion of the assessment relied on input from all members of the Assessment Team.

The general approach to this portion of the assessment was to review DOE Orders and regulatory requirements, and background documents provided by WIPP prior to the onsite portion of the assessment. Onsite activities focused on interviewing key personnel within the WID Environment, Safety & Health (ES&H), Human Resources, Operations, Engineering, and Quality and Regulatory Assurance Departments. With respect to environmental programs, selected interviews were conducted with Sandia National Laboratories (SNL) personnel that plan or perform experimental activities on the WIPP site. In addition, DOE personnel from the WIPP Project Site Office were also interviewed to determine their roles in directing and overseeing environmental protection programs. This portion of the assessment relied on input from all members of the Assessment Team.

The WIPP Operational Environmental Monitoring Program monitors a comprehensive set of parameters to detect and quantify any present or potential environmental impacts. Parameters measured include ambient levels, atmospheric conditions, air and water quality, soil properties, and the status of the local biological community.

Environmental radiation sampling program elements reviewed appear to be adequate for meeting regulatory requirements for pre-operational activities. Sampling activities include collection of liquid and airborne effluent samples to determine radioactive material releases; measurement of meteorological parameters for modeling potential releases; collection and analysis of environmental samples; and ecosystem sampling for assessment of WIPP operational impacts. Environmental protection programs for the identification, control, and monitoring of air emissions are the responsibility of WID Operations (pollution control equipment operation and maintenance), WID Radiation Safety (air monitoring systems), WID Environmental Monitoring (climatological and ambient air samplers), and WID Dosimetry and Analytical Technology (volatile organic compound monitoring). WIPP operates two meteorological monitoring stations, eight low volume air samplers (three near the WIPP fenceline), and three Continuous Air Monitors (CAMs) that are state-of-the-art in monitoring technology. However, deficiencies were identified with the low volume monitoring systems. The Waste Handling Building and the mine exhaust system are equipped with high efficiency particulate air (HEPA) filters. The HEPA filters in the exhaust system will operate only if radioactive emissions exceed a specified level as detected by a CAMS, or it is engaged manually by operations personnel. Both the New Mexico Environmental Division (NMED) and the Environmental Evaluation Group (EEG), under the jurisdiction of the Regents of New Mexico Institute of Mining and Technology, have fixed air samplers in the mine exhaust shaft, and EEG has four low volume air samplers, one onsite and one each in Carlsbad, Loving, and Artesia.

The hazardous, medical, and nonhazardous waste programs are managed by the WID Hazardous Waste and Self-Assessment Section. Regulatory guidance is provided by the Environmental Compliance and Support Section within WID ES&H (D-C-1). Nonhazardous municipal solid waste is collected in dumpsters and disposed offsite by a subcontractor.

Construction debris is occasionally disposed in an onsite construction landfill. A small amount of medical waste generated onsite is transported to an offsite facility where it is managed by a subcontractor. Hazardous waste generated onsite consists primarily of solvents. Hazardous waste generator training is provided to employees based on supervisor review or the Resource Conservation and Recovery Act (RCRA) training matrix that describes required training for specific job descriptions. Training records are maintained by the Human Resources Department. WIPP operates a number of satellite accumulation areas and one 90-day accumulation area (staging area). Hazardous waste is manifested offsite to WID-approved subcontractors. WPSO approved the WIPP Waste Minimization and Pollution Prevention Awareness Plan in March 1993.

There are no radioactive wastes currently generated or stored at the WIPP site. WIPP's mission, however, involves disposing of transuranic mixed waste generated within the DOE Complex. The hazardous constituents of these wastes are regulated under RCRA, and WIPP has submitted an application for a RCRA Permit to conduct a limited test phase to demonstrate the suitability of the WIPP site to receive DOE's transuranic mixed waste. NMED declared the application to be administratively complete on July 22, 1992 and a permit is pending. Following successful demonstration of the suitability of the site, WIPP will seek a permit modification to allow disposal of DOE-generated mixed transuranic wastes.

The WIPP surface water protection program includes both onsite and offsite considerations. As part of an assessment of ambient environmental conditions, WIPP conducts annual sampling of selected nearby permanent surface water bodies. Although there is no requirement to do so, WIPP has developed and implemented a draft Spill Prevention Control and Countermeasure Plan (D-C-44). WIPP is in the process of implementing an onsite NPDES Storm Water Pollution Prevention Plan by October 1, 1993 (D-C-33). It should be noted that the only surface water bodies within 4 miles of the WIPP site are the evaporation basins associated with the WIPP wastewater treatment facility.

Potable water is provided to the WIPP site by the City of Carlsbad via a 31-mile pipeline. WIPP has an agreement with the City to review and approve any taps into the water line that affect the 16 miles of pipeline closest to the WIPP site. WIPP requires all taps into this line to be equipped with backflow prevention devices. WIPP has a system in place to periodically inspect the water line to identify any unauthorized taps (I-C-19).

The WIPP wastewater treatment facility consists of two synthetically-lined primary settling lagoons, two synthetically-lined polishing lagoons (i.e., settling basins for additional solids removal), a chlorination system, and three synthetically-lined evaporation basins. It is designed to be a zero discharge facility, and it receives sewage effluent and site-generated brine waters from observation well pumping and air intake shaft dewatering activities. The WID Operations Department has responsibility for system operation, and regulatory oversight is provided by the WID Environmental Compliance Team.

WIPP has prepared and recently revised a Groundwater Protection Management Program Plan (D-D-3) as required by DOE 5400.1. A formal groundwater surveillance program is implemented by the WID Environmental Monitoring Section and consists of a network of 10 wells.

Toxic and chemical material management is managed primarily by the Industrial Hygiene Team through the WIPP Hazard Communication Program. WIPP has implemented a comprehensive system for the review of chemical purchases to ensure that material safety data sheets are provided. The Environmental Support Team is responsible for preparing the annual Superfund Amendment and Reauthorization Act (SARA) Title III reports. Regulated substances that were reported in the most recent report include diesel fuel, unleaded gasoline, sulfuric acid, ethylene glycol, cement based grout, and lubricants/oils. Environmental Support has recently initiated a review of chemical purchase requisitions to identify opportunities for material substitution and/or waste minimization. There are no polychlorinated biphenyls (PCBs) or asbestos onsite.

The environmental ALARA program at WIPP is embodied in a WID management policy and implemented through the ALARA and Chemical Exposure (ACE) program. The Safety Analysis and Review Team maintains primary responsibility for the program, and is provided with guidance from the ACE Committee, which contains representatives from key WID organizations. The ACE Committee accomplishes its environmental ALARA goals through the provision of overview recommendations and techniques in minimizing exposures to radiation and radioactive and chemical materials on the WIPP site. This committee also advises managers of the site's ACE efforts and proposes recommendations to strengthen the implementation of these activities at WIPP.

WIPP operates two double-wall, 8,000-gallon underground fuel storage tanks. The WID Environmental Compliance Team oversees operation of these tanks and has a formal procedure for leak detection and control (D-C-5). These tanks were installed in 1992, replacing two single-wall tanks of the same capacity. The new tanks have interstitial leak detection and overflow alarms, and they will comply with the 1998 regulatory requirements for tank design. The fuel pumps do not feature pressurized piping (D-C-44).

WID has developed a comprehensive Quality Assurance Program Plan (QAPP) that is consistent with DOE Headquarters WIPP Project Division (EM-342) guidance in their Quality Management Plan (D-C-9 and D-C-31). This QAPP has guided the development of a number of WID Quality Assurance Project Plans (QAPjPs) that govern environmental data quality (D-C-11). The Quality and Regulatory Assurance Department provides oversight of environmental program implementation through periodic audits, reviews, and approval of the QAPjPs.

Overall, the Assessment Team found that WIPP has developed and implemented most of the elements that constitute a comprehensive environmental protection program. All required program plans and implementation plans required by DOE 5400.1 have been developed and implemented. All required permits and notifications are in place for current operations, and they are updated and renewed in a timely manner. WIPP has not been subject to any notices of violation from Federal, state, or local environmental organizations despite a great deal of scrutiny.

There was one finding in the area of environmental protection programs relating to some missing or inadequate program elements.

3.3.2 Finding

EP-1: WIPP Environmental Protection Programs

Performance Objective: DOE 5400.1, "General Environmental Protection Program," provides guidance for establishing various environmental programs. Attachment 1 states, "To the extent legally applicable to a particular activity, standards contained in the following legislation, regulations, and Executive Orders are mandatory for DOE operations." The list provided includes 40 CFR 50, "National Primary and Secondary Ambient Air Quality Standards," and 40 CFR 58, "Ambient Air Quality Surveillance."

DOE 5400.5, "Protection of the Public and the Environment, Chapter 1, (8)(a), specifies that by May 8, 1990, DOE facilities shall have the capability to detect, quantify, and adequately respond to unplanned releases of radioactive material to the environment.

DOE 5440.1E, Section 5, "NEPA Compliance Policy," ensures that environmental factors are considered in the decision-making process and promotes environmentally responsible decisions. DOE will incorporate NEPA requirements early in the planning process for proposed actions.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," requires "the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities"

DOE 5500.3A, "Planning and Preparedness for Operational Emergencies," Section 11, Paragraphs c., (5)(c) and (d), require provisions for "monitoring and evaluation of specific indicators necessary to continually assess the consequences of emergency events and to monitor safety, health, environmental," Section 11, Paragraph c., (10)(d), requires adequate equipment and supplies be available and operable for emergency response personnel to carry out their respective duties and responsibilities.

40 CFR 50, Appendix B, "Reference Method for Determination of Suspended Particulate Matter in the Atmosphere," Section 7.2.2 and 7.2.3, states that the minimum sample flow rate allowed for a heavily loaded filter is 39 cubic feet per minute and the maximum flow rate allowed for a clean filter is 60 cubic feet per minute.

40 CFR 58, Appendix E, Paragraph 8.1, states that the required height of the air intake for large scale samplers is 2 to 15 meters. Paragraph 8.2 states that the distance from the sampler to an obstacle, such as buildings, must be at least twice the height the obstacle protrudes above the sampler and that the sampler must have unrestricted airflow 270 degrees around the device.

Best management practices suggest that programs be in place to ensure compliance with Federal, state, and local environmental protection laws and regulations, and internal DOE policies and Orders that are designed to protect the environment and public health and welfare. The programs would be characterized by comprehensive and formal environmental protection programs that contain documented regulatory requirements, formal policies and plans, implementation procedures, personnel responsibilities, recordkeeping and reporting mechanisms, identification and characterization of emission sources, training requirements, and mechanisms for program evaluation and oversight.

Finding: Although WIPP has developed many elements of the required environmental protection programs, some elements are missing or inadequate.

Discussion: Environmental protection programs at WIPP are described in the WIPP Environmental Protection Implementation Plan (EPIP) (D-D-1). This document discusses WIPP's environmental protection programs including Groundwater Protection Management Program, Waste Minimization and Pollution Prevention Awareness Programs, Environmental Monitoring Programs, and the Long Range Environmental Plan. This plan, as well as each of the individual plans, discusses many of the mandated environmental protection statutes and elements of the environmental protection programs. These documents all contain a discussion of the many elements and site specific requirements for each program. Specific deficiencies of both radiological and nonradiological environmental protection programs are discussed in more detail below.

Environmental protection programs are administered through various organizations within WIPP. For the most part, these programs appear to be properly managed and responsible personnel have demonstrated a high level of commitment to the programs. However, some elements of the programs are missing or inadequate. Weaknesses in programs reviewed during the assessment include the following:

- **Hazardous Waste Program.** The Hazardous Waste and Self-Assessment Section within the WID Operations Department manages hazardous waste produced at WIPP. Although a program is in place for managing these wastes, specific program elements are missing.
 - Although the WIPP RCRA Part B application states that training will be provided to auditors conducting waste generator site audits, a plan has not been developed to ensure that a training program will be implemented consistent with the Part B application (D-C-42; I-C-27).
 - The RCRA training matrix does not reflect the most current training status because of the lead time required to revise the matrix, and the time it takes to manually update the matrix (I-C-26) (see Finding SR-1).
- **Waste Minimization Program.** The Waste Minimization and Pollution Prevention Awareness Plan was approved by WPSO in March, 1993. The waste minimization program is managed by the WID Environmental Compliance and Support Section (EC&S). A number of deficiencies were identified with respect to this program:
 - The Waste Minimization Quality Assurance Plan is required, by the Waste Minimization Management Policy issued in February 1992 (D-C-7), to be developed by EC&S; however, it has not been prepared (I-C-22). WID has indicated that the policy requirement will be changed based on review by the Quality & Regulatory Assurance Department (Q&RA).

- The Waste Minimization Implementation Plan (D-C-54) predates the approved overall Waste Minimization Plan (D-C-55) by over one year (D-C-53).
 - Although the DOE Order for waste minimization required a plan to be approved and implemented in 1990, WIPP lacked a process to ensure timely development and the "Waste Minimization and Pollution Prevention Awareness Plan for the Waste Isolation Pilot Plant" (D-C-55) was not approved by WPSO until March 1993 (D-C-53).
 - The WID Waste Minimization Committee does not have a formal charter (D-C-52) as required by the implementation plan (D-C-55).
 - The waste tracking system is not capable of tracking reductions in volume of specific waste streams, as required by DOE 5400.1 (I-C-15).
- **Environmental Quality Assurance (QA) Program.** Each WID department involved with activities or operations affecting environmental data quality specify quality assurance/quality control (QA/QC) responsibilities in departmental or project specific QA Project Plans (QAPjPs) (D-C-9). These QA plans are required to be approved by the WID QA Manager. WID has prepared a number of QAPjPs for various environmental activities; however, QAPjPs for sewage lagoon monitoring, underground storage tanks, and stormwater discharge have not been developed, and there is no schedule for the development of these plans (I-C-20 and I-C-21). Note that WID ES&H and WID Q&RA are reassessing the need for individual QAPjPs for these environmental programs.
 - **Toxic and Chemical Material Program.** The procedure that addresses requirements for managing hazardous materials at WIPP is WP 02 507, "Management of Hazardous Materials." However, according to a recent ORR internal audit, "There is little to no compliance with WP 02 507 sitewide" (D-C-22). Specific deficiencies identified by the internal audit include: (1) confusion over the delegation of required hazardous material duties, (2) Hazardous Material Area Coordinators that were not aware of their responsibilities, and (3) a lack of standardization of hazardous materials management between departments. The results of this internal audit were acknowledged by WID EC&S in a memorandum; however, the proposed corrective actions are not being formally tracked, and there is no schedule for implementation of these corrective actions (I-C-25). In addition, a procedure has not been developed for reporting required SARA Title III data, and the existing system for toxic and chemical materials management cannot track key items such as the maximum daily quantities of SARA-regulated materials (I-C-23 and I-C-25) present during the reporting year, which is required by the SARA Title III regulations.
 - **Training.** Environmental training programs at WIPP appear to only emphasize hazardous waste and radiological considerations (I-C-26). There are no specific training programs for other environmental programs at WIPP such as

the Spill Prevention Control and Countermeasure Plan and environmental sampling. In addition, deficiencies exist with the system for maintaining environmental training records (see Finding SR-1).

- **Environmental Audits and Assessments.** WID EC&S is chartered with the responsibility to implement an environmental oversight program (D-D-55). A major oversight activity is the Environmental Compliance Assessment Program (ECAP) (I-D-4). This program has been in place since January 1993; to date two ECAP assessments have been conducted (I-D-4). The first assessment, ECA93 001, was conducted by EC&S to determine WID's compliance status regarding the RCRA requirements for personnel training (D-D-38). The request for this assessment was originated by an entity outside of WID EC&S and held in confidence. There are several consequences of this arrangement:
 - The assessment was a DOE product and was not formally provided to DOE in a timely manner.
 - The assessment, although conducted in February 1993, was not made available for WID ES&H corrective action tracking or implementation in a timely manner (e.g., the assessment report was held for over five months before its release).
 - The report, which contained several compliance related findings requiring corrective action, was unavailable to the affected section (WID Human Resources), the WID Quality & Regulatory Assurance Department (Q&RA), and the WPSO Compliance Branch for the same 5 month period. It should be noted that some findings were closed out informally during this 5 month period.
 - This Assessment Team requested the release of this report on June 24, 1993; however, the report was not provided until July 21, 1993 (I-E-5).
- **National Environmental Policy Act (NEPA).** WID's formal planning document for line item projects is the Conceptual Design Report (CDR) (I-H-5). From the effective date of the NEPA requirements one CDR was required and has been developed. That CDR is entitled, the "Conceptual Design Report to Install Permanent Electrical Service for the Waste Isolation Pilot Plant" (February 1992) (D-G-21; I-H-5). Although the text of the CDR includes a statement that Title II design work (i.e., detailed design) will not commence until an environmental assessment has been completed, no specific NEPA milestones were included in the "Project Milestones Schedule" as required by DOE 5440.1E, Section 6.b(9), and AL guidance and policy (D-G-20).
- **Ambient air sampling for radiological purposes at WIPP** consists of low volume (about two cubic feet per minute) fixed air samplers (LoVols) that are used to collect airborne particulate. The LoVol sampling array consists of eight sampling stations, the locations of which are based primarily on meteorological and demographic considerations and the need to provide as

much continuity as possible between baseline and operational data (D-D-2; I-D-12). These LoVols are part of the WIPP emergency planning resources to be used in the event of an off normal release (D-D-68; I-D-19). Several deficiencies were identified with the LoVol monitoring system:

- Although the sample flow rate of the existing LoVol system is adequate for their primary use (i.e., baseline monitoring) the rate is below 40 CFR 50, Appendix B, specifications and therefore may not ensure detection of off normal releases.
- Some of the monitors do not appear to meet 40 CFR 58, Appendix E, requirements regarding placement with respect to proximity of obstructions.
- WID ES&H submitted a request to replace the LoVol system with High Volume (HiVol) samplers to provide greater detectability of a small release (D-D-48). The request was reviewed by WPSO and deemed ". . . not required by existing and anticipated environmental regulation." (D-D-49) However, neither the WID request nor the WPSO response considered the role of these samplers in emergency response to offsite releases of airborne radioactivity. The current ambient air monitoring network may not provide confirmatory measurements in the event of an unplanned release.

The apparent causal factors for this finding are policy implementation, with respect to the lack of a plan to implement waste generator site audit training, failure to develop a waste minimization QA plan or finalize a charter for the Waste Minimization Committee, the lack of a schedule for developing missing QAPjPs, if required by Q&RA, for certain environmental programs, not fully implementing the requirements of the hazardous material management procedure, and the one CDR produced to date did not contain the required NEPA milestones; a lack of procedures to formalize SARA reporting requirements; design, in that systems are not in place to quantify waste minimization progress, provide timely update of the RCRA training matrix, effectively track environmental training records, distribute and resolve ECAP findings in an open and timely manner, and ensure that the air monitoring systems consider all potential need and/or uses; supervision with respect to the delay in developing and approving a waste minimization plan, designation of Hazardous Material Area Coordinators, and expediting correction of the ECAP findings; and human factors, in that the ECAP was not released in a timely fashion to formally implement corrective actions.

3.4 FORMALITY OF ENVIRONMENTAL PROGRAMS

3.4.1 Overview

The purpose of the formality of environmental programs portion of the assessment was to determine if formal systems and procedures are in place to manage day-to-day environmental compliance. The assessment focused on systems and processes within WIPP Project Site Office (WPSO), Westinghouse Electric Corporation, Waste Isolation Division (WID), and Sandia National Laboratory (SNL) to ensure ongoing environmental compliance and achievement of environmental performance goals. The assessment was designed to evaluate whether environmental protection activities are conducted in accordance with formal programs supported by controlled documentation. An important aspect of the assessment was to assess adherence to best management practices as embodied in DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," and DOE 5700.6C, "Quality Assurance." Specifically, the assessment focused on the following areas:

- **Regulatory Tracking and Translation** - the systems to transmit, track, and interpret environmental regulations and DOE Orders and incorporate them into policies, standards, and procedures.
- **Procedures** - the mechanisms by which environmental programs and procedures are developed and effectively implemented throughout the organization.
- **Routine Facility Inspections** - the systems for conducting routine inspections to ensure site compliance with applicable environmental requirements, and for identifying and correcting potential problems.
- **Recordkeeping and Reporting** - the systems for maintaining and retaining records, and for ensuring timely completion of environmental regulatory and management reporting requirements.

The general approach to this assessment was to review DOE Orders, environmental regulatory requirements, and background documents provided by WPSO and WID prior to arrival onsite. Onsite activities included additional document review and interviews with management and staff within the WPSO Compliance Branch, and Waste Management Section; WID Environment, Safety and Health (ES&H), Operations, Human Resources, Operations, Engineering, and Quality and Regulatory Assurance Departments; and SNL Quality Assurance. This portion of the assessment relied on input from all members of the Assessment Team.

Regulatory Tracking and Translation

The regulatory tracking and translation system at WPSO consists primarily of transmitting WIPP-specific requirements received from AL to the contractor for review, comment, or implementation. In addition, WPSO relies on WID to conduct reviews of proposed or newly issued regulations to identify opportunities for comment or to assess the implications for the WIPP site.

WID's Environmental Compliance and Support Section (EC&S) is responsible for tracking and determining the applicability of specific provisions contained within DOE Orders, as well as Federal, state, and local environmental regulations. To stay abreast of emerging regulatory issues, EC&S regularly reviews the Federal Register and several newsletters that provide notice of changes to Federal and state regulations. EC&S is responsible for notifying any WIPP organization or individual to which a requirement is relevant. It is the responsibility of EC&S to translate environmental regulations, DOE Orders, or management policies into WIPP-wide procedures. Line organizations are responsible for incorporating any changes in regulation or WIPP-wide requirements into their operating procedures.

Procedures

Policies relating to ES&H matters are issued by the WIPP Project Site Office Manager or the WID General Manager. Environmental procedures that apply to all site activities are generated by WID EC&S. The Assessment Team found that WID has prepared procedures for almost all of its environmental activities, and that these procedures are comprehensive. Line organizations may develop specific procedures that integrate environmental requirements into their operations.

Procedures developed by WID organizations are reviewed and tracked by the Operations Technical Support Section (OTS), which is responsible for ensuring consistency among all procedures. OTS also coordinates the review of procedures by affected organizations, including ES&H. Although all procedures are routed to the Nuclear and Industrial Safety Section (N&IS) for ES&H review and approval, WID Environmental Programs Section (within ES&H) does not review all procedures, but, rather, only those deemed by N&IS to have environmental implications. SNL also develops procedures that govern some experimental activities on the WIPP site. The SNL Quality Assurance organization routes procedures to N&IS for WID ES&H review and approval. WID has implemented a comprehensive procedure control system through the Work Control Section to ensure that only the most current procedure is used for work activities.

Routine Facility Inspections

WPSO conducts routine (i.e., weekly) facility inspections as part of its walk-around/surveillance activities. WPSO also has an audit program designed to perform more indepth program evaluations. Only one environmental audit, concerning radiation monitoring systems, has been conducted to date (D-D-65). WPSO is also provided with compliance related information as a result of audits conducted by a variety of external organizations including AL, Operational Readiness Review Panels, and other DOE oversight organizations.

WID implements inspection/oversight programs to verify environmental compliance. EC&S has recently implemented an Environmental Compliance and Assessment Program (ECAP) that is designed to perform comprehensive evaluations of specific programs; to date two ECAPs have been performed. Additional oversight is provided by the Quality and Regulatory Assurance Department through procurement reviews, supplier qualification programs, surveillances, and internal audits. Internal WID audits connected with the Operational Readiness Review also provide a level of inspection.

Correction of inspection findings and routine preventive maintenance is coordinated by the Work Control Section. A Plant Work Request (PWR) may be generated by any WIPP employee who notices a deficiency, or by the automated preventive maintenance system. The PWR is routed to the Operations Department, where a priority is assigned based on a variety of factors, including the nature of the request (e.g., painting versus critical equipment failure) and the classification of the equipment (D-C-37). Equipment is classified in one of three priority categories: (1) important (as deemed by Engineering), (2) essential (necessary to execute WIPP Mission), or (3) balance-of-plant. Most of the environmental equipment, such as the HEPA filters and the meteorological stations, are considered essential equipment and, therefore, receive a high priority. The Assessment Team was impressed with the depth and comprehensiveness of the work control system at WIPP.

Recordkeeping and Reporting

Recordkeeping and reporting systems within WPSO are largely informal. All walk-arounds/surveillance reports are required to be maintained by the Quality and Regulatory Assurance Department. Documents requiring approval and review by WPSO are tracked by individual WPSO staff. The Assessment Team found that environmental documents prepared by WID are reviewed, approved, and submitted to regulatory agencies by WPSO in a timely manner as a result of the environmental commitment and diligence of WPSO environmental staff.

Recordkeeping and reporting within WID is formalized by the QA Records Management Policy (D-C-8), which governs storage, and WIPP Procedure 13-601, "Preparation and Control of Quality Assurance Records." Each organization is required to identify quality assurance records within procedures and other controlled documents, regulations, and permits, and designate a Records Coordinator. The Record Coordinator is responsible for ensuring that a Records Inventory Disposition Schedule is prepared that identifies retention/storage requirements and disposition parameters. The Assessment Team reviewed the principal repository for environmental-related records (EC&S) and concluded that the quality assurance records management system had been implemented.

Many environmental programs have been developed and are being administered throughout the various WID organizations; however, some elements within these programs are not formalized. The WID procedure system features many positive aspects with respect to format and content. Three organizations within WPSO are conducting environmental oversight activities; however, no formal oversight plan has been developed.

Three findings were identified in formality of environmental programs pertaining to formality of WPSO oversight, the WID procedure system, and the formality of environmental programs.

