

**Routine Environmental Reaudit
of the
Argonne National Laboratory - West**



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

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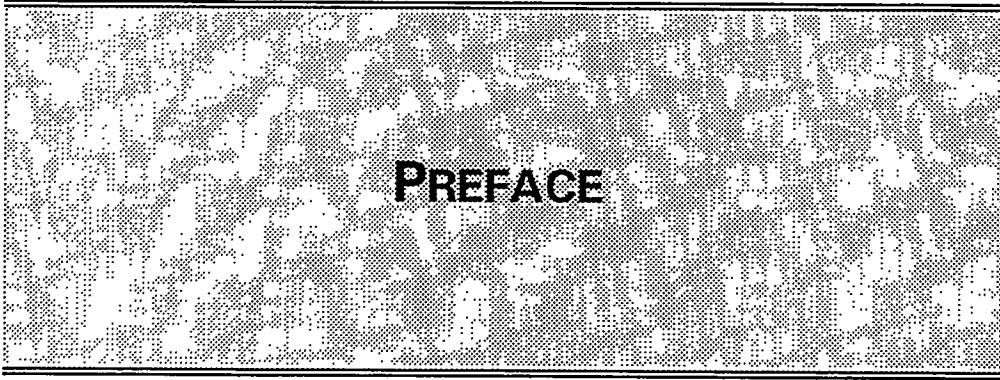
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PREFACE



Preface

U.S. Department of Energy

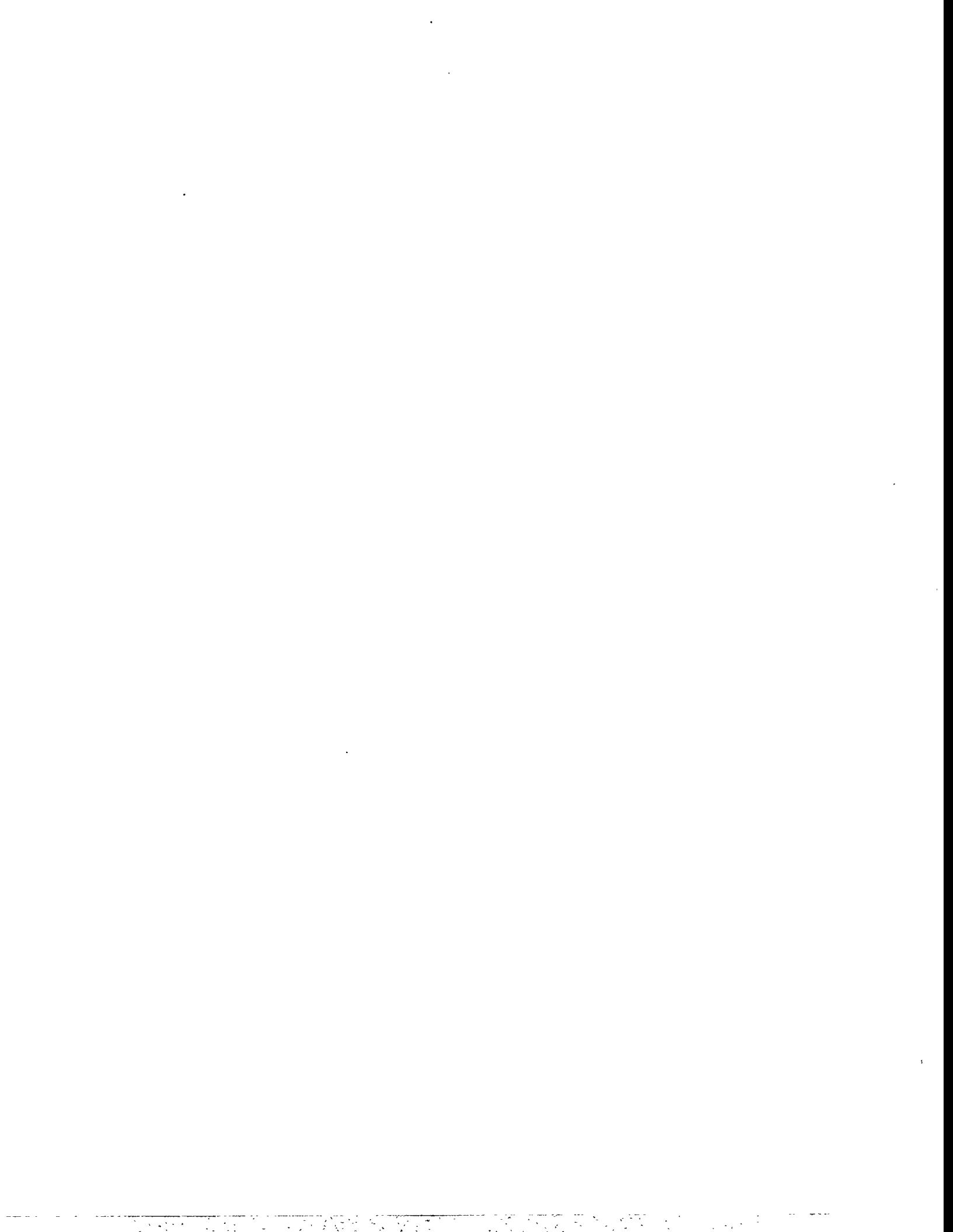
**Routine Environmental Reaudit
Conducted at
Argonne National Laboratory - West**

The Secretary of Energy's July 20, 1993, Environment, Safety and Health Policy establishes daily excellence in protection of the worker, the public, and the environment as the hallmark and highest priority of all DOE activities. That policy also calls for a proactive program of continuous improvement to move the Department beyond minimal compliance with laws and regulations. To further that policy, the Office of Environment, Safety and Health (EH) has established 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.

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

This document contains the findings identified during the routine environmental reaudit of the Argonne National Laboratory - West, conducted from October 11 through October 22, 1993. The objective of the assessment was to advise the Secretary of Energy through the Assistant Secretary for Environment, Safety and Health, of the adequacy of management systems to ensure that compliance with Federal, state, local and DOE environmental requirements, and to evaluate application of proactive management practices. The scope of the reaudit was comprehensive and covered all areas of environmental management, and included indepth reviews of air quality, surface water/drinking water, environmental radiation, and inactive waste site programs.

October 1993
Washington, DC



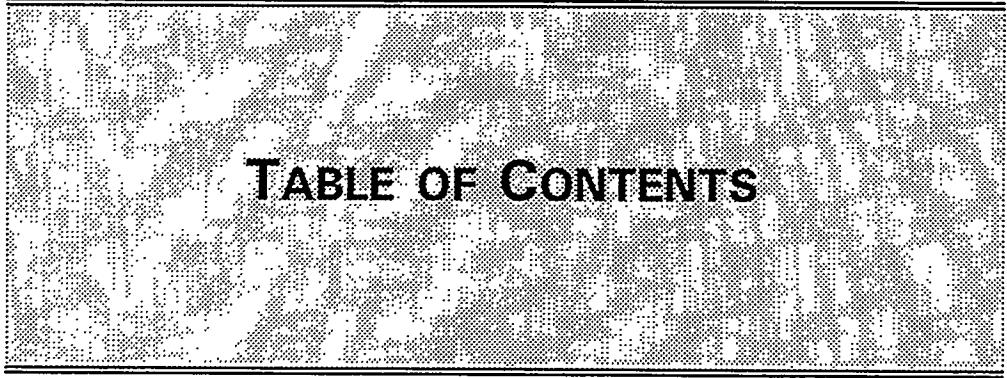


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OF THE
ARGONNE NATIONAL LABORATORY - WEST**

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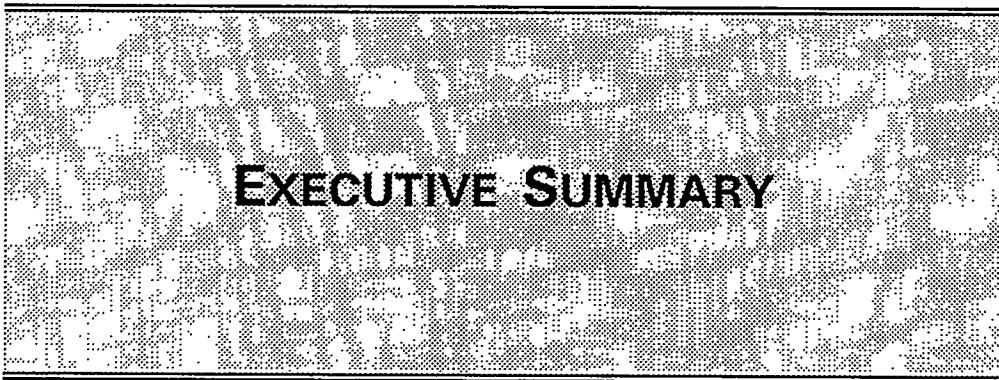
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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

This report documents the results of the Routine Environmental Reaudit of the Argonne National Laboratory - West (ANL-W), Idaho Falls, Idaho. During this audit, the activities conducted by the audit team included reviews of internal documents and reports from previous audits and assessments; interviews with U.S. Department of Energy (DOE), U.S. Environmental Protection Agency (EPA), State of Idaho Department of Health and Welfare (IDHW), and DOE contractor personnel; and inspections and observations of selected facilities and operations. The onsite portion of the audit was conducted from October 11 to October 22, 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 by conducting systematic and periodic evaluations of the Department's environmental programs within line organizations, and by utilizing supplemental activities that serve to strengthen self-assessment and oversight functions within program, field, and contractor organizations.

The audit evaluated the status of programs to ensure compliance with Federal, state, and local environmental laws and regulations; compliance with DOE Orders, Guidance, and Directives; and conformance with accepted industry practices and standards of performance. The audit also evaluated the status and adequacy of the management systems developed to address environmental requirements. In preparation for the audit, EH-24 worked closely with the line program and the facility to determine the scope of the audit in response to requests by the Facilities Division (NE-47); the Idaho Operations Division (EM-44); the Chicago Operations Office (CH); the Argonne Area Office - West (AAO-W); and the ESH/QA Oversight Organization within Argonne National Laboratory. Considering this input, the audit team also evaluated from a programmatic standpoint, air, surface and drinking water, environmental radiation, and inactive waste sites. The results of the evaluation of these areas are contained in the Environmental Protection Programs section of this report. Where other DOE organizations could have an impact on the effective implementation of ANL-W environmental activities, these organizations were also evaluated.

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

The audit team identified 16 findings; 13 were in the environmental management systems area and 3 were in specific technical disciplines. An evaluation of these findings resulted in the identification of two "key findings" regarding a lack of formality in environmental

documents and a lack of clearly defined environmental roles and responsibilities, and a lack of full implementation of environmental policies and programs. These key findings are:

ANL-W has not adequately updated and/or formalized program plans, policies, and procedures documents nor has it formalized roles, responsibilities, and authority for key environmental positions in the Operating Divisions.

The management of policy manuals, management plans, and procedure manuals is ineffective. For example:

- Plans and procedures, such as the ESWM Management Plan, the Waste Management Plan, the Quality Assurance Program Plan for the Environmental Restoration Program, and some environmental procedures in the ANL-W ES&H Manual, have not been kept up-to-date.
- An Environmental Monitoring Plan that links the sitewide radiological and non-radiological monitoring and surveillance with procedures in the ES&H manual has not been developed.
- The INEL Environmental Monitoring Baseline Document has not been updated to include plans to remedy deficiencies in the monitoring program that was identified as a key finding in the 1991 Tiger Team Assessment.
- A number of environmental programs do not have clearly defined roles and responsibilities including programs required by DOE 5400.1 and DOE 5400.5. In addition, job descriptions for EWM Section staff do not reflect current activities, and the roles and responsibilities of the Environmental Compliance Representatives have not been issued.
- The environmental training program does not include a formal tracking system, a formal training needs assessment has not been conducted, and training effectiveness has not been formally evaluated.
- A formal subcontractor management and control system is not in place.
- A consistent and formalized approach has not been developed to conduct routine facility inspections.

ANL-W has not fully implemented several environmental policies or programs.

For example:

- Environmental Compliance Representatives have not received adequate training.
- A comprehensive evaluation of the environmental monitoring and surveillance programs has not been conducted nor has ANL-W taken a proactive role in determining its own monitoring needs for incorporation into the INEL Environmental Monitoring Plan.

Environmental programs that have not been fully implemented include asbestos management, waste management, waste minimization, pollution prevention awareness, and backflow prevention/cross-connection control.

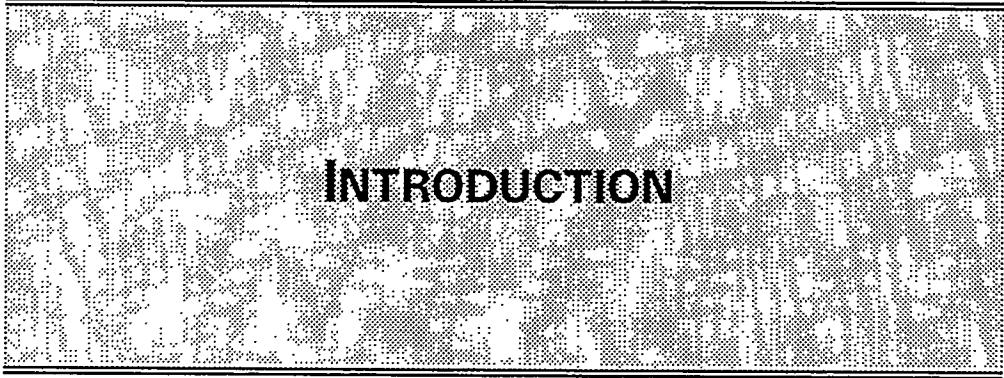
In addition to the 16 findings which resulted in two key findings, the audit team also identified the following strengths in the site's environmental management programs:

- **Key Environmental Staff** - Dedicated environmental staffs of both AAO-W and ANL-W have undoubtedly been a key behind the success of the environmental operations at ANL-W. Despite the prolonged policy implementation process and the lack of formality in some key management areas, the ANL-W environmental program works, because of the dedication, skill, perseverance, and program ownership demonstrated by key individuals throughout the ANL-W Divisions and at AAO-W. The high level of commitment to achieving environmental excellence has been a strength in the ANL-W environmental program.
- **Communications** - Strong, effective working relationships based on formal and informal communication between the AAO-W and ANL-W environmental staffs, and with key organizations including the CH and ID Operations Offices, EG&G, and NE, serve as a means of developing cooperation and commitment on environmental issues. The same applies to external communication, where AAO-W, by cooperating fully and openly, has developed good working relationships with state and Federal regulatory agencies.

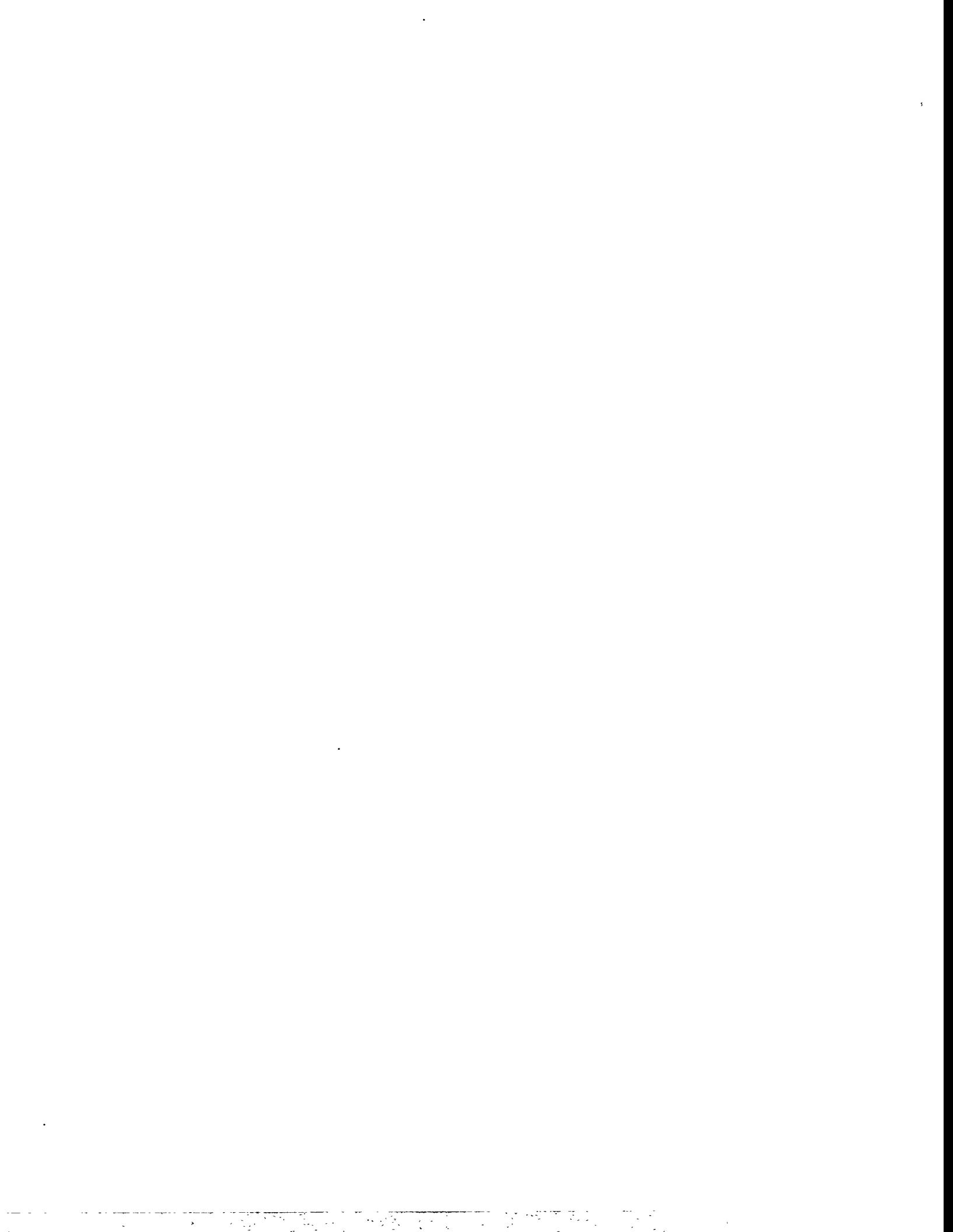
Overall, there has been good progress in strengthening the ANL-W Environmental Program since the 1991 Tiger Team Assessment. This progress includes an increase in environmental staffing; the dedication and commitment of key individuals working on environmental programs at AAO-W and throughout the ANL-W Divisions; strong formal and informal communication between AAO-W and ANL-W, and with NE, CH, ID, and EG&G; good working relationships with regulators; and commitment to implement corrective actions identified in audits and assessments. However, in combination with the environmental concerns expressed in the "Key Findings," several additional environmental concerns may inhibit the achievement of excellence. These concerns include the resolution of issues related to the radiologically contaminated sodium from the Fermi Reactor and the radiologically contaminated sodium encrusted components from ANL-W reactor research; the resolution of the "Water's of the U.S." issue; the vacancies in the primary environmental support organization; and the resolution of the site-specific surveillance monitoring in conjunction with the INEL sitewide monitoring program issue.



SECTION 1.0



INTRODUCTION



1.0

INTRODUCTION

This report documents the results of the routine environmental reaudit of the Argonne National Laboratory-West (ANL-W), located approximately 35 miles west of Idaho Falls, Idaho. The onsite portion of the reaudit was conducted from October 11 through October 22, 1993, by the Office of Environmental Audit (EH-24).

DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," establishes the mission of EH-24, which is to provide comprehensive, independent oversight of DOE complex-wide environmental programs on behalf of the Secretary of Energy. The ultimate goal of EH-24 is to enhance environmental protection and minimize risk to public health and the environment. EH-24 accomplishes its mission by conducting systematic and periodic evaluations of the Department's environmental programs within line organizations, and by utilizing 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 Program Managers of the current status and vulnerabilities of Departmental environmental activities and environmental management systems. Several types of evaluations are conducted, including:

- comprehensive baseline environmental audits;
- routine environmental reaudits;
- environmental management assessments; and
- special issue reviews.

The purpose, scope, and approach of the routine environmental reaudit of ANL-W is described below.