3.4.2 Findings

FP-1: WPSO Oversight

Performance Objective: DOE 5400.3, "Hazardous and Mixed Waste Program," states "Program Senior Officials shall oversee Field Organization activities under their authority for compliance with the requirements of RCRA, applicable EPA and state requirements, applicable DOE policies, and the requirements of this Order."

DOE 5700.6C, "Quality Assurance," suggests that a process be established that specifies when inspections should be conducted and the type of inspection required. The Order also suggests that the degree of independence of inspection personnel should be based on risk and complexity and that provisions be established to ensure that inspections are properly planned, deficiencies are resolved, and reinspection occurs as required.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," requires that "the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities"

Best management practices suggest that formal systems and procedures be in place to manage day-to-day environmental compliance. This includes systems to track and understand regulatory requirements, procedures for implementation of policies and programs, routine inspections, and systems for recordkeeping and reporting.

Finding: The WPSO oversight program lacks certain formal plans, procedures, and schedules.

Discussion: The WPSO Compliance Branch is responsible for primary oversight of WIPP environmental programs. Within the Compliance Branch, the Environmental, Safety and Health Department provides day-to-day oversight of WIPP environmental activities including reports, permit applications, budgets, and operations. To a lesser extent, the Quality and Regulatory Assurance Department provides oversight via periodic surveillances of site environmental activities. Oversight of the operation and maintenance programs, which includes equipment necessary to ensure environmental protection (e.g., HEPA filters, continuous air monitoring systems), is also provided by the Waste Management Section of the WPSO Testing and Operations Branch.

Oversight tools used by WPSO include surveillances, appraisals, and document and budget reviews. The WIPP Project Site Office Manager requires WPSO staff to conduct field walk-arounds/surveillances for at least four hours per week (I-C-10), and record any observations on the WPSO Walk-Around/Surveillance Report form. Appraisals are intended to be comprehensive assessments of specific subject areas and involve several WPSO and/or contractor personnel. Document reviews occur in response to formal DOE directives and/or regulatory requirements; such reviews are conducted as needed. Budget reviews and assessments afford opportunities for WPSO to assess WIPP contractors against specific milestones established by regulatory requirements and/or in formal work schedules.

Although WPSO is conducting some oversight of environmental activities at WIPP, it is not formal or comprehensive. For example:

- There is no formal oversight plan for the WPSO Compliance Branch that governs oversight of environmental activities at WIPP, and includes specific objectives, roles and responsibilities, reporting requirements, personnel qualification, and resource requirements (I-C-10 through I-C-12, I-D-24, I-D-25, and I-D-28).
- Walk-arounds/surveillances are currently conducted by the WPSO ES&H and Waste Management Sections based on "ongoing or upcoming work schedules and activities" or "unknown or suspect performance capabilities" (D-C-28). There is no formal system to ensure that the WIPP activities that may affect the environment are prioritized and periodically subjected to walk-arounds/surveillances by the WPSO ES&H or Waste Management Section (I-C-10 and I-C-12) (see Finding PE-1). WPSO ES&H does not have a schedule for walk-arounds/surveillances and not all staff are able to spend a minimum of four hours per week in the field, which is required by the WIPP Project Site Office Manager (I-C-10 and I-C-11).
- Appraisals are the oversight vehicle used by WPSO ES&H to perform comprehensive assessments of environmental protection programs or program elements. However, only one appraisal has been conducted by WPSO ES&H to date (D-D-65), and there is no formal schedule to conduct future appraisals. Further, WPSO ES&H appraisal findings are not formally analyzed for trends (I-C-10). Internal (e.g., AL and DOE WIPP Project Division (EM-342)) and external (e.g., EPA and New Mexico Environment Department (NMED)) audits and appraisals are tracked in the WIPP Correspondence and Commitment Tracking System (WCCTS).
- The WPSO ES&H and Quality and Regulatory Assurance Departments do not formally track all walk-around/surveillance findings or required corrective actions (D-C-26; I-C-10 and I-C-12). WPSO Quality and Regulatory Assurance (Q&RA) has the responsibility to track all WPSO walk-around/surveillance findings (D-C-28); however, the results of ES&H walk-arounds/surveillances are not always entered in the Q&RA tracking system. A review of Quality and Regulatory Assurance records indicated that WPSO ES&H has conducted only eight walk-arounds/surveillances since January 1992 (D-C-25); however, ES&H has conducted considerably more than eight walk-arounds/surveillances (D-D-65).
- The WPSO self-assessment program, which is an important component of WPSO's oversight of environmental protection programs, lacks formality in a number of areas (see Finding PE-1).

The apparent causal factor for this finding is policy implementation in that WPSO does not have the necessary plans, procedures, corrective action systems, and schedules that are required in a formal oversight program as described in DOE 5480.19 and DOE 5700.6C.

FP-2: WID Procedure System

Performance Objective: DOE 5400.1, "General Environmental Protection Program," Section 5, "Policy," (a) requires that operations be conducted in compliance with the letter and spirit of applicable environmental statutes, regulations, and standards, and that efforts to meet environmental obligations be carried out consistently across all operations and among all field organizations and programs.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," states that operators at DOE facilities have procedures in place, and that line organizations review existing and planned programs important to safe and reliable site operations. Chapter XVI of Attachment I requires that procedures be reviewed at periodic intervals, that operations procedures provide specific direction for operating systems and equipment during normal and possible abnormal and emergency conditions, and that procedures provide appropriate direction to ensure that the site is operated within its design bases.

DOE 5700.6C, "Quality Assurance," Criterion 5, "Work Processes," requires that work be performed to established technical standards and administrative controls using procedures or other appropriate means. Procedures should be developed, verified, validated, and approved by technically competent personnel.

Best management practices suggest that formal systems and procedures be in place to manage day-to-day environmental compliance. This includes systems to track and understand regulatory requirements, procedures for implementation of policies and programs, routine inspections, and systems for recordkeeping and reporting.

Finding: WID does not have a system to ensure that all procedures contain the most recent site environmental requirements.

Discussion: DOE Orders 5480.19 and 5700.6C require that procedures be used to control work processes to help ensure a consistent level of performance. The procedures used to perform work at WIPP should contain controls or steps necessary to ensure that the work is performed in compliance with site environmental requirements, including Federal, state and local regulations, permits, DOE Orders, and specific site environmental policies. Procedures must also contain steps to be taken in the event of an off-normal condition, including those that may impact the environment.

WID procedures are developed on a variety of levels by all line organizations. All procedures generated by WID are reviewed for consistency in format by the Operations Technical Support Section. All WID and SNL procedures are submitted to the Nuclear and Industrial Safety (N&IS) Section for ES&H review and approval. N&IS is responsible for ensuring that appropriate personnel within ES&H review procedures prior to approval (I-C-31, and I-C-33 through I-C-35). N&IS tracks procedures received for approval on a spreadsheet data base, including those individuals within ES&H who have reviewed any given procedure (D-C-56; I-C-35).

The WID Environmental Compliance and Support (EC&S) Section is responsible for a number of procedures that relate to site environmental requirements (I-C-5). Other line organizations may write procedures independently that are subordinate to the EC&S procedures, provided that the subordinate procedure meets EC&S procedure requirements (I-C-31 and I-C-32).

Although the WID procedure system features many positive aspects with respect to format and content, the Assessment Team identified the following deficiencies:

- There is no system to ensure that procedures prepared by line organizations, which are subordinate to EC&S procedures, are immediately updated to reflect changes in site environmental requirements that have resulted from changes to principal EC&S procedures (I-C-31 through I-C-33).
- There is no formal system within N&IS to ensure that the review of procedures is consistent with respect to environmental considerations (I-C-35). N&IS does not have a formal mechanism to assess the potential impact of line organization procedures on environmental permits, regulations, DOE Orders, or other site environmental requirements (I-D-26 and I-D-27).
- WID requires that all procedures be subject to an annual review (D-D-40); however, some of the procedures within the Environmental Monitoring Section have not been reviewed for over one year (I-D-12). When the Assessment Team requested a list of those procedures that had exceeded the one-year review requirement, the Operations and Technical Support Section, which is responsible for ensuring annual procedure reviews, could not provide the list (I-D-22). It should be noted that WID is in the process of revising the annual review requirement from a one- to a three-year graded approach review in response to internal evaluation and findings made by the Readiness Review Board (I-D-22).

The apparent causal factors for this finding are design, in that the procedure system does not provide a process to immediately review subordinate procedures or a formal mechanism for ES&H review of procedures, and policy implementation with respect to delinquencies in the annual review of procedures.

FP-3: Formality of WID Environmental Programs

Performance Objective: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," requires operations to be conducted in a formal manner and that "the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities"

Best management practices suggest that formal systems and procedures be in place to manage day-to-day environmental compliance. This includes systems to track and understand regulatory requirements, procedures for implementation of policies and programs, routine inspections, and systems for recordkeeping and reporting.

Finding: Some elements of WID's environmental programs have not been formalized.

Discussion: Although many environmental programs have been developed and are being administered throughout the various WID organizations, some elements within these programs are not formalized. Key areas lacking formality include the tracking, inspection, interpretation, and distribution of relevant regulatory requirements; the development of specific guidance procedures and standards; and the conduct of routine inspections and training activities. For those programs reviewed during the assessment, elements found to be lacking formality include the following:

- The tracking and interpretation of new and/or changed regulations is conducted by both the Quality and Regulatory Assurance (Q&RA) and Environmental Compliance and Support (EC&S) Sections within WID (I-D-11 and I-D-23). The EC&S section does not have a formal procedure (1) to interpret emerging regulations which are relevant to WIPP, or (2) to ensure that new requirements are systematically and routinely incorporated into existing programs, policies, and procedures in a timely manner (I-D-12).
- Some wastewater discharges being sent to the zero discharge sewage facility require approval from the New Mexico Environment Department (NMED). Three written requests have been submitted, and one of these discharges was approved by NMED orally via telephone and the call was logged by WID. However, WID lacks formal documented approval from NMED for this wastewater discharge, and there is no formal policy for such approvals (I-C-19).
- Procedures for environmental monitoring activities do not stipulate that the monitoring procedures be available in the field during the actual sampling activity, even though these procedures identify responses/precautions that may be needed in the field as a result of certain conditions encountered (I-D-2; D-D-16). WID submitted a change to modify some specific field procedures following comment by the Assessment Team; however, a systematic review of all environmentally-related procedures has not been undertaken.
- National Pollutant Discharge Elimination System (NPDES) inspections are currently being conducted; however, no formal plan or procedure has been developed that describes the inspection process in detail (I-C-19).

- The Environmental Compliance Assessment Program (ECAP) process design lacks formality regarding (1) reasonable timeframes for comment review periods, (2) the process by which assessment findings are communicated in a timely manner to affected parties to effectively correct the identified deficiencies, and (3) the mechanisms by which corrective actions are tracked and closed out for ECAPs requested under attorney-client privilege (see Finding EP-1).
- Several additional formality issues are discussed in finding EP-1, "Environmental Protection Programs," related to the lack of (1) a system to determine RCRA generator status, (2) training for auditors who conduct waste generator site audits, (3) a WID Waste Minimization Committee charter, (4) a schedule to determine whether remaining Quality Assurance Project Plans for environmental data are necessary, and (5) a system for reporting Superfund Amendment and Reauthorization Act (SARA) Title III regulated materials.

The apparent causal factors for this finding are policy implementation, in that those programs developed to meet the requirements of DOE Orders have some elements that have not been formally developed; design, in that systems lack elements to ensure that assessment findings are reviewed and communicated in a timely fashion; and a lack of procedures to formalize tracking and reporting requirements.

3.5 INTERNAL AND EXTERNAL COMMUNICATION

3.5.1 Overview

The internal and external communication portion of the Environmental Management Assessment was conducted to evaluate the effectiveness of the communication systems both internal and external to WIPP. The review of these systems was designed to determine whether formal and informal channels of communication are effectively used to emphasize management commitment to environmental protection; to promote awareness and support of environmental policies and programs throughout the organization; and to share information with external organizations such as regulatory agencies, environmental groups, and the community.

Elements of an internal communication system evaluated during the assessment include regular formal processes such as staff meetings, management reporting, routing of key documents, distribution of employee newsletters, memoranda from senior management, and informal processes such as telephone calls and informal meetings. Common perceptions of information distribution and communication effectiveness were also considered. External communication efforts that were reviewed include interfaces with regulatory and external oversight groups, and community outreach programs.

The general approach to this assessment was to review DOE Orders and other background documents received from DOE and WID prior to the onsite portion of the assessment. Onsite activities included interviews with DOE and WID personnel who participate in the exchange of environmental information, both internally and externally; and a review of written communication programs, policies, and other documents pertaining to environmental information exchange. This portion of the assessment relied on input from all members of the Assessment Team.

Interviews were held with DOE Headquarters Office of Waste Management Projects (EM-34), WPSO and WPIO managers and staff, WID senior managers, and selected managers and staff from the following WID departments: Environment, Safety, and Health; Operations; Engineering; Quality and Regulatory Assurance; Human Resources; and External and Governmental Affairs. Interviews were also conducted with representatives from the New Mexico Environment Department and the Environmental Evaluation Group (EEG) under the jurisdiction of the Regents of New Mexico Institute of Mining and Technology. Other external stakeholder groups (e.g., community groups, local governments, etc.) were not interviewed.

Communications-related documents reviewed include the 1993 Integrated Communications Plan, Communications Matrix, and Employee Communications Tracking; overheads from senior managers and "all-employees" meetings; various issues of "TRU News," the weekly newsletter; the Outreach Program; and other appropriate documents.

In reviewing internal communications, it was found that WPSO and WID have established a strong relationship to support the exchange of environmental information. In addition to daily informal interactions, weekly ES&H Interface Meetings are attended by WPSO and WID ES&H managers to discuss accomplishments and the status of ongoing activities. While informal communications between and among WPSO, WPIO, and the Office of Environmental Restoration and Waste Management (EM) occur, some verbal guidance

and/or directions from EM are not consistent with written directives, thus contributing to confusion surrounding the roles and responsibilities of WPSO. These uncertainties are discussed in more detail in the Organizational Structure section of this report.

The WID Communication Program is driven by a communications matrix that is based directly on the performance areas in the DOE's Performance Evaluation Plan for WID. The Productivity, Quality, and Communications Section has a communications strategy for each of the six areas in the Performance Evaluation Plan, two of which are "Waste Management, Operational Surety, and Environmental Restoration" and "Environment, Safety, and Health." Formal systems for communicating environmental information such as bimonthly or quarterly "all-employees" meetings, weekly senior managers and "tool box" meetings, daily plan-of-the-day meetings, required reading lists for operations managers and staff, and a weekly newsletter all contribute to an excellent understanding of environmental issues by personnel throughout WIPP.

Interviews also revealed that informal channels of communication, such as telephone calls, are frequently utilized. For example, every interviewee knew the name of the manager of the Environmental Compliance and Support group, and most indicated that they felt free to contact him directly with questions.

Interviews with representatives from the New Mexico Environment Department and EEG indicated that WIPP maintains an open and cooperative relationship with its local external oversight groups. WIPP responds to their comments in report submittals that often incorporate the environmental and technical issues that these groups identify.

Since its inception, WIPP has been subject to intense public scrutiny. The WID External and Governmental Affairs Department has responded to this challenge with a series of outreach efforts to educate the public about the project. The vision for the Outreach Program is to earn stakeholder confidence in WIPP during the test phase. There are four main components to this program: (1) public information programs (speakers bureau, exhibits, information products, etc.), (2) educational programs (school presentations, educational tours, etc.), (3) governmental affairs (cooperative agreements, emergency response training, etc.), and (4) technical communications and media relations (news releases, news clipping service, etc.). Overall, the Outreach Program is taking a proactive approach to satisfy stakeholders' needs and to build cooperative, long-term relationships.

Given the strong and effective communications systems implemented by WIPP, there were no findings in this portion of the assessment.

3.6 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

3.6.1 Overview

The purpose of the staff resources, training, and development portion of the assessment was to assess the systems that ensure staff resources and training are sufficient to meet WIPP's environmental goals. The focus of this area was WID programs, and emphasis was placed on the qualifications and number of staff responsible for environmental activities, the identification of necessary environmental training needs for each job classification, the systems for maintaining training records, and an evaluation of the training program itself.

The general approach to this assessment was to conduct informational interviews during the pre-assessment visit and to review WIPP's background documents prior to the onsite portion of the assessment. Onsite activities included review of additional documentation pertaining to staffing and training, and interviews with knowledgeable and responsible WIPP personnel. Documents reviewed included staffing plans, performance appraisals, individual training records, training course materials, and training course development plans. Interviews were held with WID ES&H management, team leaders, and staff; WID Human Resources management and records coordinator; WID Technical Training management and training coordinators; WID Organizational Development management; WID Operations management and maintenance staff; WID Engineering management and staff; WID legal counsel; and WPIO Manager of Quality Assurance. This portion of the assessment relied on input from all members of the Assessment Team.

With regard to staffing levels, the ES&H organization, with over 100 professionals including technical experts and staff, comprises roughly 12 percent of the total WIPP site staff. This staffing level appears to be appropriate for the mission of WIPP.

It is clear that WIPP's remote location and the site's personnel limitation of 850 pose particular challenges with regard to future staffing, recruitment, and retention of quality staff. However, the Human Resources staff, working closely with ES&H and other functional organizations, addresses these challenges with an impressive strategic recruitment process. The process includes targeting potential employees while they are still students and involving them in an internship at the site. In addition, retention of quality staff is addressed through careful screening during the recruitment process as well as through offering several staff development alternatives for both exempt (e.g., management and technical professionals) and non-exempt (e.g., non-technical and non-professional) employees at the site.

The Assessment Team was impressed with the dedication and qualifications of the WID and WPSO staff responsible for environmental activities. They were found to be enthusiastic and committed to the success of the WIPP project. Input from all Assessment Team members determined that, at this point in time, attention to and implementation of required environment activities is adequate with the present WID and WPSO staffing levels, but once the WIPP site becomes operational, additional WPSO staff will be needed to manage the ongoing environmental activities.

WID has implemented a formal environmental training program which covers regulatory, procedural, job-related and staff development training for all WIPP personnel, including

WID, WPSO, Sandia National Laboratory, and appropriate subcontractors. The current training program requires fine tuning principally in the areas of convenient and comprehensive record maintenance and in its ability to formally identify environmental training requirements in regulatory, procedural, and job-related areas. The current training refresher matrix does not include job-related re-qualification alerts. Several current training initiatives, which embrace the philosophy of performance-based training, should address many of these concerns, that provided implementation is performed effectively. These include the Initial Self-Evaluation and Training Program Accreditation Plan and the WID Quality Improvement Plan. Other initiatives, particularly in the area of a more comprehensive record maintenance system, are being investigated, although implementation will depend on the allocation of site resources.

There was one finding identified in the staff resources, training, and development portion of the assessment. This finding was related to deficiencies in the training records maintenance system. Other concerns, pertaining to training requirements under specific environmental protection programs, are discussed in Finding EP-1.

3.6.2 Finding

SR-1: Environmental Training Program

Performance Objective: Best management practices suggest that the organization should have a formal program in place to ensure that all personnel have received environmental protection training appropriate for their job responsibilities. Furthermore, the philosophy of performance-based training suggests that a complete and comprehensive environmental training program should identify the necessary environmental training required for all personnel, provide courses that are relevant and tailored to meet the needs of the audience, and utilize a record maintenance system with effective tracking capabilities to allow managers to monitor training accomplishments versus training requirements.

Finding: The WIPP training program does not adequately track and maintain employee training records.

Discussion: An effective tracking and record maintenance system should facilitate management's ability to monitor training accomplishments versus training requirements. In an organization that is managing for environmental excellence, training requirements should not be limited to regulatory requirements, but rather should be expanded to include the training necessary to meet the environmental goals of the organization. At WIPP, it would be incorrect to state that these performance objectives are not being met. Rather, it is more appropriate to say that the degree to which they are being met demonstrates room for improvement, particularly in the area of training record maintenance and tracking.

Currently, the responsibility for tracking and maintaining staff training records lies with the WID Technical Training Section under the Human Resources Department. The Technical Training Section retains both hard-copy files and a computer data base of the site-specific training received by WIPP staff, including WID, DOE, Sandia National Laboratory, and appropriate subcontractor employees. The responsibility for defining training needs and ensuring employees receive the necessary training is a shared responsibility between the Technical Training Section and the appropriate line managers. The Initial Self-Evaluation Training Program Accreditation Plan (D-E-7) defines these shared responsibilities and sets the goal for including them in the new WIPP Training Program Policies Manual (D-E-59). In the Technical Training Section, there is currently only one individual responsible for collecting and maintaining a large and complex amount of data. In addition, recent moves and refiling of the hard-copy files to more efficiently comply with the records management requirements of NQA-1 has exacerbated an already difficult job.

The tracking of environmental training courses, including certain training required by regulation and job-related training, is deficient. For example, the WID Technical Training Section currently maintains the hard-copy records as well as a computer data base of all WIPP staff training. The Assessment Team identified examples of incomplete hard-copy files and hard-copy files that were inconsistent with the computer data base. The report of a recent internal compliance assessment (D-E-55) identified several findings of non-conformance in the records maintenance system that further support this point.

In addition, the data base and training refresher matrix, which is a report generated from the data base, can produce misleading or inconsistent information, leading to the conclusion that regulatory training is required when in fact it is not. For example,

individuals who have taken RCRA-related training for self-development, rather than to meet a regulatory requirement, are included in the refresher training matrix sent to management. Since the refresher matrix does not distinguish between voluntary and required initial training, it may appear that refresher training is required, when in fact there is no requirement for the individual to continue the RCRA training. Evidence that these problems still exist was uncovered in a comparison of a small sample of computer records, hard-copy records, and the refresher training matrix. The problems with the refresher training matrix were pointed out in the Training Refresher Course Matrix memo dated May 12, 1993 (D-E-8).

In another example, records for offsite training, such as university courses that are authorized and paid for by WID, are not routinely entered into the training records. This would present a more accurate picture of the qualifications of WIPP staff and could be an important component in promoting and measuring staff development.

The apparent causal factors for this finding are procedures, in that the responsibility for employee training has been shared between Technical Training and line management without an efficient (or "user-friendly") process to ensure that training is kept current; resources, in that only one individual is responsible for collecting and maintaining a large and complex amount of data and using a computer data base that appears to lack the sophistication necessary to facilitate the task; and change, in that the hard-copy files have been moved and refiled twice in recent months to more efficiently comply with the records management requirements of NQA-1.

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 WIPP Environmental Management Assessment was to evaluate programs that assess the design adequacy and implementation effectiveness of environmental protection systems, as well as the reporting and followup activities associated with these appraisals.

The self-assessment and appraisal activities of WPSO, WID, and the departments within the WID organization were assessed. The key elements reviewed were the design and formality of self-assessment and appraisal programs; program implementation; followup activities including trend analysis, root cause analysis, and corrective action systems; continuous improvement actions based on lessons learned; and selection of qualified staff to conduct evaluation activities.

The general approach to assessing this environmental management area was to conduct interviews of line management and support organization personnel who are responsible for evaluation of environmental programs. Documents were reviewed that relate to the various levels of self-assessment and appraisal including plans, procedures, and documentation of the evaluation and followup activities.

At WIPP, both the WPSO and WID organizations conduct environmental program evaluations. The comprehensiveness of the evaluations varies between the two organizations.

WPSO conducts a number of program evaluations that DOE guidance considers self-assessment activities. To date, these evaluations have not been conducted with the benefit of a formal, comprehensive self-assessment program. WPSO personnel realize that additional formality and integration of the programs will be necessary in order to achieve continuous improvement and total quality. WPSO's program evaluation activities have focused on the Operational Readiness Review (ORR) process and its associated Readiness Self-Assessment (RSA) (D-F-11). The ORR and RSA require WPSO to take a critical look at both internal processes and personnel roles and responsibilities to evaluate the readiness of the site to carry out its mission. WPSO's oversight of WID environmental programs is primarily conducted by walk-around/surveillance inspections (D-F-26; I-F-9). The personnel conducting these activities appear to be well qualified to make appropriate assessments of environmental programs.

WID has established a formal Self-Assessment Program Implementation Plan that outlines the goals and objectives of the program (D-F-1). This program has been expanded beyond environmental, safety, and health evaluations to include the processes that are conducted within the WID organization and should result in continuous improvement. Two other evaluation programs have been developed: the Environmental Compliance Assessment Program (ECAP) (D-F-2) and the Management Overview Program (MOP) (D-F-22). Both of these programs are in the early stages of implementation. There appears to be a high level of ownership of these programs and the personnel conducting the activities appear to be well qualified. WID has established a formal lessons learned program, implemented through training programs (D-F-14), to ensure that personnel are aware of site concerns and to help prevent recurrence of events. This assessment identified concerns that include

the lack of integration of the ECAP and MOP into the overall self-assessment program, and the lack of a centralized tracking system to ensure that all pertinent data are being utilized for trend analyses, root cause analyses, and lessons learned programs.

Two findings were identified in the program evaluation, reporting, and corrective action portion of the assessment related to the comprehensiveness of the WPSO Self-Assessment Program and the overall integration of WID's program evaluation activities.

3.7.2 Findings

PE-1: WPSO Self-Assessment Program

Performance Objective: On January 26, 1990, the Secretary of Energy directed that all line organizations implement a comprehensive self-assessment program to identify and characterize environmental, safety, and health concerns relating to their operations. In December 1992, the DOE Office of Special Projects (EH-5) issued the Self-Assessment Guidance Document designed to "promote consistency among self-assessment programs across the Department." The guidance states that the organization should have self-assessment and oversight programs in place to effectively evaluate environmental protection activities, anticipate and report environmental concerns, and implement corrective actions.

Best management practices suggest that self-assessment is a continual line management activity that acquires, assimilates, documents, and reports through all levels of an organization on the effectiveness, adequacy, efficiency, and economy of its activities. Self-assessment should establish a culture of accountability and continuous improvement as well as foster excellence in all program activities.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," DOE 5480.1B, "ES&H Program for DOE Operations," and DOE 5482.1B, "ES&H Appraisal Program," establish additional requirements for self-assessment and appraisal programs at all levels of the organization.

Finding: WPSO has not developed a comprehensive, integrated self-assessment program.

Discussion: Under DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," and the December 1992 DOE self-assessment guidance, DOE suggests that all self-assessment activities be formalized into a comprehensive program that is integrated into the site's day-to-day activities. The purpose of this formality is to avoid duplication of effort and to institutionalize a culture of accountability and continuous improvement. DOE guidance includes a number of elements that are suggested to implement a comprehensive self-assessment program. These include such items as program charters and program implementation plans; a comprehensive scope; formal performance objectives and criteria (POCs) and evaluation schedules; and evaluation activities such as monitoring and surveillance, program reviews, and appraisals.

WPSO conducts a number of evaluations that DOE guidance considers self-assessment activities including Operational Readiness Reviews (ORRs), the Readiness Self-Assessment (RSA), and facility walk-arounds/surveillances (I-F-2, 3, 9, and 11). However, these activities are not coordinated and have not been integrated into an overall self-assessment program. Additionally, some elements of a comprehensive self-assessment program have not been considered by WPSO. A discussion of WPSO's self-assessment activities follows:

- Program charters and program implementation plans. WPSO has not developed a charter or self-assessment program implementation plan that defines the goals, objectives, priorities, general program requirements, and scope of the self-assessment activities.

- **Formality of self-assessment activities.** Some of the WPSO self-assessment activities have been formalized to include POCs and established schedules. Both the Operational Readiness Review and the Readiness Self-Assessment (D-F-8 and D-F-9) have established these criteria (although the RSA schedule has not been met). Walk-around/surveillance activities are performed, however, they have not been formalized to include schedules and specific criteria against which assessments are conducted (I-F-9).
- **Evaluation activities.** WPSO evaluation activities consist of monitoring and surveillance, program reviews, and appraisals. Aspects of monitoring and surveillances, program reviews, and appraisal activities that are not fully developed and implemented include:
 - Monitoring and surveillance activities (the walk-around program) are not formally included as part of a sitewide tracking system (I-F-9) to ensure that the relevant data are used in trend analyses, root cause analyses, and lessons learned activities.
 - Program review activities, such as the ORR and the RSA, are fairly well developed although neither of these programs has been designed as an ongoing program as suggested by DOE guidance (D-F-8; I-F-11). At this time, WPSO has not taken into consideration the establishment of an ongoing program review process after WIPP becomes operational.
 - In the area of appraisals, only one functional appraisal has been conducted to date by WPSO. This involved an evaluation of the radiation monitoring system (D-F-24). While this appraisal was conducted in accordance with the WPSO Audit Program Procedure (D-F-25), the appraisal program has not identified specific areas requiring appraisals nor established a schedule for conducting these appraisals as suggested by DOE guidance. This program, therefore, cannot be considered a fully implemented part of an overall self-assessment program.

The apparent causal factor for this finding is policy implementation in that the requirements of DOE guidance and directives have not been fully implemented.

PE-2: WID Self-Assessment Programs

Performance Objective: The DOE Self-Assessment Guidance Document (December 1992) suggests that all self-assessment activities (including those activities required by DOE 5482.1B) be included in an overall Self-Assessment Program, and that all relevant data be utilized to analyze the findings to identify root causes, trends among findings, and lessons learned.

In addition, best management practices suggest that organizations have self-assessment and oversight programs in place to effectively evaluate environmental protection activities, anticipate and report environmental concerns, and implement corrective actions. Further, self-assessment is a continual line management activity that acquires, assimilates, documents, and reports through all levels of an organization on the effectiveness, adequacy, efficiency, and economy of its activities. Self-assessment should establish a culture of accountability and continuous improvement as well as foster excellence in all program activities.

Finding: The formal WID self-assessment program has not incorporated all of the WID environmental self-assessment activities currently being conducted; and finding tracking and analysis mechanisms do not ensure that all relevant data are utilized in trend analyses, root cause analyses, and lessons learned activities.

Discussion: DOE guidance suggests that formal self-assessment programs include all evaluation activities and that tracking systems be designed to account for the status of all deficiencies which, ideally, can be integrated into a sitewide tracking system.

WID has developed a formal self-assessment charter and self-assessment program as outlined in the WID Self-Assessment Program Implementation Plan (D-F-1). The WID approach to self-assessments has gone beyond environmental, safety, and health issues to encompass evaluations of the quality of the WID technical and administrative functions. As designed, the program is effectively meeting its established goals.

During the review of the self-assessment program, some gaps and inconsistencies were identified in the program that may lead to incomplete review and analysis of findings. The gaps and inconsistencies identified include the following:

- Integration of self-assessment activities. WID conducts other self-assessment activities in addition to the formal Self-Assessment Program, such as the Environmental Compliance Assessment Program (ECAP) (D-F-2) and the Management Overview Program (MOP) (D-F-22). DOE guidance suggests that these types of programs be incorporated into the formal WID Self-Assessment Program to ensure that all of the self-assessment activities are coordinated to provide appropriate coverage across the site, and that the relevant data are included in trend analyses, root cause analyses, and lessons learned activities. The ECAP and MOP are presently stand-alone programs and have not been incorporated into the formal WID Self-Assessment Program.
- Tracking and analysis of findings. There are several different tracking systems within WID to track findings generated by the various assessment

activities. Because the tracking systems have not been consolidated, there is no assurance that the relevant data are being utilized to conduct the appropriate finding analysis activities. Specific tracking systems and problems identified with various programs are discussed below:

- **WID Self-Assessment Program.** Findings generated as part of the formal self-assessment program are categorized by their severity as an A, B, C, or D Category. A and B findings require the preparation of a DOE 5000.3B Occurrence Report and are tracked by the ES&H department through the ORPS system as well as sitewide through the WIPP Correspondence and Commitment Tracking System (WCCTS). Category C findings require the preparation of either a noncompliance report (NCR) for hardware deficiencies or a program deficiency report (PDR) for procedural problems. These findings are also tracked through the WCCTS. Category D findings are considered minor procedural or program departures and are tracked by the individual department conducting the assessment (D-F-1). There has been no formal standardization of the individual departmental tracking systems for Category D findings, and there is no requirement to report all Category D findings to the Self-Assessment (SA) Manager for use in his overall finding analysis activities. Without consistent tracking and reporting of all findings to the SA Manager, there is no mechanism to ensure that all relevant data are considered in trend analyses, root cause analyses, and lessons learned activities.
- **WID Environmental Compliance Assessment Program.** The ECAP utilizes the Environmental Compliance Assessment Database (ECAD) to track findings identified in ECAP assessments (D-F-2). Presently, there is no formal requirement to report these findings to the SA Manager (I-F-12 and I-F-16). Again, without all of the relevant data being reported to the SA Manager for incorporation into a sitewide tracking system, there is no assurance that finding analysis activities are truly representative of sitewide conditions.

The ECAP Plan establishes the requirements for reporting and tracking of findings (D-F-2). The plan indicates that all findings are to be tracked in the ECAD. The plan does not stipulate, however, how soon a report must be issued after completion of an Environmental Compliance Appraisal (ECA) which has resulted in informal tracking of findings. In the instance of the RCRA Training Program ECA, a period more than 5 months elapsed before issuance of the report. During this time period, the findings were tracked informally rather than in the ECAD as required by the ECAP Plan.

- **WID Management Overview Program (MOP).** The MOP is managed by the Operations Department and involves the random selection of managers to conduct periodic walk-around of the departments and sections to identify issues that may not have been identified in other assessments. The managers look at the issues they are most familiar with (e.g., a manager from the ES&H department will look at ES&H

issues) in accordance with an established schedule. Findings are subsequently forwarded to the Operations Department (I-F-17). As with the ECAP, there is no formal mechanism for reporting the findings to the SA Manager to ensure that the appropriate data are considered in trend analyses, root cause analyses, and lessons learned activities.

Although there are no formal reporting mechanisms between these programs, and issues are not tracked in a comprehensive sitewide data base, it appears that many of the issues are shared through informal communications and feedback.

The apparent causal factors for this finding are policy implementation, in that the self-assessment program did not take into account all of the activities suggested by DOE guidance and design of the self-assessment tracking system, in that it does not include all of the data generated by self-assessment activities.

3.8 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

3.8.1 Overview

The environmental planning and risk management portion of the assessment addressed the extent to which technical and financial environmental planning is conducted and integrated into the overall planning process at WIPP. The adequacy of systems used by WIPP to identify, evaluate, and mitigate environmental risks was also addressed.

The general approach to this portion of the assessment was to review documents provided to the Assessment Team by WID and WPSO prior to arrival onsite. Once onsite, interviews were conducted and additional documents were reviewed. Key personnel interviewed included WID staff in the Environment, Safety, and Health (ES&H), Controller, and Program Management Departments; the Nuclear and Industrial Safety Section; and members of the Operational Readiness Review Panel. Key documents reviewed for the environmental planning portion of the protocol included 1- and 5-year plans, budget priority lists, and procurement request system documents. Key documents reviewed for the environmental risk management portion of the protocol included the WIPP Safety Analysis Manual, the Final Safety Analysis Report (FSAR), and the Operations Procedures Safety Review Committee (OPSRC) procedure and supporting documentation. This portion of the assessment relied on input from all members of the Assessment Team.

The Plant Work Request (PWR) process is a key component of the overall environmental planning and risk management activities at WIPP. This process initiates the review of onsite activities for ES&H, NEPA, and risk management considerations by an integrated review of the actions associated with day-to-day operations, engineering, and maintenance-related activities. These activities are managed through a comprehensive work control process which provides an assurance mechanism that potential risks as well as other concerns related to site activities are considered for ES&H-related impacts (D-C-37). A PWR may be generated by any WIPP employee who notices a deficiency, or by the automated preventive maintenance system. The PWR is routed to the WID Operations Department, where a priority is assigned based on a variety of factors, including the nature of the request (e.g., painting versus critical equipment failure) and the classification of the equipment. Equipment is classified in one of three priority categories: important (as deemed by Engineering), essential (necessary to execute the WIPP Mission), or balance-of-plant. Most of the environmental equipment, such as the high efficiency particulate air (HEPA) filters and the meteorological stations, are considered "essential" equipment and, therefore, receive a high priority. The prioritization was developed with input from the ES&H Department. The Assessment Team was impressed with the depth and comprehensiveness of the work control system at WIPP.

In addition to the review of work-related activities for potential ES&H and risk management impacts, the site also reviews the procedures to be used at WIPP for their potential ES&H impact. These operational procedure safety reviews are conducted through the OPSRC. The process for the conduct of these reviews utilizes Safety Analysis Impact Level (SAIL) evaluations of the impact of proposed procedure changes on the requirements of the WIPP FSAR. This SAIL evaluation further ensures that the WIPP FSAR, which analyzes potential risks to the employees, public, and environment, remains unaffected. The thoroughness of the risk management process at WIPP appears to ensure that environmental requirements and goals are being met.

Environmental concerns are sufficiently addressed in both long- and short-term planning at WIPP. The ES&H Department at WID includes the Environmental Strategic Planning Section that addresses environmental planning at the site. Final decisions regarding budget cuts and prioritization are made by WID's Strategic Management Committee (SMC), which is comprised of key senior management, including the ES&H Manager. The SMC, together with the Program Management Department, uses written priorities in reviewing financial plans. Environmental compliance is one of the top priorities and, therefore, environmental issues receive top budgeting consideration. There is excellent communication and interaction between WID and WPSO in reviewing budget plans regarding environmental compliance. Procurement procedures also include formal ES&H review for all equipment except certain routine non-environmental purchases.

Given the strong environmental planning and risk management programs, there were no findings in this portion of the assessment.

3.9 NATIONAL ENVIRONMENTAL POLICY ACT PROGRAMS

3.9.1 Overview

The purpose of the National Environmental Policy Act (NEPA) portion of the WIPP Environmental Management Assessment was to evaluate WIPP's NEPA program management structure; NEPA policy statements, program plans, standard operating procedures, and documentation; screening criteria and processes for recommending appropriate levels of NEPA review; and the depth of understanding of DOE and operating contractor staff regarding the NEPA process at WIPP.

The assessment addressed areas where DOE has established specific management system requirements; however, a detailed evaluation of compliance with specific requirements of the Council on Environmental Quality (CEQ) and DOE NEPA Regulations (40 CFR 1508 and 10 CFR 1021 respectively) and the DOE NEPA Order (DOE 5440.1E) was outside the scope of this assessment.

The NEPA assessment included interviews and document reviews. Interviews were conducted with Westinghouse Electric Corporation, Waste Isolation Division (WID) staff responsible for the NEPA program, finance, facilities, legal affairs, program management, and project leadership. DOE WIPP Project Site Office (WPSO), WIPP Project Integration Office (WPIO), Albuquerque Operations Office (AL), DOE Office of Environmental Restoration and Waste Management (EM) staff and DOE Office of NEPA Oversight (EH-25) staff were also interviewed. Policies and procedures were reviewed for consistency with DOE NEPA Regulations, DOE 5440.1E and related DOE Orders, memoranda, and guidance. WIPP NEPA documents and NEPA-related documentation provided to the Assessment Team included: the 1980 Final Environmental Impact Statement (FEIS) for WIPP, the 1990 Final Supplemental EIS (SEIS) for WIPP, examples of approved categorical exclusions (CXs), and examples of Line Management Official (LMO) decisions. This portion of the assessment relied on input from other members of the Assessment Team.

DOE NEPA regulations apply to any DOE action affecting the quality of the environment of the United States, its territories, or possessions. Responsibility for NEPA compliance lies with the DOE program offices and line management.

WIPP is a single purpose EM site. WIPP's mission is research and development to demonstrate the safe disposal of radioactive waste resulting from the defense activities and programs of the United States. Activities at WIPP are directed through WPSO, WPIO, and EM. AL is not line management for the WIPP site, but does provide matrix support to WPIO, including support from the AL NEPA Compliance Officer. An informal agreement exists between AL and WPIO by which NEPA determinations related to the WIPP site are made by the AL Operations Office Manager. The AL Operations Office Manager has been delegated authority by EM-1 to make NEPA determinations for actions listed in Subpart D of the DOE NEPA Regulations (D-G-2).

At WIPP, NEPA activities are coordinated by the WID Manager of Environment, Safety and Health (ES&H). NEPA oversight is provided by the WPSO ES&H Program Manager.

Although WPSO currently has no formal NEPA program, the draft program document consists of two procedures, a compliance plan and a training module; WID has been timely

in incorporating the requirements of DOE 5440.1E (November 10, 1992) into the draft program document. The revised draft program document addresses previous WPSO review comments and was submitted to WPSO on July 2, 1993 (D-G-12). This draft document is currently receiving AL review. Once these elements are finalized, a comprehensive and formal NEPA program will be in place.

WIPP attempts to ensure NEPA review of each DOE action through comprehensive sitewide NEPA documents and by placing environmental review controls within the budgetary and work control processes. NEPA review of actions is facilitated through the use of AL's Environmental Checklist/Action Description Memorandum (ECL/ADM) form (D-G-14). Modifications to plant or equipment, purchase requisitions (PRs) involving work (e.g., installations), maintenance contracts, and experiment test plans receive ECL/ADMs. All ECL/ADMs are reviewed by the WID ES&H NEPA staff (I-G-16).

Sandia National Laboratory (SNL) procedures for SNL activities at WIPP, WID procedures, and the remainder of WID PRs are reviewed by the ES&H Division. ES&H safety reviewers have been trained to recognize activities requiring NEPA review and to forward documents to WID NEPA staff (I-G-13). These documents may receive ECL/ADMs depending on their specific characteristics.

Experiments conducted by SNL at WIPP are reviewed for NEPA considerations by WID ES&H (I-G-23). However, only approximately 30 percent of the experiments SNL conducts for the WIPP program are conducted on the WIPP site (I-G-24). The remaining 70 percent of the experiments are conducted offsite under SNL direction and WPIO oversight. These experiments, however, do not consistently receive NEPA review (I-G-26).

NEPA review and documentation practices and processes at WIPP are generally consistent with DOE Headquarters and AL NEPA guidance documents. At the time of this Environmental Management Assessment, most staff interviewed were aware of the requirement that any DOE action affecting the quality of the environment requires a NEPA review and determination.

Few DOE actions at WIPP escape NEPA review. The single example found of a project slipping through WID's NEPA review process without NEPA review was the neutrino experiment. In this instance, WID uncovered the issue, reported it promptly to DOE, initiated a review to determine the root cause of this process failure, and initiated tracking of the process correction effort (I-G-11, I-G-12, and I-G-13).

Other WID NEPA management systems that are fully developed and implemented include:

- A comprehensive NEPA recordkeeping system;
- Project planning documents that address NEPA requirements (see Finding EP-1); and
- A NEPA document tracking system (D-G-48).

Documentation of WIPP's compliance with mitigation conditions set forth in the Records of Decision (RODs) for both the Final Environmental Impact Statement and Final Supplement Environmental Impact Statement is contained in the site's Mitigation Action Plan (MAP)

(D-G-22). The MAP is monitored and annually updated by WID ES&H (D-G-23 and D-G-24; I-G-15). The annual MAP report tracks the status of each mitigation commitment as (1) active, (2) completed, (3) considered complete due to policy change, or (4) active, to be performed (D-G-24). The MAP effectively tracks progress of the mitigation conditions in the manner described in DOE 5440.1E, Section 6.a(22) and (23).

Overall, WIPP has a comprehensive and effective NEPA program. The NEPA assessment resulted in one finding concerning inappropriate NEPA review.

3.9.2 Finding

NEPA-1: NEPA Review

Performance Objective: DOE 5440.1E, Sections 6.a.(10) and (11) and 6.b.(1) state that the authority to make decisions regarding the appropriate level of NEPA review for those categories of actions specifically listed in the DOE NEPA Regulations (10 CFR 1021, Subpart D), lies with Secretarial Officers (now Cognizant Secretarial Officials (CSOs)) unless specifically delegated to Operations Office Managers. It further states that this authority may not be redelegated.

10 CFR 1021, Subpart D, Appendix B, "Categorical Exclusions Applicable to Specific Agency Actions," lists classes of actions for which neither an environmental assessment (EA) nor an environmental impact statement (EIS) is normally required.

EH-25 Memorandum (June 7, 1993), Environmental Audit Performance Objectives and Criteria (POCs), NEPA.1, "NEPA Program Structure and Elements," Criteria F, states that a formal system should be in place to ensure "DOE determination of the level of NEPA review of a proposed action is appropriate."

Finding: WPSO directives to WID result in review criteria that do not ensure appropriate NEPA review.

Discussion: For actions not covered by an existing NEPA document, the authority to make decisions concerning the appropriate level of NEPA review lies with CSOs unless specifically delegated to Operations Office Managers. This authority, which extends only to those categories of actions specifically listed in 10 CFR 1021, Subpart D (Appendices A - D), has been delegated to the AL Operations Office Manager (D-G-2), and may not be redelegated.

The principal NEPA documents for WIPP are the Final Environmental Impact Statement (FEIS) (D-G-53) and the Final Supplemental Environment Impact Statement (SEIS) (D-G-54). Actions not within the scope defined by these documents require a NEPA determination by the AL Operations Office Manager.

WID, on the direction from WPSO, uses activities listed within Subpart D, Appendix B, of the DOE NEPA Regulations (Appendix B) as a screen for the NEPA review of proposed actions (D-G-6). This is inappropriate because an initial screen on actions should be based on existing NEPA documents related to the site and CXs approved for application at the site. WIPP's use of Appendix B as a NEPA screening tool is based on an interpretation by WPSO and AL that the potential impacts of WIPP, as documented in the WIPP FEIS and SEIS, fully encompass the activities listed in Appendix B (D-G-6; I-G-11 and I-G-27).

The use of Appendix B type actions as a screen for the NEPA review of actions at WIPP is inconsistent with DOE 5440.1E in that the FEIS, SEIS and Appendix B are not necessarily consistent in scope. In fact, the scope of Appendix B is clearly broader than the scope of the WIPP FEIS and SEIS, as it is intended to apply to the entire DOE complex. Decisions made by WID based on the scope of Appendix B could result in the inappropriate approval of activities that require an AL Operations Office Manager NEPA determination.

As a hypothetical example, the site could undertake a small-scale research project, outside the scope of the WIPP FEIS and SEIS (possibly as a result of a future change in mission) that falls within the scope of CX B3.10, "small scale research and development/small scale pilot projects, at an existing facility, preceding demonstration." Use of the current review process could result in the action being screened from further NEPA review, even though it is outside the scope of the WIPP NEPA documents.

An appropriate NEPA process requires that existing NEPA documents be reviewed and an evaluation made of whether the action is specifically addressed in those documents. If the activity is not included in the scope of existing NEPA documents and is not covered by a CX that has been approved for application at the site, then at a minimum, a NEPA determination by the AL Operations Office Manager is required. Subpart D of the DOE NEPA regulations is relevant only in the situation in which an action is not covered by an existing NEPA document or approved CX.

The apparent causal factor for this finding is policy implementation, in that the requirement under DOE 5440.1E for appropriate NEPA review is undermined by the incorporation of 10 CFR 1021, Appendix B into the WIPP NEPA review process as a screening tool in place of the WIPP FEIS and SEIS.

APPENDIX A

BIOGRAPHICAL SKETCHES OF ASSESSMENT TEAM

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, Office of Environmental Audit
 - Team Leader and Environmental Protection Specialist in the Office of Environmental Audit. Lead Environmental Baseline Audits on the Weldon Spring Site Remedial Action Project and Western Area Power Administration Environmental Audits.
 - On Tiger Team Assessments, was the Environmental Subteam Leader for the Strategic Petroleum Reserves and Fermilab; Environmental Deputy Subteam Leader for Savannah River, Y12 Plant, Kansas City Plant, Idaho National Engineering Laboratory, Los Alamos National Laboratory, and Hanford Site. On ES&H Progress Assessments, assessed the Corrective Action Program at Mound Plant, and Management of Interagency Agreement Environmental Restoration Activities at Rocky Flats Plant.
 - 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 (Amtrack 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: Leroy H. Banicki

AREA OF RESP: Deputy Team Leader (Offsite)

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

EXPERIENCE: 17 years

- U.S. Department of Energy, Office of Environmental Audit
 - Environmental Protection Specialist responsible for providing guidance, direction, and assistance to a multidisciplinary group of professionals performing Tiger Team Assessments, Management Assessments, and Environmental Audits at DOE facilities.
- Headquarters, Air National Guard
 - Project Officer for Installation Restoration Program activities at Air Guard bases nationwide.
- White Sands Missile Range
 - Deputy Director, Environmental and Natural Resources Office, with responsibility for hazardous waste management, asbestos abatement, spill control and countermeasure, and environmental training programs.
- U.S. Department of the Army
 - Environmentalist, responsible for hazardous waste management, asbestos abatement, and cultural and natural resources programs.
- U.S. Army Corps of Engineers
 - Biological Scientist, responsible for Environmental Assessment/Environmental Impact Statement preparation and Endangered Species programs.
- U.S. Department of Agriculture, Soil Conservation Service
 - Soil Conservationist.
- Menominee Indian Nation
 - Forest Inventory Specialist.
- University of Texas; El Paso Community College
 - Biology Instructor

EDUCATION: M.S., Biology, University of Texas at El Paso
B.S., Wildlife Management, McNeese State University

NAME: Richard S. Green

AREA OF RESP: Deputy Team Leader (Onsite)

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

EXPERIENCE: 20 years

- U.S. Department of Energy, Office of Environmental Audit
 - Deputy Team Leader responsible for conducting audit activities and providing guidance, direction, and assistance to a multidisciplinary group of professionals performing environmental auditing activities at DOE facilities.
 - Served as the Deputy Environmental Team Leader for the Fermilab Tiger Team Assessment, the CEBAF Environmental Management Assessment, and ITRI Environmental Baseline Audit; Environmental Specialist for the EM-20 sponsored INEL Agreement-in-Principle Review.
- U.S. Department of Energy, Office of Environmental Compliance
 - Compliance Coordinator responsible for conducting independent oversight of environmental compliance activities at the Savannah River Site.
- U.S. Environmental Protection Agency, Office of Waste Programs Enforcement
 - Environmental Protection Specialist (EPS) responsible for providing assistance in technical case development to EPA Region 6 and conducting oversight of Region 6 enforcement-lead Superfund sites.
- U.S. Environmental Protection Agency, Office of Compliance Monitoring
 - EPS responsible for the development of Toxic Substances Control Act (TSCA)/Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) enforcement penalty policies and monitoring strategies, and for the revisions to the TSCA and FIFRA Good Laboratory Practice Regulations.
- U.S. Environmental Protection Agency, Office of Toxic Substances
 - EPS responsible for the management of multidisciplinary groups of professionals tasked to assess the risks and the appropriate regulatory dispositions of chemical substances subject to TSCA.
- U.S. Environmental Protection Agency, Office of Pesticide Programs
 - EPS responsible for the management of multidisciplinary groups of technical professionals tasked to assess insecticide products subject to the FIFRA registration process.