1.1

PURPOSE

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

- adequacy of environmental management programs and organizations;
- DOE vulnerabilities and liabilities associated with environmental management practices;
- compliance with environmental laws and regulations, DOE Orders, and DOE environmental policies (as identified in Table 1-1), which address environmental management programs;
- adherence to best management (and accepted industry) practices pertaining to environmental management programs;

TABLE 1-1
**LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES**

Requirements/ Guidelines	Sections/Title	Authority
Executive Orders 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	DOE
DOE 1280.1	Memorandums of Understanding	DOE
DOE 2300.1A	Audit Resolution and Followup	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 System	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 Program	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	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 5480.5	Safety of Nuclear Facilities	DOE

TABLE 1-1
LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (continued)

Requirements/ Guidelines	Sections/Title	Authority
DOE 5480.6	Safety of Department of Energy-Owned Reactors	DOE
DOE N5480.6	Radiological Control	DOE
DOE 5480.11	Radiation Protection for Occupational Workers	DOE
DOE 5480.15	Department of Energy Laboratory Accreditation Program 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 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

TABLE 1-1
LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (continued)

Requirements/ Guidelines	Sections/Title	Authority
DOE/EH-0229	Performance Objectives and Criteria for Conducting DOE Environmental Audits	DOE
DOE/EH-0232	DOE Environmental Audit Program Guidance	DOE
DOE/EH-0256T	Radiological Control Manual	DOE
DOE/EH-0326	Protocols for Conducting Environmental Management Assessments of DOE Organizations	DOE
January 26, 1990, Secretarial Memorandum	Preliminary Review of Trends in Tiger Team Assessments	DOE
July 31, 1990, Secretarial Memorandum	Guidance on Environment, Safety, and Health (ES&H) Self-Assessment	DOE
Interim Guide March 8, 1991	DOE Guidance on the Procedures in Applying the ALARA Process for Compliance with DOE 5400.5	DOE
December 1992 Guidance	Self-Assessment Guidance Document	DOE
November 1992 Guidance	Implementation Guide for Radiological Survey Procedures (Draft)	DOE
June 8, 1993 Secretarial Policy Statement (58 FR 33804-5)	Radiological Health and Safety Policy	DOE
Public Law ID2-386	Federal Facilities Compliance Act	EPA
33 U.S.C. 1251 et seq.	Clean Water 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

TABLE 1-1
LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (continued)

Requirements/ Guidelines	Sections/Title	Authority
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response	EPA
40 CFR 58	Ambient Air Quality Surveillance	EPA
40 CFR 61	National Emission Standards for Hazardous Air Pollutants	EPA
40 CFR 112	Oil Pollution Prevention	EPA
40 CFR 122/123	National Pollutant Discharge Elimination System (NPDES)/State Pollutant Discharge Elimination System (SPDES)	EPA
40 CFR 141	National Primary Drinking Water Regulations	EPA
40 CFR 142	National Primary Drinking Water Regulations Implementation	EPA
40 CFR 191	Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes	EPA
40 CFR 262	Standards Applicable to Generators of Hazardous Waste	EPA
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	EPA
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	EPA
40 CFR 268	Land Disposal Restrictions	EPA
40 CFR 355	Emergency Planning and Notification	EPA
40 CFR 761	Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions	EPA
40 CFR 763.84	General Local Education Agency Responsibilities	EPA

TABLE 1-1

LIST OF ENVIRONMENTAL MANAGEMENT
REQUIREMENTS AND GUIDELINES (continued)

Requirements/ Guidelines	Sections/Title	Authority
CERCLA Section 120	Federal Facilities	EPA
EPA 450/4-87-007	Ambient Monitoring Guidelines for PSD	EPA
EPA-520/1-88-020	Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion - Federal Guidance Report No. 11	EPA
OSWER Directive 9355.3-01	Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA	EPA
OSWER Directive 9230.0-3B	Community Relations in Superfund: A Handbook, Interim Version	EPA
ASME NQA-1-1989	Quality Assurance Program for Nuclear Facilities	ANSI/ASME
ANSI N13.1-1969	Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities	ANSI
ID 5480.1, Chapter XII	Prevention, Control, and Abatement of Environmental Pollution	ID
ID 5481.1A	Safety Analyses and Review System	ID
ID-10324	Air Permit Handbook	ID
ID 01-08	Idaho Drinking Water Regulations	IDHW
ID 01-17	Idaho Wastewater-Land Application Permit Regulations	IDHW
ID 39-36	Idaho Water Pollution Control Law	IDHW
ID 01-02	Idaho Water Quality Standards and Wastewater Treatment Requirements	IDHW
ID 01-03	Regulations for Individual/Subsurface Sewage Disposal Systems	IDHW
IDAPA 16.01.01	Administrative Rules of the Idaho Department of Health and Welfare, Air Pollution Control	IDHW

- progress and effectiveness of environmental corrective actions resulting from the 1991 Tiger Team Assessment; and
- noteworthy environmental management practices.

The information gathered during this audit and embodied in this report will assist DOE in determining patterns and trends in environmental deficiencies and strengths. The Office of Nuclear Energy (NE), the Office of Environmental Restoration and Waste Management (EM), the Chicago Operations Office (CH), Argonne Area Office (AAO), Argonne Area Office-West (AAO-W), Argonne National Laboratory (ANL), Idaho Operations Office (ID), and ANL-W are expected to fully utilize this information to develop corrective actions, to make appropriate modifications to specific programs to prevent recurrence, and to implement lessons-learned programs to ensure broad applications to other operations, programs, and facilities.

1.2 SCOPE

The scope of the routine environmental reaudit was comprehensive, addressing all areas of environmental management and included an assessment of air quality, surface water/drinking water, environmental radiation, and inactive waste sites programs. Additional consideration was given to reporting and oversight relationships with NE, EM, CH, ID, AAO, AAO-W, ANL, and ANL-W.

1.3 APPROACH

The routine environmental reaudit was conducted in accordance with the DOE/EH-0232, DOE Environmental Audit Program Guidance (December 1992) and DOE EH/0326, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) and followed accepted assessment techniques.

The reaudit was conducted by a team of professionals managed by a DOE Headquarters Team Leader and Deputy Team Leader from EH-24, and staffed by contractor technical support personnel. The names, areas of responsibility, affiliations, and biographical sketches of the team members are provided in Appendix A. The reaudit included three phases: planning, conducting onsite activities, and reporting.

Once the site selection and the type of audit had been approved by EH-1, the Team Leader and the Deputy Team Leader contacted NE, EM, CH, AAO, AAO-W, and ANL personnel to begin developing the scope of the reaudit. These initial contacts assisted EH-24 with development of the reaudit plan and provided NE, EM, CH, AAO, AAO-W, and ANL with the opportunity to have EH-24 assess selected environmental programs that NE, EM, CH, AAO, AAO-W, and ANL considered essential to achieve ANL-W's mission.

As part of the planning stage, a memorandum was sent to AAO-W announcing the audit and requesting information about the management systems and selected environmental programs. A pre-audit site visit was conducted on September 13, 1993. The site's response with the information requested, combined with the pre-audit site visit information and the discussions with NE, EM, CH, AAO, and AAO-W, formed the basis for the Plan for the DOE Routine Environmental Reaudit of ANL-W (see Appendix B), which included a preliminary agenda for onsite activities. The audit team modified the preliminary agenda

during the conduct of onsite activities as more information was obtained and additional areas of interest were identified. The final daily activity schedule is contained in Appendix C.

Before the audit team arrived onsite at ANL-W, interviews were conducted with NE and EM personnel in Germantown, Maryland, and with CH, AAO, and ANL personnel in Argonne, Illinois, responsible for managing environmental activities at AAO-W and ANL-W. Onsite audit activities included interviews with AAO-W, ANL-W, ID personnel, EPA, and state regulators; document reviews (including previous audit and self-assessment reports); and observations of actual environmental management activities or operations. The audit team conducted daily debriefs that were open to NE, ID, AAO-W, ANL-W, and regulatory agency personnel. Using these sources of information, the audit team developed findings as discussed in Section 2.0 and 3.0 of this report. A list of site documents reviewed and interviews performed are provided in Appendix D and E, respectively.

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

The section overviews and findings detailed in Section 3.0 are organized into the following eight categories: organizational structure; environmental commitment; environmental protection programs; formality of environmental programs; internal and external communication; staff resources, training, and development; program evaluation, reporting, and corrective action; and environmental planning and risk management. The environmental protection programs section includes a detailed discussion of the status of air quality, surface water/drinking water, environmental radiation, and inactive waste site management programs. Each finding is organized into three sections: the performance objective, the finding statement, and a discussion of the facts and observations supporting the finding. The particular standards against which the finding is being evaluated are specified as performance objectives. The findings are not arranged in order of relative significance.

1.4 BACKGROUND AND PROJECT DESCRIPTION

ANL-W is the nation's testing ground for the Advanced Liquid Metal Reactor. ANL-W is located approximately 35 miles west of Idaho Falls, Idaho (see Figure 1-1). The ANL-W complex includes Experimental Breeder Reactor II (EBR-II), the first pool-type liquid-metal-cooled fast breeder reactor. In addition to demonstrating the feasibility of operating this kind of reactor, research has helped improve fuel and materials performance for future breeder reactors. EBR-II research has contributed to an innovative design for an advanced nuclear power plant, called the Integral Fast Reactor (IFR).

The IFR is an advanced nuclear reactor concept that is the focus of DOE's reactor research and development program. IFR is a nuclear reactor cooled by liquid sodium at low pressure, and fueled by a new metal-alloy fuel. Fuel is reprocessed with a new technology called pyroprocessing, and refabricated into new metal-fuel rods for recycle to the reactor.

Idaho National Engineering Laboratory

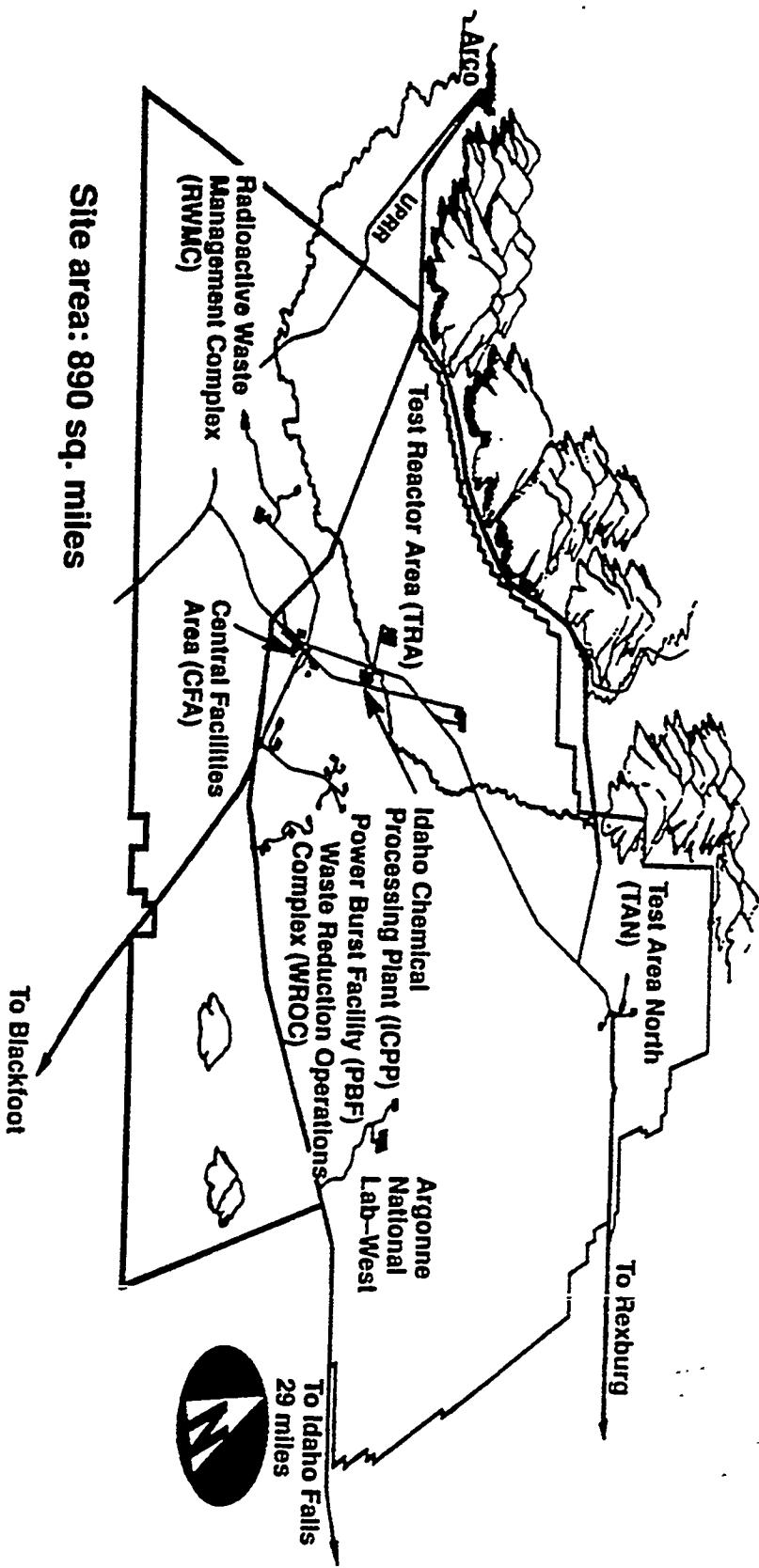


Figure 1-1. ANL-W Location Map

ANL-W has four other reactors and two fuel examination facilities. The Zero Power Physics Reactor (ZPPR) provides reactor physics data for any type of fast neutron spectrum reactor. The Argonne Fast Source Reactor (AFSR) is used to calibrate instruments and to study fast reactor physics. The Transient Reactor Test Facility (TREAT) produces short controlled bursts of nuclear energy to simulate accident conditions leading to fuel damage. The Neutron Radiography Facility (NRAD) is a nondestructive examination tool and a neutron source for isotope production, performing activation analysis and studying radiation effects on materials.

Complementary nuclear fuels facilities include the Fuel Manufacturing Facility (FMF) where the entire operation of manufacturing metallic fuel elements is performed in a single facility; the Hot Fuel Examination Facility (HFEF) which provides data that are essential for determining the performance of fuels and materials irradiated in the EBR-II, TREAT, Fast Flux Test Facility (FFTF) at Hanford, Washington, and other Department of Defense reactor facilities; and the Fuel Cycle Facility (FCF) which performs the new remote reprocessing and refabrication fuel cycle process for the IFR Program. The general ANL-W site map is shown as Figure 1-2.

ANL-W is a government-owned and contractor-operated (GOCO) Federal laboratory for research and development in support of the nation's Fast Breeder Reactor Program under the direction of the Office of Nuclear Energy (NE). As part of the ANL, ANL-W is operated by the University of Chicago. At the time of this audit, there were approximately 860 employees at ANL-W. The ANL Engineering Research Directorate Associate Laboratory Director (ALD) is in charge of 10 divisions; 4 divisions and a portion of a fifth division are located in Argonne, Illinois, and the remaining divisions are located at ANL-W (see Figure 1-3).

Research activities and line responsibilities for environmental compliance at ANL-W are conducted through the following four major research divisions and one support division: the IFR Division, the Fuel Cycle Division, the Fuels and Engineering Division, a portion of the Engineering Physics Division (EP-West), and the Reactor Program Services Division.

The IFR Division operates EBR-II as the IFR prototype to test and demonstrate operations and safety advantages of the IFR. The mission includes fuel development, fuel reprocessing, passive safety testing, operational safety testing, and improvements in design approaches that can lead to reduced cost, increased reliability, and operability and maintainability of future Liquid Metal Reactor (LMR) power plants.

The Fuel Cycle Division has the primary charter for commissioning and operating the newly refurbished Fuel Cycle Facility (FCF). In the near-term, the Fuel Cycle Division will demonstrate the main process steps, including electrorefining, cathode processing, injection casting, etc. Following this initial demonstration, divisional emphasis will shift to actinide separation processes and waste treatment processes, leading to the waste form certification by NRC. The FCF will also be utilized to fabricate large quantities of cold Pu fuel as needed to convert the EBR-II core to U-Pu-Zr ternary fuel. The Fuel Cycle Division is also responsible for the examination and characterization programs conducted in the Hot Fuel Examination Facility (HFEF), which includes the operation of a 250 KW TRIGA research reactor used for neutron radiography.