EDUCATION: B.S., Entomology, University of Maryland

NAME: Raeann Reid

AREA OF RESP: Technical Coordinator

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 20 Years

- Arthur D. Little, Inc.
 - Team Coordinator for the Tiger Team Assessments of the Energy Technology Engineering Center, Naval Petroleum Reserves in California, Strategic Petroleum Reserves, and Naval Petroleum and Oil Shale Reserves in Colorado, Utah, and Wyoming; Deputy Team Coordinator for the Tiger Team Assessment of Idaho National Engineering Laboratory; Deputy Team Coordinator for the Environmental Management Assessment of the Fernald Environmental Management Project; Technical Specialist, evaluating Toxic and Chemical Materials Management, for the Tiger Team Assessment of Energy Technology Engineering Center; Management Specialist for the Environmental Management Assessment of the Superconducting Super Collider.
 - Led and participated in audits and risk assessments for several Arthur D. Little clients, primarily in the petrochemical and refining industries including chemical manufacturing plants, chemical and oil terminals, oil refineries, and oil and gas production facilities.
- Other Industry Experience
 - Twenty years experience including environmental operations; environmental regulatory affairs; industrial and commercial hazardous waste management, site evaluation, remediation, and offsite disposal; and industrial and commercial laboratory management.
 - While working for a major petrochemical manufacturer, audited toll manufacturers, bulk terminals, repackaging plants, recyclers, and commercial disposal facilities.

EDUCATION: B.S., Mathematics, Minor Chemistry, Texas Technological University

NAME: Joseph Delaney

AREA OF RESP: Program Evaluation, Reporting and Corrective Action

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 9 Years

- Arthur D. Little, Inc.
 - Surface Water/Drinking Water Specialist for the Tiger Team Assessments of the Naval Petroleum Reserves in California, the Pittsburgh Energy Technology Center, the Strategic Petroleum Reserve, and Fermilab; Inactive Waste Sites Specialist for the Naval Petroleum and Oil Shale Reserves Tiger Team; Environmental Protection programs specialist for the Continuous Electron Beam Accelerator Facility Environmental Management Assessment; and assisted on the Stanford Linear Accelerator Center Tiger Team Assessment.
 - Revised Performance Objectives and Criteria (POCs) for the Department of Energy Environmental Audit Program. Responsibilities included revising surface water, and soil, sediment, and biota POCs.
 - Participated in numerous environmental audits for commercial clients. Specialized in the assessment of compliance with provisions of the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, and Safe Drinking Water Act.
 - Prepared a Toxic Substances Control Act (TSCA) training manual to address the major provisions of TSCA, including asbestos and polychlorinated biphenyl (PCB) management.
- Environmental Consultant
 - Conducted a variety of studies assessing the impact of process wastewater discharges on receiving water quality. These studies included characterization of waste streams, thermal impact assessment, and water quality modeling in support of National Pollutant Discharge Elimination System permit applications.
 - Participated in several sampling programs for the Army Corps of Engineers to assess PCB releases and dredge material disposal sites.
 - Prepared and updated Spill Prevention Control and Countermeasure Plans and Emergency Response Plans to address oil and hazardous materials spills from several industrial sites.

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

OTHER: Registered Professional Engineer

NAME: Joanne P. Fichera

AREA OF RESP: Environmental Commitment;
Internal and External Communication

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 8 Years

- Arthur D. Little, Inc.
 - Participated in Environmental Audits and Tiger Team Assessments of several Department of Energy facilities to evaluate environmental regulatory compliance, environmental problem identification, and program and procedures adequacy. Served as a member of the Environmental Management Teams at Western Area Power Administration, Southwestern Area Power Administration and Fernald Environmental Management Project. Participated in the Solar Energy Research Institute and Los Alamos National Laboratory Tiger Team Assessments as a Technical Specialist on the Environmental Subteam.
- SAIC
 - As Deputy Program Manager, provided National Environmental Policy Act-related support, including environmental impact statements; environmental assessments, surveys, and sensitivity analyses; and socioeconomic assessments for a variety of U.S. Department of Defense clients. Also was principal investigator for socioeconomic, land use, and visual analyses.
 - For the U.S. Department of Energy, researched, compiled, and analyzed data for the environmental and socioeconomic impact analysis of the Special Nevada Report.
 - For the Strategic Defense Initiative Organization's National Test Bed Joint Program Office, analyzed and integrated construction and system implementation schedules and performed sensitivity analyses on schedule deviations.

EDUCATION: M.A., Environmental Policy, Tufts University (in progress)
M.A., Economics, Tufts University
B.A., Economics and Spanish, Tufts University

NAME: Corey Gray

AREA OF RESP: Matrix Development of Overlapping Issues

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

EXPERIENCE: 5 Months

- U.S. Department of Energy, Office of Environmental Audit
 - DOE Technical Support Specialist. Assist Office of Environmental Audit Team Leaders on Management Assessments and Environmental Audits both at DOE Headquarters and field locations.
- Other Experience
 - Research and scientific experimentation to determine the effects of biodegradation of oil in water through the introduction of external chemical agents.

EDUCATION: B.S., Physics, Humboldt State University (in progress)

NAME: Gregory T. Haugan, Jr.

AREA OF RESP: Technical Editor

ASSOCIATION: META, Inc.

EXPERIENCE: 9 Years

- META, Inc.

- Technical Editor. Provided technical editing support to DOE during the National Institute for Petroleum and Energy Research Tiger Team Assessment, the Y12 Plant ES&H Progress Assessment, and the Morgantown Energy Technology Center ES&H Progress Assessment.
- Information Management Specialist. Participated in 16 Tiger Team Assessments managing a team responsible for onsite administrative support, report production, and technical editing. Team member on seven ES&H Progress Assessments providing administrative support, onsite report production and technical editing.

- UDI Contractors, Inc.

- Project Manager and Administrator. Supervised field operations and managed office administration for a construction management firm. Initiated the corporate safety program and monitored OSHA compliance.

- GLH Inc.

- Program Analyst. Specialized in research, report writing, and project management software for an information resources management consulting firm.

EDUCATION: Graduate Studies, General Administration,
University of Maryland
B.A., General Studies, University of Maryland

NAME: Larry Krupp

AREA OF RESP: Organizational Structure;
Environmental Planning and Risk Management

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 8 Years

- Arthur D. Little, Inc.
 - Participated in environmental management systems assessment of the Department of Energy's FEMP facility. Specific responsibilities were for staff resources, training, and development issues.
 - Assessed hazardous waste treatment facilities as part of Arthur D. Little's SiteWATCH program. These assessments covered the following factors: management systems; facility design; capabilities; laboratory capabilities, equipment, and procedures; regulatory compliance history; and waste tracking and acceptance procedures.
 - Performed a feasibility study and technology assessment for a Superfund site contaminated with volatile and semivolatile organics, metals, polychlorinated biphenyls, and pesticides in soil and groundwater.
 - Performed retroactive analysis of chemical wastes disposed at a Superfund site, and design and cost analysis of a treatment facility to treat the wastes.
 - Analyzed the environmental fate of a chemical proposed as a substitute compound in a commercial product formulation.
 - Designed and programmed computer data base systems for managing and analyzing environmental data, including product lifecycle data in the paper industry, hazardous contamination at a Superfund site, and data pertaining to responsibility for past site contamination.
- Jellinek, Schwartz, Connolly, and Freshman Inc.
 - Performed an assessment of the degree of water pollution resulting from the use of a pesticide in the pulp and paper industries.
 - Completed a comparison of the effectiveness of a variety of carbamate and organophosphate insecticides. This analysis included an evaluation of the compounds' agricultural yield, economic costs, and environmental impact.

EDUCATION: M.S., Environmental Engineering, Cornell University
B.S., Biology, Yale University

NAME: Joseph Lischinsky

AREA OF RESP: Environmental Protection Programs; Formality of Environmental Programs; Environmental Planning and Risk Management

ASSOCIATION: Applied Consultants, Inc.

EXPERIENCE: 12 years

- Applied Consultants, Inc.
 - Serves as President and supports a variety of projects in the areas of radiation protection, materials licensing, emergency planning, decommissioning, waste management, and training.
 - Participated in the Department of Energy's (DOE) Tiger Team Assessment of the Oak Ridge K-25 Gaseous Diffusion Plant. Served as an Environmental Health Physicist to the assessment team.
 - Participated in the DOE Tiger Team Assessment of the Los Alamos National Laboratory (LANL). Served as Emergency Preparedness expert to the Technical Safety Appraisal Team.
 - Participated in the DOE Tiger Team Assessment of the Idaho National Engineering Laboratory (INEL). Served as an Environmental Health Physicist to the assessment team.
 - Served as Consultant Health Physicist to various environmental issues. These assignments have included the provision of expertise in radiological site assessment, health and radiation safety, site remediation, and expert witness testimony.
 - Performed numerous radiological health and safety reviews and emergency preparedness audits at both production and utilization facilities. These activities have included commercial nuclear power production as well as radioactive materials manufacturing facilities licensed by both the U.S. Nuclear Regulatory Commission and the Agreement States Program. Provided support to materials users in all matters of regulatory affairs, quality assurance, and compliance aspects related to the decommissioning process.

EDUCATION: M.S., Applied Management, Lesley College
B.S., Biology, Suffolk University

NAME: Deborah McCartney

AREA OF RESP: National Environmental Policy Act Programs

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 9 Years

- Arthur D. Little, Inc.
 - For an interstate natural gas pipeline company, conducted reviews related to compliance with Certificates of Public Need and Necessity, issued by the Federal Energy Regulatory Commission (FERC) under the National Environmental Policy Act (NEPA) and acquired environmental permits for construction of natural gas pipelines.
 - Participated in the development and implementation of a company-specific environmental inspector training course for natural gas pipeline construction in compliance with the environmental permit conditions imposed by the FERC under NEPA, as well as, other Federal, state, or local jurisdictional agencies or boards.
 - Participated in the preparation of numerous mitigation plans for construction of a natural gas pipeline across ecologically significant rivers and/or wetlands for submittal to and approval by Federal, state, or local regulatory agencies.
 - Represented a client in negotiations with representatives of local or state authorities for the development of mitigation plans to protect rare or endangered species and/or significant ecological resources.
- Other Industry Experience
 - Five years experience in private sector project permitting and compliance with Federal, state, and local wetland statutes. Duties included wetland identification and mapping, wetland mitigation designs, presentations for permitting boards and regulatory authorities, and postconstruction compliance reviews and assessments.
 - Three years graduate level academic experience in evaluating the development of plant communities. Designed, conducted, and analyzed an independent research project pertaining to effects of man induced impacts on plant communities.

EDUCATION: M.S., Botany, (concentration in plant ecology), University of Massachusetts/Amherst
B.S., Natural Resource Studies and a B.S. in Botany, University of Massachusetts/Amherst

NAME: Donald Neal

AREA OF RESP: Environmental Protection Programs; Formality of Environmental Programs; Environmental Planning and Risk Management

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 10 Years

- Arthur D. Little, Inc., Cambridge, MA
 - Senior Consultant. Waste management specialist for the DOE Progress Assessments of Lawrence Livermore National Laboratory, Savannah River Site, Rocky Flats Plant, and the Tiger Team Assessments of the Oak Ridge K25 Site, Ames Laboratory, the Naval Petroleum and Oil Shale Reserve, and the National Institute for Petroleum and Energy Research.
 - Provides technical guidance to commercial clients on hazardous waste management.
- CSI Resource Systems Inc., Boston, MA
 - Senior Associate. Managed environmental permitting of waste management facilities. Prepared solid and hazardous waste management plans for industry and municipalities and evaluated waste management facility compliance with environmental permits and regulations.
 - Investigated methods for and results of air pollution monitoring, air emissions control, and source testing.
- ENSR Consulting and Engineering, Concord, MA
 - Project Manager. Managed environmental assessments and permitting of industrial facilities.
- GCA/Technology Division, Bedford, MA
 - Project Manager for quality assurance of 1985 National Acid Precipitation Assessment Program (NAPAP) emissions inventory.
 - Designed and implemented Continuous Emissions Monitoring System for air emission sources.

EDUCATION: M.S., Biology, University of Massachusetts
B.S., Biology, University of Massachusetts

OTHER: Member: National Solid Waste Management Association, Society of Wetland Scientist, Milton Conservation Commission

NAME: Henry F. Rej

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

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 11 years

- Arthur D. Little, Inc.
 - Conducted an environmental management system assessment for a major corporation to determine the company's ability to proactively manage environmental risk.
 - Conducted an environmental management system assessment for a major hazardous waste facility to determine the facility's ability to balance corporate objectives for production and environmental compliance.
 - Conducted an organizational study of a major hazardous waste facility to analyze the cause and effect relationship between environmental compliance problems and the existing design of the facility's organizational structure.
 - Responsible for the financial analysis, control, and information management of the \$8.5 million contract with the Department of Energy for Environmental Audits (Tiger Teams) throughout the United States.
 - Supported the U.S. Air Force with financial analysis, project cost control, project management information system development, and the audit and surveillance of contractor project management organization and systems.
 - Analyzed the management organizations and financial fit of several companies being considered for possible merger with client organization.
 - Projected the likelihood of financial success for a contract environmental laboratory.
 - Prepared financial acquisition scenario assumptions for a large gas utility company.
 - Conducted a market study of hazardous waste generators for a hazardous waste incineration company to determine the demand for incineration services under various contracting arrangements.

EDUCATION: M.B.A., Babson Graduate School of Business
B.S., Business Administration, Cum Laude, Bryant College
Northeastern University, Certificate in Hazardous Waste Management
(in progress)

NAME: William E. Schramm

AREA OF RESP: National Environmental Policy Act Programs

ASSOCIATION: Oak Ridge National Laboratory

EXPERIENCE: 13 Years

- Oak Ridge National Laboratory, Environmental Sciences Division
 - Research Associate. Integrated Resource Management, Environmental Assessment, Ecological Economics. Provides technical assistance on NEPA related issues to the U.S. Department of Energy, Office of NEPA Oversight, and to other Federal agencies. Participated in Tiger Team Assessments of the Solar Energy Research Institute, Los Alamos National Laboratory, Stanford Linear Accelerator Center, Naval Petroleum Reserves in California, Ames Laboratory, the National Institute of Petroleum Energy Research, and Fermilab.
- Martin Marietta Energy Systems, Hazardous Waste Remedial Actions Program
 - Project Manager. Environmental evaluation and restoration. Directed remedial actions and environmental studies under CERCLA, RCRA, and CWA. Investigations included assessments of contamination levels and types, and the feasibility of alternative remediation approaches at 16 Department of Defense facilities in 14 states.
- University of Texas at Austin, Texas Bureau of Economic Geology
 - Research Associate. Investigated geologic and economic feasibility of alternative methods of enhanced oil and gas recovery. Developed estimates of the state's remaining gas reserves.
- Ocean Drilling and Exploration Company
 - Senior Staff Geologist. Supervised exploration and development team activities for several company oil and gas properties.
- Union Oil Company of California
 - Geologist. Oversight of field development activities on 10 company oil and gas fields.

EDUCATION: Ph.D. Program, Ecology, University of Tennessee
M.B.A., Natural Resource Management, University of
Texas-Austin
M.S., Geology, Louisiana State University
B.S., Geology, Rensselaer Polytechnic Institute

NAME: Helen C. Walters

AREA OF RESP: Administration

ASSOCIATION: META, Inc.

EXPERIENCE: 25 Years

- META, Inc.
 - Administrator. Provided administrative support for DOE on 10 Tiger Team Assessments, 5 Environmental Audits and 2 Environmental Management Audits. Provides administrative support for final Tiger Team and environmental audits and environmental management assessment reports.
 - Provided support for production of the Self-Assessment Training course for the Office of Special Projects (EH-5).
 - Provided support for production of the Seminar on Radiological Concepts training course for the Office of Environmental Audit (EH-24).
 - Assisted in production of the draft Administrative Support Procedures and Guidance for the Office of Environmental Audit.
- Cate & Associates, Chartered
 - Administrator. Served as Executive Assistant with administrative responsibilities for filing estate accounting in excess of \$125,000 to the Commissioner of Accounts; liaison with attorneys and the courts with regards to these accounts; and handled accounts receivable and payable.
- National Council of Farmer Cooperatives
 - Administrator. Responsible for administration of financial and human resources for a staff of 13 professional and 13 support staff. Duties in the area of finance included the preparation and oversight of an annual operating budget of \$2.5 million with reporting responsibility to a committee composed of board members. Duties in the area of human resources included hiring and training of all support staff, and developing and coordinating employee benefits packages. Responsible for accommodating 65 employees in newly constructed, 17,000-square-foot office space.

EDUCATION: B.S., Business, Kent State

APPENDIX B

ASSESSMENT PLAN

**Plan for the
DOE
Environmental Management Assessment
of the
Waste Isolation Pilot Plant
Carlsbad, New Mexico**

**U.S. Department of Energy
Office of Environmental Audit
July 1993**

PLAN FOR THE DOE ENVIRONMENTAL MANAGEMENT ASSESSMENT OF THE WASTE ISOLATION PILOT PLANT (WIPP)

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**PLAN FOR THE DOE
ENVIRONMENTAL MANAGEMENT ASSESSMENT
OF THE
WASTE ISOLATION PILOT PLANT (WIPP)
CARLSBAD, NEW MEXICO
JULY 1993**

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 a 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 issue 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 assessment of the Waste Isolation Pilot Plant (WIPP) during the period of July 19 - 30, 1993, will be an Environmental Management Assessment. It will evaluate the effectiveness of environmental management programs established by DOE line organizations and their support contractors. The assessments 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 organizational perspective, the scope of the assessment will include evaluation of environmental management systems at the Albuquerque Operations Office (AL) and the WIPP Project Integration Office (WPIO); and at the site level, the WIPP Project Site Office

(WPSO), and the Westinghouse Waste Isolation Division (WID). DOE Headquarters (HQ) guidance and oversight responsibilities with respect to WIPP will be discussed with DOE Office of Waste Management Projects (EM-34) and DOE WIPP Project Division (EM-342) staff. The Assessment 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 WIPP assessment 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; and
- National Environmental Policy Act Programs.

This Environmental Management Assessment Plan is based on information received by the Assessment Team as of July 8, 1993.

2.0 ENVIRONMENTAL ASSESSMENT IMPLEMENTATION

The WIPP Environmental Management Assessment will be conducted by a team consisting of a Team Leader, Deputy Team Leader, and Technical Support Specialist from the Office of Environmental Audit (EH-24), a Team Coordinator and seven Environmental Management Specialists from Arthur D. Little, Inc., an Environmental Management Specialist from Oak Ridge National Laboratory, and an Administrator and Technical Editor from Maria Elena Toraño Associates (META). The names and responsibilities of the team members are listed below:

Andrea Heintzelman	DOE	Team Leader
Lee Banicki	DOE	Deputy Team Leader
Corey Gray	DOE	Technical Support Specialist
Raeann Reid	Arthur D. Little, Inc.	Team Coordinator
Larry Krupp	Arthur D. Little, Inc.	Organizational Structure; Environmental Planning
Joanne Fichera	Arthur D. Little, Inc.	Environmental Commitment; Internal and External Communication
Don Neal	Arthur D. Little, Inc.	Environmental Protection Programs; Formality of Environmental Programs; Risk Management
Joe Lischinsky	Applied Consultants, Inc.	Environmental Protection Programs; Formality of Environmental Programs; Risk Management
Henry Rej	Arthur D. Little, Inc.	Staff Resources, Training, and Development; Environmental Planning
Joe Delaney	Arthur D. Little, Inc.	Program Evaluation, Reporting and Corrective Action
Bill Schramm	Oak Ridge National Laboratory	National Environmental Policy Act Programs
Debi McCartney	Arthur D. Little, Inc.	National Environmental Policy Act Programs
Helen Walters	META	Administrator
Gregory Haugan	META	Technical Editor

2.1 PRE-ASSESSMENT ACTIVITIES

Pre-assessment activities for the WIPP Environmental Management Assessment included the issuance of an introduction and information request memorandum, a site visit, and initial review of documentation that was sent to the Assessment Team by WIPP as a result of the information request memorandum.

Eleven team members conducted a pre-assessment site visit June 22 - 24, 1993, including the Team Leader and Deputy Team Leader from DOE and team members from Arthur D. Little, Oak Ridge National Laboratory, and META. The purpose of the visit was to brief site personnel on the purpose and scope of the Environmental Management Assessment, to become familiar with WIPP and its operations; to interview key personnel and identify additional personnel to be interviewed; to review information being supplied by WIPP and request additional information; and to coordinate activities for the upcoming assessment. The visit included a presentation by the WPSO Environmental, Safety, and Health Manager. Also attending the pre-assessment site visit was a DOE representative for the Operational Readiness Review team.

2.2 ONSITE ACTIVITIES AND REPORTS

The onsite activities for the Environmental Management Assessment will begin July 19 and continue through July 30, 1993. These activities will include interviews with WIPP management and staff, both DOE and WID, document and record reviews, and some observations of field activities. Selected interviews will be conducted with Environmental Restoration and Waste Management Program Office and Albuquerque Operations Office personnel primarily to clarify what guidance these organizations are providing, as well as their expectations of environmental performance at WIPP.

A general schedule for the assessment is shown in Table 2-1. The team has made an attempt to identify relevant personnel to be interviewed, and this information has been provided to a WID representative to develop an interview schedule. Based on past experience, these schedules will change as additional information is gathered by the Assessment Team members. Modifications to this initial interview schedule, or other elements of the agenda, will be coordinated with the designated WIPP contacts.

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

2.3 POST-ASSESSMENT ACTIVITIES

Following the onsite activities, WIPP and other organizations will have the opportunity to submit final comments on the draft assessment report. After reviewing these comments, EH-24 will issue a final report. WIPP will be responsible for preparing a corrective action

B-7

Sun., July 18	Mon., July 19	Tue., July 20	Wed., July 21	Thur., July 22	Fri., July 23	Sat., July 24
Travel to Carlsbad	8:00 am Interviews 12:00 - 1:00 pm Lunch 4:30 pm Team Meeting	7:30 - 8:30 am Daily Debrief 8:45 am Interviews 12:00 - 1:00 pm Lunch 4:30 pm Team Meeting	7:30 - 8:30 am Daily Debrief 8:45 am Interviews 12:00 - 1:00 pm Lunch 4:30 pm Team Meeting	7:30 - 8:30 am Daily Debrief 8:45 am Interviews 12:00 - 1:00 pm Lunch 4:30 pm Team Meeting	7:30 - 8:30 am Daily Debrief 8:45 am Interviews 12:00 - 1:00 pm Lunch 4:30 pm Team Meeting	Findings development Document and interview lists finalized
Sun., July 25	Mon., July 26	Tue., July 27	Wed., July 28	Thur., July 29	Fri., July 30	
Findings development AM	Findings development	FARs	FARs	Finalize draft report	Close-out meeting	
PM	Factual Accuracy Reviews (FARs)	FARs	Appendices to Printer Finalize draft report	Draft report to printer		

plan that will be reviewed by EH-24. Following is a tentative schedule for completion of these post-assessment activities.

August 16	Site comments on draft report due
September 10	Final assessment report issued by EH-24
September 13	Draft action plan due
September 27	Comments on draft action plan by EH-24
October 11	Final action plan due

3.0 ORGANIZATIONAL STRUCTURE

3.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria (POC) EM.1, "Organizational Structure," will assess whether WIPP's organizational structure ensures environmental protection, compliance, and excellence. In particular, the assessment will be designed to consider whether the environmental management organization structure has clear lines of authority, well-defined roles and responsibilities, and sufficient organizational structure. Organizational structures of WPSO and WID will be reviewed.

The general approach to the assessment will include a review of documentation regarding organizational structure and interviews with WIPP management and staff. Areas of particular interest will include:

- The clarity with which the organizational structure is delineated and communicated to site staff. Based on pre-assessment activities, this will be especially important for DOE (WPSO and WPIO), as a major organizational restructuring is currently underway;
- The degree to which actual lines of environmental management authority and responsibility are consistent with formal documents that define organizational roles, responsibilities, and authority;
- The degree to which decision-making authority related to environmental protection is assigned to the organizational levels that can provide the most timely and appropriate response;
- The reporting "distance" between the person with primary responsibility for the environmental support function and the overall manager of the organization;
- The definition and understanding of functional relationships between environmental support groups and line organizations;
- The existence of management systems and procedures to promote responsibility and maintain accountability;
- The degree to which the environmental management organization leverages managers effectively; and
- The occurrence and results of periodic reviews of the environmental organizational structure.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Environmental Commitment regarding line responsibilities; Internal and External Communication regarding the ability of staff to communicate issues directly to key staff without adhering to the "chain of command;" Staff Resources, Training, and Development

regarding definition and accuracy of job descriptions and performance appraisals; and Program Evaluation, Reporting, and Corrective Action regarding the periodic review and assessment of the WIPP organizational structure.

3.2 RECORDS REQUIRED

In addition to those documents reviewed prior to the assessment, the following records will be examined at WIPP:

- Latest organization charts for each organization (AL, SNL, WPIO, WPSO, and WID);
- Organizational charts showing relationship among organizations;
- Charter/mission statements;
- DOE directives, memoranda of understanding, etc.;
- Job descriptions and performance criteria for key management and operating personnel;
- Performance reviews; and
- Environmental Protection Implementation Plan (EPIP).

4.0 ENVIRONMENTAL COMMITMENT

4.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for POC EM.2, "Environmental Commitment," will review and evaluate the organizations' commitment to achieving environmental excellence. The Assessment Team will evaluate whether WIPP demonstrates a positive attitude and proactive approach to environmental management. Some key indications of environmental commitment that will be evaluated include the following:

- Top management support and commitment;
- Awareness/motivation related to environmental management;
- Acceptance of environmental compliance/performance responsibility;
- Formal environmental policies that address specific environmental concerns; and
- Formal/informal support systems.