Argonne National Laboratory - West Site Plot Plan

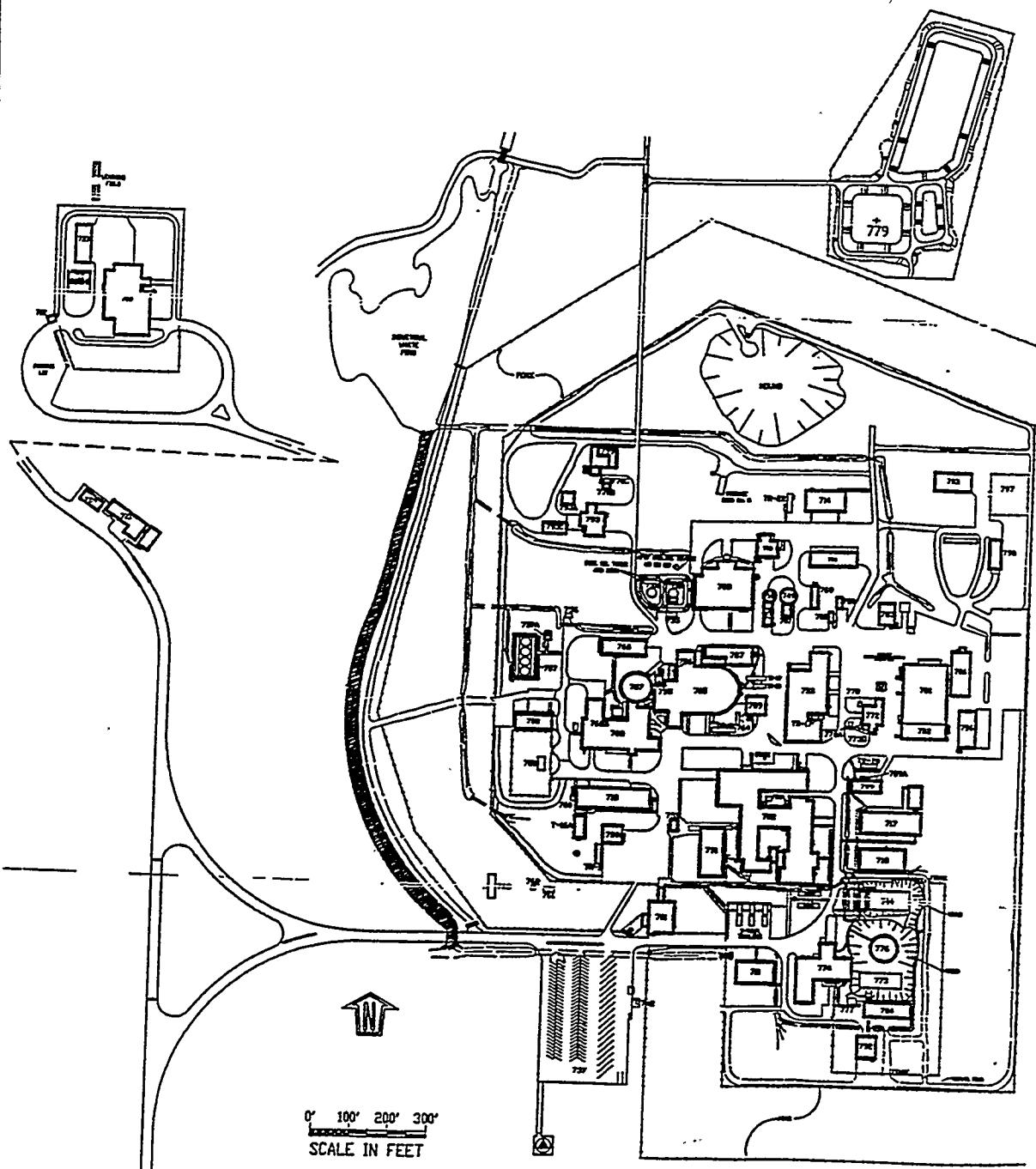


Figure 1-2. ANL-W Site Map

ANL Engineering Research Directorate

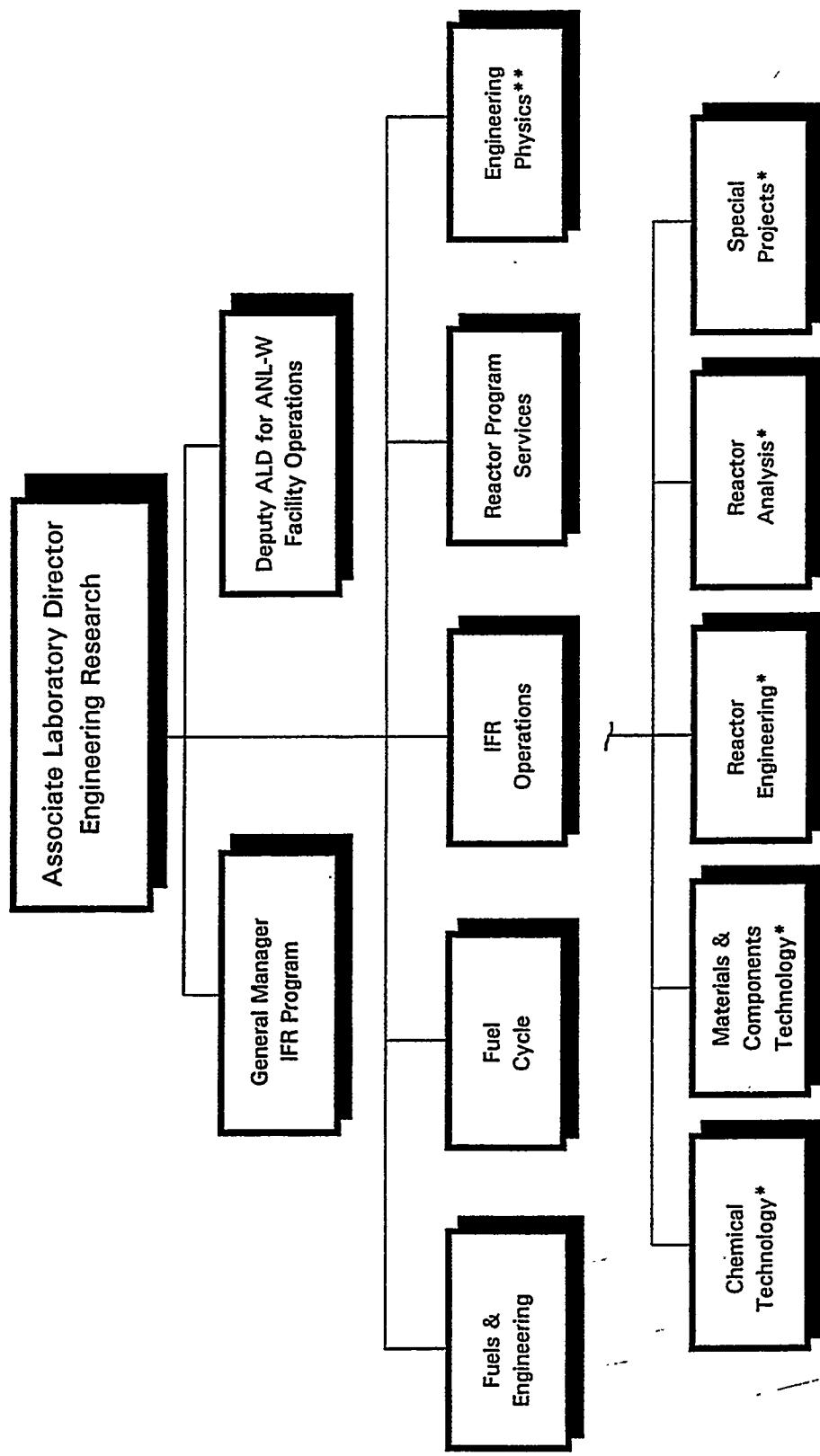


Figure 1-3. ANL Engineering Research Directorate

* Located in Chicago
** Located in Chicago and Idaho Falls

The Fuels and Engineering Division is responsible for the development and demonstration of IFR fuel. This responsibility includes: (1) operation of the Fuel Manufacturing Facility (FMF) for EBR-II U-Zr fuel, control assembly, blanket and other test assembly manufacturing; (2) operation of the Analytical Laboratory in support of EBR-II and FCF operations; and (3) programmatic responsibility for the operational reliability test program.

The Engineering Physics Division focuses on a broad range of applied physics areas, including the space nuclear power program, nuclear data, applied accelerator technology, applied aerosol technology, research reactor studies, and advanced computing applications. The main portion of the Engineering Physics Division is located in Argonne, Illinois. The Engineering Physics Division-West is located at ANL-W, and is operating and maintaining the Zero Power Physics Reactor (ZPPR), the Transient Reactor Test Facility (TREAT), and other Integral Fast Reactor Program assignments at ANL-W.

The Reactor Program Services Division provides common site services, technical support, and environment, safety, health, and quality assurance oversight to the engineering research programs at ANL-W. The Reactor Program Services Division has six departments, including Environment, Safety, and Waste Management; Safeguards, Security and Information Services; Human Resources; Accounting; Procurement; and Supply. The Environment, Safety, and Waste Management (ESWM) Department has four sections, including Environment and Waste Management Section; Environmental Restoration/Waste Management Program Section; Radiation, Fire, and Safety Section; and Life Safety Systems Section.

1.5 ENVIRONMENTAL PROGRAMS AND ORGANIZATION

The DOE Office of Nuclear Energy (NE) formulates and directs the Department's research and development programs associated with the theory and production of atomic energy, through nuclear reactor development, both civilian and naval; isotope production and related sales; space nuclear applications; and residual uranium program activities retained by the Department.

In support of this mission, some of the NE functions include assessing the impacts of nuclear energy on the environment and economy, and providing the development and maintenance of the facilities and programs at ANL-W. The Facilities Division (NE-47) provides DOE Headquarters' policy, guidance, and oversight of the environmental management program at ANL-W.

CH, working through AAO, has the primary DOE oversight responsibilities for ANL-W environmental activities. These responsibilities flow down from the CH Manager, through the Assistant Manager for Laboratory Management, the Area Manager of AAO, and then to the Director of AAO-W. AAO-W personnel are onsite at ANL-W and provide line management oversight of ANL-W operations. The Environment, Safety and Health Division at CH provides independent oversight for the CH Manager. The CH organization chart is included as Figure 1-4, and the ANL-W relationship to DOE field organizations in environmental activities is included as Figure 1-5.

Chicago Operations Office

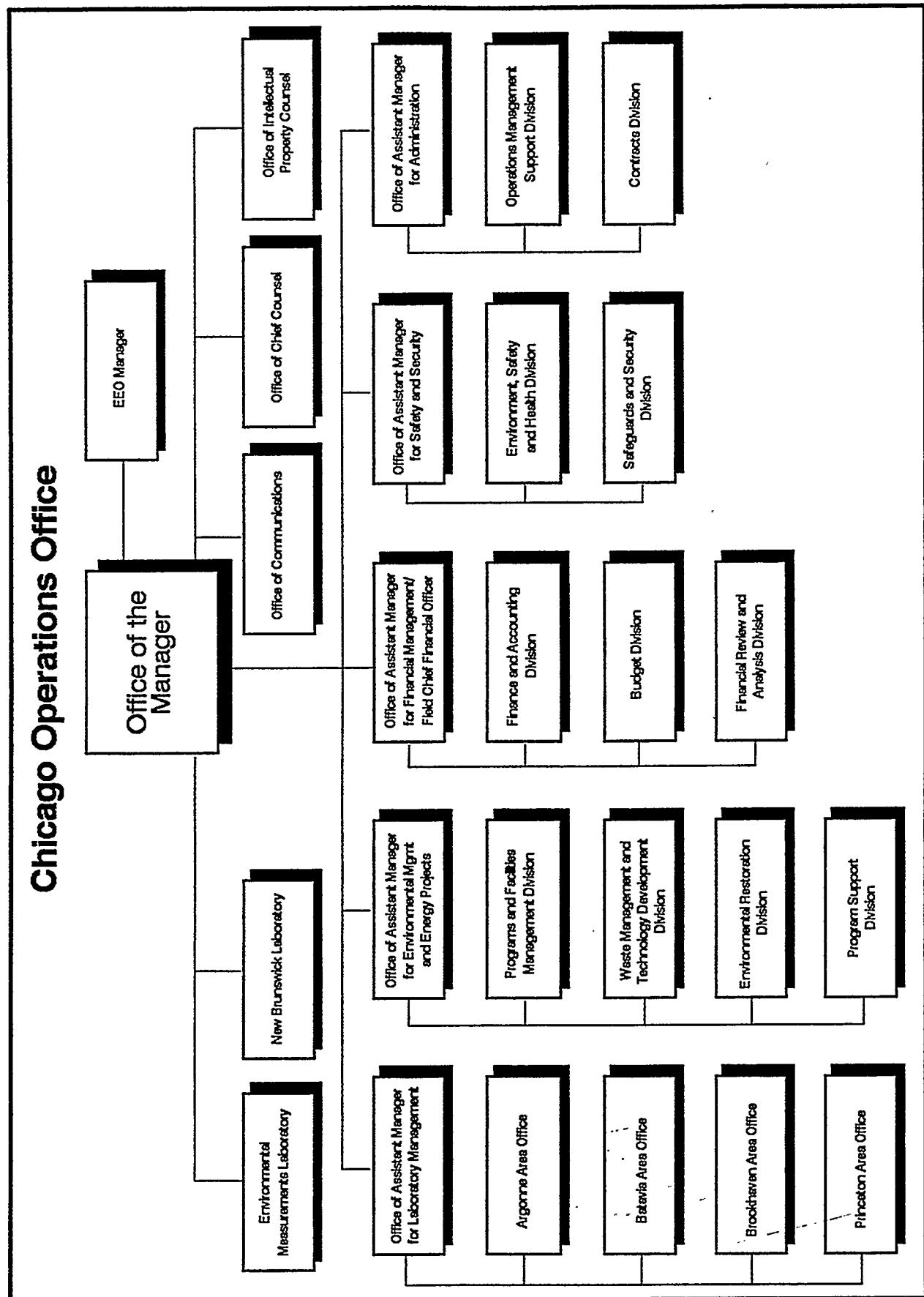


Figure 1-4. Chicago Operations Office

ANL-W Responsibilities to DOE Field Organizations

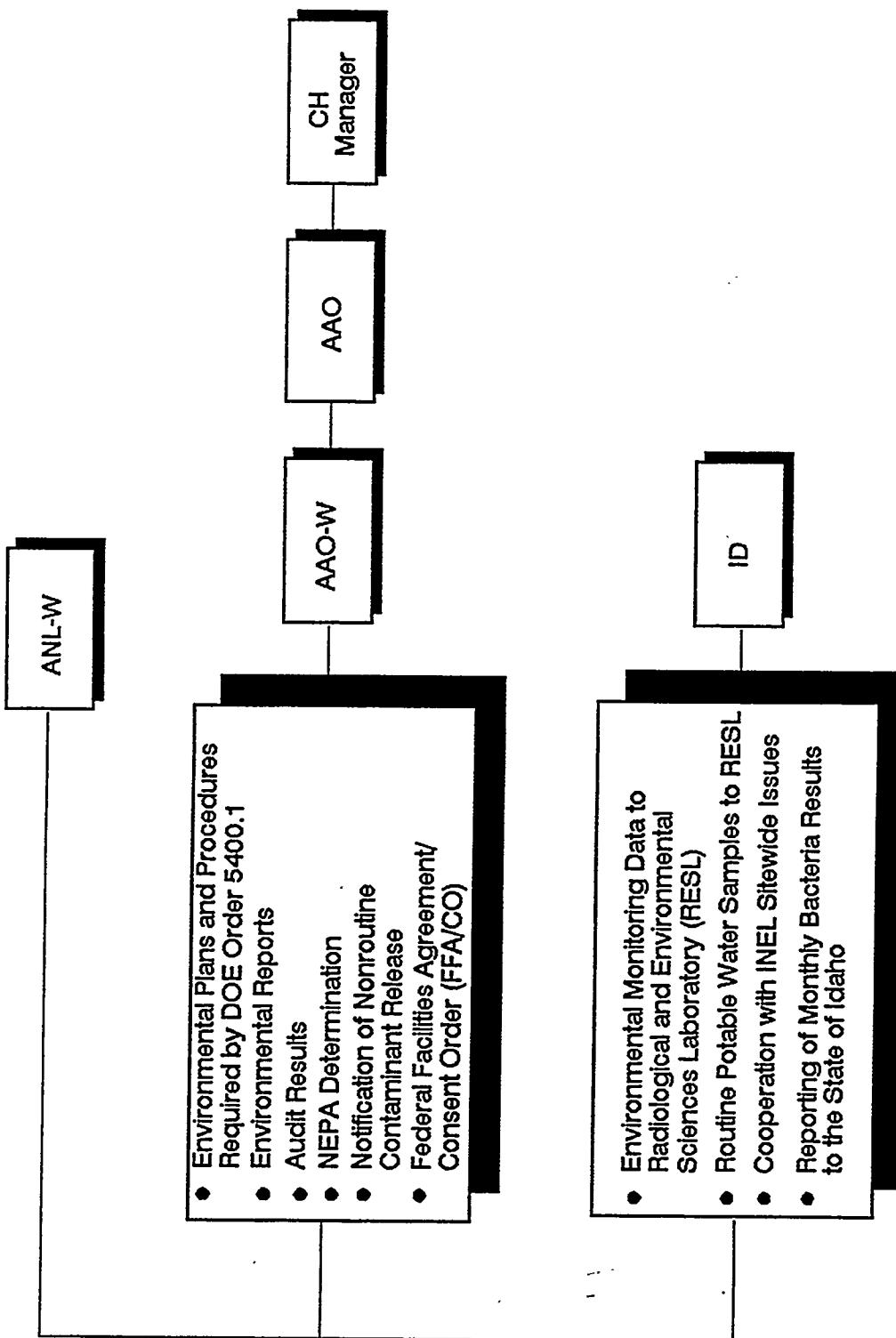


Figure 1-5. ANL-W Responsibilities to DOE Field Organizations

Because ANL-W is located within INEL (see Figure 1-1), some environmental monitoring programs and the environmental activities under the Federal Facility Agreement/Consent Order (FFA/CO) are coordinated by ID. The 1990 Memorandum of Understanding between ID and CH sets forth the following responsibilities and authorities of each organization with regard to the common environmental issues that result from the location of ANL-W on INEL property:

- ANL-W will report any environmental emergencies immediately and directly to ID, particularly those that may impact INEL as a whole.
- ID will be responsible for all INEL-wide permit submissions and administrative contacts with regulatory agencies.
- ID will provide support services, such as disposal services for hazardous waste (on a case-by-case basis), sanitary waste, and radioactive waste in accordance with established policy to ANL-W.
- CH and they shall also keep each other informed of environmental planning actions they undertake in which the other party may have an interest, including actions taken pursuant to the National Environmental Policy Act (NEPA), or the Environmental Restoration and Waste Management (ER/WM) Five-Year Plan.
- CH or ANL-W shall promptly inform the ID Warning Communications Center orally, and confirm in writing, of essential information on all incidents that require immediate reporting.
- CH and ID shall also keep each other informed of any significant releases of radioactive effluent, or other hazardous or toxic materials that may impact each other's facilities or activities.

ANL-W is dedicated to support DOE by leading the nation in the research and development in support of the nation's Fast Breeder Reactor Program. It is the policy of ANL-W that all activities will be conducted in a manner such that worker and public safety, including protection of the environment and the safety of nuclear operations, is given the highest priority. The ANL-W environmental protection program will be used to implement the planning, monitoring, and reporting activities necessary to accomplish this policy.

In ANL-W's five divisions, there are nine Environmental Compliance Representatives (ECRs) and five alternate ECRs. These ECRs provide support for the line management environmental compliance responsibilities to the Division Directors. The specific roles and responsibilities of the ECR are to function as an environmental point of contact for facilities; review and sign environmental checklists for the division's activities; aid facility personnel on environmental issues; and conduct periodic inspections focussing on environment/waste management.

The ANL-W ESWM Department under the Reactor Program Services Division has the prime responsibility for sitewide environmental program management and oversight, such as environmental monitoring, waste management, Resource Conservation and Recovery Act (RCRA), and Comprehensive Environmental Response, Compensation, and Liability Act

(CERCLA) activities under the Federal Facility Agreement/Consent Order (FFA/CO), and also provides professional expertise and support to other four divisions in environmental compliance and remediation. The ESWM Department formulates all major environmental plans, with input from other divisions, including the Environmental Management Plan, the Environmental Restoration and Waste Management (ER&WM) Five-Year Plan, the Environmental Monitoring Plan, the Waste Minimization Plan, the Pollution Prevention Awareness Program Plan, and the Groundwater Protection Management Plan. The Reactor Program Services Division and the ESWM organization charts are included as Figures 1-6 and 1-7, respectively.

ANL-W Reactor Program Services Division

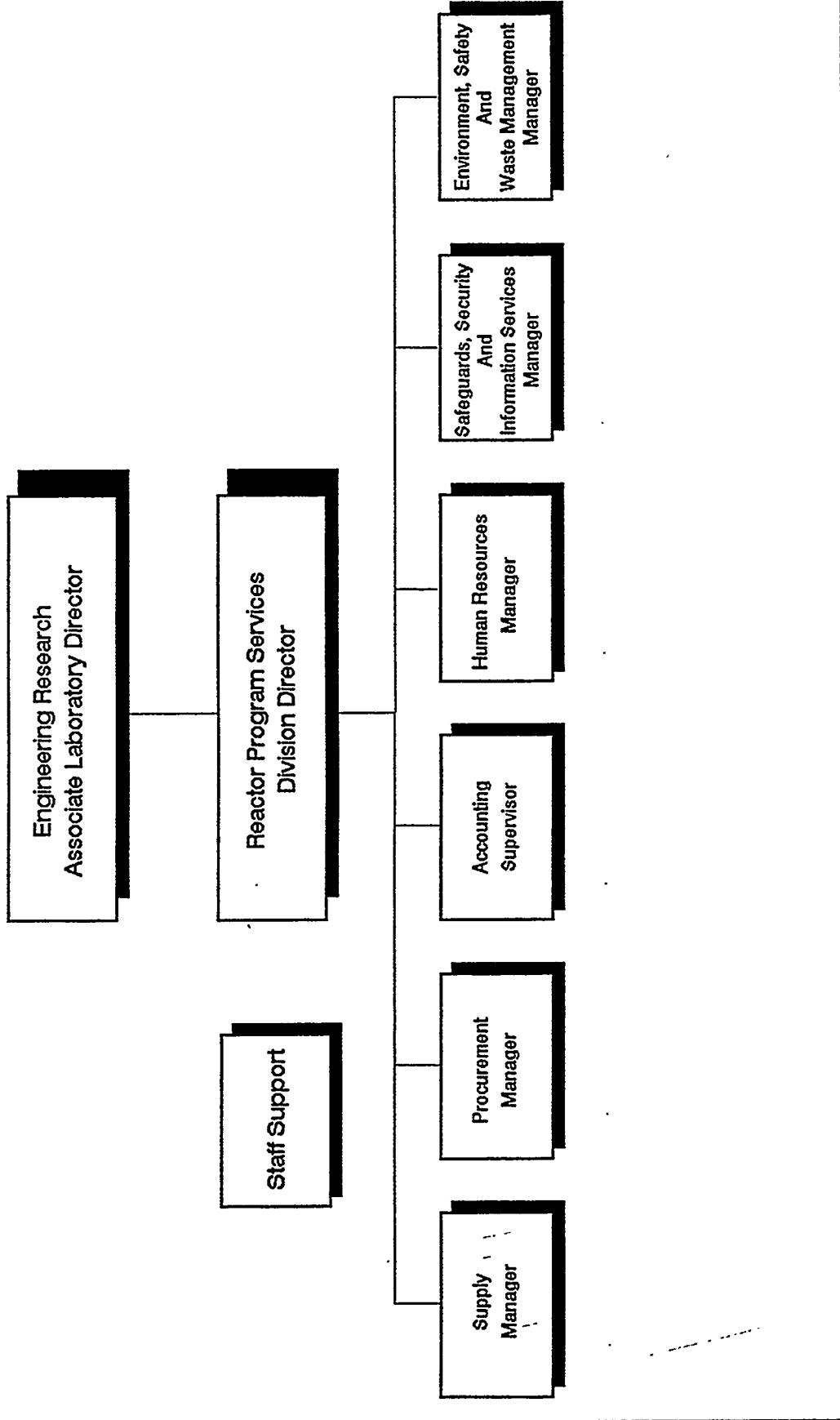


Figure 1-6. ANL-W Reactor Program Services Division

ANL-W Environment, Safety, and Waste Management Department

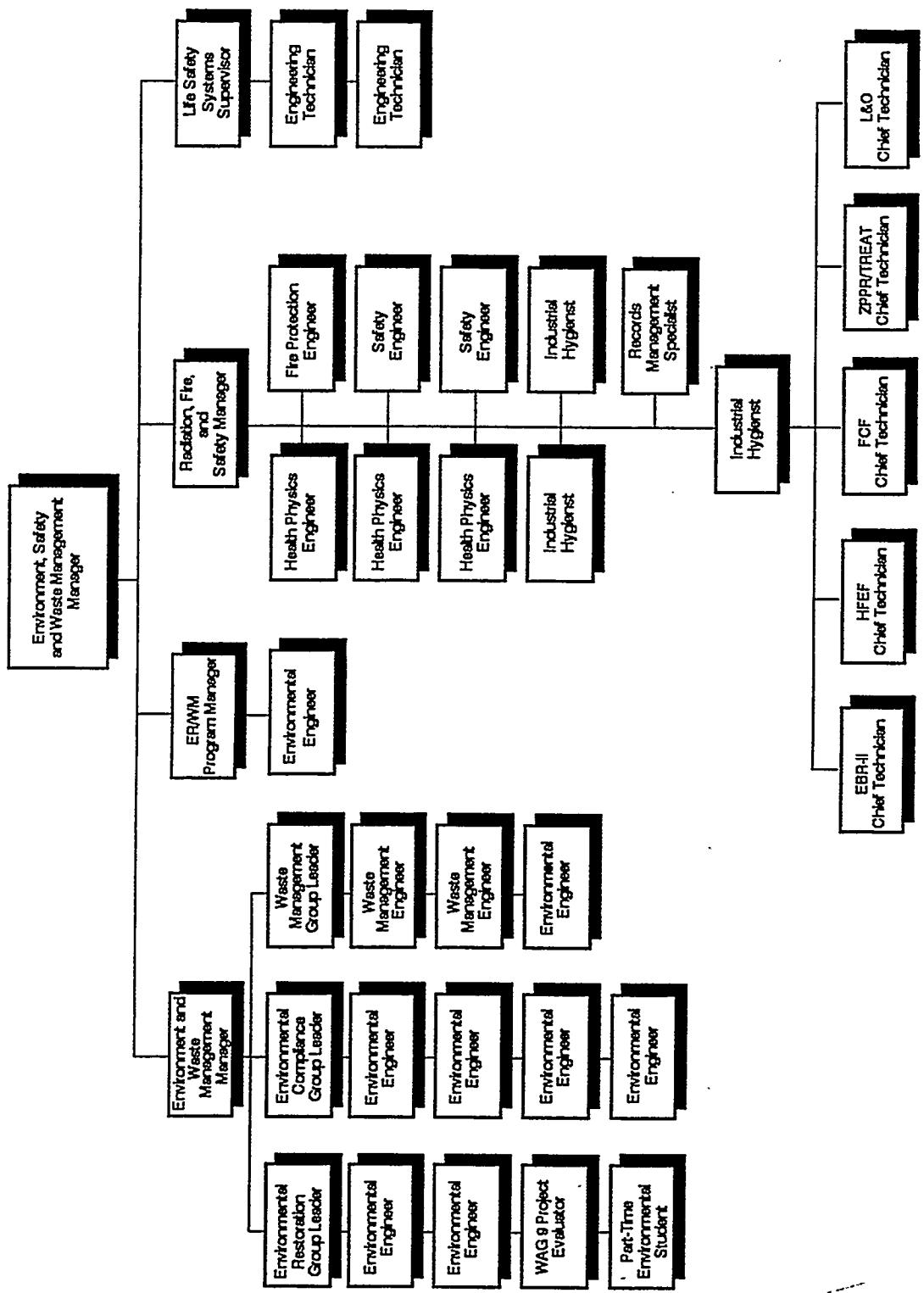
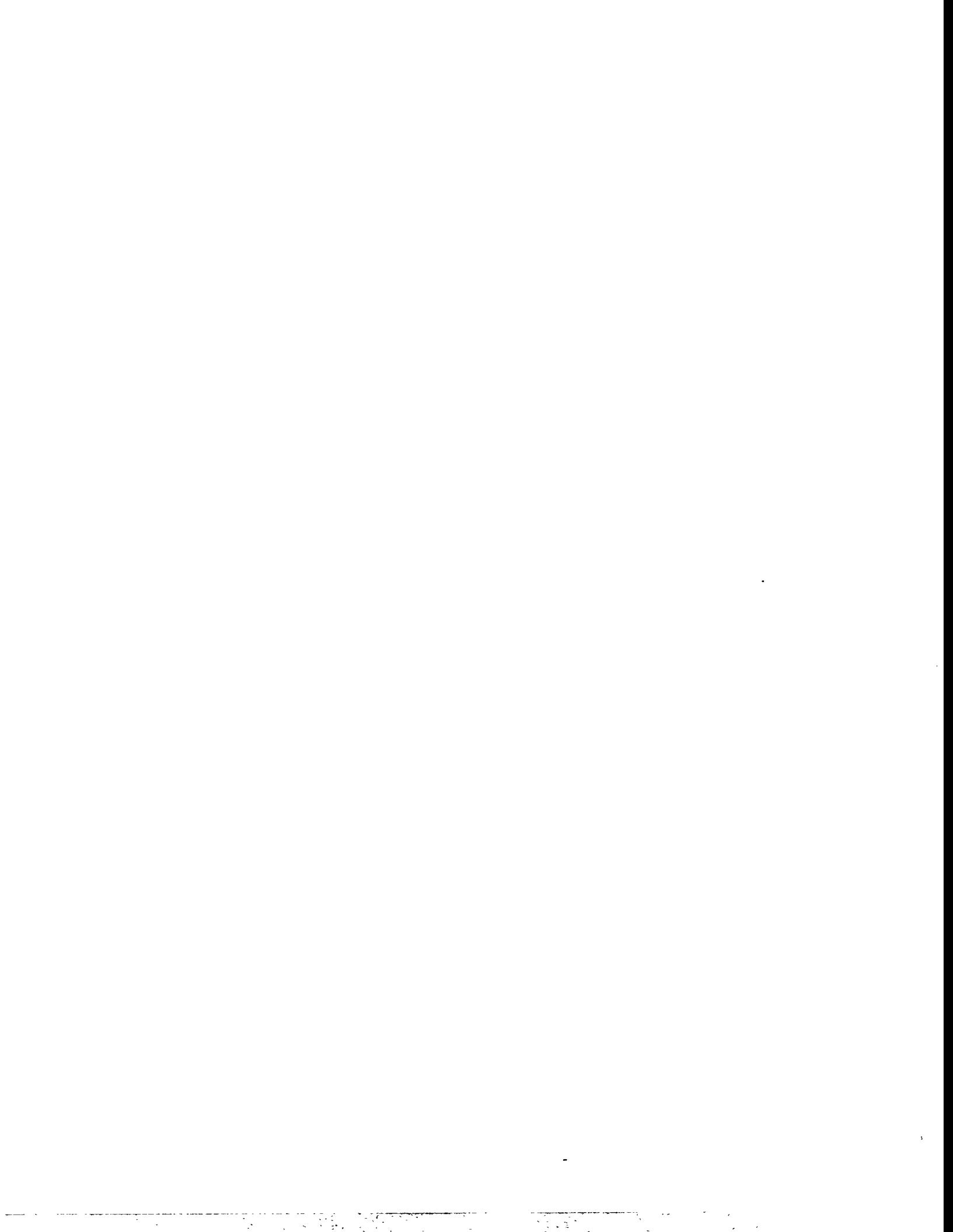


Figure 1-7. ANL-W Environment, Safety, and Waste Management Department



SECTION 2.0

SUMMARY OF ROUTINE ENVIRONMENTAL REAUDIT RESULTS



The following summarizes the results and conclusions of the routine environmental reaudit of ANL-W conducted from October 11 to October 22, 1993.

As a result of the uncertainty of continued Congressional support for the Integral Fast Reactor Program (i.e., the Program is subject to annual funding approval), many ANL-W programs, including the environmental protection program, have not been implemented. Most notably, the impact on the ANL-W Environmental Program has been reflected in vacancies in environmental positions not being filled; this has impacted the formalization of required environmental program plans and procedures, and the implementation of specific environmental programs.

This audit revealed that both AAO-W and ANL-W environmental staffs are dedicated and consistently exhibit a high level of commitment to the achievement of environmental excellence. Also, excellent internal communications between key DOE and ANL-W organizations and external communication with regulators has enhanced the development of effective working relationships.

During the audit, 16 findings were identified; 13 were in the environmental management systems area and 3 were in specific technical disciplines. The finding numbers and titles are presented in Table 2-1.

Because of the lack of formality of environmental management plans and procedures, and the lack of clearly defined roles and responsibilities for environmental functions in the operational divisions, some of the environmental management programs at ANL-W have not been implemented or effectively carried out. This is compounded by an insufficient number of environmental staff in certain key areas. In addition, deficiencies in environmental training and oversight may have contributed to a series of environmental regulatory concerns. Also, inadequate oversight activity may not assure that environmental issues are always taken into consideration during contract scoping and execution at ANL-W. For DOE line management, the lack of mitigation of known environmental risk for mixed waste sodium storage and treatment may pose compliance concerns in the near future.

The audit team identified the following strengths in the environmental program at ANL-W:

- **Key Environmental Staff.** Dedicated environmental staffs of both AAO-W and ANL-W have undoubtedly been a key behind the success of the environmental operations at ANL-W. Despite the prolonged policy implementation process and the lack of formality in some key management areas, the ANL-W environmental program works because of the dedication, skill, perseverance, and ownership demonstrated by key individuals throughout the ANL-W Divisions and at AAO-W. The high level of commitment to achieving environmental excellence has been a strength in the ANL-W environmental program.
- **Communications.** Strong, effective working relationships based on formal and informal communication between AAO-W and ANL-W environmental staffs, and with key organizations including CH and ID Operations Offices,

TABLE 2-1
ROUTINE ENVIRONMENTAL REAUDIT TEAM FINDINGS

Finding Number	Title of Finding	Page No.
Organizational Structure (OS)		
OS-1	Environmental Compliance Representatives	3-5
OS-2	Roles, Responsibilities, and Authorities	3-7
Environmental Commitment (EC)		
	No findings were identified	
Environmental Protection Programs (EP)		
EP-1	Environmental Monitoring and Surveillance Program	3-15
EP-2	Environmental Program Implementation	3-18
EP-3	Asbestos Inventory	3-24
EP-4	Backflow Prevention and Cross Connection Control Program to Protect Potable Water	3-29
EP-5	Radioactive Waste Management	3-33
Formality of Environmental Programs (FP)		
FP-1	Formality of Environmental Programs	3-42
FP-2	Routine Facility Inspection Program	3-45
FP-3	Sitewide Procedures for Subcontractor Management and Control	3-47
Internal and External Communication (IC)		
IC-1	DOE Coordination	3-53
Staff Resources, Training, and Development (SR)		
SR-1	Environmental Staffing Levels	3-56
SR-2	Environmental Training Program	3-58
Program Evaluation, Reporting, and Corrective Action (PE)		
PE-1	Self-Assessment Program	3-63
PE-2	Independent Self-Assessment Program at ANL-W	3-66
Environmental Planning and Risk Management (RM)		
RM-1	Mitigation of Known Environmental Risk	3-71

EG&G, and NE, serve as a means of developing cooperation and commitment on environmental issues. The same applies to external communication, where AAO-W, by cooperating fully and openly, has developed good working relationships with state and Federal regulatory agencies.

Based on the strengths identified, the many informal but effective environmental management programs, the implementation of Tiger Team corrective actions, increased environmental staff (although two approved positions remain vacant in the primary environmental support organizations), and the environmental planning and funding initiatives, the overall conclusion of this audit is that the ANL-W environmental program has improved since the 1991 Tiger Team Assessment. ANL-W management is effectively managing the environmental program under the uncertainty of funding for the IFR program and budget constraints. In addition, ANL-W's environmental management programs can be expected to continue to develop and mature in response both to the recent and planned organizational changes that realign environmental responsibilities and to the formalization of existing programs and procedures.

2.1 FINDINGS SUMMARY

The following paragraphs briefly describe the findings in the management systems areas and technical disciplines discussed in the ANL-W Routine Environmental Reaudit.

Organizational Structure (OS). There were two findings identified in this portion of the audit. The first finding concerned the roles and responsibilities of Environmental Compliance Representatives (ECRs) at ANL-W. ECRs have many other operations responsibilities which impact their ability to effectively carry out environmental duties. This problem is aggravated by the lack of clarity regarding their roles and responsibilities, the inadequacy of training to perform their environmental duties, and the inability of Environment and Waste Management Section (EWM) staff to assist the ECRs because of EWM resource limitations. The second finding concerns the lack of clearly defined and understood roles, responsibilities, and authorities for staff with environmental responsibilities throughout the ANL-W organization. EWM Group Leader roles are poorly defined, and clear responsibility has not been assigned for implementation of radiation protection programs, decontamination and decommissioning, subcontractor oversight, and routine walkthrough inspections.

Environmental Commitment (EC). There were no findings identified in this portion of the audit. There was a strong indication of environmental commitment throughout the AAO-W and ANL-W organizations. ANL-W senior management is aware that they have a major responsibility for environmental protection. Management meetings and communications are consistent with this message.

Environmental Protection Programs (EP). There were two findings in this portion of the audit. The first finding identified the need to conduct a comprehensive evaluation of the environmental monitoring and surveillance programs. The scope and level of effort required for the ANL-W monitoring and surveillance programs have not been determined by ANL-W and AAO-W based on an evaluation of potential environmental impacts, nor has ANL-W taken a proactive role in determining its own monitoring needs for incorporation into the INEL Environmental Monitoring Plan. The second finding identified the ineffective implementation of environmental protection programs. Many of the elements that

constitute a comprehensive environmental protection program have been developed by ANL-W; however, a number of the programs have not been fully implemented. Specific examples of programs not being implemented effectively include the asbestos management program, the waste management program, the underground storage tank (UST) program, the waste minimization program, and the environmental monitoring and surveillance program. In addition, the current Environmental Protection Implementation Plan (EPIP) is not effective in ensuring that these programs are being implemented. Furthermore, there has been no resolution of the issue of "Waters of the U.S." and the applicability of National Pollutant Discharge Elimination System (NPDES) requirements.

Air. In this portion of the audit, there was one finding related to asbestos management. ANL-W has developed an asbestos management program in recent years; however, it does not have a sitewide inventory of asbestos-containing materials. There was also one finding concerning the ambient air monitoring program which is addressed under Environmental Protection Programs. Most of the elements of the air pollution control program are now in place at ANL-W, and the staff responsible for air issues have good working relationships with AAO-W, ID, and EG&G-ID in working on INEL-wide air issues. The Environmental Compliance Group is actively working with the ANL-W Stack Emissions Task Force to complete the emissions inventory in preparation for the Operating Permit that will be required in the near future as a result of the Clean Air Act Amendments of 1990. The primary weaknesses in the program at this time appear to be the absence of an air program management plan, deficiencies in the planning process, and the lack of programmatic documentation.

Surface Water/Drinking Water. There was one surface water/drinking water finding identified in this portion of the audit related to the lack of a formal backflow prevention and cross connection control program to protect the potable water supply system. In addition, wastewater streams have not been fully characterized or monitored, and wastewater is managed primarily through disposal rather than through treatment.

Environmental Radiation. There was one finding identified in this portion of the audit that concerned radioactive waste management at ANL-W. The lack of an up-to-date and comprehensive Waste Management Plan, as well as inadequate staff resources, have resulted in an informal program with deficiencies noted in several areas. The existing Waste Management Plan does not evaluate the potential for future high-level waste generation in the IFR program, nor does it address the management of mixed waste. As a result of changing waste acceptance criteria and regulatory requirements, a large quantity of backlogged waste has accumulated on the ANL-W site.

Inactive Waste Sites. There were no findings identified in this portion of the audit. The inactive waste site program at ANL-W is in substantial compliance with applicable regulations and guidance; however, opportunities for improvement exist in formality of programs, organizational structure, and staff resources and training.

Formality of Environmental Programs (FP). There were three findings in this portion of the audit. The first finding was related to the formality and documentation of the environmental programs at ANL-W. The procedures are not kept up-to-date, and there is a general lack of consistency among the policy manuals, management plans, and the procedures manuals, especially in relation to roles and responsibilities and job descriptions. The second finding identified that ANL-W does not have a formal and effective

subcontractor management and control system in place. Overall, the current system of subcontractor management and control does not provide adequate assurance that environmental and waste management issues are handled effectively during all phases of contract scoping and execution. There are particular concerns about the lack of procedures to ensure that environmental issues pertaining to subcontractor waste management plans are adequately reviewed. The third finding in this area pertains to the lack of a formal routine facility inspection program. Each division at ANL-W has developed its own routine inspection program and the level of formality varies substantially among divisions and within a single division. Specific weaknesses include: (1) observations were not consistently documented; and (2) checklists were not routinely used by inspectors. The systems used by ANL-W for regulatory tracking are adequate, however, they have not been formalized. As a result of the environmental commitment and diligence of the staff, documents prepared by ANL-W for submittal to the regulatory agencies are being forwarded through AAO-W and to ID in a timely manner.

The lack of formality of environmental programs was singled out as a key finding in this audit because the audit team observed that this critical area is not receiving the necessary attention to ensure compliance with environmental regulations and DOE Orders.

Internal and External Communication (IC). There was one finding in this portion of the audit. DOE organizations have failed to coordinate information requests effectively to the AAO and ANL-W offices. Informal communication, supported by formal correspondence as needed, between ANL-W and AAO-W and among AAO-W, CH, ID, NE, and EM, can generally be characterized as excellent. External communication with regulatory agencies is open and responsive.

Staff Resources, Training, and Development (SR). There were two findings in this portion of the audit. The first finding identified that ANL-W staff resources in certain key environmental areas are insufficient. As a result of limited resources, key environmental programs are being delayed. The second finding noted that the ANL-W environmental training program does not include a formal tracking system, a formal training needs assessment has not been conducted, and training effectiveness has not been formally evaluated.

Program Evaluation, Reporting, and Corrective Action (PE). There were two findings in this portion of the audit. The first finding identified that ANL-W has not developed and implemented a formal self-assessment program. While some elements of a program are in place, ANL-W has not developed self-assessment program implementation plans, nor has it performed an environmental self-assessment since prior to the 1991 Tiger Team Assessment. The second finding identified that ANL has not fully and effectively implemented its independent appraisal program. A specific concern in this area is that the independent biennial appraisal of ANL-W environmental programs conducted in May 1993 did not adequately appraise ANL-W's operations. Another concern is that the independent oversight office at ANL-W, ESH/QA Compliance, is not sufficiently independent from line management at ANL-W and that personnel at ANL-W do not have a clear understanding of the responsibilities and functions of that organization.

Environmental Planning and Risk Management (RM). There was one finding in this portion of the audit. EM and NE have not adequately addressed risk management, with respect to the storage and/or treatment of radiologically contaminated sodium and sodium encrusted

components at ANL-W. These issues, outstanding for several years, require resolution at the DOE headquarters level. Continuing to postpone resolution exposes both DOE and ANL-W to unnecessary legal and environmental ramifications.

2.2 KEY FINDINGS

Two key findings were developed from the findings that are documented in this report. A key finding is a single finding, or group of findings, related to the same issue, which in the judgement of the audit team are essential to understanding the nature and scope of the environmental management deficiencies at the ANL-W site. Following are the key findings identified by the audit team:

ANL-W has not adequately updated and/or formalized program plans, policies, and procedures documents nor has it formalized roles, responsibilities, and authority for key environmental positions in the Operating Divisions.

The management of policy manuals, management plans, and procedure manuals is ineffective. For example:

- Plans and procedures, such as the ESWM Management Plan, the Waste Management Plan, the Quality Assurance Program Plan for the Environmental Restoration Program, and some environmental procedures in the ANL-W ES&H Manual, have not been kept up-to-date.
- An Environmental Monitoring Plan that links the sitewide radiological and non-radiological monitoring and surveillance with procedures in the ES&H manual has not been developed.
- The INEL Environmental Monitoring Baseline Document has not been updated to include plans to remedy deficiencies in the monitoring program that was identified as a key finding in the 1991 Tiger Team Assessment.
- A number of environmental programs do not have clearly defined roles and responsibilities including programs required by DOE 5400.1 and DOE 5400.5. In addition, job descriptions for EWM Section staff do not reflect current activities, and the roles and responsibilities of the Environmental Compliance Representatives have not been issued.
- The environmental training program does not include a formal tracking system, a formal training needs assessment has not been conducted, and training effectiveness has not been formally evaluated.
- A formal subcontractor management and control system is not in place.
- A consistent and formalized approach has not been developed to conduct routine facility inspections.