The general approach to the assessment will include a review of documentation related to environmental management and interviews with management and line operation staff. Areas of particular interest will include:

- The existence of a formal statement of policy that places priority on environment, safety, and health, and that delineates WIPP's environmental goals, and how they are to be met;
- How widely this policy statement is distributed;
- Formal statements of commitment to environmental excellence by managers at all levels;
- Evidence in interviews of a general understanding and acceptance of the importance of environmental protection, and a sense of "ownership" of environmental protection;
- Top management encouragement and acceptance of input on environmental issues from employees;
- Top management statements and actions demonstrating support for the environmental management effort; and
- Inclusion of environmental issues in routine senior management meetings.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Organizational Structure regarding environmental responsibilities, including those of line

management outside the environmental support organizations, and Internal and External Communication regarding communication of environmental goals and commitment.

4.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Formal statement of environmental management policy;
- Additional, issue-specific policies addressing more focused environmental concerns;
- Senior management statement of support for environmental management efforts that are included in an annual report, speeches, internal newsletters, and other documents;
- Descriptions of environmental programs/projects;
- Accounts of employee or organization involvement in, or work with, environmental task forces, environmental professional associations, or local community organizations;
- Examples of environmental reports requested of environmental support staff by senior management and line management;
- Formal statements of commitment to environmental excellence by managers at any level; and
- Other records as determined onsite.

5.0 ENVIRONMENTAL PROTECTION PROGRAMS

5.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for POC EM.3, "Environmental Protection Programs," will evaluate whether WIPP has environmental programs in place to ensure compliance with Federal, state, and local environmental laws and regulations. Further, the assessment will determine if the site provides for timely and correct implementation of those DOE Orders designed to protect the environment and public health. The emphasis of the review will be on determining whether effective and comprehensive programs are in place and whether each required environmental protection program features formal policies and plans, systems to identify and characterize sources, an understanding of applicable regulatory requirements, clearly defined roles and responsibilities, implementing procedures, recordkeeping and reporting systems, training, and systems for program evaluation and oversight. The key issues involve conformance of WIPP environmental protection programs with the performance objectives and prescriptive requirements of applicable DOE Orders and other environmental requirements and/or statutes. In addition, the WIPP environmental protection programs will be evaluated for their adequacy in light of all permits and agreements entered into with Federal, state and local governments and associations.

Specific environmental protection programs that will be evaluated during this assessment include:

- Air emissions source identification, control, and monitoring;
- Surface water protection including source identification, spill prevention control, and reporting;
- Potable water supply protection, including backflow prevention systems;
- Groundwater protection programs, including monitoring;
- Management and control of toxic and chemical materials;
- Management of solid, hazardous, radioactive, and mixed waste including source identification; characterization; training; minimization; contingency planning; recordkeeping; and treatment, storage, and disposal practices;
- Environmental As Low As Reasonably Achievable (ALARA), including radiological environmental surveillance, evaluation of unplanned releases, and evaluation of radiation exposure to the public; and,
- Underground storage tank management systems.

Formal environmental protection programs and/or plans required by DOE Order or regulatory statute that will be evaluated include:

- Environmental Protection Implementation Plan;

- Long Range Environmental Protection Plan;
- Groundwater Protection Management Program;
- Waste Minimization Plan;
- Pollution Prevention Awareness Program;
- Environmental Monitoring and Surveillance Plan;
- Emergency Preparedness Program;
- Quality Assurance Program; and
- Preventative Maintenance Program for environmental-related equipment.

The general approach to the assessment will include interviews with WPSO and WID personnel responsible for environmental program development and implementation. Prior to arriving onsite, and during the assessment, reviews will be performed of documentation supporting these programs or demonstrating their proper implementation. Limited field investigations may also be conducted to verify implementation of environmental protection programs and procedures.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Formality of Environmental Programs, (including NEPA), for implementation of Environmental Protection Programs; Staff Resources, Training, and Development regarding qualifications and training of staff responsible for implementation of the programs; Environmental Commitment regarding the commitment to perform beyond minimum compliance; Internal and External Communication regarding the communication of environmental requirements and performance reporting; and Organizational Structure regarding the relative stature and authority of the environmental support organizations.

5.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Source and emission inventories for air and water pollution control;
- National Emission Standards for Hazardous Air Pollutants (NESHAPs) agreement;
- Toxic and chemical materials management plan;
- Emergency response and remedial action plan;
- Environmental incident reporting procedures;

- Preventative maintenance and inspection procedures; and
- Reports to management or regulatory agencies.

6.0 FORMALITY OF ENVIRONMENTAL PROGRAMS

6.1 ISSUE IDENTIFICATION

The Environmental Management Assessment 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. Specifically, the assessment 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;
- The extent to which environmental programs and procedures are developed and effectively implemented throughout the organization;
- WIPP's system for conducting routine inspections to ensure site compliance and identify potential problems; and
- Systems for maintaining and retaining records, and for ensuring timely completion of regulatory and management reporting requirements.

The general approach to the assessment will include interviews with WIPP personnel responsible for tracking new environmental requirements and incorporating them into policies and procedures, as well as staff and line managers, and other personnel responsible for implementing environmental programs. Areas of particular interest will include:

- The extent to which staff members responsible for regulatory tracking are up-to-date on new, proposed, and emerging regulatory issues;
- The development of guidance documents for operational staff to assist them in assuring a high level of environmental compliance and protection;
- Systems to distribute regulatory information, procedures, and guidance to all relevant personnel and operational groups within DOE and contractor organizations;
- The process of creating and approving new procedures, and the existence of procedures for the implementation of environmental protection programs;
- The extent to which WIPP procedures and standards are reviewed and revised to address environmental considerations;
- Oversight procedures and systems, including programs for routine site inspections and compliance checks;
- Systems for recordkeeping and document control;

- Systems to prepare environmental reports for external oversight organizations and internal management; and
- Systems to identify, report, investigate, and track trends and to correct identified environmental problems.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Environmental Protection Programs, including NEPA; Program Evaluation, Reporting, and Corrective Action regarding inspections, recordkeeping, corrective action, and reporting; Environmental Commitment regarding environmental performance reporting required by various levels of management; Internal and External Communication regarding the communication of new developments and guidance to WIPP organizations; and Organizational Structure regarding issuance of program implementation guidance.

6.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Program specific and general ES&H policies, procedures, and guidance manuals;
- Environmental protection plans and environmental management plans;
- Standard site operating procedures;
- Regulatory tracking protocols and procedures, and related information on file;
- Inspection checklists, logs, and procedures;
- Reports of corrective action implementation;
- Incident and occurrence reports;
- Examples of analysis of identified environmental problems and corrective action tracking;
- Examples of other environmental records and reports; and
- Documentation and records of environmental performance.

7.0 INTERNAL AND EXTERNAL COMMUNICATION

7.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for POC EM.5, "Internal and External Communication," will be designed to determine whether formal and informal channels of communication are effectively used to emphasize management commitment to environmental protection; to promote awareness and support of environmental policies and programs throughout the organization; and to share information with external organizations, such as regulatory agencies, environmental groups, and the community. The review will focus on the modes of communication used and their effectiveness. Key issues that will be addressed include the following:

Internal Communication

- Extent, effectiveness, and timeliness of WIPP's communication of environmental policies, standards, guidance, and performance to employees;
- Lateral communication of environmental activities and best management practices across WIPP;
- Mechanisms for "bottom-up" communications of environmental concerns through traditional reporting channels and through anonymous systems;
- Clarity and timeliness of directives and guidance that communicate environmental policies and guidelines to all personnel;
- Overall understanding of environmental policies and requirements throughout WIPP; and
- Employee awareness of personal environmental responsibilities and management systems to promote that awareness.

External Communications

- Working relationships with external oversight organizations;
- Frequent and timely formal communication of environmental risks and protection efforts to external organizations;
- Provision for external parties to be involved in key decisions related to environmental protection;
- Responsiveness to environmental concerns expressed by external parties; and
- External recognition of WIPP's commitment to environmental protection.

The general approach to the assessment will include interviews with WIPP personnel responsible for environmental policy and program communication, as well as affected

personnel (management and staff). As appropriate, interviews will also be conducted with DOE line organizations and selected external parties (New Mexico Environment Department and the Environmental Evaluation Group). The assessment will also include a review of documentation supporting internal and external communication programs.

Coordination with other Assessment Team members will be routine and extensive. The scope of internal communication programs is interpreted widely, and is viewed as including staff meetings, memoranda, management reports, task forces, training programs, newsletters, speeches, and other relevant forms of communication. Given the wide scope, interaction with the entire team is critical.

7.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Samples of the scope of relevant management reports and staff meeting minutes;
- Forms and guidelines for internal anonymous reporting of environmental issues;
- Guidance documents for interpretation and implementation of environmental regulations and policies;
- WIPP newsletter(s) that communicate and promote environmental awareness;
- Press releases relating to environmental activities and programs;
- Documentation of information and awareness programs for affected external parties; and
- Other records as determined onsite.

8.0 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

8.1 ISSUE IDENTIFICATION

The Environmental Management Assessment for POC EM.6, "Staff Resources, Training and Development," will involve a review and analysis of WIPP operations to verify that staff resources are sufficient to develop and implement environmental protection programs; that all personnel have received environmental protection training commensurate with their job responsibilities; and that professional development opportunities for environmental staff are equal to those of their peers in non-environmental positions. Specifically, the assessment will verify the following:

- Quantity of staff is sufficient to ensure environmental goals are met.
 - Staffing levels today are adequate for achieving WIPP's environmental performance goals.
 - Planned staffing levels for WIPP and operational phases are adequate for achieving its environmental protection goals.
 - There is a system for identifying WIPP's short-term and long-term staffing requirements.
 - Staffing support for environmental protection activities is provided in a timely and responsive manner.
- Qualifications of staff are sufficient to ensure environmental goals are met.
 - The education, training, and experience of the environmental support staff (including subcontractors) are adequate to effectively conduct their assigned duties.
 - Appropriate job qualifications are established and maintained for environmental positions.
 - Environmental responsibilities are built into job descriptions of key line management and staff positions.
- Measurement of job performance for environmental positions is appropriate.
 - Environmental protection factors are included in performance evaluation standards.
 - Superior work in the environmental field is rewarded.
 - Poor performance is disciplined.
- Training programs are in effect to ensure that all staff obtain the environmental training necessary for their positions.

- There is a process to evaluate and establish environmental training needs.
 - There is a mechanism to ensure that training programs provide adequate coverage of DOE Orders, Federal and state regulations, and internal policies and procedures.
 - There is a system to ensure that all employees, including new employees and contractors, receive the training deemed appropriate.
 - Records of environmental training are maintained in a satisfactory recordkeeping system.
 - The training program is evaluated for effectiveness on a periodic basis.
- Environmental staff are provided career opportunities and advancement, and are encouraged to develop supervisory and other professional skills.

The general approach to the assessment will include interviews with WPSO and Westinghouse (WID) personnel regarding staff resources, training, and development, as well as a review of relevant and available documentation.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Organizational Structure regarding job performance standards and job descriptions; Environmental Planning and Risk Management regarding staffing resources; Program Evaluation, Reporting, and Corrective Action regarding qualifications of personnel responsible for these activities; Formality of Environmental Programs regarding training records and program review; and NEPA Program Management regarding training and resources.

8.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Documented requests for environmental staff;
- A sample of resumes or "171" forms for selected environmental staff and other staff with some environmental responsibilities;
- Performance evaluation standards for both environmental and non-environmental personnel;
- Documentation of training courses;

- Training history and educational records for a sample of environmental staff and line managers; and
- Presentation materials for environmental protection training programs.

9.0 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

9.1 ISSUE IDENTIFICATION

The Environmental Management Assessment 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 WPSO and WID staff who are responsible for environmental oversight and interviews with line management who are responsible for self-assessment. The Assessment Team will also review other relevant documentation not previously provided in the pre-assessment documents. Based on the review of pre-assessment information, the following issues will be further evaluated during the assessment:

- WIPP understanding of all required program evaluation mechanisms, including self-assessments, audits, and appraisals;
- Scope and approach of self-assessments and appraisals;
- Adequacy of WIPP self-assessments in meeting the intent of DOE self-assessment policy and guidance;
- Coverage of all 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;
- Distribution of assessment findings and reports to appropriate managers;
- System for setting priorities for corrective actions;
- 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.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Staff Resources, Training, and Development regarding qualifications of personnel responsible for program evaluation activities; Organizational Structure regarding responsibilities and accountability for oversight activities; Environmental Protection Programs regarding inspections, recordkeeping, corrective action, and reporting; and Formality of Environmental Programs regarding the design and implementation of self-assessment and oversight programs and ongoing review of programs, plans, and procedures.

9.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Description of the programs, procedures, and responsibilities relating to environmental performance evaluation;
- Reports of audits and appraisals conducted by both internal and external organizations;
- Corrective action plans;
- Documentation of the corrective action tracking system;
- List of environmental performance indicators and reports demonstrating evaluation against these indicators;
- Trend analysis or lessons learned documentation; and
- Documentation of the qualifications/training of staff responsible for conducting environmental oversight activities.

10.0 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

10.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for POC EM.8, "Environmental Planning and Risk Management," will include evaluating the effectiveness of project-wide environmental planning activities. The scope of the planning portion of the assessment will include environmental activities as well as more standard business planning activities, such as budgeting, priority setting, and allocation of resources. Short and long-term planning will be addressed. In addition to planning, this portion of the assessment will evaluate the adequacy of systems designed to identify environmental hazards and to minimize and control environmental risks.

The general approach to the assessment will include interviews with the WPSO and WID personnel responsible for environmental planning and risk management, and a review of documentation supporting this area. Areas of particular interest will include the following:

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 (including mechanisms for resource allocation and priority setting, and the extent to which actual resource allocation is consistent with environmental objectives);
- The adequacy of funding for environmental protection activities;
- 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 their needs in the areas of pollution control technology and related equipment and services for supporting environmental protection activities at WIPP.

Risk Management

- Systems for formal review of programs and activities that have the potential to represent a risk to the environment; and
- Systems for assessing risks to the environment from operations that include assignment of responsibilities to appropriate staff; procedures; and the specific mechanisms for identifying hazards and associated risks, assessing the acceptability of identified risks, and risk mitigation actions.

Coordination with other Assessment Team members will be routine and extensive. For Environmental Planning, special attention will be paid to coordination with team members responsible for evaluation of Environmental Protection Programs and NEPA Programs. For Risk Management, special attention will be paid to coordination with team members responsible for Environmental Protection Programs that manage risk, Formality of

Environmental Programs that include risk assessment systems, and NEPA Programs related to identification of risks during environmental planning.

10.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Strategic plans;
- Budget documents;
- Capital expenditure documents;
- Minutes of planning meetings;
- Procedures for startup of site activities (maintenance, construction, excavation, experimentation, etc.);
- Work control procedures; and
- Descriptions of programs and reports with an emphasis on risk management.

11.0 NATIONAL ENVIRONMENTAL POLICY ACT PROGRAMS

11.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities related to National Environmental Policy Act (NEPA) Programs, will investigate the development and implementation of NEPA programs capable of ensuring compliance and supporting progress toward environmental excellence at WIPP.

The scope of the NEPA assessment is programmatic. It is designed to gain a broad understanding and awareness of DOE and operating contractor systems for NEPA compliance in order to describe the range of issues and problems that may exist. A detailed evaluation of compliance with specific requirements of the Council on Environmental Quality (CEQ) and DOE NEPA Regulations and the DOE NEPA Order is outside the scope of this assessment. However, the Assessment will address areas where DOE has established specific management system requirements and will include a review of the DOE and operating contractor activities for adherence to best management practices (BMPs). BMPs are discretionary procedures that enhance overall compliance when specific requirements do not exist, do not apply, or do not go far enough.

The assessment approach involves the review of DOE and operating contractor NEPA procedures, documentation, and operations, and will include interviews, as appropriate, with WIPP staff responsible for NEPA procedures and the NEPA review process; WIPP project and program managers; the legal and public relations staff; the classification officer; and others as the need arises. Areas of particular interest include:

- The review of policy statements, program plans, and standard operating procedures for consistency with the DOE NEPA Regulations (10 CFR 1021), DOE 5440.1E and related DOE Headquarters Orders, memoranda, and guidance;
- Interviews with DOE and operating contractor personnel to determine the depth of understanding and compliance with DOE NEPA procedures;
- The review of previous NEPA audits and action plans (where applicable) to determine progress toward resolution of findings; and
- The review of screening criteria and the process used to recommend and determine appropriate levels of NEPA documentation for every proposed action.

Coordination with other Assessment Team members will be routine and extensive. Special attention will be paid to coordination with team members responsible for evaluation of Environmental Planning and Risk Management as this is integral to the management of WIPP. In order to evaluate the adequacy of the NEPA programs, there will be coordination with the team members responsible for the evaluation of Internal and External Communications; Environmental Commitment; Environmental Protection Programs; Formality of Environmental Programs; and Staff Resources, Training, and Development.

11.2 RECORDS REQUIRED

In addition to those reviewed prior to the assessment, the following documents will be examined at WIPP:

- Site-specific or Albuquerque Operations Office NEPA guidance or policies;
- Correspondence and/or guidance delegating authority to make NEPA determinations;
- State or local "NEPA-type" statutes or regulations;
- Mitigation action plans available for Findings of No Significant Impact (FONSIs) and Records of Decision (RODs);
- Tracking system for NEPA documentation; and
- Other relevant material identified during the course of the management assessment.

APPENDIX C

SCHEDULE OF ONSITE ACTIVITIES

APPENDIX C:

SCHEDULE OF ONSITE ACTIVITIES

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Larry Krupp am	<ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Daily Debriefing 	<ul style="list-style-type: none"> • Daily Debriefing 	<ul style="list-style-type: none"> • Daily Debriefing 	<ul style="list-style-type: none"> • Daily Debriefing 	<ul style="list-style-type: none"> • Develop Findings and Overview
Organizational Structure	<ul style="list-style-type: none"> - W. Most, WID Team Leader, Environmental Support 	<ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Interviews: 	<ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Interviews 	
Environmental Planning	<ul style="list-style-type: none"> - D. Robertson, WID Team Leader, Environmental Compliance - F. Padilla, WID Manager, Experimental Operations - E. McGary, WID Engineer, Work Control - G. Pohl, WID Manager, Mechanical and Construction Engineering 	<ul style="list-style-type: none"> - J. Elliott, WID Manager, Waste Program Compliance - D. Tawater, WID Manager, Procurement Services - D. Morse, WID Manager, Procurement Systems and Support - M. Cox, WID Manager, Financial Planning 	<ul style="list-style-type: none"> - J. Mewhinney, WPSO Manager, ES&H - K. Donovan, WID Manager, Program Management - D. Davis, WID Manager, Work Control 	<ul style="list-style-type: none"> - J. Arthur, WPIO Project Director (Telephone) - B. Bennington, WPSO Manager, Environmental Programs 	<ul style="list-style-type: none"> - J. Bickel, AL Assistant Manager (Telephone) - J. Lee, WID Manager, Operations (Telephone) • Document Review 	

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
<p>Larry Krupp pm</p> <p>Organizational Structure</p> <p>Environmental Planning</p>	<ul style="list-style-type: none"> • Interviews - J.J. Garcia, WID Manager, Test Programs - C. Kelly, WID Manager, Waste Handling - P. Donovan Team Leader, Hazardous Waste and Self-Assessment • Team Meeting 	<ul style="list-style-type: none"> • Interviews - A. Hunt WPSO Project Manager - L. Gage WPIO Branch Chief, Compliance • Team Meeting 	<ul style="list-style-type: none"> • Interviews - M. Frei, HQ Director, Waste Management Projects (Telephone) - D. Trujillo, WPIO Manager, Quality Assurance - B. Howard, WPIO Manager, Environmental Compliance and Support - S. Campbell, WPIO Publications and Document Control - F. Jones, WPSO Administration Support • Team Meeting 	<ul style="list-style-type: none"> • Interviews - V. Daub, WPSO Deputy Project Manager - F. Gustke, SNL Site Operations • Team Meeting 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview 	<ul style="list-style-type: none"> • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Joanne Fichera am Environmental Commitment Internal and External Communication	<ul style="list-style-type: none"> • Interviews - S. Sethi, WID Manager, Mine Engineering - H. Fox, WID Manager, Maintenance - J. Epstein, WID Deputy General Manager - L. Gage, WPIO Branch Chief, Compliance 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews - B. Bennington, WPSO Manager, Environmental Programs - F. Ashford, WID Manager, Mine Operations - J. Colties, NMED Environmental Scientist - P. McCasland, NMED Environmental Scientist 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews - J. Lee, WID Manager, Operations - C. Kelley, WID Manager, Waste Handling - E. Maestas, WPIO Manager, Compliance (Telephone) - J. Teak, WPIO Project Manager (Telephone) 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews - J. M. Garcia, WID Manager, Nuclear and Industrial Safety - J. Arthur, WPIO Project Manager (Telephone) - P. Higgins, WPIO Branch Chief, Experimental Programs and System Integration Branch (Telephone) - D. Olona, WPIO Branch Acting Branch Chief, Planning and Administration Branch (Telephone) 	<ul style="list-style-type: none"> • Daily Debriefing • Develop Findings and Overview • Document Review 	<ul style="list-style-type: none"> • Develop Findings and Overview • Document Review

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Joanne Fichera pm Environmental Commitment Internal and External Communication	<ul style="list-style-type: none"> • Interviews - A. Hunt, WPSO Project Manager - V. Daub, WPSO Deputy Project Manager - C. Conway, WID Manager, Engineering • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - B. Keeley, NMED Manager, Organizational Development - J. Kenney, EEG Environmental Scientist - D. Gray, EEG Environmental Scientist • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - M. Frei, EM-34 Director, Waste Management Projects (Telephone) - D. Trujillo, WPIO Manager, Quality Assurance • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - M. Atwood WID Senior Maintenance Specialist - F. Autry WID Electrician • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Develop Findings and Overview • Document Review 	<ul style="list-style-type: none"> • Develop Findings and Overview • Document Review

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
<p>Don Neal am</p> <p>Environmental Protection</p> <p>Formality of Environmental Programs</p> <p>Risk Management</p>	<p>• Interviews</p> <p>- J. Mewhinney WPSO Manager, ES&H Program</p> <p>- B. Bennington WPSO Manager, Environmental Programs</p> <p>- D. Lerk, WPSO Manager, Quality and Assurance Programs</p> <p>- R. Kehrman WID Acting Manager Environmental Programs; Manager, Environmental Strategic Planning</p>	<p>• Daily Debriefing</p> <p>• Interviews</p> <p>- H. Fox, WID Maintenance Manager</p> <p>- V. Cannon, WID Manager, Quality Assurance Engineering and Inspection Services</p> <p>- M. Davis, WID Team Leader, Inspection Services</p> <p>- D. Robertson, WID Team Leader, Environmental Compliance</p>	<p>• Daily Debriefing</p> <p>• Document Review</p> <p>• Interviews</p> <p>- F. Padilla, WID Manager, Experimental Operations</p> <p>- J. Willis, WID Staff, Environmental Compliance</p>	<p>• Daily Debriefing</p> <p>• Interviews</p> <p>- D. Brewer, WID Staff, Zone 4 Work Control</p> <p>- P. Baratti-Sallani, WPSO Public Affairs Specialist</p> <p>- D. Davis, WID Manager, Work Control</p>	<p>• Daily Debriefing</p> <p>• Develop Findings and Overview</p>	<p>• Develop Findings and Overview</p>