ANL-W has not fully implemented certain environmental policies or programs.

For example:

- Environmental Compliance Representatives have not received adequate training.
- A comprehensive evaluation of the environmental monitoring and surveillance programs has not been conducted nor has ANL-W taken a proactive role in determining its own monitoring needs for incorporation into the INEL Environmental Monitoring Plan.

Environmental programs that have not been fully implemented include asbestos management, waste management, waste minimization, pollution prevention awareness, and backflow prevention/cross-connection control.



SECTION 3.0

ENVIRONMENTAL OVERVIEWS AND AUDIT FINDINGS



3.0 ENVIRONMENTAL AUDIT OVERVIEWS AND FINDINGS

The audit findings are presented in the following pages and are not necessarily in order of importance. They are grouped by area of investigation, as listed in the Protocols for Conducting Environmental Management Assessments (DOE/EH-0326). This set of protocols is one of the primary tools used by the Office of Environmental Audit (EH-24) team to conduct this audit. In addition to these protocols, the technical specialists used the DOE Environmental Audit Program Guidance (DOE/EH-0232) and Performance Objectives and Criteria for conducting DOE Environmental Audits (DOE/EH-0229) to conduct the audit. Each area of investigation is introduced by an overview which describes: (1) the approach taken by the management or technical specialist in conducting that portion of the audit; (2) Argonne National Laboratory - West (ANL-W) programs and activities related to the area of investigation; (3) characterization of the strengths and weaknesses of ANL-W activities; and (4) a brief summary of the findings. Each finding is organized into three sections: the performance objectives, the finding statement, and a discussion of the details of the finding. The performance objectives section specifies the particular practices or standards against which the finding is being evaluated. In many cases, where the phrase "best management practice" appears in the performance objective, there are no specific regulatory or DOE references cited. Where this occurs, the best management practice 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) for the technical disciplines (i.e., air, surface water/drinking water, environmental radiation, and inactive waste sites), provides a summary of the apparent 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

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. Findings in the technical disciplines are in the Environmental Protection Programs section of the report and will be preceded by EP.

Several of the specialists on the audit 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 audit team member, and "1" is the assigned sequential interview number. Documents referenced for this audit are designated first by the letter "D" for document, followed by a letter designation for each specialist as described below, followed by a sequential number (e.g., D-A-1). The list of documents reviewed and interviews conducted are presented in Appendices D and E, respectively. Apparent causal factors are defined in Appendix F.

Designator Letter	Specialist
A	Peter Gascoyne
B	Paul Farrow
C	Ivor John
D	Dave Allard
E	Mark Brazell
F	James Rice
G	Joe Selle
H	Hank Rej

3.1 ORGANIZATIONAL STRUCTURE

3.1.1 Overview

The purpose of the organizational structure portion of the routine environmental reaudit was to evaluate whether ANL-W's and DOE's environmental management organization is consistent with the overall organizational structure; whether roles and responsibilities are well defined, clearly communicated and understood, and supported by appropriate management systems and documentation; and whether a group independent of line management is responsible for the policy and standards development and oversight functions.

The general approach to this portion of the audit included a review of background documents provided by ANL-W and AAO-W and onsite interviews with key personnel. Documents reviewed included organizational charts, organizational unit descriptions, position descriptions, and a variety of other documents that describe the current organizational structure and roles at ANL-W, AAO-W, ANL, AAO, CH, ID, NE, and EM. Interviews were conducted with selected line managers; Environment, Safety, and Waste Management (ESWM) Department staff; employees with environmental responsibilities in ANL-W's organization; and ANL Environment, Safety, and Health and Quality Assurance (ESH/QA) Oversight Organization. DOE personnel from AAO-W, CH, ID, NE, and EM were also interviewed to determine their roles in directing and overseeing environmental management activities at ANL-W.

With respect to ANL-W, the CH Manager has primary responsibility and authority for overall line management and operations. Line responsibility for ANL-W is carried out by the AAO-W through the authority delegated to it by the AAO Manager. AAO and AAO-W work closely with the Office of Nuclear Energy (NE); their relationship is formally laid out in the "Management Agreement Between Nuclear Energy (NE) and the Chicago Operations Office (CH) for Line Management of the Facility Operations of the ANL-W Site."

Responsibility for INEL-wide environmental issues (e.g., air permits, RCRA permits) and administrative contact with the Federal and state regulatory agencies related to INEL-wide issues is assigned to ID. CH retains authority for permit submissions and regulatory agency contact on environmental issues which impact only ANL-W (e.g., underground storage tanks, asbestos).

Generally, the organizational structure of the environmental management function within the DOE organization is characterized by clear lines of authority and responsibility. Interviews with DOE officials at CH, AAO-W, ID, EM, and NE indicated and demonstrated clarity regarding the roles of the different offices, as laid out in the written agreements between CH and ID, and between CH and NE. However, clear lines of authority and responsibility do not exist at ANL-W.

The critical role of the Environmental Compliance Representatives (ECRs) has never been clarified nor adequately supported by management. Other responsibilities hinder their capacity to perform their ECR functions. Training for their positions has been virtually nonexistent over the 18 months since their present roles were announced. Further, announcement of their roles came in the form of a *draft* memorandum, eliciting confusion from some ECRs and the key Environment and Waste Management (EWM) Section staff

with whom they work, as to their precise roles and responsibilities. Other roles and responsibilities for environmental functions at ANL-W also require clarification.

The key role of the EWM Section is to provide support for the execution of environmental programs by the divisions. Past staff shortages have hindered their ability to accomplish this role. Further, EWM Section Group Leader roles have not been clear, though understanding of these roles has improved over the past several months. The EWM Section Manager and Environment Restoration/Waste Management (ER/WM) Section Program Manager report to the ESWM Department Manager, who reports to the Reactor Program Services Division Director, who reports to the Deputy Associate Laboratory Director, who reports to the Associate Laboratory Director. There is a concern that too many layers separate the organization's most senior manager and the environmental professionals in the EWM and ER/WM Sections. The Reactor Program Services Division Director is responsible for six departments. He is at the ANL-W site 2 - 3 days per week on average, the balance of his time being spent at the ANL-E site performing duties for Engineering Research. In the Director's absence, the Associate Division Director is onsite and assumes the Division Director's duties and responsibilities. There is no evidence that day-to-day activities are affected as a result of this arrangement.

There are two findings in the area of organizational structure. One pertains to the inability of the ECRs to perform their environmental duties, and the other pertains to the roles, responsibilities, and authority of the ANL-W staff responsible for environmental activities.

3.1.2 Finding

OS-1: Environmental Compliance Representatives

Performance Objective: Best management practice suggests that the environmental management function be structured in such a way that managers can be leveraged effectively. Authority should be delegated to organizational levels that can ensure the effective implementation of environmental programs.

Finding: ANL-W's implementation of the ECR function prevents the effective implementation of environmental programs, as suggested by best management practice.

Discussion: Best management practice suggests the environmental function should be organized in such a way that managers can be leveraged effectively, without being spread too thinly. Throughout the organization, managers and staff should have adequate time, appropriate training, and clearly understood and recognized responsibilities to be able to effectively execute the environmental functions for which they are responsible. In particular, responsibilities for program implementation must be clearly understood, and the necessary resources and training must be made available to ensure execution.

At ANL-W, environmental program implementation within the divisions is primarily performed by the ECRs. The roles and responsibilities of the ECRs are outlined in a March 1992 draft memo from the Reactor Program Services Division Director. To summarize, their responsibilities include:

- act as a point of contact within their division or administrative section for all environmentally-related matters;
- know applicable regulations;
- implement environmental programs;
- be the eyes and ears of management regarding compliance status;
- conduct periodic inspections;
- review and sign environmental checklist; and
- assist other division personnel with environmental issues (D-A-38).

The ECRs are involved with tasks related to waste management, environmental compliance, and environmental restoration. There are presently nine ECRs and five alternate ECRs spread across ANL-W's five divisions (D-A-49). All of them have responsibilities, other than their ECR role, which take priority. It was widely acknowledged that as a result of their other responsibilities, the ECRs generally are spread too thin to have sufficient time to carry out their environmental functions (I-A-18, 20, 33, and 38).

The ability of the ECRs to carry out their tasks has been hampered by the lack of clarity and understanding regarding their roles, responsibilities, and authorities (see Finding OS-2).

The inability of the ECRs to carry out their responsibilities has been exacerbated by the lack of adequate training. Division management and the ECRs themselves recognize that many ECRs lack the training necessary for their position (I-A-20, 29, 30, 38, and 41). The EWM group trained ECR-equivalent staff approximately 3 years ago. Since then, formal EWM-led training of the ECRs has not been provided, in part as a result of the aforementioned confusion regarding their roles (I-A-29 and I-A-30).

ANL-W management is aware of this problem and is in the final stages of drafting a proposal designed to address part of the ECR's workload.

OS-2: Roles, Responsibilities, and Authority

Performance Objective: DOE 5700.6C, "Quality Assurance," requires that roles, responsibilities, and authority should be well conceived, well defined, clearly communicated, and understood by all personnel. DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," states that "operations personnel should clearly understand their authority, responsibility, accountability, and interfaces with other groups."

Finding: ANL-W has not clearly defined roles, responsibilities, and authority in the environmental area as required by DOE 5700.6C and 5480.19.

Discussion: DOE 5700.6C requires that roles, responsibilities, and authority are clearly communicated and well understood by all personnel. Such practice helps ensure that activities are executed efficiently and effectively, and that no activity is overlooked or inadequately performed as a result of confusion over the distribution of functions among individuals or organizational units.

The ANL-W organization has not yet succeeded in accomplishing these objectives in its environmental program. Staff are not clear regarding the roles of Environmental Compliance Representatives (ECRs) and Environment and Waste Management (EWM) Section Group Leaders, and the assignment of responsibility for many environmental functions is not clearly defined and understood.

As described in Finding OS-1, the roles of the ECRs have never been clearly understood. The March 1992 draft memo from the Reactor Program Services (RPS) Division Director stated that the described ECR roles and responsibilities "will be incorporated into the ANL-W ES&H manual and should be considered DRAFT until this process is completed" (D-A-38). However, the applicable ES&H manual section has yet to be finalized 19 months later (D-A-32; I-A-33). As a result, both the ECRs themselves, and the EWM Section staff with whom they most frequently interface, are still not clear about the role of the ECR (I-A-15, 21, 29, and 30). ANL-W management is aware of this confusion, and a proposal designed to address this situation is near completion.

The EWM Group Leaders' roles are not clearly defined, given the confusion over the extent of their managerial responsibilities versus their other duties. Job descriptions indicate that 10 percent of their time should be devoted to Group Leader activities, whereas a recent time check determined that 50 - 60 percent of their time is expended on managerial responsibilities (I-A-21, I-A-29, and I-A-30).

There has also been some question concerning the line of authority between EWM Section Group staff members, EWM Section Group Leaders, and the EWM Section Manager. In part it has not been clear whether group staff members report to their Group Leaders, or directly to the EWM Section Manager. This confusion has been worked out informally, and group staff members presently report to their Group Leaders (I-A-20, 22, and 29). Formally, however, position descriptions do not reflect these changes (D-B-116, 117, 118, 121, 122, 123, and 124).

There are numerous functional areas for which there is no clear definition and understanding of the individuals or organizational units responsible. Examples where clear assignment of responsibility and authority are lacking include the following:

- Implementation. According to the draft March 1992 memorandum describing the ECR roles, ECRs are responsible for implementing the ANL-W Environmental Management Program, the Facility Environmental Compliance Plans, and appropriate portions of the ES&H manual and the ANL Procedures Manual (D-A-38). However, two of the six ECRs interviewed by the audit team were not aware that they had the authority to implement environmental programs (I-A-41 and I-E-15). Furthermore, the proposed ES&H manual description of the ECR roles listed all the duties described in the March 1992 memorandum except implementation, underscoring the apparent absence of responsibility for this important function (D-A-32).
- Radiation Protection Program. DOE 5400.5 and a June 8, 1993, DOE Secretarial Policy Statement explicitly require clear assignment of authority for environmental radiation protection. While the EWM Section is responsible for ANL-W environmental issues, it does not have radiological technical expertise. The Radiation, Fire, and Safety Section is responsible for and provides support and technical expertise in the area of occupational radiation protection. Neither section explicitly claimed responsibility and authority for managing the environmental radiation protection program (I-D-1 and I-D-6).
- Decontamination and Decommissioning (D&D). There is no group to oversee sitewide D&D activities at ANL-W. There are individuals in different divisions with the necessary experience and expertise. However, no line of authority and role assignment for sitewide D&D activities has yet been made (I-D-19 and I-D-20). Some facilities face imminent decontamination (i.e., Central Liquid Processing Area), while others such as ZPPR and TREAT may be decommissioned in the near future (I-A-29). Given the scope of effort involved in such activity, clear designation of authority is needed.
- Subcontractor Oversight. There are no sitewide procedures delineating the roles and responsibilities of ANL-W staff with respect to issues related to subcontractor management, nor are there procedures for managing environmental restoration field activities between the EWM Section and Project Management. ANL-W needs to clarify the respective roles and responsibilities of the ESWM Department, Project Management, and facilities engineering, with regard to subcontractor activities. ANL-W management recognizes this need and is currently updating the applicable sections of the ANL-W Procedures Manual to address this issue (see Finding FP-1).
- Routine Walkthrough Inspections. No one has been assigned formal responsibility for routine walkthrough inspections (see Finding FP-2). During the week of September 13-17, 1993, the State of Idaho conducted a Resource Conservation and Recovery Act (RCRA) inspection of the entire INEL site. Fifteen potential violations and concerns at the ANL-W facility were cited, most of them related to satellite accumulation areas (SAAs)

(D-A-34). The State of Idaho could levy a fine for the violations, pursuant to its right under the Federal Facility Compliance Act. These violations may have been averted had formal responsibility and authority for satellite accumulation area inspections been in place (I-A-18).

3.2 ENVIRONMENTAL COMMITMENT

3.2.1 Overview

The environmental commitment portion of the routine environmental reaudit was conducted to assess ANL-W's overall awareness of relevant environmental issues and its commitment to environmental excellence. More specifically, the review included an assessment of ANL-W's environmental policy, senior management's support of and involvement in environmental issues, the extent to which all employees take personal responsibility for the potential environmental impacts of their activities and decisions, and ANL-W's overall commitment to environmental excellence.

The focus was to review the support of senior management for environmental issues and the degree to which individuals in ANL-W organizations are aware of, and take responsibility for, potential environmental impacts, and seek to eliminate those impacts in their activities.

The approach involved a review of DOE Orders and background documents from ANL-W prior to visiting the site and, based on this information, interviews were scheduled for the site visit. Supplementary interviews were added as concerns and issues were investigated. Additional documentation was reviewed onsite as provided by the ANL-W staff.

Interviews were held with the Associate Laboratory Director; Division Directors; Human Resources; Environment, Safety and Waste Management; External Affairs; Safeguards, Security and Information Services; and IFR Training. Representatives of AAO-W, ID, State of Idaho, and EPA were also interviewed. Documents reviewed included external speeches, job descriptions, environmental policies and procedures, minutes of senior management meetings, and other documents. Input from all members of the audit team were included in this assessment.

The management at ANL-W demonstrates an understanding of environmental excellence and differentiates this from compliance. In undertaking their mission, they fall short of complete commitment, but are willing to adopt improvement opportunities when issues arise. An example of this is the establishment of the Issue Management Task Group which, although still in its infancy, has addressed sitewide environmental issues. The formal environmental training of senior management is not consistent with a strong environmental commitment; however, management has demonstrated an understanding of key environmental issues.

ANL-W has a general mission statement that incorporates the organization's commitment to environmental protection. This statement, and supporting interviews with senior management at ANL-W, demonstrate that environmental compliance is the minimum acceptable standard.

Senior management at ANL-W are often requested to give speeches in the community, at scientific meetings, and to the media. A random review of recent documents demonstrated that environmental protection is regularly included.

The consistent message observed in interviews with senior management was that they are aware of the importance of compliance and that the goal of excellence is critical as the IFR program evolves. However, the achievement of this goal is being hindered, in part, by a lack of resources dedicated to environmental programs. The resource issue is discussed in more detail in the staff resources, training, and development section of this report.

Environmental issues are discussed at senior management meetings at ANL-W on a regular basis. For example, a review of the last 3 months' minutes from the weekly Division Director's meetings indicated that environmental concerns and initiatives are discussed at these meetings.

Senior ANL management has allocated a contingency fund for unexpected safety and environmental issues that may occur during the year. Environmental protection at ANL-W has been a significant benefactor of this fund in the past.

An understanding of environmental requirements and the training of management is an important commitment to environmental protection. Strong technical backgrounds and experience were consistently noted during interviews with the senior management at ANL-W. However, the formality of environmental training for environmental and line management is not well defined. In some areas, training is determined to be adequate, in others it is incomplete. One senior manager's training record indicated that he had not renewed his General Employee Training, which includes environmental protection. The documentation, scheduling, and effectiveness of training is discussed in the staff resources, training, and development section of this report.

Management at ANL-W are receptive to employee input on environmental issues. A bi-monthly ANL-W publication, "AWARE", covers, among other things, environmental topics and encourages feedback. In addition, the "IMPACT" program encourages suggestions on environmental initiatives.

The environmental commitment of division staff with direct environmental responsibilities was strong. During interviews, these line staff and those in the Environment and Waste Management Section demonstrated a strong knowledge of the environmental issues they face and a sense of ownership in the steps needed to address them. This same commitment and sense of ownership of environmental issues was found in AAO-W.

Line personnel are aware of how their day-to-day jobs are connected to environmental performance. It was noted from interviews with staff outside of the environmental program that they had a good understanding of environmental issues and were familiar with frequently used environmental terms (e.g., RCRA, CERCLA, NEPA, and PCBs).

Interviews with ID confirmed that ANL-W demonstrates responsibility for compliance. The only concern was that the length of time to respond to identified issues was often longer than expected.

A planned change in the role of the current Environmental Compliance Representatives (ECRs) will allow management to better define if, and what type of, additional resources are necessary to consistently meet compliance and promote activities that strive toward environmental excellence.

Based on the documents reviewed and interviews conducted, ANL-W demonstrates a commitment to environmental compliance and understands the need for excellence. As such, no findings are reported 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 routine environmental reaudit was to assess the extent to which ANL-W has developed and implemented specific environmental protection programs and plans as embodied in environmental laws and regulations, DOE Orders, and best management practices. Table 1-1 includes the regulations, requirements, and guidelines used in conducting this audit.

Environmental programs were evaluated to verify that program components exist and to determine the effectiveness of those programs through a review of program plans, previous audit reports, and corrective actions. As part of this audit, management staff from ANL-W, AAO-W, CH, ID, and the Idaho Department of Health and Welfare (IDHW) were interviewed and applicable documentation was reviewed.

The general approach to this portion of the audit was to review DOE Orders and regulatory requirements, and background documents provided by ANL-W prior to the onsite portion of the audit. Onsite activities focused on interviews with key personnel within the Environment, Safety and Waste Management (ESWM) Department, the Reactor Program Services Division, the Operating Divisions, the ANL-W Environment, Safety, and Health and Quality Assurance (ESH/QA) Compliance organization, and AAO-W. ID personnel were interviewed regarding sitewide environmental issues including permitting and interactions with the State of Idaho and EPA Region X. Environmental Compliance Representatives (ECRs) from the ANL-W Operating Divisions were also interviewed as they are the point of contact within the divisions for environmental matters.

In conjunction with this audit, in-depth programmatic assessments were conducted of the ANL-W programs for air, surface and drinking water, environmental radiation, and inactive waste sites. This portion of the audit relied on input from all members of the audit team.

Specific environmental protection programs that were evaluated during this audit include:

- air emissions source identification, control, and monitoring;
- surface water protection including source identification, spill prevention, and control;
- potable water supply protection including backflow prevention systems;
- groundwater protection programs, including monitoring, as they relate to inactive waste sites;
- management of mixed waste including source identification, characterization, training, minimization, recordkeeping, transportation, and treatment, storage, and disposal practices; and
- environmental as low as reasonably achievable (ALARA) program including radiological environmental surveillance, evaluation of unplanned releases, and evaluation of exposure to the public.

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

- Environmental Protection Implementation Plan;
- Long Range Environmental Protection Plan;
- Waste Management Plan;
- Environmental Monitoring and Surveillance Plan;
- Groundwater Protection Management Program;
- Waste Minimization and Pollution Prevention Awareness Program;
- Quality Assurance Program; and
- Preventive Maintenance Program for ES&H-related equipment.

Overall, the audit team found that ANL-W has developed many of the elements that constitute a comprehensive environmental protection program. All required permits appear to be in place for current operations, and they appear to be updated and renewed in a timely manner. However, several programs have not been fully developed and documented, and many of them are not effectively implemented. ANL-W received one Notice of Violation (NOV) in February 1993 following a hazardous waste management inspection by the IDHW Division of Environmental Quality, and a further NOV is expected following a September 1993 hazardous waste management inspection.

Two general findings were identified in the environmental protection programs portion of this audit. These relate to the ANL-W environmental monitoring and surveillance program, and the implementation of environmental programs. Other findings, relating to specific technical areas, are included in this section following the respective overviews.

3.3.2 Finding

EP-1: Environmental Monitoring and Surveillance Program

Performance Objective: DOE 5400.1, "General Environmental Protection Program," Chapter IV.5.b.(1), states that environmental surveillance shall be conducted to monitor the effects, if any, of DOE activities on onsite and offsite environmental and natural resources. Chapter IV, Section 1, states that the need and levels of effort for monitoring programs shall be determined by the appropriate field organization on a case-by-case basis, consistent with regulatory requirements, DOE directives, and the degree of environmental assurance that activities at the particular site require. Chapter IV, Section 4, states that an Environmental Monitoring Plan (EMP) is to be prepared for the site, and that the plan will reflect the importance of monitoring as a critical element of an effective environmental protection program.

Finding: ANL-W has not conducted a comprehensive evaluation of its environmental monitoring and surveillance program as required by DOE 5400.1.

Discussion: DOE 5400.1, Chapter IV, Section 5.b.(1), states that "an environmental screening program shall be undertaken at DOE sites to determine the need for a permanent surveillance program." The environmental surveillance screening analysis is an important requirement in defining the scope of the surveillance monitoring program and the elements that should be monitored.

DOE 5400.1, Chapter IV, includes specific requirements for environmental monitoring programs at DOE facilities, and Section 4 includes requirements for EMPs. A formal monitoring plan is required for each site, facility, or process that uses, generates, releases, or manages significant pollutants or hazardous materials. The plan must contain the rationale and design criteria for the monitoring program, the extent and frequency of monitoring and measurements, procedures for laboratory analyses, quality assurance requirements, program implementation procedures, and directions for the preparation of reports. The plan must address effluent monitoring and environmental surveillance. A properly developed EMP will provide a full understanding of the likely contaminants (radiological and non-radiological) at the site and the rationale and procedures for monitoring for them, and will be a critical element of the environmental protection program.

ANL-W has not conducted and documented a screening analysis using monitoring or modeling to determine the need for a permanent air surveillance program. EPA and state air pollution control regulations are being enforced at the INEL site boundaries where pollutant concentrations are typically present in much lower concentrations than onsite and at the ANL-W boundary. While ANL-W does perform some environmental monitoring and surveillance within the ANL-W boundary, it has not considered potential impacts onsite and at the ANL-W fenceline to ensure compliance with DOE 5400.1 (D-C-5).

The Idaho Department of Health and Welfare (IDHW) requirements for environmental surveillance at INEL have been, and continue to be, addressed through the sitewide monitoring program conducted by the Radiological and Environmental Sciences Laboratory (RESL). Since the state has determined that the entire INEL site is to be treated as one major source for the purpose of air permits and regulatory requirements, ANL-W is

conducting only limited site-specific surveillance monitoring. For monitoring radiological pollutants at ANL-W, RESL operates just one ambient air monitoring station located near the ANL-W fenceline, in the ANL-W main parking lot. There are no non-radionuclide monitoring systems installed to measure potential impacts from ANL-W activities, and non-radiological sources are not evaluated for potential emission controls as thoroughly as radiological emissions.

RESL has been responsible for preparing the EMP and the Annual Site Environmental Reports for INEL. However, RESL had not completed the EMP in 1991, which was the subject of a key environmental finding during the 1991 Tiger Team Assessment. Further, RESL failed to meet its February 1993 milestone to complete this project. A subcontractor has recently been tasked by ID to produce an EMP. ANL-W is providing input to the EMP project as requested by RESL, and RSEL is providing the information requested.

Concerning the broader context of environmental surveillance monitoring, ANL-W has requested guidance from AAO-W for a determination on the need and level of effort needed for the monitoring program (D-C-64). AAO-W has not responded to this request, and no effort has been made by ANL-W to determine its own monitoring requirements based on guidance in DOE/EH-0173T, Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance. Specific deficiencies in the program identified by the audit team are summarized below:

- The design of the effluent stack monitoring system at ANL-W has not been reviewed to determine its effectiveness in meeting standards. This was the subject of two Tiger Team findings. The project is currently being designed and a contract is to be awarded in the near future to have the air effluent monitoring and control systems critically reviewed (I-C-1, I-D-6, and I-D-9).
- The stack monitor radioactivity levels for ANL-W have been set to declare a Site Area Emergency (SAE) if the airborne effluent activity level from EBR-II exceeds 5,000 Derived Concentration Guides (DCGs) for 24 hours (D-D-64; I-D-24). However, the current limit in DOE 5000.3B is 5 times the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) reportable quantity (RQ) over 24 hours. Additionally, the issue of multiple radionuclide releases has not been considered in setting the action point for an SAE. It should be noted that the Radioactive Waste Management Information System (RWMIS) incorporates a dilution factor of at least 10^6 at the INEL site boundary, but no calculations have been performed for dose at the ANL-W boundary (i.e., the gatehouse) during this 24-hour period. Lastly, there are several errors in the 5,000 DCG tables issued to the health physics technicians (D-D-64).
- A screening analysis has not been conducted to determine the need for additional permanent ambient air surveillance monitors (radiological and non-radiological) close to the ANL-W facility (I-D-6, I-D-9, and I-D-21). The one monitor sited near the fenceline in the ANL-W parking lot is not sited in accordance with the requirements of 40 CFR 58, Appendix E, and DOE/EH-0173T, and is sited in the upwind direction of the prevailing wind. These design and siting issues were identified during the 1991 INEL Tiger Team Assessment (see Findings A/CF-3 and A/CF-2) and the 1993 Progress Assessment (see Finding E/C-1).

- There is no EMP specifically for ANL-W. The existing EMP (D-D-7) is a baseline document that describes the monitoring programs presently in place throughout the INEL, including ANL-W (D-C-5). This document does not satisfy the requirements for an acceptable EMP per DOE 5400.1. There is also a concern that ANL-W is merely responding to information requests regarding the new EMP. Efforts have not been made by ANL-W and AAO-W to ensure that the need and level of effort for environmental monitoring are evaluated. Without a proactive evaluation of ANL-W's needs, the anticipated EMP may also fall short of satisfying DOE 5400.1 for ANL-W.
- Wastewater streams are not fully characterized or monitored. The Environment and Waste Management (EWM) Section does not have a formal wastewater monitoring program, and procedures are outdated, informal, and limited in scope (D-E-4 and D-E-44; I-E-2). EWM is taking action to address this concern as part of an Integrated Resource Management System (IRMS) project (D-E-10; I-E-2).

The causal factors for this finding are risk, in that ANL-W personnel have not assessed the relative degree of risk involved in not having an ANL-W monitoring and surveillance program; and policy implementation, in that DOE policy, which requires that onsite impacts be evaluated, has not been implemented.

EP-2: Environmental Program Implementation

Performance Objective: DOE 5400.1, "General Environmental Protection Program," requires the preparation of an Environmental Protection Implementation Plan (EPIP) to ensure that the programs required under 5400.1 are executed. The purpose of the EPIP is to provide management direction, including assignment of responsibilities and authorities, to ensure that all DOE facilities are operated and managed in a manner that will protect, maintain, and where necessary restore environmental quality, minimize threats to the environment and public health, and comply with environmental regulations.

Finding: ANL-W has not effectively implemented the environmental protection programs required by DOE 5400.1.

Discussion: Effective environmental protection programs are required by DOE 5400.1 to address environmental issues including air pollution control (including radiological and non-radiological monitoring and surveillance); surface water protection; potable water supply protection; groundwater protection; toxic and chemical materials management; solid, hazardous, mixed, and radioactive waste management; environmental radiation As Low As Reasonably Achievable (ALARA); underground storage tanks; waste minimization; and pollution prevention awareness. An EPIP is also required to ensure that these programs provide management direction and assign responsibilities and authorities for effective implementation.

ANL-W has developed programs to address most of the DOE 5400.1 requirements, however, not all of the programs are being effectively implemented in a way that meets the intent of DOE 5400.1. Further, the current EPIP is not effective in ensuring that the programs are being implemented.

Examples of deficiencies in program implementation at ANL-W are summarized below:

- While the asbestos management program is well documented with procedures to address hazards associated with the handling of asbestos, inadequate implementation of these procedures has led to a number of incidents where the minimum standards for asbestos handling have not been met (see Finding EP-3).
- The Waste Management Plan (WMP) at ANL-W has not been updated since it was issued in December 1988 to ensure that current site needs and regulatory requirements are incorporated (D-D-48; I-D-22). Additionally, the WMP did not address mixed waste as required by DOE 5820.2A. A consequence of ANL-W's failure to implement a comprehensive waste management program has contributed to a series of Notices of Violation (NOV) from the Idaho Department of Health and Welfare (IDHW) relating to hazardous waste (D-C-23 and D-C-62; see Finding EP-1). A complete summary of radioactive waste management issues is noted in Finding EP-4.
- The lack of clearly defined roles and responsibilities for managing the underground storage tank (UST) program at ANL-W has contributed to delays in the removal of UST #742-D, located outside the ANL-W fenceline (I-F-4).

- ANL-W has not actively pursued the goals and objectives set for the Waste Minimization Program. The program is not reviewed annually to evaluate its effectiveness, and waste minimization opportunities are not being identified and incorporated into the program (D-C-11 and D-C-51; I-C-11).
- Environmental radiological monitoring and surveillance activities are currently performed by various organizations in and around ANL-W. However, there is no individual or group responsible for coordinating DOE 5400.5 issues (I-D-1, I-D-6). This fact may have contributed to ANL-W's failure to perform a comprehensive evaluation of its environmental monitoring and surveillance needs, which would form the basis for an acceptable Environmental Monitoring Plan (EMP) required by DOE 5400.1 (see Finding EP-1).
- A Pollution Prevention Awareness Program (PPAP) contest to increase employees' awareness of the need for pollution prevention was developed in the Spring of 1993 (D-C-50). However, ANL-W was unable to secure funding to implement this program, and the contest was never held (I-C-11).
- ANL-W has taken the position that the Industrial Waste Pond is not "Waters of the US" and that due to its location, ANL-W could not reasonably be expected to discharge oil in harmful quantities into or upon navigable waters of the United States or adjoining shorelines. Therefore, ANL-W did not participate in INEL's sitewide National Pollutant Discharge Elimination System (NPDES) permit and does not have a complete SPCC Plan signed by a registered professional engineer. In addition, INEL's sitewide Storm Water Pollution Prevention Plan (SWPPP), which includes ANL-W, has not been finalized. These three issues hinge on a resolution by EPA and the Army Corps of Engineers over what constitutes "Waters of the US." ANL-W has indicated that it will participate in the SWPPP and will prepare a Spill Avoidance and Response Plan, which will contain provisions for prevention and control of releases of all chemical substances onsite, including oil. If it is determined that ANL-W can discharge oil in harmful quantities to waters of the United States or adjoining shorelines, the SARP will be designed to meet all of the requirements for an SPCC Plan; if not, the SARP will be designed to meet the substantive requirements for an SPCC Plan. A decision contrary to ANL-W's position will also require it to submit appropriate permit application information for INEL's sitewide NPDES permit.

The causal factors for this finding are policy implementation and resources in that resources are not available to the Environment and Waste Management (EWM) Section to effectively implement the programs. Training is a contributing factor in that ANL-W employees are not provided with adequate training for policy implementation.

3.3.3 Technical Assessment

In response to requests by the Facilities Division (NE-47); the Idaho Operations division (EM-44); the Chicago Operations Office (CH); The Argonne Area Office - West (AAO-W); and the ESH/QA Oversight Organization within Argonne National Laboratory, the technical assessment consisted of reviews of air, surface water and drinking water, environmental radiation, and inactive waste site programs.

3.3.3.1 Air

3.3.3.1.1 Overview

In the area of air, the audit team evaluated the adequacy of the current programs at ANL-W developed to characterize and control air effluent and to monitor and protect ambient air quality. The primary activities associated with the air programs at ANL-W are air permitting, compiling and maintaining air emission inventories, effluent monitoring and control for radionuclide emissions, and the management of ozone depleting substances and asbestos. Ambient air surveillance monitoring is conducted by the Radiological and Environmental Sciences Laboratory (RESL) and meteorological monitoring activities are conducted by the National Oceanic and Atmospheric Administration (NOAA) as part of the INEL sitewide monitoring program. Table 1-1 includes the regulations, requirements, and guidelines used during this assessment.

The scope of the air quality issues, as they apply to ANL-W, is primarily defined by the following requirements: (1) laws, including the Clean Air Act and the Clean Air Act Amendments of 1990, regulations promulgated by the United States Environmental Protection Agency (EPA) and by the Idaho Air Quality Bureau (IDAQB), and permits issued pursuant to these regulations; (2) DOE Orders; (3) ID and contractor policies and procedures; and (4) best management practices. Major air issues addressed by this assessment included integration of the ANL-W program into the INEL sitewide programs; overall program management of the air pollution control activities at ANL-W; and specific elements of concern raised at previous audits and assessments, including effluent and ambient air monitoring, permitting procedures, and asbestos management.

The general approach of the air portion of the assessment was to conduct a programmatic review of ANL-W's air pollution control program and its progress toward excellence. The activities performed in this review consisted of interviews with management and staff at ANL-W, AAO-W, ID, and IDHW; review of site documents, including applications for permits to construct, correspondence with regulatory agencies, standard operating procedures, environmental reports, and various other internal documents, including air emissions inventories; and some field verification activities.

The State of Idaho considers the entire INEL site to be a single major stationary source as it applies to the enforcement of state air pollution control regulations, with point of contact authority to the state and EPA Region X designated to ID. As such, air emissions from ANL-W are viewed as part of the single INEL stationary source, and ID has permitting responsibility for ANL-W. This introduces an additional communications requirement for ANL-W, because it reports to CH.

In recent years, the Environmental Compliance Group in ANL-W's Environment and Waste Management (EWM) Section has developed a very good working relationship with air pollution control personnel with ID and the other INEL M&O contractors. For ANL-W, formal communications with regulatory authorities such as Idaho Department of Health and Welfare (IDHW) Air Quality Bureau (IDAQB) and EPA Region X are through AAO-W to ID, which introduces a high level of redundancy and a tendency to cause delays. However, potential problems are alleviated by good informal communications between the current staff at ANL-W, AAO-W, and ID. ANL-W also has good informal contacts with the other contractors at INEL as evidenced in the monthly meetings held to discuss important air pollution control issues. This arrangement helps ANL-W to deal quite effectively with IDAQB air permit requirements and regulations, despite the complex reporting relationships.

While all regulations promulgated under the Clean Air Act are applicable to INEL, the most significant are those concerned with the National Emission Standards for Hazardous Air Pollutants (NESHAPs) and Prevention of Significant Deterioration (PSD). NESHAPs of prime concern are those restricting radionuclides (40 CFR 61, Subpart H) and asbestos (40 CFR 61, Subpart M). PSD regulations are applicable because INEL is located in an area that has been designated as an attainment or unclassified area for all criteria pollutants, and because INEL is an existing major stationary source. The IDAQB has been delegated authority for enforcing the PSD requirements in Idaho, which is administered through its permitting program. The new Operating Permit Program requirements resulting from Title V of the Clean Air Act Amendments will also be administered by the IDAQB. The NESHAP requirements are enforced by EPA Region X.

The NESHAP permit requirements at ANL-W are incorporated into the INEL sitewide NESHAP permit, which is handled by ID. In recent years, the annual NESHAP radionuclide report has been compiled by ID using effluent monitoring data compiled by EG&G using data from the Radioactive Waste Management Information System (RWMIS). With the impending de-federalization of RESL, the NESHAP annual reports will be compiled by the Sitewide Programs staff at ID. ANL-W has only two IDAQB permits: one for the Fuel Cycle Facility, and the other for the paint spray booth. Most of the other sources were in place before the effective date of PSD regulations; therefore, they have not needed permits. This is expected to change next year as requirements of the 1990 Clean Air Act Amendments, Title V, "Operating Permit Program," begin to affect ANL-W. ANL-W is currently planning to address these requirements through the cooperative efforts of ID and the informal INEL sitewide air pollution control committee.

Asbestos-containing materials (ACMs) have been used widely in past construction projects at ANL-W. To address the need for safe handling of ACMs, ANL-W has developed a detailed asbestos management program with formal procedures for identification of ACMs and notification of removal actions and demolition work. However, ANL-W has not compiled a sitewide inventory of ACMs (see Finding EP-3).

There are over 250 potential air emission points distributed over the ANL-W site. The criteria pollutants include nitrogen oxides, sulfur dioxide, carbon monoxide, volatile organic compounds, and particulates. Radionuclide emissions include noble gases, gaseous and particulate fission products, and transuranics. These emissions have been compiled in the ANL-W emission inventory, which is updated annually.

Operations at ANL-W also have the potential to emit air toxics. A sitewide source identification and characterization program for air toxics is being compiled using the inventory of criteria pollutants as part of an INEL agreement with the state. The toxic air emissions inventory is primarily required to develop the scope of the Operating Permit application that will be submitted to IDAQB in response to regulations promulgated by EPA following the Clean Air Act Amendments of 1990. ANL-W has established a Stack Emissions Task Force comprised of representatives from each of the divisions to address the formidable data-gathering requirements of this effort. ID has provided guidance on the data to be obtained for this purpose. Estimated emissions will be based on ANL-W and ID process knowledge of the physical sources of air emissions in the existing ANL-W emissions inventory.

In response to a request from CH, ANL-W has recently compiled an inventory of ozone depleting substances (ODS) onsite. This consists primarily of chlorofluorocarbons used as refrigerant (Freon 12 and 113), halons used in fire extinguishing systems, and a range of solvents (such as methyl chloroform and carbon tetrachloride) used in small quantities. From interviews and a review of documents, the audit team concluded that ANL-W is not actively pursuing program for substitution or elimination of ODSs, and only limited attempts are being made to raise employee awareness in this area.

Responsibilities for air effluent monitoring and air pollution control systems at ANL-W are with the divisions that operate the respective sources of air pollutants. Two stacks are required to have continuous emissions monitoring under NESHPAs (one at the main stack for the Experimental Breeder Reactor II and Fuel Cycle Facility, and the other at the Hot Fuel Examination Facility). ANL-W also has nine other radionuclide monitors installed for confirmatory monitoring. Particulate radionuclides are controlled by high efficiency particulate air (HEPA) filters, and procedures are in place for maintenance of these filters. The control of gaseous radionuclides is by carbon adsorption and retention. The site appears to have good control for both particulate and gaseous emissions of radionuclides.

ANL-W relies on RESL to perform the ambient air monitoring for the ANL-W site as part of the INEL monitoring program. RESL has been responsible for preparing the Environmental Monitoring Plan and the Annual Environmental Reports. With the reorganization of RESL, effective January 1, 1994, the responsibility for these monitoring activities will be transferred to the Environmental Support Division (ESD) at ID.

There is one radioactive ambient air monitoring station at the ANL-W fenceline, located in the adjacent parking lot. Independent environmental surveillance monitoring is conducted around INEL by the Idaho Department of Health and Welfare Oversight Program (IDHW OP) as part of the IDHW Agreement In Principle with DOE to assess potential impacts of INEL operations on the public.