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
<p>Don Neal pm</p> <p>Environmental Protection</p> <p>Formality of Environmental Programs</p> <p>Risk Management</p>	<ul style="list-style-type: none"> • Interviews - M. Oliver, WPSO Manager Maintenance - J. Winkel WID Manager, Hazardous Waste and Self-Assessment • Team Meeting 	<ul style="list-style-type: none"> • Interviews - S. Kouba, WID Manager, QA Programs - B. Greenlee, WID Staff, QA Programs - W. Most, WID Team Leader, Environmental Support - P. Hoffman, WID Team Leader, Industrial Hygiene • Team Meeting 	<ul style="list-style-type: none"> • Interviews - D. Melbourne, WID Team Leader, ES&H Training - J. Elliott, WID Acting Manager, Waste Program Compliance • Team Meeting 	<ul style="list-style-type: none"> • Interviews - B. Howard, WID Manager, Environmental Compliance and Support - R. Kirkes, WID Staff, Environmental Compliance - M. White, WID Supervisor, Technical Procedures - J. Trone, SNL Staff, Quality Assurance - D. Mayfield, SNL Staff, Safety Analysis and Review • Team Meeting 	<ul style="list-style-type: none"> • Develop Findings and Overview • Preliminary Findings Review Meeting 	<ul style="list-style-type: none"> • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
<p>Joe Lischinsky am</p> <p>Environmental Protection Programs</p> <p>Formality of Environmental Programs</p> <p>Risk Management</p>	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - W. Bodily, WID Manager, ES&H - B. Kehrman, WID Manager, Environmental Strategic Planning - B. Howard, WID Manager, Environmental Compliance and Support 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - D. Boyer, WID Manager, Emergency Management - C. Wu, WID Manager, Dosimetry and Analytical Technology 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - T. Merklings, WID Manager, Radiation Safety - D. Boyer, WID Manager, Emergency Management - H. Bibby, WID Deputy Manager Operations - B. Kuginskie, WID Manager, Facilities Engineering 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - B. Bennington, WPSO Manager, Environmental Programs - J. Mewhinney, WPSO Manager, ES&H Programs 	<ul style="list-style-type: none"> • Daily Debriefing • Document Review 	<ul style="list-style-type: none"> • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Joe Lischinsky pm Environmental Protection Programs Formality of Environmental Programs Risk Management	<ul style="list-style-type: none"> • Interviews - L. Madl, WID Manager, Environmental Monitoring - T. Merkling, WID Manager, Radiation Safety • Team Meeting 	<ul style="list-style-type: none"> • Interviews - S. Mugno, WID Counsel - J. M. Garcia, WID Manager, Nuclear and Industrial Safety - D. Hofer, WID Manager, Radiation Monitoring Systems Engineering • Team Meeting 	<ul style="list-style-type: none"> • Interviews - B. Lucas, WID Manager, Operations Technical Support - M. White, WID Supervisor, Technical Procedures - J. Seal, WID Manager, Publications and Presentation - T. Ferguson, WID Manager, Independent Oversight and Regulatory Assurance • Team Meeting 	<ul style="list-style-type: none"> • Interviews - J. Garcia, WID Manager, Nuclear and Industrial Safety - B. Howard, WID Manager, Environmental Compliance and Support - R. Kirkes, WID Staff, Environmental Compliance - R. Farrell, WPSO Health Physicist - D. Lark, WPSO Manager, Q&RA Programs • Team Meeting 	<ul style="list-style-type: none"> • Document Review 	<ul style="list-style-type: none"> • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Henry Rej am Staff Resources, Training, and Development Environmental Planning	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - M. Strommen, WID Environmental Scientist - B. Keeley, WID Manager, Organizational Development 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - B. Kuginskie, WID Manager, Facility Engineering - D. Head, WID Coordinator, Technical Training Records • Document Review 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - C. Conway, WID Manager, Engineering - D. Robertson, WID Team Leader, ES&H Compliance - D. Head, WID Coordinator, Technical Training Records • Document Review 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - W. Most, WID Team Leader, ES&H Compliance Support - S. Cassingham, WID Manager, Technical Training - K. Kirkes, WID Assistant Manager, Technical Training 	<ul style="list-style-type: none"> • Daily Debriefing • Document Review • Develop Findings and Overview 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview
pm	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - B. Howard, WID Manager, Environmental Compliance - L. Gage, WPIO Branch Chief, Compliance • Team Meeting 	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - S. Mugno, WID Counsel - G. Pohl, WID Manager, Mechanical and Construction Engineer • Team Meeting 	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - D. Melbourne, WID Team Leader, ES&H Training - K. Kirkes, WID Acting Manager, Technical Training • Team Meeting 	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - J. Lee, WID Manager, Operations • Team Meeting 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Joe Delaney am Program Evaluation, Reporting and Corrective Action	<ul style="list-style-type: none"> • Interviews - L. Fitch, WID Manager, Self-Assessment 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews - P. DeVito, WID Manager, Computer Protection Program - D. George, Contractor, Senior Project Engineer - B. Bennington, WPSO Manager, Environmental Programs 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews - D. Lark, WPSO Manager, Quality and Regulatory Assurance Programs - B. Howard, WID Manager, Environmental Compliance and Support 	<ul style="list-style-type: none"> • Daily Debriefing • Document Review 	<ul style="list-style-type: none"> • Daily Debriefing • Follow-up Interviews - S. Kouba, WID Manager, Quality Assurance Programs - B. Howard, WID Manager, Environmental Compliance and Support - C. Bowden, WID Senior Staff Assistant 	<ul style="list-style-type: none"> • Develop Findings and Overview
pm	<ul style="list-style-type: none"> • Interviews - M. Brown, WID Engineering Resources and Startup - B. Greenlee, WID Staff, Quality Assurance Programs • Team Meeting 	<ul style="list-style-type: none"> • Interviews - P. Donovan, WID Team Leader, Hazardous Waste and Self-Assessment • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - L. Fitch, WID Manager, Self-Assessment - S. Kouba, WID Manager, Quality Assurance Programs - T. Fabian, WID Coordinator, ES&H Self-Assessment • Team Meeting 	<ul style="list-style-type: none"> • Document Review • Develop Findings • Team Meeting 	<ul style="list-style-type: none"> • Develop Findings 	<ul style="list-style-type: none"> • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
<p>Bill Schramm am</p> <p>National Environmental Policy Act Programs</p>	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - P. Baratti-Sallani, WPSO Public Affairs - A. Hunt, WPSO, Project Site Manager 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - J. Jarman, AL/EPD Contract Support (Telephone) - B. Howard, WID Manager, Environmental Compliance and Support - J. Garcia, WID Manager, Nuclear and Institutional Safety - D. Mayfield and T. Fabian, WID Staff, Nuclear and Institutional Safety 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - V. Lawson, Manager, Configuration Management - D. Davis, WID Manager, Waste Control • Document Review 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - C. Mewhinney, WPSO Manager, Safety - J. Arthur, WPIO Project Manager (Telephone) - P. Higgins, WPIO Branch Chief, Experimental Programs and System Integration Branch (Telephone) - D. Olona, WPIO Acting Branch Chief, Planning and Administration Branch (Telephone) 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - C. Mewhinney, SNL WPSO Manager, Safety • Document Review 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Bill Schramm pm National Environmental Policy Act Programs	<ul style="list-style-type: none"> • Interviews - J. Mewhinney, WPSO Manager, ES&H - B. Bennington, WPSO Manager, Environmental Programs - D. George, Contractor, Senior Project Engineer - W. Most, WID Team Leader, ES&H Compliance and Support • Team Meeting 	<ul style="list-style-type: none"> • Interviews - L. Gage, WPIO Branch Chief, Compliance - C. Kelly, WID Manager, Waste Handling - H. Fox, WID Manager, Maintenance Crafts • Team Meeting 	<ul style="list-style-type: none"> • Interviews - J. Lee, WID Manager, Operations • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - E. Cohen, Staff EH-25 (Telephone) - N. Finley, SNLA Staff, ES&H (Telephone) • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews - J. Robbins, AL/EPD, NEPA Staff (Telephone) - S. Simpson, Staff EH-25 • Document Review 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 1	Mon. 7/19/93	Tues. 7/20/93	Wed. 7/21/93	Thurs. 7/22/93	Fri. 7/23/93	Sat. 7/24/93
Deborah McCartney am National Environmental Policy Act Programs	<ul style="list-style-type: none"> • Safety Orientation • Underground Tour 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - B. Howard, WID Manager, Environmental Compliance and Support - J. Garcia, WID Manager, Nuclear and Institutional Safety - D. Mayfield and T. Fabian, WID Staff, Nuclear and Institutional Safety 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - V. Lawson, Manager, Configuration Management - F. Padilla WID Manager, Experimental Operations 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - C. Mewhinney, SNL WPSO Manager, Safety - R. Kehrman WID Manager, Environmental Programs 	<ul style="list-style-type: none"> • Daily Debriefing • Interviews <ul style="list-style-type: none"> - G. Pohl WID Manager, Mechanical and Construction Engineering • Document Review 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview
pm	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - J. Mewhinney WPSO Manager, ES&H - B. Bennington WPSO Manager, Environmental Programs - W. Most WID Team Leader, ES&H Compliance Support • Team Meeting 	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - G. Clark WID Engineer, Mechanical and Construction Engineering - W. Barnhart WID Engineer, Mechanical and Construction Engineering • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Interviews <ul style="list-style-type: none"> - J. Lee, WID Manager, Operations • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Document Review • Team Meeting 	<ul style="list-style-type: none"> • Develop Findings 	<ul style="list-style-type: none"> • Document Review • Develop Findings and Overview

SCHEDULE OF ONSITE ACTIVITIES (continued)

Week 2	Mon. 7/26/93	Tues. 7/27/93	Wed. 7/28/93	Thurs. 7/29/93	Fri. 7/30/93	Sat. 7/31/93
Schedule of Team Activities am	<ul style="list-style-type: none"> • Preparation of Findings and Overviews for Factual Accuracy Review (FAR) 	<ul style="list-style-type: none"> • Preparation of Findings and Overviews for Factual Accuracy Review (FAR) 	<ul style="list-style-type: none"> • Factual Accuracy Reviews: <ul style="list-style-type: none"> - Don Neal - Joe Lischinsky - Henry Rej 	<ul style="list-style-type: none"> • Technical Editing and Quality Verification of Report • Prepare Report Graphics • Prepare Closeout Presentation 	<ul style="list-style-type: none"> • 8:15 Closeout Presentation Travel 	
pm	<ul style="list-style-type: none"> • Factual Accuracy Reviews: <ul style="list-style-type: none"> - Joe Delaney - Joanne Fichera 	<ul style="list-style-type: none"> • Factual Accuracy Reviews: <ul style="list-style-type: none"> - Larry Krupp - Bill Schramm 	<ul style="list-style-type: none"> • Technical Editing and Quality Verification of Report • Develop Executive Summary and Summary of Assessment Results 	<ul style="list-style-type: none"> • Finalize Report • Draft Report to Reproduction 	Offsite	

APPENDIX D

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM

APPENDIX D:

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
Larry Krupp - Organizational Structure; Environmental Planning					
D-A-1	WIPP Organization Structure Diagram	Not indicated	Not indicated	Not indicated	Not indicated
D-A-2	Operational Readiness Review of the WIPP, Main Report	Not indicated	EM	Not indicated	8/9/91
D-A-3	Draft WIPP Program Management Plan	Not indicated	Not indicated	Not indicated	3/26/93
D-A-4	Memorandum re: WIPP DOE Management Initiatives: Product Definition and Review with Attachments	Not indicated	AL	EM-34	7/22/93
D-A-5	WID Management Charters	Not indicated	WID	Not indicated	1992-1993
D-A-6	Distribution of Functions within the Office of Energy and Special Programs AL 1120, Chapter IV, Part 8	Not indicated	AL	Not indicated	2/14/92
D-A-7	Memorandum re: Establishment of Revised WIPP Project Management Structure	Not indicated	EM-34	Distribution	1/31/92
D-A-8	Memorandum of Agreement between EM-1 and the Albuquerque, Idaho, and Chicago Field Offices and the Rocky Flats Office on WIPP	Not indicated	EM, AL, ID, CH, RF	Not indicated	1/31/92
D-A-9	Memorandum re: Organizational Realignment for WIPP and the TRU Program	Not indicated	WPIO	WPIO and WPSO Staff	6/18/93
D-A-10	Operational Readiness Review of the WIPP, Addendum, Revision 1	Not indicated	Not indicated	Not indicated	9/25/91
D-A-11	Quality Management Plan, Revision 0	Not indicated	EM-342	Not indicated	12/9/91
D-A-12	Letter re: Response to Specific Questions in Mayor Forrest's April 8, 1993	T. Grumbly	EM-1	R. Forrest	6/18/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-A-13	Environmental Protection Implementation Plan for WIPP	Not indicated	Not indicated	Not indicated	11/9/92
Joanne Fichera - Environmental Commitment; Internal and External Communications					
D-B-1	WIPP Mission	DOE	Not indicated	Not indicated	Not indicated
D-B-2	WID Management Charters	WID	Not indicated	Not indicated	9/9/92
D-B-3	Award Fee Performance Evaluation Report	DOE	AL	WID	5/7/93
D-B-4	Director's Briefing	Carlsbad Environmental Monitoring Research Center	Not indicated	Not indicated	12/16/92
D-B-5	ESH Integration Meeting Agenda	WID	Various	DOE/WPSO	Various
D-B-6	Environmental Reporting Requirements for FY 1993	L. Reed	WID	DOE/WPSO	5/14/93
D-B-7	Corporate Directive	WID	Not indicated	Not indicated	3/91
D-B-8	WIPP 1992 Annual Report	DOE	Not indicated	Not indicated	1992
D-B-9	Environmental Protection Implementation Plan	Not indicated	WIPP	Not indicated	11/9/92
D-B-10	Waste Minimization and Pollution Prevention Awareness Program Plan	WID	WIPP	Not indicated	2/93
D-B-11	Revision I of the WIPP RCRA Permit Application Matrix	WID	EC&S	Not indicated	4/6/93
D-B-12	Newsclippings	WID	External and Governmental Affairs	Distribution	6/23/93
D-B-13	1993 Integrated Communication Plan	WID	Not indicated	Not indicated	6/28/93
D-B-14	TRU News	WID	Not indicated	Not indicated	Various
D-B-15	All Employees Meetings	WID	Not indicated	Not indicated	6/9/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-B-16	All Employees Meeting/Schedule	WID	Not indicated	Not indicated	6/7/93
D-B-17	MOA Between EM and AL Concerning WIPP	DOE	EM, AL	Not indicated	1/31/92
D-B-18	WID Management Policies	WID	Not indicated	Not indicated	9/29/92
D-B-19	WIPP Oversight Regulation Group	Not indicated	DOE	Not indicated	Not indicated
D-B-20	Employee Concern Form	WID	Not indicated	Not indicated	9/92
D-B-21	WIPP Speakers Bureau General Overview	WID	Not indicated	Not indicated	Not indicated
D-B-22	Contract Between DOE and the Regents of New Mexico Institute of Mining and Technology Contract No. DE-AC04-89AL58309	DOE	Not indicated	Regents of New Mexico Institute of Mining and Technology	9/30/89
D-B-23	Chronology of WIPP Waste Hoist Accident Analysis	L. Reed	WID	A. Hunt	7/93
D-B-24	Action Plan for the DOE/EEG Information Meeting on the WIPP Waste Hoist Accident Analysis	J. Garcia	WID	Distribution	7/16/93
D-B-25	WIPP External Government Affairs Outreach Programs	Not indicated	WID	Not indicated	Not indicated
D-B-26	An Evaluation of Air Effluent and Workplace Radioactivity Monitoring at the Waste Isolation Pilot Plant	W. Bartlett	EEG	Not indicated	2/93
D-B-27	Flow Chart for FSAR Review	J. M. Garcia	WID	Not indicated	Not indicated
D-B-28	WID Vision & Mission	Not indicated	WID	Not indicated	Not indicated
D-B-29	1993 WID Communications Matrix	WID	Productivity, Quality, & Communications	Not indicated	Not indicated
D-B-30	1993 WID Employee Communication Tracking	WID	Productivity, Quality, & Communications	Not indicated	Not indicated

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
Don Neal - Environmental Protection Programs; Formality of Environmental Programs; Risk Management					
D-C-1	Waste Isolation Division Management Charters	WID	WID	WIPP	9/9/92
D-C-2	Non Radioactive Hazardous Materials Environmental Compliance Plan (WP-02-5)	WID	ES&H	WIPP	11/20/92
D-C-3	Construction Landfill Operation (WID 06-108)	WID	Operations	WIPP	11/20/91
D-C-4	Hazard Communication Program (WID 12-107)	WID	ES&H	WIPP	5/14/93
D-C-5	Underground Storage Tank Leak Detection and Control (WID 02-805)	WID	ES&H	WIPP	6/18/93
D-C-6	Site Maintenance Plan	WID	Operations	WIPP	
D-C-7	Waste Minimization (WID MP 5.5)	WID	Office of General Manager	WIPP	2/24/92
D-C-8	QA Records Management Policy (WP 13-8)	WID	Quality Assurance	WIPP	6/11/93
D-C-9	QA Requirements for WID Environmental Data Operations (WP 13-1, Rev. 14)	WID	QA	WIPP	Not indicated
D-C-10	Internal and Supplier Quality Assurance Audits (13-005)	WID	QA	WIPP	7/15/93
D-C-11	WID Environmental Data Operations	WID	QA	WIPP	7/2/93
D-C-12	Operational Environmental Monitoring Plan for the Waste Isolation Pilot Plant (DOE/WIPP-88-025)	DOE	Not indicated	Not indicated	1988
D-C-13	SNL-WID QA Interface Memorandum of Understanding	SNL/WIPP	QA	WIPP	3/3/93
D-C-14	Test Plan - Sealing of the Disturbed Rock Zone	SNL	Nuclear Waste Technology	WIPP	5/92
D-C-15	Calibration of Flow Meters Using Sierra Cal-Bench	SNL	QA	WIPP	12/22/92
D-C-16	Quality Assurance Inspections (QAI 10-5)	WID	QA	WIPP	4/28/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-C-17	Supplier Evaluation/Qualification	WID	QA	WIPP	10/31/92
D-C-18	Nonradioactive Satellite Waste Accumulation Inspection (WP 06-HM3109)	WID	Hazardous Waste and Self Assessment	WIPP	2/17/92
D-C-19	Draft RCRA Compliance Plan for the Waste Isolation Pilot Plant, Rev. 3	WID	ES&H	WIPP	Not indicated
D-C-20	Environmental Compliance Assessment Schedule for Calendar Year 1993	WID	Environmental Compliance and Support	WIPP	4/13/93
D-C-21	SARA Title III Reports	WPSO/WID	Not indicated	LEPC	1989-1992
D-C-22	ES&H Independent Assessment Findings - Hazardous Materials Management	WID	Analytical Laboratory	Environmental Compliance and Support	6/30/93
D-C-23	Response to ES&H Independent Assessment of Hazardous Materials Management	WID	Environmental Support	Not indicated	Not indicated
D-C-24	Environmental Checklist	AL	Not indicated	Not indicated	Not indicated
D-C-25	Analysis of WPSO Q&RA activities beginning January 1992	WPSO	QA	QA File	7/21/93
D-C-26	Corrective Action (QAAP 16-1)	WPSO	QA	WPSO	9/13/91
D-C-27	WPSO Audit Program	WPSO	QA	WPSO	7/31/92
D-C-28	WIPP Project Office Surveillance Program (Directive 4.3.1)	WPSO	Office of the Project Manager	WPSO	12/26/90
D-C-29	EM-342 Evaluation Schedule for FY 93	DOE	EM-342	Not indicated	5/4/93
D-C-30	Memorandum of Agreement between the Office of Environmental Restoration and Waste Management and the DOE Albuquerque Operations Office, Idaho Field Office, Chicago Field Office, and the Rocky Flats Office on the Waste Isolation Pilot Plant	DOE	EM, AL, ID, CH, RF	WIPP	1/31/92

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-C-31	Quality Management Plan	DOE	EM-342	Not indicated	12/9/91
D-C-32	WPSO Maintenance Surveillance	WPSO	Maintenance	WPSO	1993
D-C-33	WIPP National Pollution Discharge Elimination System Storm Water Pollution Prevention Plan (WP 02-14)	WID	Environmental Compliance	EPA/NMED	3/31/93
D-C-34	NPDES Stormwater Implementation Plan Implementation Schedule	WID	Environmental Compliance	EPA/NMED	7/20/93
D-C-35	Draft Waste Isolation Pilot Plant Land Management Plan (DOE/WIPP 93-004)	DOE	Not indicated	The world	Not indicated
D-C-36	Discharge Plan Approval	NMED	NMED	WIPP	1/16/92
D-C-37	Work Control Administration	WID	Work Control	WIPP	Not indicated
D-C-38	WIPP Procedures Relevant to RCRA Compliance	WID	ES&H	WIPP	No date
D-C-39	WIPP Essential Equipment List	WID	Work Control	WIPP	3/12/93
D-C-40	WIPP Work Control Evaluation of Overdue PMs	WID	Work Control	WPSO	7/23/93
D-C-41	Calibration Check of HEPA Filter Differential Pressure Monitor Loop (IC041007)	WID	Work Control	WIPP	1/30/90
D-C-42	WIPP Generator/Storage Site Waste Screening and Acceptance Audit Program	WID	Waste Program Compliance	EPA/NMED	5/93
D-C-43	WIPP Contingency Plan	WID	ES&H	EPA/NMED	5/7/93
D-C-44	WIPP Spill Prevention, Control, and Countermeasure Plan	WID	Environmental Compliance	EPA/NMED	1/18/93
D-C-45	Nonradioactive Hazardous Waste Management (DOE)	WID	Environmental Compliance	WIPP	12/31/91
D-C-46	Environmental Incident Reporting	WID	Environmental Compliance	WIPP	9/4/92

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-C-47	RCRA Position Training List	WID	Technical Training	WIPP	7/22/93
D-C-48	WWAP Waste Data Package Report Review Process (WP 05-WH3063)	WID	Waste Program Compliance	WIPP	1/29/93
D-C-49	Environmental Compliance Assessment Report ECA93-001	WID	Environmental Support	WID Counsel	2/26/93
D-C-50	Environmental Protection Implementation Plan for the Waste Isolation Pilot Plant	WID	Environmental Support	DOE	11/9/92
D-C-51	Submittal of 1992 Annual Report on Waste Generation and Waste Minimization Progress	WID	ES&H	DOE	2/18/93
D-C-52	Draft Charter for the Waste Minimization Committee	WID	Waste Minimization Committee	WIPP	Not indicated
D-C-53	Acceptance of the Waste Minimization and Pollution Prevention Awareness Plan for the WIPP Site	WPSO	Project Manager Office	WID	3/2/93
D-C-54	Implementation Plan for the Waste Isolation Pilot Plant Waste Minimization Program	WID	Environmental Support	WIPP	12/91
D-C-55	Waste Minimization and Pollution Prevention Awareness Program Plan for the Waste Isolation Pilot Plant	WID	Environmental Support	WIPP	2/93
D-C-56	Two Month Summary - ES&H Document Review Activity	WID	Nuclear and Industrial Safety	Not indicated	7/22/93
Joe Lischinsky - Environmental Protection Programs; Formality of Environmental Programs; Risk Management					
D-D-1	Environmental Protection Implementation Plan for WIPP 11/9/92 to 11/9/93	WID	ES&H	DOE	1992
D-D-2	Operational Environmental Monitoring Plan for the WIPP DOE/WIPP 88-025	WID/WIPP	WIPP	DOE	1988
D-D-3	Groundwater Protection Management Program Plan DOE/WIPP 93-022	WID	ES&H	DOE	1993

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-D-4	Environmental Compliance Assessment Program (ECAP) Plan	Environmental Compliance	ES&H	WID	2/12/93
D-D-5	WIPP Emergency Plan WP 12-9	ES&H	ES&H	WID	1992
D-D-6	Draft EPA/DOE Rad. NESHAPs MOU	Office of Environmental Guidance	DOE	EH-232	9/29/92
D-D-7	Radiological Environmental Surveillance (RES) Implementation (02-301)	J. Cockman	WID/ES&H	WID	2/5/88
D-D-8	NES/RES Quality Assurance/QC Implementation (02-302)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-9	RES Scheduling, Document and Field Preparation Procedure (02-303)	J. Cockman	WID/ES&H	WID	1/7/88
D-D-10	NES/RES Sample Tracking Procedure (02-304)	S. Jones	WID/ES&H	WID	5/14/93
D-D-11	RES Data Management Procedure (02-305)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-12	RES Soil Sampling Procedure (02-307)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-13	RES Surface Water & Sediment Sampling Procedures (02-309)	S. Jones	WID/ES&H	WID	3/2/88
D-D-14	High Volume Airborne Particulate Sampling Procedure (02-311)	J. Cockman	WID/ES&H	WID	3/2/88
D-D-15	Low Volume Airborne Particulate Sampling Procedure (02-312)	D. Lynn	WID/ES&H	WID	4/16/93
D-D-16	Environmental Monitoring Procedures (02-313)	J. Cockman	WID/ES&H	WID	3/3/88
D-D-17	Exchange Filters in the Effluent Monitoring System (02-315)	C. Mewhinney	WID/ES&H	WID	2/15/89
D-D-18	Calibration of the Canberra Model 2400 Alpha/Beta (02-318)	C. May	WID/ES&H	WID	11/1/90

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-D-19	Procedure for the Management of the REP Sample Archive (02-320)	K. Broberg	WID/ES&H	WID	4/6/90
D-D-20	Portable High-Volume Airborne Particulate Sampling (02-321)	J. Harvill	WID/ES&H	WID	9/27/90
D-D-21	Handling Aerosol Samples From Off-site Emergency Response (02-322)	J. Harvill	WID/ES&H	WID	7/6/90
D-D-22	Nonradiological Environmental Surveillance (NES) Implementation Procedure (02-330)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-23	NES Scheduling, Documenting, and Field Preparation Procedure (02-332)	J. Cockman	WID/ES&H	WID	3/2/88
D-D-24	NES Data Management Procedure (02-334)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-25	NES Soil Sampling Procedure (02-336)	R. Morawe	WID/ES&H	WID	5/21/93
D-D-26	NES Vegetation Sampling Procedure (02-337)	R. Morawe	WID/ES&H	WID	6/25/93
D-D-27	NES Litter Bag Handling Procedure (02-338)	A. Goodbar	WID/ES&H	WID	7/2/90
D-D-28	NES Environmental Photography Procedure (02-340)	J. Cockman	WID/ES&H	WID	11/30/87
D-D-29	NES Surface Water and Sediment Sampling Procedure (02-345)	J. Cockman	WID/ES&H	WID	11/15/88
D-D-30	ALARA & Chemical Exposure Program	L. Reed	WID/ES&H	WID	1/13/93
D-D-31	ALARA & Chemical Exposure Committee	L. Reed	WID/ES&H	WID	3/12/92
D-D-32	<u>WIPP ALARA & Chemical Exposure Manual</u>	L. Reed	WID/ES&H	WID	4/2/93
D-D-33	ACE Observations and Suggestions	A. Fernandez	WID/ES&H	WID	8/18/92
D-D-34	APM Cost Benefit Analysis	A. Fernandez	WID/ES&H	WID	12/7/92
D-D-35	Preparation of Safety Analysis Documents (02-1101)	M. Doherty	WID/ES&H	WID	2/28/91