Although ANL-W has not conducted a screening analysis to determine the need for an air surveillance program for nonradionuclide sources, emissions from the boiler are analyzed monthly to check for several pollutants including carbon monoxide (CO), sulfur dioxide (SO_2), and oxides of nitrogen (NOx), and opacity is continuously monitored. However, nonradiological sources are not evaluated for potential emission controls as thoroughly as radiological emissions. EPA and state air pollution control regulations are being enforced at the INEL site boundaries where pollutant concentrations are typically present in much lower concentrations than onsite and at the ANL-W boundary. ANL-W has not considered

potential impacts onsite and at the ANL-W fenceline to ensure compliance with DOE 5400.1.

NOAA provides technical support for the INEL meteorological monitoring program which covers both onsite and offsite locations. There is a separate meteorological mast outside the control building for the Transient Reactor Test Facility (TREAT) at ANL-W, which is used to assess wind direction and speed prior to conducting certain experiments at this facility. The technical specifications for TREAT operations state that these experiments shall be conducted only if: (1) the wind is not blowing from the TREAT reactor building toward the TREAT control building or the EBR-II area; (2) the wind speed is at least 1 meter per second; and (3) the atmospheric stability class is D (or more favorable). This TREAT meteorological mast has not been sited in accordance with DOE/EH-0173T, Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance, as it is not located at least 10 times the height of the control building away from the building (D-C-63). This implies that the wind speed and direction data will be affected by the building, especially when the wind is from the southeast quadrant. This condition implies that limits should be imposed on the applications for which the meteorological data from this mast are to be used. While the wind speed and direction data are likely to be acceptable for defining acceptable operating conditions for TREAT experiments, they should not be used for other applications such as determination of stability class and air dispersion modeling. Stability class for TREAT experiments is calculated by NOAA using its own towers around the INEL site.

In summary, ANL-W is performing adequately relative to the existing EPA and state air pollution control regulations. Many of the elements of an effective air pollution control program are in place. However, the primary weaknesses at this time appear to be: (1) the absence of a program management plan that encompasses all of the related programs and defines roles and responsibilities; (2) deficiencies in the planning process, especially in relation to monitoring requirements (see Finding EP-1); (3) the lack of programmatic documentation (see Finding FP-1); and (4) the absence of a sitewide survey of asbestos-containing materials (ACMs) (see Finding EP-3).

The future issues that are potentially the most critical to ANL-W are the promulgation of more stringent air regulations such as the Operating Permit requirements, and ensuring that air monitoring requirements are adequately addressed. The new regulations will be significantly more stringent and more complex than the current air pollution control regulations.

The air quality portion of this assessment identified one compliance finding which relates to the implementation of ANL-W asbestos management procedures and the absence of a sitewide inventory of ACMs.

3.3.3.1.2 Finding

EP-3: Asbestos Inventory

Performance Objective: DOE 5400.1, "General Environmental Protection Programs," requires all DOE operations to comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements of 40 CFR 61, Subpart M, "National Emission Standards for Asbestos," which includes the requirements for notification of a demolition or removal activity, and procedures for demolition, removal, decontamination, and disposal of asbestos-containing materials (ACMs).

DOE 5480.4, "Environmental Protection, Safety and Health Protection Standards," requires DOE and DOE contractor organizations to comply with the Occupational Safety and Health Act (OSHA) standards 29 CFR 1910 and 29 CFR 1926, which contain requirements for the prevention of asbestos exposures and construction work involving ACMs.

40 CFR 763.84, "General Local Education Agency Responsibilities," includes requirements for: (1) the preparation of an inventory of ACMs based on a comprehensive site inspection and sampling and analysis; and (2) asbestos demolition and removal actions in schools. These were promulgated to implement the Asbestos Handling Emergency Response Act (AHERA) under the Toxic Substances Control Act (TSCA).

The ANL-W ES&H Manual includes a standard procedure (Section V, Chapter 10) for the control of asbestos hazards, and the Integrated Fast Reactor (IFR) Plant Services Operating Instruction PS-OI-2, "Asbestos Abatement," provides minimum requirements for asbestos abatement work to ensure that proper procedures are provided and followed for monitoring, removal, cleanup, and disposal of ACMs.

Best management practices suggest that asbestos management programs, similar to those included in AHERA, be in place at facilities that handle ACMs to prevent the release of asbestos fibers to the environment and to prevent harm to the public.

Finding: ANL-W has not effectively implemented its asbestos management procedures in accordance with DOE Orders, Federal regulations, and ANL-W procedures, and a sitewide inventory of ACMs has not been compiled as suggested by best management practice.

Discussion: To meet the regulatory requirements for the safe handling and management of ACMs, facilities that have ACMs onsite should develop an asbestos management program. The program should include policies and procedures for the control of asbestos hazards, and for monitoring, removal, cleanup, and disposal of ACMs to prevent release of asbestos fibers to the environment and to prevent harm to the public. Based on the AHERA standards, the management plan should also include the preparation of an inventory of ACMs based on a comprehensive site inspection.

The ANL-W standard procedure for the control of asbestos hazards (ANL-W ES&H Manual, Section V) states that possible ACMs shall be sampled by a certified asbestos worker or industrial hygienist, and all renovation work shall be overseen by the Radiation, Fire and Safety Section Industrial Hygienist to ensure that ACMs are not disturbed.

The asbestos abatement procedure PS-OI-2, developed by IFR and Environment, Safety and Waste Management (ESWM) staff, forms the basis of the ANL-W Asbestos Management Program. This provides minimum requirements for asbestos abatement work to ensure that proper procedures are provided and followed for monitoring, removal, cleanup, and disposal of ACMs. Notifications of asbestos removal actions (to EPA through AAO-W) are performed and documented by ESWM staff.

While the Asbestos Management Program was observed to be comprehensive and well-documented, the program does not include an inventory of ACMs. This may have contributed to a number of recent incidents where previously unidentified ACMs have been discovered during the course of routine repair and maintenance, and decontamination and decommissioning (D&D) activities. Examples of such incidents include:

- On February 12, 1992, construction workers from Hunter Saucerman, a subcontractor to ANL-W, accidentally drilled into asbestos insulation in Room 25 of Bldg. 765, resulting in probable asbestos exposure. The construction workers were not wearing personal protective equipment (D-C-44; I-C-12).
- On November 21, 1992, Western Wholesale, a private carpet contractor, removed approximately 160 square feet of floor tile containing ACMs. It was later determined that this material contained 21-31 percent asbestos. No prior notifications were made to EPA by ANL-W or AAO-W, as the removal action was not expected to involve ACMs (D-C-40 and D-C-41; I-C-12).
- The scope and cost of sampling for the Central Liquid Processing Area D&D (Activity Data Sheet 1703) project did not account for the existence of insulation adhesive containing ACMs. The additional cost to the project to design and implement increased sampling was estimated to be \$40,000 (D-C-47).

Following the first issue mentioned above, ANL-W revised the asbestos abatement procedures by supplementing the ES&H procedures with new requirements in PS-OI-2 (D-C-46). However, this did not prevent further incidents of unidentified ACMs being discovered, and without a comprehensive sitewide inventory, the potential exists for more incidents of this kind.

The apparent causal factors for this finding are risk in that potential risks from asbestos onsite have not been adequately accounted for, and policy implementation in that the contract managers and construction workers have not adhered to the standards and requirements of the ANL-W policies and procedures. Training and supervision are also contributing factors in that the subcontractors are not made aware of the potential for asbestos exposures at ANL-W, and there is a lack of contractor oversight.

3.3.3.2 Surface Water/Drinking Water

3.3.3.2.1 Overview

The purpose of the surface water/drinking water portion of the routine environmental reaudit was to assess the extent to which ANL-W has developed and implemented specific programs, plans, and standards to ensure compliance with Federal, state, and local environmental laws and regulations. In addition, the assessment will determine if ANL-W provides for timely and correct implementation of DOE Orders designed to protect the environment and public health. Table 1-1 includes the regulations, requirements, and guidelines used during the assessment.

The scope of this assessment was to review the function of the Environment and Waste Management (EWM) Section, the ANL-W divisional responsibilities specific to surface water/drinking water, and ANL-W's support of ID permit applications. In addition, major environmental protection and compliance program issues were addressed.

The general approach to the surface water/drinking water portion of the assessment included interviews with personnel in the environmental and operations organizations of ANL-W, AAO-W, and ID; review of site documents, including correspondence with regulatory agencies, standard operating procedures, environmental reports, and various internal documents; inspections of wastewater and raw water source areas; inspection of facilities that use, convey, treat, and/or discharge waters/wastewaters; observation of sampling locations and events; review of the 1991 Tiger Team findings specific to surface water and drinking water; and a review of the July 1993 Integrated Resource Management System project conclusions resulting from the 1991 Tiger Team findings.

The Snake River Plain Aquifer serves as the water supply source for much of southern Idaho, including ANL-W. The Snake River Plain Aquifer was recently designated as a sole source aquifer by EPA Region X. Raw water at ANL-W is pumped from the aquifer using two deep wells. This water serves the potable, domestic, fire protection, and industrial needs of the site. Various treatment systems are utilized in the preparation of the raw water for its intended use, including chlorination, softening, deionization, and demineralization. Water services are provided for the ANL-W facility only.

Sanitary sewage treatment ponds are located north of the main facility and cover approximately two acres. There are three ponds of various sizes. The primary pond, constructed in 1965, receives sanitary waste directly from Bldg. 778, the sanitary lift station, and starts the first stage of biological degradation of wastewater. From this pond, water is directed to the secondary pond for final biological treatment. The secondary pond, constructed in 1974, has a bentonite-lined bottom and geotextile-lined and rip-rap-covered sides. The emergency overflow pond is a smaller version of the primary pond and was constructed at the same time as the primary lagoon. The primary and emergency overflow ponds have bentonite-lined bottoms and rip-rap-covered sides. Prior to 1965, sanitary wastes were discharged to individual septic systems.

The Industrial Waste Pond has been used since 1964 to receive wastewater from several sources. The Industrial Waste Pond is an unlined pond that is fed by a number of industrial and stormwater discharges that are conveyed through a system of unlined drainage ditches. The largest sources of liquid industrial waste going to the Industrial

Waste Pond are blowdown effluents from the main and auxiliary cooling towers, auxiliary boiler blowdown, water from once through air conditioning, and cooling waters from other sources. These discharges are sampled prior to release into the Industrial Waste Pond. Pretreatment of industrial wastewaters at ANL-W consists of silver recovery canisters associated with the photographic laboratories waste streams.

Percolation studies have recently been conducted on the primary and secondary sewage treatment ponds to determine if they are true evaporation ponds. Because of problems which arose during the last 6 days of the 30-day test, data was extrapolated for the study, and therefore, an additional test is planned to verify the original data. Sewage effluent discharges to land surfaces are currently being re-evaluated as part of an ID study scheduled to be completed in October 1994. Should studies prove that the ponds are evaporation ponds, ANL-W will not be required to submit a Land Application Permit as required by Idaho Department of Health and Welfare (IDHW), Rules and Regulations, Title I, Chapter 17, Sections 01.17200 (05) and 01.2600 (02). However, should the studies indicate that the sewage treatment plants are percolation ponds, ANL-W will be required to take appropriate action to submit a Land Application Permit application. Appropriate action to submit this permit, if required, is scheduled for completion in April 1995.

In response to the 1991 Tiger Team Finding, SW/BMPF-2, ANL-W performed an evaluation, using aerial photos and flood plain maps, and took the position that the Industrial Waste Pond should not be considered "Waters of the U.S." Therefore, ANL-W considered itself exempt from participating in INEL's sitewide National Pollutant Discharge Elimination System (NPDES) permit application for industrial wastewater. ANL-W and AAO-W are currently working with EPA Region X and/or the Army Corps of Engineers to obtain concurrence with this evaluation. Should EPA and/or the Army Corps of Engineers determine that the Industrial Waste Pond is "Waters of the U.S.," ANL-W will be required to prepare the necessary information for amendment to INEL's sitewide NPDES permit application.

ANL-W has indicated that it will participate in INEL's sitewide Storm Water Pollution Prevention Plan for Industrial Activities regardless of EPA's and/or the Army Corps of Engineers' determination. A draft Storm Water Pollution Prevention Plan was completed in July 1993, and ANL-W is currently working with ID on the final plan.

As a result of the 1991 Tiger Team Finding, SW/CF-5, a sitewide evaluation is currently being conducted by EG&G, one of the INEL management and operating contractors, to identify which INEL facilities are required to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan. EG&G's determination will be based on whether the facility, because of its location, could reasonably be expected to discharge oil into or upon navigable waters of the United States, and will be impacted by the decision by EPA Region X and/or the Army Corps of Engineers of whether the Industrial Waste Pond is considered "Waters of the United States." ANL-W currently has an SPCC Plan in place; however, it does not satisfy the requirements of 40 CFR 112.7. The SPCC Plan is incomplete and has not been signed by a registered professional engineer. The March 1993 milestone for completion of INEL's new guidelines and procedures for preparation of an SPCC Plan is behind schedule. Once the INEL guidelines and procedures are completed, ANL-W will prepare a Spill Avoidance and Response Plan (SARP) which will contain provisions for prevention and control of releases of all chemical substances onsite, including oil. If it is determined that ANL-W can discharge oil in harmful quantities to

waters of the United States or adjoining shorelines, the SARP will be designed to meet all of the requirements for an SPCC Plan; if not, the SARP will be designed to meet the substantive requirements for an SPCC Plan.

The ANL-W drinking water program has improved since the 1991 Tiger Team Assessment. ANL-W has recently implemented a formal program for testing fecal and total coliform bacteria, for testing lead and copper at sink taps and drinking water fountains, and for completing the potable water chlorination system. The chlorination system and lead testing program were both identified as findings in the 1991 Tiger Team Assessment. The monitoring program, established in April 1993, first identified the manufacturer and model of each drinking fountain within ANL-W's facilities. Testing was then conducted on every drinking fountain to establish a baseline, with subsequent testing performed at location-specific frequencies as determined from the baseline results.

A backflow prevention or cross connection control program does not exist at ANL-W. Numerous locations have previously been identified which require installation of backflow prevention or cross connection control devices. In 1991, ANL-W was notified by the IDHW Division of Environmental Quality that it was in violation of one or more regulatory requirements related to protection of the potable water supply. This issue remains unresolved.

The surface water program at ANL-W requires improvement. As identified in the 1991 Tiger Team Assessment and confirmed during this assessment, wastewater treatment at ANL-W in many instances consists only of removal of the liquid to a system that conveys the wastewater onto the ground and/or into a system of unlined drainage ditches. Wastewater streams are not fully characterized or monitored, and waste streams are managed primarily through disposal rather than through treatment. The EWM Section's wastewater monitoring programs are limited in scope relative to analytes, sample type, frequency, and location. The collection of representative and meaningful data is essential in determining potential environmental impacts from site activities, and the existing programs are not adequate to provide this information. However, it should be noted that ANL-W's EWM Section is taking appropriate action to address each of these concerns as part of the Integrated Resource Management System project schedule regarding the 1991 Tiger Team findings. A total of five compliance findings and seven best management practice findings specific to surface water were identified during the Tiger Team Assessment. Of the 12, only 2 (SW/CF-5 and SW/BMPF-2) are behind schedule on corrective action implementation. Each of the findings that are behind schedule has been described in detail above.

One surface water/drinking water finding was identified during this assessment. The finding is associated with the absence of a backflow prevention or cross connection control program.

3.3.3.2.2 Finding

EP-4: **Backflow Prevention and Cross Connection Control Program to Protect Potable Water**

Performance Objective: DOE 6430.1A, "General Design Criteria," Section 0266-2, requires that "the quality of domestic water within distribution systems be protected from degradation by installation of backflow prevention assemblies as necessary, to preclude backflow of contaminants or pollutants into the system."

29 CFR 1910.141(b), Part (2ii), states "Construction of nonpotable water systems or systems carrying any other nonpotable substance shall be such as to prevent backflow or backsiphonage into a potable water system."

Idaho Drinking Water Regulations, Section 01.8601, "Standards for Public Drinking Water Systems," Part 04.a, states that "water systems shall implement a cross connection control program to prevent entrance of toxic or hazardous substances to the system."

Finding: ANL-W does not have a backflow prevention or cross connection control program in place to provide potable water protection, as required by DOE 6430.1A, 29 CFR 1910.141, and Idaho Drinking Water Regulations, Section 01.8601.

Discussion: ANL-W is required to establish a backflow prevention or cross connection control program and install backflow prevention or cross connection control devices at appropriate locations to protect potable water from nonpotable sources. In July 1990, an offsite backflow prevention specialist and representatives from ANL-W Site Engineering inspected buildings to identify locations where backflow of contaminated water into the potable water system was possible and to identify potential cross connections between the potable and process water systems. Numerous locations were found that required installation of backflow prevention or cross connection control devices to prevent the contamination of potable water. The backflow prevention and cross connection control program issue was identified in several ANL-W intra-laboratory memos (D-E-40, D-E-41, and D-E-42). In 1991, ANL-W was notified by the Idaho Department of Health and Welfare, Division of Environmental Quality, that it was in violation of one or more regulatory requirements relating to the backflow prevention and cross connection control program. This issue remains unresolved. Efforts have been made for several years to obtain funding to establish such a program, however, funding has not been approved by the IFR Operations Division (I-E-2, I-E-6, and I-E-8).

The apparent causal factor for this finding is risk, in that the site has identified the need for a backflow prevention or cross connection control program but has not taken action to correct the situation; and administrative barriers and controls, in that programs of this type are currently funded at the division level, and the EWM Environmental Compliance Group does not have the ability to enforce compliance issues at a division level.

3.3.3.3 Environmental Radiation

3.3.3.3.1 Overview

The purpose of the environmental radiation portion of the routine environmental reaudit was to assess whether plans and programs are in place to ensure radiation protection of the public and the environment. Additionally, radioactive waste management plans and programs were examined. In the context of the overall assessment, programs were reviewed with respect to the following issues:

- formal policies and plans;
- identification and characterization of sources;
- understanding of applicable regulatory requirements;
- implementation of procedures;
- recordkeeping and reporting systems;
- staff training; and
- program evaluation and oversight.

ANL-W environmental radiation protection programs for radiological liquid and air effluent monitoring, radiological environmental surveillance, groundwater monitoring, surface water, inactive waste sites, environmental ALARA, and radioactive and mixed waste management were assessed to determine compliance with Federal and state regulations, requirements, and guidelines. DOE Orders and other DOE guidance documents regarding environmental radiation were also utilized in the assessment. Radiation issues were specifically evaluated against DOE 5400.1, "General Environmental Protection;" DOE 5400.5, "Radiation Protection of the Public and Environment;" DOE/EH-0173T, Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance; 40 CFR 61, Subpart H, "National Emission Standards for Radionuclide Emissions from Department of Energy (DOE) Facilities;" DOE/EH-0256T, Radiological Control Manual; DOE 5400.3, "Hazardous and Radioactive Mixed Waste Program;" DOE 5820.2A, "Radioactive Waste Management;" Secretarial Policy Statement dated June 8, 1993, "Radiological Health and Safety Policy;" as well as accepted industry practices and standards of performance.

The assessment was performed through reviews of documents and interviews with ANL-W and AAO-W personnel. Formal inspections of facilities or onsite activities were not performed. During the document review and interviews, the audit team developed concerns relating to the adequacy of various plans and programs at ANL-W, and the formality of such plans and programs. In addition to conducting an assessment of environmental compliance issues, the audit team reviewed radioactive waste management, and decontamination and decommissioning plans and programs.

Implementation of radiological environmental monitoring and surveillance programs at ANL-W is the responsibility of various organizations. Onsite liquid and air effluent

monitoring is performed by the divisions in a given facility, and supported by two separate Instrumental Calibration (I&C) Groups and the facility health physics technicians. Data review and management for the DOE Radioactive Waste Management Information System (RWMIS) database is performed by the Waste Management Group in the Environment and Waste Management (EWM) Section. Permitting for these activities, including National Emission Standards for Hazardous Air Pollutants (NESHAP) reporting, is performed by the Environmental Compliance Group within the EWM Section. Occasional health physics support, such as air effluent monitoring equipment evaluations, is performed by health physics engineers in the Radiation, Fire, and Safety Section. Radioactive and hazardous waste management activities are currently performed by three waste management engineers, with operational support from the division generating or storing the waste. Offsite radiological environmental monitoring and surveillance programs are presently conducted by the Radiological Environmental Sciences Laboratory (RESL), U.S. Geological Survey (USGS), and the State of Idaho, with data collection/collation for the site annual environmental report by RESL. However, RESL's Environmental Sciences Branch has recently been disbanded with onsite INEL monitoring and surveillance to be performed in 1994 by EG&G-Idaho, and offsite INEL activities to be performed by a newly formed University Foundation.