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-D-36	Preparing Revisions to WIPP Safety Analysis Documents	J. Garcia	WID/ES&H	WID	7/31/92
D-D-37	<u>WIPP Safety Analysis Manual</u> WP-02-11, Table of Contents	J. Garcia	WID/ES&H	WID	7/31/92
D-D-38	Environmental Assessment ECA93-001	J. Willis	WID/ES&H	S. Mugno	2/26/93
D-D-39	Environmental Assessment ECA93-002	J. Willis	WID/ES&H	S. Mugno	6/23/93
D-D-40	Preparing, Revising, and Canceling Procedures (15-101)	C. Forbes	WID/PP	WID	9/19/91
D-D-41	Integrated Oversight/Inspection Reports IO-92-001, IO-92-002, IO-92-003, and IO-92-007	Q&RA	WID/RA	WID	1992
D-D-42	WIPP Hazardous Air Pollutant Emissions Inventory WP-02-15	L. Reed	WID/ES&H	WID	4/30/92
D-D-43	OSR Surveillance WP-04-706	R. Garcia	WID/ES&H	WID	4/30/93
D-D-44	Ambient Air VOC Concentrations at WIPP	C. Wu	WID/ES&H	Publications	1993
D-D-45	Regulatory Interpretation Response	B. Howard	WID/ES&H	Not indicated	4/28/93
D-D-46	Meteorological Station Strip Chart, Data Logging and Maintenance Procedure (02-368)	S. Jones	WID/ES&H	WID	7/22/91
D-D-47	Operation of the Canberra Gamma Spectrometer for Analysis of Environmental Samples (02-370)	T. Greenwood	WID/ES&H	WID	7/6/90
D-D-48	Use of Continuous High Volume Air Samples for Off-site Environmental Air Monitoring	L. Reed	WID/ES&H	J. Mewhinney	7/31/92
D-D-49	Implementation of High Volume PM-10 Particulate Sampling at WIPP	J. Mewhinney	WPSO/ES&H	L. Reed	9/9/92
D-D-50	Response to Radiation Monitoring System Assessment	L. Reed	WID/ES&H	J. Mewhinney	5/24/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-D-51	Discontinuation of Environmental Dosimetry Program	R. Kehrman	WID/ES&H	J. Mewhinney	7/24/90
D-D-52	WID Management Policies Waste Minimization MP 5.5	L. Reed	WID/ES&H	WID	2/24/92
D-D-53	WID Charters Environmental Strategic Planning	P. Weddle	WID/PM&RA	WID	7/30/92
D-D-54	WID Charters 3.1 Environmental Safety & Health	L. Reed	WID/ES&H	WID	3/12/92
D-D-55	WID Charters 3.5 Environmental and Industrial Safety, and 3.5.1 Environmental Compliance and Support	L. Reed	WID/ES&H	WID	3/12/92
D-D-56	WID Charters 3.5.2 Environmental Monitoring	L. Reed	WID/ES&H	WID	3/12/92
D-D-57	WID Charters 3.5.4 Environmental Support	L. Reed	WID/ES&H	WID	7/29/92
D-D-58	Draft Implementation of DOE 5700.6C on the WIPP	D. Lark	WPSO/R&QA	WPSO	7/22/93
D-D-59	WIPP Radiation Safety Procedures WP-12-501 through 574	ES&H	WID	WID	6/25/93
D-D-60	Draft WIPP Land Management Plan DOE/WIPP 93-004	DOE	DOE	DOE	1993
D-D-61	Conduct of Shift Operations WP-04-AD3002	P. Porter	WID/P&P	WID	9/28/92
D-D-62	Review and Approval of WID Operations Procedures WP-15-701	R. Albright	WID/P&P	WID	3/17/93
D-D-63	Operations Procedure Safety Review Committee WP 15-702	R. Albright	WID/P&P	WID	9/22/92
D-D-64	Administration of Management Policies and Charters WP 15-703	R. Albright	WID/P&P	WID	1/27/93
D-D-65	WPSO Walk-Around/ Surveillance/ Program Review (Selected Reports)	WPSO/ES&H	WPSO/ES&H	WPSO	1993

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-D-66	Field Change Approval Forms WP-02-332 and WP-02-302	L. Madl	WID/ES&H	WID	7/20/93
D-D-67	Surveillance Report 92-064	N. Rempe	WID/QA	WID/ES&H	12/3/93
D-D-68	Emergency Response to Off-site Releases of Airborne Radioactivity	T. Merkling	WID, ES&H	WID	5/22/92
Henry Rej - Staff Resources, Training, and Development; Environmental Planning					
D-E-1	WIPP Course Catalog	WID	Technical Training	Distribution	6/93
D-E-2	Sample Job Performance Measurement Check	WID	Human Resources	Distribution	Not indicated
D-E-3	Sample Course Material - REP 110	WID	Technical Training	Distribution	Not indicated
D-E-4	Sample Qualification Card - Waste Handler	WID	Technical Training	Distribution	5/26/92
D-E-5	Sample Certification Card - SCH Waste Handler	WID	Technical Training	Distribution	4/23/93
D-E-6	Sample Practical Factors Lessons	WID	Technical Training	Distribution	12/28/92
D-E-7	Sample Training Accreditation Plan	WID	Technical Training	Distribution	2/93
D-E-8	Refresher Training Matrix Course Description	WID	Technical Training	Line Management	5/12/93
D-E-9	Old Cost Account for Illustrative Purposes	WID	ES&H	L. Reed	4/26/93
D-E-10	Sample Form - Capital Expense and General Plant Projects	WID	ES&H	L. Reed	8/28/92
D-E-11	Funding Priorities/Methodologies/Program Guidance	WID	ES&H	L. Reed	12/9/92
D-E-12	ESH Organization Structure	WID	ES&H	Distribution	3/1/93
D-E-13	<u>Employee Orientation Manual</u>	WID	Human Resources	Distribution	Not indicated
D-E-14	Performance Appraisals - Non-Exempt - Blank	WID	Human Resources	Distribution	Not indicated
D-E-15	Performance Appraisals - Exempt - Actual	WID	Human Resources	Distribution	6/91
D-E-16	Sample Job Descriptions - Exempt - Actual	WID	Human Resources	Distribution	6/91

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-E-17	Sample Job Descriptions - Non-Exempt	WID	Human Resources	Distribution	10/87
D-E-18	Sample Performance Measurement System - Management	WID	Human Resources	Distribution	Not indicated
D-E-19	Sample Performance Measurement System - Non-Exempt	WID	Human Resources	Distribution	Not indicated
D-E-20	Evidence where headcount impacted operations	WID	Controller	DOE OIG	2/10/93
D-E-21	Employee Listing - Certificate Participants	WID	Technical Training	Not applicable	7/20/93
D-E-22	Work Control Administration	WID	WID	Cost Accounting Managers	12/31/92
D-E-23	Computer Technical Training Record	WID	Technical Training	Not applicable	7/20/93
D-E-24	MAST 124 Radiation Protection Training	WID	Technical Training	Distribution	2/15/93
D-E-25	MAST 123 Industrial Safety	WID	Technical Training	Distribution	2/5/93
D-E-26	MAST 125 Environmental Protection	WID	Technical Training	Distribution	5/18/93
D-E-27	MAST 126 Emergency Preparedness	WID	Technical Training	Distribution	3/16/93
D-E-28	Communications Matrix	WID	Organizational Development	Distribution	7/93
D-E-29	WID Quality Improvement Plan	WID	Organizational Development	Distribution	4/1/93-9/30/93
D-E-30	Computer Technical Training Record	WID	Technical Training	Not applicable	7/20/93
D-E-31	Computer Technical Training Record	WID	Technical Training	Not applicable	7/20/93
D-E-32	Computer Technical Training Record	WID	Technical Training	Not applicable	7/20/93
D-E-33	Computer Technical Training Record	WID	Technical Training	Not applicable	7/20/93
D-E-34	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-35	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-E-36	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-37	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-38	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-39	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-40	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-41	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-42	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-43	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-44	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-45	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-46	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-47	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-48	Computer Technical Training Record	WID	Technical Training	Not applicable	7/21/93
D-E-49	Instructor Observation Form	WID	Technical Training	Not applicable	Not indicated
D-E-50	Training Questionnaire Sample	WID	Technical Training	G.E.T. Attendee	7/20/93
D-E-51	Training Policy - Processing Questionnaires	WID	Training and Human Resources	Not applicable	4/22/92
D-E-52	WIPP RCRA Training Matrix	WID	ES&H Compliance	Selected Distribution	10/27/92
D-E-53	Instructors Lesson Plan G.E.T. 101	R. Reed, K. Gregg	WID Technical Training	Course Instructors	1/14/92
D-E-54	Training Policy No. 013 Instructor Observation	WID	Technical Training	Course Instructors Attendees	4/22/92
D-E-55	Environmental Assessment Report - Technical Training	J. Willis	WID Environmental Compliance	Attorney and Technical Training	2/26/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-E-56	ORAL/OJT Exam	R. Wyman	WID Technical Training	Course Attendees	5/24/93
D-E-57	Waste Handling Training Survey	WID	Technical Training	Course Attendees	5/93
D-E-58	Standard Position Requisition with RCRA Regulations	WID	Human Resources	Not indicated	6/28/91
D-E-59	<u>Technical Training Policy Manual</u>	WID	Technical Training	Not indicated	4/22/92
Joe Delaney - Program Evaluation, Reporting, and Corrective Action					
D-F-1	WID Self Assessment Program Implementation Plan - Revision 1	Q&RA	WID	WPSO	3/93
D-F-2	Environmental Compliance Assessment Program Plan	Environmental Compliance	WID	Not indicated	2/12/93
D-F-3	Management Assessment Report	Self-Assessment	WID	WPSO	1/5/93
D-F-4	Environment, Safety and Health Department Self-Assessment	Halliburton NUS, ES&H Department	WID	Not indicated	10/92
D-F-5	Environmental Compliance Assessment Report for ECA93-001	Environmental Compliance and Support Section	WID	WID Legal Department	2/12/93
D-F-6	ES&H Independent Assessment Finding	Analytical Laboratory	WID	WID ES&H Department	6/30/93
D-F-7	Summary of External Appraisals/Audits	Q&RA	WID	Not indicated	5/26/93
D-F-8	WPSO Readiness Management and Self-Assessment Plan	WPSO Readiness Management	WPSO	Not indicated	3/93
D-F-9	WPSO Performance Objectives and Criteria	WPSO ES&H Program	WPSO	AL Operations Quality Division	1/8/93
D-F-10	Self-Assessment Program Description Plan	AL	AL	Not indicated	4/7/93
D-F-11	WPSO Readiness Management Plan Implementing Instructions	WPSO	WPSO	Not indicated	6/29/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-F-12	Training on Readiness Self-Assessment	WPSO	WPSO	Not indicated	Not indicated
D-F-13	EM-342 Evaluation Schedule for FY-1993	Office of Waste Management Projects	EM	WPSO/WID	5/4/93
D-F-14	Lessons Learned Series - Loss of Lockout/Tagout Control	Human Resources/ Technical Training	WID	Not indicated	4/29/92
D-F-15	ES&H Department Self-Assessment Procedure	ES&H Department	WID	Not indicated	6/15/92
D-F-16	Engineering Department Self-Assessment Procedure	Engineering Department	WID	Not indicated	12/15/92
D-F-17	Controllers Department Self-Assessment Procedure	Controllers Department	WID	Not indicated	10/7/92
D-F-18	Quality Assurance Department Self-Assessment Procedure	Quality Assurance Department	WID	Not indicated	3/2/93
D-F-19	QA Independent Assessments Procedure	Quality Assurance Department	WID	Not indicated	Not indicated
D-F-20	AL Phase II Preoperational Appraisal Report - WIPP Site	Albuquerque Operations Office	AL	Not indicated	4/20/89
D-F-21	Self-Assessment Plan - Training Course No. SAP-100	Technical Training Department	WID	Not indicated	4/23/92
D-F-22	Management Oversight Program	Operations Department	WID	Not indicated	Not indicated
D-F-23	Self-Assessment Concern Tracking Report	Q&RA Self-Assessment Coordinator	WID	Q&RA Department	7/7/93
D-F-24	Radiation Monitoring System WPSO Functional Appraisal	R. Farrell	WPSO	WID	3/2/93
D-F-25	WPSO Audit Program Procedure	Quality Assurance	WPSO	Not indicated	7/31/92
-F-26	Walkthrough Inspection Reports	Various	WPSO	Not indicated	Various

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
Bill Schramm and Deborah McCartney - National Environmental Policy Act Programs					
D-G-1	MOU Between DOE Office of Environmental Restoration and Waste Management and DOE Operations Office, Albuquerque Covering The Waste Isolation Pilot Plant	R. Twining, L. Duffy	AL/EM	Not indicated	Not indicated
D-G-2	Delegation of Section D NEPA Determination Authority	L. Duffy	EM	AL	12/18/91
D-G-3	AL/EPD Guidance on Line Management Official (LMO) Authority to Interpret Prior NEPA Determinations	C. Soden	AL/EPD	Distribution	11/3/92
D-G-4	AL/EPD NEPA Guidance Memoranda Nos. 1-4 and 6-7	C. Soden, J. Robbins	AL/EPD	Distribution	Various
D-G-5	Delegation of Authority for LMO Decisions	A. Hunt	WPSO	J. Mewhinney	12/17/92
D-G-6	WPSO Memorandum to Contractor Regarding Interpretation of a Prior NEPA Determination	J. Mewhinney	WPSO	L. Reed	1/7/93
D-G-7	AL Supplemental Directive 5440.1D	Not indicated	AL	Not indicated	3/19/92
D-G-8	Organizational Realignment for WIPP and the TRU Program	V. Arthur	WPIO	WPIO and WPSO Staff	6/18/92
D-G-9	Plant Work Request Form	Not indicated	WID	Not indicated	12/30/92
D-G-10	Examples of Plant Work Request Documentation:				
	Addition of Second Evaporation Pond	Not indicated	Engineering	Not indicated	1/11/93
	Installation of Fence and Roof for N-2 Bottle Area	Not indicated	Not indicated	Not indicated	2/4/91
D-G-11	WID Guidance for Handling Environmental Considerations within the PWR System	Not indicated	Engineering	Not indicated	3/19/92
D-G-12	Draft NEPA Compliance Program for the WIPP Site	L. Reed	WID/ES&H	J. Mewhinney	7/2/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-G-13	EH Comments on AL Supplemental Directive 5540.1D	P. Brush	EH	B. Twining	7/8/93
D-G-14	AL Environmental Checklist/Action Description Memorandum (ECL/ADM) Form with WIPP Checklist Statement	Not indicated	AL	Not indicated	Not indicated
D-G-15	ECL/ADM for Supernova Burst Observatory (Neutrino Experiment)	J. Mewhinney	WPSO	C. Soden	7/15/93
D-G-16	Line Management Official (LMO) Decisions	J. Mewhinney	WPSO	L. Reed	Various
D-G-17	MOU Between WIPP Project Office and BLM	Not indicated	DOE/BLM	Not indicated	10/26/90
D-G-18	Agreement to Observe October 26, 1990 DOE/BLM MOU Requirements During Preparation of New MOU	L. Woodard	BLM	Not indicated	11/12/92
D-G-19	GPP and Line Item Project Implementation Guidance	M. Frei	EM-34	J. Arthur	4/9/92
D-G-20	Conceptual Design Guidance Revision	E. Hunter for M. McFadden	AL	C. Conway	10/20/92
D-G-21	Conceptual Design Report for Installation of Permanent Electrical Service for the WIPP	Not indicated	WPSO	Not indicated	2/92
D-G-22	Mitigation Action Plan for the ROD's for the WIPP	Not indicated	DOE	Not indicated	7/10/91
D-G-23	Draft 1992 Annual Mitigation Report for the WIPP MAP	Not indicated	WID	DOE	1992
D-G-24	Draft 1993 Annual MAP Report for the WIPP	Not Indicated	WID	DOE	7/7/93
D-G-25	Engineering Change Proposal Form	WID	WID	Distribution	3/31/92
D-G-26	Notice of Action Required/ECP Form	WID	WID	Distribution	3/31/92
D-G-27	Engineering Change Order Form	WID	WID	Distribution	2/22/93
D-G-28	ES&H Document Review Customer Analysis	WID	WID	Not indicated	3/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-G-29	Environmental Protection MAS-125: Management and Supervisor Training (MAST) Program	WID	WID	Not indicated	5/93
D-G-30	Examples of LMO NEPA Approval Requests of CX Determination				
	Alcove Gas Barrier Demonstration	L. Reed	WID, ES&H	J. Mewhinney	12/3/92
	Construction of a New Training Building	L. Reed	WID, ES&H	J. Mewhinney	4/13/92
	The Proposed Training Building	L. Reed	WID, ES&H	J. Mewhinney	6/10/92
D-G-31	NEPA CX Determinations	J. Mewhinney	WPSO	L. Reed	11/20/92
D-G-32	NEPA CXs - AL Projects processed during the period July 25, 1992 - September 11, 1992	B. Twining	AL	W. Arthur, et al.	9/23/92
D-G-33	Transmittal of ECL/ADM Memorandum	L. Reed	WID ES&H	J. Mewhinney	10/20/92
D-G-34	NEPA Determination - WIPP:92:0008	J. Mewhinney	WPSO	L. Reed	12/18/92
D-G-35	Excerpt from Sandia ES&H Procedures	Not indicated	SNL	Not indicated	Not indicated
D-G-36	Example of SNL Programs Work Request Form	A. Robb	SNL	C. Mewhinney	Various
D-G-37	Example of WID Sign-Off to SNL of No Additional NEPA Review Necessary	M. Whatley	WID ES&H	C. Mewhinney	1/7/92
D-G-38	Draft SNL Procedure #448	C. Mewhinney	SNL	R. Brown, et al.	2/17/93
D-G-39	Construction Plan WIPP	Not indicated	WID	DOE	1993
D-G-40	Memorandum re: Establishment of Revised Waste Isolation Pilot Plant Project Management Structure	L. Duffy	EM	Distribution	1/31/92
D-G-41	MOU Between EM, AL, ID, CH, RF re: WIPP	L. Duffy	EM	ID, AL, CH, RF	1/31/92
D-G-42	WIPP Procedure WP 15-609: Planning, Preparation, and Processing of Purchase Requisitions and Purchase Requisition Change Notices and Examples	J. Mikkelsen	WID	Not indicated	3/12/93

LIST OF SITE DOCUMENTS REVIEWED BY THE ASSESSMENT TEAM (continued)

Doc. No.	Title/Description	Author	Organization	Recipient	Doc. Date
D-G-43	WP Form 1120: Purchase Requisition	WID	WID	Not indicated	1/16/90
D-G-44	Westinghouse Form 3504: ES&H Document Review Tracking System Form	WID	WID	Not indicated	5/93
D-G-45	Monthly Summary - ES&H Document Review Activity - March 1993	Not indicated	WID ES&H	WID ES&H	3/93
D-G-46	Work Control Administration - Major Category Rating Criteria, Rev. 0	WID	WID	Not indicated	Not indicated
D-G-47	NEPA Data Base: NEPA Log of Categorically Excluded Work	WID	WID	Not indicated	3/1/93- 7/22/93
D-G-48	NEPA Documentation Tracking Report	WID	WID	Not indicated	7/22/93
D-G-49	Project Data Sheet for Line Item FY-95-1	C. Conway	WID	M. McFadden	6/15/93
D-G-50	Construction Plan (FY92)	Not indicated	WPSO	Not indicated	4/92
D-G-51	EM-22 Review of NEPA CX Determination for Routine Maintenance Activities at WIPP	N. Fayne for R. Scott	EM-22	Not indicated	3/1/91
D-G-52	Sandia Purchase Requisition Form and Instructions (SF 6430-RD)	Not indicated	SNL	Not indicated	8/92
D-G-53	Final Environmental Impact Statement WIPP	DOE	DOE	Distribution	10/80
D-G-54	Final Supplemental EIS WIPP	DOE	DOE	Distribution	1/90

APPENDIX E

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM

APPENDIX E:

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM

Ref. #	Date	Auditor	Organization	Position	Topic
Organizational Structure; Environmental Planning					
I-A-1	6/23/93	L. Krupp	WID, Q&RA	Manager, Independent Oversight	Organizational structure, environmental planning
I-A-2	6/24/93	L. Krupp	WPSO, ES&H	Manager, Environmental Safety and Health	Organizational structure, environmental planning
I-A-3	6/24/93	L. Krupp	WID, ES&H	Manager, Environmental Monitoring	Organizational structure, environmental planning
I-A-4	6/24/93	L. Krupp	WID, ES&H	Manager, Environmental Strategic Planning	Organizational structure, environmental planning
I-A-5	6/24/93	L. Krupp	WID, Operations	Manager, Hazardous Waste and Self-Assessment	Organizational structure, environmental planning
I-A-6	6/24/93	L. Krupp	WID, ES&H	Manager, Environmental Compliance and Support	Organizational structure, environmental planning
I-A-7	7/19/93	L. Krupp	WID, ES&H	Team Leader, Environmental Support	Organizational structure, environmental planning
I-A-8	7/19/93	L. Krupp	WID, ES&H	Team Leader, Environmental Compliance	Organizational structure, environmental planning
I-A-9	7/19/93	L. Krupp	WID, Operations	Manager, Experimental Operations	Organizational structure, environmental planning
I-A-10	7/19/93	L. Krupp	WID, Experimental Operations	Engineer, Work Control	Environmental planning
I-A-11	7/19/93	L. Krupp	WID, Engineering	Manager, Mechanical and Construction Engineering	Environmental planning
I-A-12	7/19/93	L. Krupp	WID, Engineering	Manager, Test Programs	Organizational structure, environmental planning
I-A-13	7/19/93	L. Krupp	WID, Operations	Manager, Waste Handling	Environmental planning

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-A-14	7/19/93	L. Krupp	WID, Operations	Team Leader, Hazardous Waste and Self-Assessment	Organizational structure, environmental planning
I-A-15	7/20/93	L. Krupp	WID, Environmental Programs	Manager, Waste Program Compliance	Environmental planning
I-A-16	7/20/93	L. Krupp	WID, Controller	Manager, Procurement Services	Environmental planning
I-A-17	7/20/93	L. Krupp	WID, Procurement Services	Manager, Procurement Systems and Support	Environmental planning
I-A-18	7/20/93	L. Krupp	WID, Controller	Manager, Financial Planning	Environmental planning
I-A-19	7/20/93	L. Krupp	WPSO	Project Manager	Organizations structure
I-A-20	7/20/93	L. Krupp	WPIO, Regulatory Compliance and Quality Assurance	Chief, Regulatory Compliance and Quality Assurance	Organizational structure
I-A-21	7/21/93	L. Krupp	WPSO, ES&H	Manager, Environmental Safety and Health	Organizational structure
I-A-22	7/21/93	L. Krupp	WID, Program Management	Manager	Environmental planning
I-A-23	7/21/93	L. Krupp	WID, Operations	Manager, Work Control	Environmental planning
I-A-24	7/21/93	L. Krupp	HQ, Waste Management Projects	Director, Waste Management Projects	Organizational structure
I-A-25	7/21/93	L. Krupp	WPIO, Quality Assurance	Manager, Quality Assurance	Organizational structure
I-A-26	7/21/93	L. Krupp	WID, ES&H	Manager, Environmental Compliance and Support	Organizational structure, environmental planning
I-A-27	7/21/93	L. Krupp	WID, Operations Technical Support	Publications and Document Control	Organizational structure
I-A-28	7/21/93	L. Krupp	WPSO, Administrative Support Branch	Administrative Specialist	Organizational structure
I-A-29	7/22/93	L. Krupp	WPIO	Project Director	Organizational structure

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-A-30	7/22/93	L. Krupp	WPSO, Environmental Programs	Manager, Environmental Programs	Organizational structure
I-A-31	7/22/93	L. Krupp	WPSO	Deputy Project Manager	Organizational structure
I-A-32	7/22/93	L. Krupp	SNL, Site Operations	Technical Staff	Organizational structure
I-A-33	7/23/93	L. Krupp	AL, Energy & Special Programs	Assistant Manager	Organizational structure, environmental planning
I-A-34	7/23/93	L. Krupp	WID, Operations	Manager	Environmental planning
Environmental Commitment; Internal and External Communications					
I-B-1	6/23/93	J. Fichera	WID, ES&H	Manager, Environmental Compliance and Support	Environmental commitment and internal and external communication
I-B-2	6/23/93	J. Fichera	WPSO, ES&H	ES&H Program Manager	Environmental commitment and internal and external communication
I-B-3	6/23/93	J. Fichera	WID, Regulatory Assurance	EEG Coordinator	Environmental commitment and internal and external communication
I-B-4	6/23/93	J. Fichera	WPSO, Intergovernmental and External Affairs	Public Affairs Specialist	Environmental commitment and internal and external communication
I-B-5	6/23/93	J. Fichera	WID, Environmental Compliance and Support	Environmental Engineer	Environmental commitment and internal and external communication
I-B-6	6/24/93	J. Fichera	WID, Nuclear and Industrial Safety	Manager, Industrial Safety	Environmental commitment and internal and external communication
I-B-7	6/24/93	J. Fichera	WID, Organizational Development	Manager, Productivity, Quality, and Communication	Internal and external communication

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-B-8	6/24/93	J. Fichera	WPSO, Compliance Branch	Compliance Branch Chief	Environmental commitment and internal and external communication
I-B-9	6/24/93	J. Fichera	WID, Office of the General Manager	Counsel	Environmental commitment and internal and external communication
I-B-10	6/24/93	J. Fichera	WID, External and Governmental Affairs	Manager	External communication
I-B-11	6/24/93	J. Fichera	WID, External and Governmental Affairs	Staff	External communication
I-B-12	7/19/93	J. Fichera	WID, Advanced Respiratory Technology	Mine Engineering Manager	Environmental commitment and internal and external communication
I-B-13	7/19/93	J. Fichera	WID, Operations	Maintenance Manager	Environmental commitment and internal and external communication
I-B-14	7/19/93	J. Fichera	WID, Office of the General Manager	Deputy General Manager	Environmental commitment and internal and external communication
I-B-15	7/19/93	J. Fichera	WPIO, Regulatory Compliance and Quality Assurance Branch	Branch Chief	Environmental commitment and internal and external communication
I-B-16	7/19/93	J. Fichera	WPSO	Project Manager	Environmental commitment and internal and external communication
I-B-17	7/19/93	J. Fichera	WPSO	Deputy Project Manager	Environmental commitment and internal and external communication
I-B-18	7/19/93	J. Fichera	WID, Engineering	Manager	Environmental commitment and internal and external communication

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-B-19	7/20/93	J. Fichera	WPSO, ES&H	Environmental Program Manager	Environmental commitment and internal and external communication
I-B-20	7/20/93	J. Fichera	WID, Operations	Mine Operations Manager	Environmental commitment and internal and external communication
I-B-21	7/20/93	J. Fichera	NMED	Environmental Scientist	Environmental commitment and external communication
I-B-22	7/20/93	J. Fichera	NMED	Environmental Scientist	Environmental commitment and external communication
I-B-23	7/20/93	J. Fichera	NMED	Organizational Development Manager	Environmental commitment and internal and external communication
I-B-24	7/20/93	J. Fichera	EEG	Environmental Scientist	Environmental commitment and external communication
I-B-25	7/20/93	J. Fichera	EEG	Environmental Specialist	Environmental commitment and external communication
I-B-26	7/21/93	J. Fichera	WID, Operations	Manager	Environmental commitment and internal and external communication
I-B-27	7/21/93	J. Fichera	WID, Operations	Manager, Waste Handling	Environmental commitment and internal and external communication
I-B-28	7/21/93	J. Fichera	WPIO, Regulatory Compliance and Quality Assurance Branch	Regulatory Compliance Manager	Communications
I-B-29	7/21/93	J. Fichera	WPIO, Regulatory Compliance and Quality Assurance Branch	Project Manager	Communications
I-B-30	7/21/93	J. Fichera	EM-34, Waste Management Projects	Director	Communications

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-B-31	7/21/93	J. Fichera	WPIO, Regulatory Compliance and Quality Assurance Branch	Quality Assurance Manager	Communications
I-B-32	7/22/93	J. Fichera	WID, ES&H	Manager, Nuclear and Industrial Safety	Environmental commitment and internal and external communication
I-B-33	7/22/93	J. Fichera	WPIO	Project Director	Internal and external communications
I-B-34	7/22/93	J. Fichera	WPIO, Experimental Programs and System Integration Branch	Branch Chief	Internal and external communications
I-B-35	7/22/93	J. Fichera	WPIO, Planning and Administration Branch	Branch Chief	Internal and external communications
I-B-36	7/22/93	J. Fichera	WID, Maintenance	Senior Maintenance Specialist	Environmental commitment and internal and external communication
I-B-37	7/22/93	J. Fichera	WID, Maintenance	Electrician	Environmental commitment and internal and external communication
Environmental Protection Programs; Formality of Environmental Programs; Environmental Planning and Risk Management					
I-C-1	6/23/93	D. Neal	WID, ES&H	Manager, Environmental Monitoring	Environmental monitoring
I-C-2	6/23/93	D. Neal	WID, Environmental Monitoring	Team Leader, Environmental Sampling	Environmental monitoring
I-C-3	6/23/93	D. Neal	WID, Environmental Monitoring	Staff, Environmental Sampling	Air monitoring procedures
I-C-4	6/23/93	D. Neal	WID, Environmental Monitoring	Team Leader, Underground and Surface Water Sampling	Groundwater monitoring
I-C-5	6/24/93	D. Neal	WID, ES&H	Manager, Environmental Compliance and Support	Environmental protection programs, risk management

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-C-6	6/24/93	D. Neal	WID, Office of the General Manager	General Manager	Organization
I-C-7	6/24/93	D. Neal	WID, Operations	Manager	WIPP facility operations
I-C-8	6/24/93	D. Neal	WID, Engineering	Manager	WIPP engineering
I-C-9	6/24/93	D. Neal	WID, ES&H	Manager, Environment, Safety and Health	Environmental programs
I-C-10	7/19/93	D. Neal	WPSO, Compliance Branch	ES&H Program Manager	WPSO oversight of EPPs
I-C-11	7/19/93	D. Neal	WPSO, Compliance Branch	Environmental Program Manager	WPSO oversight of EPPs
I-C-12	7/19/93	D. Neal	WPSO, Compliance Branch	Manager, Quality & Regulatory Assurance Programs	WPSO oversight
I-C-13	7/19/93	D. Neal	WID, ES&H	Acting Manager, Environmental Programs; Manager Environmental Strategic Planning	Environmental protection programs
I-C-14	7/19/93	D. Neal	WPSO, Testing and Operations Branch	Maintenance Manager	Oversight of environmental equipment maintenance
I-C-15	7/19/93	D. Neal	WID, Operations	Manager, Hazardous Waste and Self Assessment	Waste management
I-C-16	7/20/93	D. Neal	WID, Operations	Manager, Maintenance	Environmental equipment maintenance
I-C-17	7/20/93	D. Neal	WID, Q&RA	Manager, Quality Assurance Engineering and Inspection Services	Quality assurance inspections
I-C-18	7/20/93	D. Neal	WID, Q&RA	Team Leader, Inspection Services	Inspections of environmental equipment
I-C-19	7/20/93	D. Neal	WID, Environmental Compliance and Support	Team Leader, Environmental Compliance	Environmental protection programs, formality of operations

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-C-20	7/20/93	D. Neal	WID, Q&RA	Manager, QA Programs	QA Program Plans
I-C-21	7/20/93	D. Neal	WID, Q&RA	Staff, QA Programs	QA Program Plans
I-C-22	7/20/93	D. Neal	WID, Environmental Compliance and Support	Team Leader, Environmental Support	Waste minimization, Environmental Protection Implementation Plan
I-C-23	7/20/93	D. Neal	WID, Nuclear and Industrial Safety	Team Leader, Industrial Hygiene	TCM Program
I-C-24	7/21/93	D. Neal	WID, Operations	Manager, Experimental Operations	Sandia National Laboratory interface
I-C-25	7/21/93	D. Neal	WID, Environmental Compliance and Support	Staff, Environmental Compliance	TCM program, SARA III reporting
I-C-26	7/21/93	D. Neal	WID, Technical Training	Team Leader, Environment, Safety and Health Training	Environmental training
I-C-27	7/21/93	D. Neal	WID, Environmental Programs	Acting Manager, Waste Program Compliance	Waste management program
I-C-28	7/22/93	D. Neal	WID, Operations	Staff, Zone 4 Work Control	Calibration formality
I-C-29	7/22/93	D. Neal	WPSO, Intergovernmental and External Affairs	Public Affairs Specialist	Oversight of waste minimization program
I-C-30	7/22/93	D. Neal	WID, Operations	Manager, Work Control	Environmental equipment maintenance
I-C-31	7/22/93	D. Neal	WID, ES&H	Manager, Environmental Compliance and Support	Recordkeeping
I-C-32	7/22/93	D. Neal	WID, Environmental Compliance and Support	Staff, Environmental Compliance	Underground storage tank program
I-C-33	7/22/93	D. Neal	WID, Operations Technical Support	Technical Procedures Supervisor	Procedure system
I-C-34	7/22/93	D. Neal	SNL, Quality Assurance	Staff, Quality Assurance	Procedure system

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-C-35	7/22/93	D. Neal	WID, ES&H	Staff, Safety Analysis and Review	Procedure review
Environmental Protection Programs; Formality of Environmental Programs; Environmental Planning and Risk Management					
I-D-1	6/23/93	J. Lischinsky	WID, ES&H	Environmental Monitoring	Environmental monitoring
I-D-2	6/23/93	J. Lischinsky	WID, ES&H	Environmental Monitoring	Environmental monitoring
I-D-3	6/23/93	J. Lischinsky	WID, ES&H	Environmental Monitoring	Environmental monitoring
I-D-4	6/23/93	J. Lischinsky	WID, Environmental Compliance and Support	Manager, Environmental Compliance	ES&H programs
I-D-5	6/23/93	J. Lischinsky	WID, Office of the General Manager	General Manager	ES&H
I-D-6	6/23/93	J. Lischinsky	WID, Operations	Operations Manager	ES&H integration
I-D-7	6/23/93	J. Lischinsky	WID, Engineering	Engineering Manager	ES&H integration
I-D-8	6/23/93	J. Lischinsky	WID, ES&H	ES&H Manager	ES&H programs
I-D-9	7/19/93	J. Lischinsky	WID, ES&H	Environmental Programs Manager	Environmental programs
I-D-10	7/19/93	J. Lischinsky	WID, ES&H	Environmental Strategic Planning Manager	Environmental programs
I-D-11	7/19/93	J. Lischinsky	WID, ES&H	Environmental Compliance & Support Manager	Assessments and audits
I-D-12	7/19/93	J. Lischinsky	WID, ES&H	Environmental Monitoring Manager	Monitoring
I-D-13	7/19/93	J. Lischinsky	WID, ES&H	Radiation Safety Manager	Programs
I-D-14	7/20/93	J. Lischinsky	WID, ES&H	Emergency Management Manager	Emergency management
I-D-15	7/20/93	J. Lischinsky	WID, ES&H	Dosimetry and Analytical Technology Manager	Analysis and programs

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-D-16	7/20/93	J. Lischinsky	WID, Office of the General Manager	Counsel	Assessment findings and responsibilities
I-D-17	7/20/93	J. Lischinsky	WID, ES&H	Nuclear and Industrial Safety Manager	Safety analysis and risk management
I-D-18	7/20/93	J. Lischinsky	WID, Engineering	Radiation Monitoring Systems Engineering Manager	Radiation monitoring systems
I-D-19	7/21/93	J. Lischinsky	WID, ES&H	Radiation Safety Manager; Emergency Management Manager	Emergency monitoring
I-D-20	7/21/93	J. Lischinsky	WID, Operations	Deputy Manager	ES&H integration
I-D-21	7/21/93	J. Lischinsky	WID, Engineering	Facilities Engineering Manager	ES&H equipment
I-D-22	7/21/93	J. Lischinsky	WID, Operations	Operations Technical Support Manager; Supervisor Technical Procedures; Manager, Publications & Presentations	Procedures, procedure administration
I-D-23	7/21/93	J. Lischinsky	WID, Q&RA	Independent Oversight & Regulatory Assurance Manager	Regulatory tracking and oversight
I-D-24	7/22/93	J. Lischinsky	WPSO, ES&H	Environmental Program Manager	Oversight, audits, and reviews
I-D-25	7/22/93	J. Lischinsky	WPSO, ES&H	ES&H Program Manager	Oversight and environmental sampling
I-D-26	7/22/93	J. Lischinsky	WID, ES&H	Nuclear & Industrial Safety Manager	ES&H procedure reviews
I-D-27	7/22/93	J. Lischinsky	WID, ES&H	Environmental Compliance and Support Manager; Environmental Compliance	Records and procedure review
I-D-28	7/22/93	J. Lischinsky	WPSO, ES&H	Health Physicist	Oversight and radiation monitoring

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-D-29	7/22/93	J. Lischinsky	WPSO, Q&RA	Q&RA Program Manager	DOE 5700.6C at WIPP
Staff Resources, Training, and Development; Environmental Planning					
I-E-1	6/23/93	H. Rej	WID, Organizational Development	Technical Training Manager	Discussion on site training
I-E-2	6/23/93	H. Rej	WID, ES&H	Director of ES&H	Discussion on budget planning and staffing
I-E-3	6/24/93	H. Rej	WID, Human Resources	Director of Human Resources	Discussion of training and staffing
I-E-4	6/24/93	H. Rej	WID, Human Resources	Assistant to Director of Human Resources	Sample human resource performance records
I-E-5	6/24/93	H. Rej	WID, Office of the General Manager	Counsel	RCRA training recordkeeping
I-E-6	6/24/93	H. Rej	WID, Controller	Controller	Budget planning; strategic management committee
I-E-7	7/19/93	H. Rej	WID, Environmental Compliance and Support	Environmental Scientist	Training, resources, and audit findings
I-E-8	7/19/93	H. Rej	WID, Human Resources	Manager, Organizational Development	Training, resources, organization and staff development
I-E-9	7/19/93	H. Rej	WID, Environmental Compliance and Support	Manager, Environmental Compliance	Environmental training, resources, staff development and planning
I-E-10	7/19/93	H. Rej	WPIO	Manager, Quality Assurance	Organizational change
I-E-11	7/20/93	H. Rej	WID, Engineering	Facility Engineering Manager	Use of training and ES&H resources
I-E-12	7/20/93	H. Rej	WID, Organizational Development	Technical Training Records Coordinator	Review technical training records
I-E-13	7/20/93	H. Rej	WID, Office of the General Manager	Counsel	Training audit findings

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-E-14	7/20/93	H. Rej	WID, Engineering	Manager, Mechanical and Construction Engineering	Budget planning system and inclusion of ES&H concerns
I-E-15	7/21/93	H. Rej	WID, Technical Training	ES&H Training Team Leader	Training audit findings
I-E-16	7/21/93	H. Rej	WID, ES&H	Acting Manager, Technical Training	Training audit findings
I-E-17	7/21/93	H. Rej	WID, Engineering	Engineering Manager	Budget planning system and inclusion of ES&H concerns
I-E-18	7/22/93	H. Rej	WID, Environmental Compliance and Support	ES&H Compliance Team Leader	Staff resources and staff development opportunities
I-E-19	7/22/93	H. Rej	WID, Organizational Development	Technical Training Records Coordinator	Review of technical training records
I-E-20	7/22/93	H. Rej	WID, Environmental Compliance and Support	ES&H Compliance Support Team Leader	Staff resources and staff development opportunities
I-E-21	7/22/93	H. Rej	WID, Organizational Development	Manager, Technical Training	Training audit findings
I-E-22	7/22/93	H. Rej	WID, ES&H	Assistant Manager Technical Training	Training audit findings
I-E-23	7/22/93	H. Rej	WID, Operations	Operations Manager	Staff development/ resources
Program Evaluation, Reporting, and Corrective Action					
I-F-1	6/23/93	J. Delaney	WID, Q&RA	Manager, QA Programs	Self-assessment program
I-F-2	6/23/93	J. Delaney	WPSO, Environment, Safety, and Health	Manager, ES&H Programs	Self-assessment program
I-F-3	6/23/93	J. Delaney	WPSO, Administrative Support Branch	Administrative Officer	Operational readiness review
I-F-4	6/23/93	J. Delaney	Contractor	Senior Project Engineer	Operational readiness review
I-F-5	7/19/93	J. Delaney	WID, Office of the General Manager	Manager, Self-Assessment	Self-assessment programs

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-F-6	7/19/93	J. Delaney	WID, Engineering Support	Engineer Department, Self-Assessment Coordinator	Engineering self-assessment programs
I-F-7	7/19/93	J. Delaney	WID, Q&RA	Staff, QA Programs	Q&RA department self-assessment programs
I-F-8	7/20/93	J. Delaney	WID, Information Technology Resources	Manager, Computer Protection Program	Controller department self-assessment program
I-F-9	7/20/93	J. Delaney	Contractor; WPSO, Environment, Safety, and Health	Senior Project Engineer; Manager, Environmental Programs	Walkthrough program and operational readiness review
I-F-10	7/20/93	J. Delaney	WID, Program Management	Team Leader, Hazardous Waste and Self-Assessment	Operations self-assessment program
I-F-11	7/21/93	J. Delaney	WPSO, Quality and Regulatory Assurance	Manager, Quality & Regulatory Assurance Programs	WPSO self-assessment programs
I-F-12	7/21/93	J. Delaney	WID, Environmental Compliance and Support	Manager, Environmental Compliance and Support	Environmental compliance assessment program
I-F-13	7/21/93	J. Delaney	WID, Office of the General Manager; WID Q&RA	Manager, Self-Assessment; Manager, QA Programs	Finding tracking systems
I-F-14	7/21/93	J. Delaney	WID, Nuclear and Industrial Safety	Coordinator, ES&H Self-Assessment	ES&H self-assessment programs
I-F-15	7/23/93	J. Delaney	WID, Q&RA	Manager, QA Programs	Finding tracking systems
I-F-16	7/23/93	J. Delaney	WID, ES&H	Manager, Environmental Compliance and Support	Environmental compliance assessment program
I-F-17	7/23/93	J. Delaney	WID, Operations	Senior Staff Assistant	Management oversight program
National Environmental Policy Act Programs					
I-G-1	6/23/93	B. Schramm	WID, ES&H	NEPA POC	WID NEPA Program
I-G-2	6/23/93	B. Schramm	WID, Engineering	Manager, Construction and Mechanical Engineering	NEPA considerations in planning

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-G-3	6/23/93	B. Schramm	WID, Program Management	Program Planning	NEPA considerations in planning
I-G-4	6/24/93	B. Schramm	WPSO	Environmental Program Manager	WPSO NEPA program
I-G-5	6/24/93	B. Schramm	WID, ES&H	Environmental Strategic Planning	NEPA considerations in planning
I-G-6	6/24/93	B. Schramm	WPSO	ES&H Manager	WIPP NEPA program
I-G-7	6/24/93	B. Schramm	WID, Office of the General Manager	Legal Counsel	NEPA issues
I-G-8	7/14/93	B. Schramm	AL	NCO	AL NEPA program
I-G-9	7/19/93	B. Schramm	WPSO	Public Affairs	Land Management Plan
I-G-10	7/19/93	B. Schramm	WPSO	WIPP Site Manager	WIPP NEPA program
I-G-11	7/19/93	B. Schramm, D. McCartney	WPSO	ES&H Manager	WPSO NEPA program
I-G-12	7/19/93	B. Schramm, D. McCartney	WPSO	Environmental Manager; WPSO Contractor Support	WPSO NEPA program
I-G-13	7/19/93	B. Schramm, D. McCartney	WID, ES&H	NEPA POC	WID NEPA program
I-G-14	7/20/93	B. Schramm	AL	AL/EPD Contract Support	AL NEPA
I-G-15	7/20/93	B. Schramm, D. McCartney	WID, ES&H	Environmental Compliance Manager	WID NEPA program
I-G-16	7/20/93	B. Schramm, D. McCartney	WID, ES&H	Nuclear and Institutional Safety Manager and Staff	WID ES&H reviews
I-G-17	7/20/93	B. Schramm	WPIO	Regulation Compliance and QA Branch Manager	WPIO NEPA
I-G-18	7/20/93	B. Schramm	WID, Waste Handling	Manager	NEPA activities
I-G-19	7/20/93	B. Schramm	WID, Maintenance Crafts	Manager	NEPA activities

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE ASSESSMENT TEAM (continued)

Ref. #	Date	Auditor	Organization	Position	Topic
I-G-20	7/21/93	B. Schramm, D. McCartney	WID, Configuration Management and Information Integration	Manager	WID NEPA review
I-G-21	7/21/93	B. Schramm	WID, Work Control	Manager	WID NEPA review
I-G-22	7/21/93	B. Schramm, D. McCartney	WID, Operations	Manager	WID NEPA review
I-G-23	7/22/93	B. Schramm, D. McCartney	Sandia - WIPP Site	Safety Manager	Sandia NEPA review
I-G-24	7/22/93	B. Schramm	WPIO	WPIO Manager; Experiments; Staff	WPIO NEPA program
I-G-25	7/22/93	B. Schramm	EH-25	Staff	DOE NEPA program
I-G-26	7/22/93	B. Schramm	SNL	ES&H Staff	Sandia NEPA program
I-G-27	7/23/93	B. Schramm	AL/EPD	NEPA Staff	AL NEPA program
I-G-28	7/23/93	B. Schramm	EH-25	Staff	DOE NEPA program
I-G-29	7/23/93	B. Schramm	Sandia - WIPP Site	Safety Manager	Sandia NEPA review
I-G-30	7/26/93	B. Schramm	EH-25	Division Manager	DOE NEPA Program
National Environmental Policy Act Programs					
I-H-1	7/20/93	D. McCartney	WID, Mechanical and Construction Engineering	Engineer	NEPA procedures for initiation of work
I-H-2	7/20/93	D. McCartney	WID, Mechanical and Construction Engineering	Engineer	NEPA procedures for initiation of work
I-H-3	7/21/93	D. McCartney	WID, Experimental Operations	Manager	NEPA procedures for initiation of work
I-H-4	7/22/93	D. McCartney	WID, Environmental Programs	Manager	NEPA procedures, plans and programs
I-H-5	7/23/93	D. McCartney	WID, Mechanical and Construction Engineering	Manager	NEPA mileposts within conceptual design reports

APPENDIX F

DEFINITIONS OF CAUSAL AND CONTRIBUTING FACTORS

APPENDIX F:

DEFINITIONS OF CAUSAL AND CONTRIBUTING FACTORS

Causal Factor	Definition
Policy	Evaluate whether ineffective, outdated, or nonexistent policies contributed to the finding.
Policy Implementation	Ascertain whether written policies reflecting Federal, state, and local laws and regulations, codes, and standards were appropriately disseminated, implemented, and updated.
Risk	Evaluate whether the site personnel responsible for a situation contributing to a finding have assessed and were aware of the relative degree of risk involved in the action.
Procedures	Identify whether written procedures that have been prepared to effectively implement site policy, DOE Orders, and Federal, state, and local laws and regulations were a contributing factor to the finding. Determine whether unfamiliarity with, or unavailability of those procedures contributed to the finding.
Personnel	Identify whether the educational and work experience backgrounds for personnel holding responsible positions contributed to the finding. Determine whether the level of personnel knowledge about the technical and environmental aspects of their jobs contributed to the finding.
Resources	Ascertain whether the number of personnel or external resources available to a job were a contributing factor to the finding. Evaluate whether inadequacies in facilities and equipment were a contributing factor to the finding.
Training	Identify whether adequate personnel training on implementing site policy, DOE Orders, and Federal, state, and local laws and regulations was a contributing factor to the finding.

DEFINITIONS OF CAUSAL AND CONTRIBUTING FACTORS (continued)

Causal Factor	Definition
Change	Evaluate whether changes in site mission, function, operation, and established requirements, which rendered existing policies or procedures inadequate or inappropriate, were contributing factors to the finding. Evaluate whether the timeliness and effectiveness of changes to site and DOE policy, and the implementing procedures, were a contributing factor to the finding.
Design	Evaluate whether inadequate design of a system was a contributing factor to the finding.
Human Factors	Ascertain whether human factors, such as fatigue or deliberate circumvention of a safety system, were contributing factors to the finding.
Barriers and Controls	Determine whether inadequacies in established barriers and controls, both administrative and physical, including operational readiness, routine inspections, and preventive maintenance, and/or a lack of these controls contributed to the finding.
Supervision	Identify whether ineffective supervisory controls for implementing policies, procedures, standards, laws, etc., were a contributing factor to the finding.
Quality Assurance/ Quality Control	Identify whether inadequacies in the quality assurance/quality control program were causal factors to the identified finding. This includes inadequate followup to previously identified findings.
CONTRIBUTING FACTOR Appraisals/Audits/Reviews	Determine whether ineffective or insufficient appraisals/audits/reviews or oversight were contributing factors to the finding. These factors should only be used as secondary contributing factors to the finding.

APPENDIX G

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

APPENDIX G:
GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ACE	Alara and Chemical Exposure Program
ALARA	As Low As Reasonably Achievable
AL *	DOE Albuquerque Operations Office
CAMS	Continuous Air Monitoring System
CSO	Cognizant Secretarial Official
CX	Categorical Exclusion
DOE*	U.S. Department of Energy
EC	Environmental Commitment
ECAP	Environmental Compliance Assessment Program
EEG	Environmental Evaluation Group (under the Board of Regents of New Mexico Institute of Mining and Technology)
EP	Environmental Protection Programs
EPA *	U.S. Environment Protection Agency
EPIP	Environmental Protection Implementation Plan
EH	DOE Office of Environment, Safety and Health
EH-24	DOE Office of Environmental Audit
EM*	DOE Office of Environmental Restoration and Waste Management
EM-34	DOE Office of Waste Management Projects
EM-342	DOE WIPP Project Division
EC&S	Environmental Compliance and Support Section (WID)
ES&H	Environment, Safety and Health
FEIS	Final Environmental Impact Statement
FP	Formality of Environmental Programs
FSAR	Final Safety Analysis Report
HEPA	High Efficiency Particulate Air
IC	Internal and External Communication

* Indicates acronym is not defined or spelled out after the first usage in the body of the report.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (continued)

Acronym	Definition
MAP	Mitigation Action Plan
M&O	Management and Operations
NESHAP	National Emission Standards for Hazardous Air Pollutants
NEPA *	National Environmental Policy Act
N&IS	Nuclear and Industrial Safety
NMED	New Mexico Environment Department
ORR	Operational Readiness Review
OS	Organizational Structure
PCB	Polychlorinated Biphenyl
PE	Program Evaluation, Reporting, and Corrective Action
PWR	Plant Work Request
QAPP	Quality Assurance Program Plan
Q&RA	Quality and Regulatory Assurance Department (WID and WPSO)
RCRA	Resource Conservation and Recovery Act
RM	Environmental Planning and Risk Management
SARA	Superfund Amendment and Reauthorization Act
SEIS	Supplemental Environmental Impact Statement
SR	Staff Resources, Training, and Development
TRU	Transuranic (waste)
WCCTS	WIPP Correspondence and Commitment Tracking System
WID *	Westinghouse Electric Corporation, Waste Isolation Division
WIPP *	Waste Isolation Pilot Plant
WPIO *	WIPP Project Integration Office
WPSO *	WIPP Project Site Office

* Indicates acronym is not defined or spelled out after the first usage in the body of the report.

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