The liquid effluent monitoring requirements and activities at ANL-W are minimal, in that the bulk of the liquid is treated with the SHADE process which eliminates liquid discharges to the environment. The sanitary liquid waste line has a qualitative gamma radiation monitor. Regarding discharges of EBR-II cooling water, there is some minimal carryover of tritium into the Industrial Waste Pond (IWP). A review of recent routine sampling results of this pond, and subsurface monitoring and production wells, indicates no appreciable radiological contamination at this time.

Air effluent monitoring requirements and activities, on the other hand, are extensive. ANL-W has two stacks (main and HFEF) that require effluent controls and continuous monitoring as a result of their unabated offsite dose impact potential. Numerous other stacks require periodic confirmatory monitoring. The Environmental Compliance Group is presently compiling a complete inventory of effluent points and estimated release levels for an air permit. This group also provides data to ID for INEL sitewide NESHAPs reporting.

The 1991 Tiger Team noted a number of air effluent monitoring issues at ANL-W. A Corrective Action Plan is in place, which requires an evaluation of the appropriateness of effluent controls and monitoring equipment. Compared to other INEL management and operating (M&O) site contractors, ANL-W has a protracted time-table for completion of this milestone. Development of this project is currently in progress and an evaluation by an independent contractor is anticipated. Additionally, several stacks have been recently critiqued by an ANL-W health physics engineer to determine the adequacy of alarm set points. These critiques were done using the monitor manufacturer's data and assumptions were made when data were lacking. Air effluent monitors have high alarm set points at 100 times the DOE 5400.5 Derived Concentration Guide (DCG) levels. Additionally, a recent health physics bulletin has directed health physics technicians not to declare a Site Area Emergency unless airborne activity exceeds 5,000 times the DCG levels for 24 hours. There is a concern that this set point does not reflect current DOE requirements, and the discharge of multiple radionuclides may not be considered during a site emergency.

The radiological ambient air monitoring at ANL-W is conducted by RESL and consists of a single low volume air sampler in the ANL-W parking lot. This sampler and others stationed throughout INEL were subject to a 1991 Tiger Team finding. The concern at that time related to sampler design and justification for location. Despite closure of this finding by ID, the 1993 INEL Progress Assessment Team raised the same concern, specifically with the ANL-W and Test Area North (TAN) air sampler stations. A formal and rigorous appraisal of ambient air monitoring needs at ANL-W has not been performed.

ANL-W Environmental Compliance Group personnel perform a limited amount of soil, sediment, and vegetation sampling around the site. These samples are normally sent to ANL-E for analysis, with results provided to RESL. Additionally, RESL provides 12 thermoluminescent dosimeter (TLD) monitors for penetrating radiation around the ANL-W site. A formal and rigorous appraisal of the comprehensive environmental radiation surveillance needs at ANL-W has not been performed in recent years.

As noted above, the environmental radiological surveillance program at ANL-W has been officially performed by RESL. Thus, ANL-W has not been required to evaluate its own environmental monitoring needs, although it has recently requested guidance on this issue from AAO-W. However, DOE 5400.1 requires that such an evaluation be conducted and used as the basis for establishing an environmental surveillance program for all DOE-controlled sites. The results of this evaluation would be documented in a site Environmental Monitoring Plan (EMP). The EMP must show justification for measurement and sampling locations, procedures and equipment needed to perform measurements and sampling, frequency and analyses required, minimum detection levels and accuracy, data objectives, quality assurance, and investigation and alarm levels. INEL's EMP was not completed by RESL, and was the subject of a key environmental finding during the 1991 Tiger Team Assessment. The INEL Corrective Action Plan called for completion of an EMP by February 1993. A baseline document was published in June 1992, however, it did not fulfill the requirements of an EMP. This was noted in the 1993 INEL Progress Assessment. Presently, ID has contracted with a consultant to coordinate and produce an EMP. To date, this effort has involved data and information gathering and compiling. However, there does not appear to be a concentrated effort to rigorously review and justify sampling methods and locations for the environmental monitoring and surveillance activities of various sites at INEL. ANL-W is responding to these information requests but is not taking a proactive critical review of its own onsite effluents with respect to long-term environmental monitoring and surveillance needs.

The various facilities, operations, and processes at ANL-W generate approximately 40 waste type classifications. These wastes are managed by the Waste Management Group, which has limited staff resources. This situation has limited the group's ability to take a proactive approach to radioactive and mixed waste management and has resulted in a number of observed deficiencies. Specifically, ANL-W has not updated its Waste Management Plan (WMP) since its initial issuance in December 1988, nor does this plan address mixed waste. Other related issues include a lack of updated procedures, central coordination of D&D efforts, property release criteria, contaminated sodium storage and treatment, and delayed action regarding the DOE mixed waste moratorium.

The environmental radiation portion of the assessment identified one finding relating to radiological waste management. Other issues discussed in this overview are addressed in detail in Findings EP-1, EP-2, and FP-1.

3.3.3.3.2 Finding

EP-5: Radioactive Waste Management

Performance Objective: DOE 5820.2A, "Radioactive Waste Management," states that "Heads of Field organizations are responsible for all activities that affect the treatment, storage, or disposal of waste in facilities under their jurisdiction regardless of where the waste is generated." The Order also states, "Specific responsibilities include the following: (1) Preparing annual updates of the Waste Management Plans for all operations under their purview according to the format in the Waste Management Outline, Chapter VI. These Plans shall be submitted in December of each year and be distributed to DP-12, EH-1, and other appropriate Headquarters organizations for review and comment."

DOE 5820.2A, DOE 5400.3, "Hazardous and Radioactive Mixed Waste Program," and 40 CFR 262 and 264 require that facilities have programs in place to ensure that the physical, chemical, and radiological characteristics of all wastes managed at the facility are adequately determined, and that waste characterization related activities are performed in accordance with all applicable DOE, Federal, state, and local requirements.

Finding: AAO-W and ANL-W have neither a comprehensive and updated Waste Management Plan nor a formalized radioactive waste management program as required by DOE Orders.

Discussion: ANL-W generates and manages radioactive low-level, transuranic (TRU), hazardous and mixed waste (I-D-3). There is also the possibility that high-level waste may be generated in the future with the reprocessing of spent nuclear fuel with the new Integral Fast Reactor (IFR) research and development (R&D) program (I-D-18). Currently, waste stream types from various operations include: solid combustible, compactible, non-processable, processable, processable metal, liquid, and solidified liquids. These waste stream types may be contact handled or remote handled, depending upon the radiation dose rates involved. With the approximately 11 facilities or operations generating this waste, and the possibility for combinations and variations of waste streams and radiation levels, there are approximately 40 resultant waste classifications at ANL-W (D-D-51). All of these require waste characterization with respect to radiological, chemical, physical, and hazardous properties (I-D-3 and I-D-4). At this time, the characterization reports for approximately seven of these waste classifications have been approved for offsite storage or disposal.

Low-level radioactive waste is presently disposed of at the INEL Radioactive Waste Management Complex (RWMC). TRU waste is also stored at RWMC for ultimate disposal at the Waste Isolation Pilot Plant (WIPP). TRU contaminated waste that is below 100 nCi/g cannot be sent to WIPP. If the waste is below 10 nCi/g, it can be disposed of at RWMC. Waste between 10 and 100 nCi/g presents problems for ANL-W, in that the waste may be stored at RWMC as low-level waste, but cannot be disposed in the subsurface disposal areas. The waste must be packaged to meet WIPP waste acceptance criteria, but is unacceptable for disposal at WIPP. There is also the possibility for low-level radioactive waste volume reduction and/or incineration at the INEL Waste Experimental Reduction Facility (WERF) once it comes online. With the statutory requirements for more detailed waste characterization, limited availability of sites for waste disposal, and the lack of a DOE Headquarters-approved mixed waste management program, ANL-W has

developed a significant backlog of various waste types (I-D-13). Further, the radiologically-contaminated sodium onsite, with high and low levels of contact radiation, also presents unique treatment and stabilization problems. With the above concerns in mind, it is essential that ANL-W manage its radioactive waste appropriately and proactively.

Ideally, ANL-W should have documented its operations, processes, and facilities that generate hazardous, radioactive, or mixed waste. The approach to managing these wastes through treatment, storage, or disposal also needs to be documented with clear delegation of roles and responsibilities. Considering the overall lack of acceptable treatment or disposal capabilities within the DOE complex, the management and minimization of mixed waste is of paramount importance to DOE. Therefore, it should be of equal importance to its management and operating (M&O) contractors. With the changing mission of ANL-W, waste management will become increasingly more critical to successfully achieving its goals.

ANL-W has managed its waste through the years according to DOE directives. However, with the added requirements of new EPA regulations, unclear Federal guidance on waste criteria relating to below regulatory concern (BRC) concentrations for volumetric contamination, and temporary loss of access to INEL treatment, storage, and disposal facilities, the magnitude of the waste management issues has become increasingly more complex. In recent years, the responsibility for waste management at ANL-W has been, delegated to a relatively small staff (I-D-3, I-D-4, and I-D-5). They are a knowledgeable and dedicated group managing mostly day-to-day issues, but have been unable to take a concerted, proactive approach to waste management. This has resulted in a number of the deficiencies noted during this assessment. These issues include:

- The present Waste Management Plan is incomplete with respect to the outline required by DOE 5820.2A, Chapter VI. Most notably, the Waste Management Plan does not address mixed waste management and future plans to meet regulatory requirements (D-D-48). DOE 5400.3 also requires the development and implementation of a program to manage hazardous and mixed waste. At this time, there is no formal, documented program which includes current procedures. Specifically, the procedures in the ANL-W ES&H Manual are not up-to-date with respect to waste management practices (I-D-3 and I-D-4; D-D-50).
- The present Waste Management Plan has not been updated annually as required by DOE 5820.2A, since its preparation in December 1988 (I-D-12 and I-D-13; D-D-48). It should be noted that CH has recently issued a deferment of the 1993 Waste Management Plan update because of the anticipated need to include the EM Five-Year Plan, changes in waste management activities, and limited staff resources (D-D-40). However, this does not exempt ANL-W and AAO-W from the need to have developed updated Waste Management Plans before 1993.
- The Waste Management Plan does not address storage, treatment, and ultimate disposal of the large quantity of contaminated sodium, with low and high contact radiation levels, which is expected to be declared waste (I-D-5). By not having an updated Waste Management Plan, ANL-W has not

compiled and consolidated in an annual report how its current and future waste management operations are to be conducted. The contaminated sodium issue is an example of a waste management issue that should have been reviewed annually, in that it was a Special Issue Finding, WM/SI-1, during the 1991 Tiger Team Assessment.

- A similar issue to the above is the future possibility of high-level waste being generated during nuclear fuel reprocessing with the Integral Fast Reactor (IFR) program. DOE 5820.2A defines high-level waste as "highly radioactive material that results from the reprocessing of spent nuclear fuel." 10 CFR 60 defines high-level radioactive waste as: "(1) irradiated reactor fuel, (2) liquid wastes resulting from the operation of the first cycle solvent extraction system, or equivalent, and the concentrated wastes from subsequent extraction cycles, or equivalent, in a facility for reprocessing irradiated reactor fuel, and (3) solids into which such liquid wastes have been converted." Public information literature on the IFR fuel cycle notes that fuel will be reprocessed and the project will develop fuel electrorefining, cathode processing, and new fuel injection casting technologies (D-D-31). Best management practice suggests that ANL-W plan for the characterization, treatment, storage, and disposal of all radioactive waste streams, including those high specific activity wastes that may be considered high-level, in a documented Waste Management Plan.
- Health physics technicians are presently surveying "cold" waste and scrap with hand-held instrumentation for surface contamination (I-D-1 and I-D-3). This issue was the subject of a 1991 Tiger Team Assessment finding (RAD/CF-6) relating to property release criteria. New contamination limits have recently been issued in the ANL-W Radiological Control Manual and Health Physics Information Bulletins (D-D-64 and D-D-66). Additionally, ANL-W has just acquired a volume waste radioactivity contamination counter (I-D-1). However, ANL-W has yet to implement the use of this equipment and has recently missed the deadline for closing out the milestone on this finding (I-D-1; D-D-43). Though a release of contaminated materials has not been detected recently at the Central Facilities Area (CFA) landfill, environmental ALARA considerations would suggest resolution of this issue.
- Another finding noted by the 1991 Tiger Team Assessment related to outside storage of contaminated materials at ANL-W. Because of changing waste acceptance criteria (WAC) and slow review of waste characterization reports by ID and its contractor at RWMC, this situation has actually become worse (I-D-4). Because of space limitations, approximately 40 boxes and 40 cargo containers of low-level radioactive waste are being stored outside the inner fence of the Outside Radioactive Storage Area (Bldg. 797) (I-D-4 and I-D-13). The concern relates to potential soil contamination and DOE's requirements for minimizing the potential for such contamination. At this time, funds are budgeted for the construction of a waste handling facility in 1995; however, no funds are budgeted for architectural and engineering studies and design before this date (D-D-43).

- In 1991, DOE enacted a moratorium on the shipment and disposal of potentially mixed waste. This was a result of the apparent lack of a comprehensive interrogation of wastes for radioactive content across the DOE complex. Since that time, the ANL-W Waste Management Group has been working to get the moratorium lifted from ANL-W. This same staff has participated in a CH-sponsored working group to develop documentation and procedures for interrogation of potentially mixed waste. However, because of staff resource limits, the modification of the working group's materials for site-specific use has been slow (I-D-22). Nonetheless, an initial package of site-specific procedures has been recently submitted to DOE Headquarters' reviewer, and a completed package is anticipated in late November 1993 (D-D-39). Final lifting of the moratorium is expected in the Spring of 1994 (I-D-22). DOE Headquarters presently views ANL-W as not having moved forward in "good faith" to resolve this issue (I-D-22).
- Plans for construction of new facilities, plant upgrades, facility closure, and decontamination and/or decommissioning (D&D) of buildings are not documented in the Waste Management Plan. Presently, there is no central group responsible for D&D planning and execution (I-D-16, I-D-19, and I-D-20). Individual projects may be, and have been, coordinated by different engineering support service groups. A recent decontamination and plant upgrade project (i.e., L&O Building Hot Cell decon) appeared to be well planned with respect to the ES&H and radioactive waste concerns addressed. Nevertheless, problems were encountered with the actual decontamination, and the high efficiency particulate air (HEPA) and coarse air filters used ultimately became mixed waste and required remote handling because of high contact radiation levels (I-D-19 and I-D-20). The concern is that without a central group responsible for D&D, lessons learned will not be transferred to future projects.

The apparent causal factors for this finding are that of change in regulatory requirements relating to radioactive waste management, the ineffective implementation of DOE policy regarding waste management, and perhaps most significant, the failure to allocate the appropriate resources in numbers of personnel addressing these issues.

3.3.3.4 Inactive Waste Sites

3.3.3.4.1 Overview

The purpose of the inactive waste sites portion of the routine environmental reaudit was to assess the management of the inactive waste sites program at ANL-W. Specifically, the assessment focused on the programs to identify, evaluate, and remediate inactive waste sites; compliance with Federal and state requirements dealing with inactive waste sites, such as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), The National Contingency Plan (NCP) 40 CFR 300 et seq., and DOE Orders such as DOE 5400.4; and adherence to best management practices. Table 1-1 provides a summary of the specific regulations, requirements, and guidelines used during the assessment.

The scope of the assessment included observation of selected inactive waste sites; interviews with ANL-W, AAO-W, CH, and ID personnel; and review of plans, sampling results, procedures, correspondence, and funding requests.

The inactive waste sites program at ANL-W is managed primarily within the Environmental Restoration Group, part of the Environment and Waste Management (EWM) Section, within the Environmental, Safety, and Waste Management (ESWM) Department. The Environmental Restoration Group consists of four full-time (including the Group Leader) and one part-time (college student) staff members. The Environmental Restoration/Waste Management Program Manager, a lateral section within the ESWM Department, is responsible for preparation of the Environmental Restoration/Waste Management Five-Year Plan and Activity Data Sheets (ADSs), the primary mechanism for identifying funding for the Environmental Restoration Group. The Environmental Restoration Group is responsible for implementation of the Federal Facility Agreement and Consent Order (FFA/CO) and assists with planning and supporting decontamination and decommissioning (D&D) projects.

Most of the environmental restoration actions at ANL-W are governed by the FFA/CO, an agreement signed by ID, EPA Region X, and Idaho Department of Health and Welfare (IDHW) in December 1991. The FFA/CO requires the site to follow the CERCLA process, and provides detailed procedures and schedules with legally enforceable deadlines for completion of investigations that will lead to a Record of Decision (ROD). ANL-W is 1 of 10 Waste Area Groups (WAGs) at INEL and is designated as WAG 9. There are 4 operable units in WAG 9, each with up to 10 separate sites, for a total of 19 sites. Under the FFA/CO, ANL-W is scheduled to complete the comprehensive sitewide Remedial Investigation/Feasibility Study (RI/FS) in FY 1999. The state and EPA have recently requested that ANL-W consider the acceleration of the RI/FS. ANL-W tentatively has agreed to a preliminary RI/FS scoping meeting in January 1994, pending identification of adequate funding.

The Environmental Restoration Group is presently involved with the preparation of 10 Preliminary Scoping Track 1 reports for submittal to EPA and IDHW. Track 1 sites are those sites that will probably not require further characterization as a basis for a "No Further Action" decision, and reports generally consist of a compilation of existing data. Five of the reports have been prepared and are in the review process, with the remaining five being prepared by a subcontractor. One Preliminary Scoping Track 2 investigation is

under way and includes the September 1993 removal action under CERCLA for the contaminated sediments in the EBR-II Leach Pit. The removal of approximately 300 cubic feet of sludge was encouraged by the EPA and IDHW because it demonstrated to the public that the site was actually being remediated, not just studied (I-F-3, I-F-8, and I-F-10). As part of the EBR-II Leachpit Preliminary Scoping Track 2 investigation, a draft report is expected to be completed by a subcontractor for ANL-W review in early December 1993. A Track 2 site is one in which additional data are required before a decision can be made for either "No Further Action" or incorporation into the RI/FS. In support of the comprehensive sitewide RI/FS, one groundwater monitoring well has been constructed and two were under construction at the time of this audit.

In addition to the Track 1 and Track 2 reporting, one other Environmental Restoration activity has been ongoing at the ANL-W. In May 1992, the removal of approximately 500 cubic yards of PCB-contaminated soil was performed under the Toxic Substances Control Act (TSCA) at the EBR-II transformer bank. Sampling of the excavation indicates that a potential for additional contaminated soil exists. This site is listed as a Track 1 site, which includes a review of the remaining risk that will be incorporated into the sitewide RI/FS.

The environmental restoration program at ANL-W is still in its early stages of development. Corrective actions to findings by the 1991 Tiger Team Assessment have not been fully implemented. For example, the development of a project management system is still in its early stages, and the milestone for the plans originally scheduled for October 1992 has been delayed until May 1994. Although no inactive waste sites findings were identified during this assessment, other issues, such as the lack of an up-to-date, comprehensive Quality Assurance Program Plan for the environmental restoration activities (D-F-30; I-F-2 and I-F-12); the limited environmental restoration experience of staff (see Section 3.6.1, Staff Resources, Training, and Development Overview); the lack of a formal training program for the Environmental Restoration Group (see Finding SR-2); and the lack of clarity of Group Leader and contractor oversight responsibilities (see Findings OS-2 and FP-2) need to be addressed to ensure proper implementation of the environmental restoration program. These issues are especially critical considering the potential acceleration of the RI/FS and the significant increase in environmental restoration activities at ANL-W.

The ANL-W environmental restoration program is better integrated into the INEL environmental restoration program and has shown improvement in several areas since the 1991 Tiger Team Assessment. Safety Analysis Reports have been developed for environmental restoration projects and ANL-W now has documents in the Administrative Record as well as an assigned point of contact. In addition, the relationship between DOE, EPA, and IDHW has improved since AAO-W identified a backup at CH to attend meetings and participate in teleconferences when AAO-W's environmental engineer is not available. However, while the backup has provided a DOE presence, the support comes from outside the AAO-W office, which may raise concerns at IDHW that participation comes from so far away. ANL-W's Environmental Restoration Group is also very active in the sitewide special issue groups and has attended several sitewide training seminars on FFA/CO guidance. The continual improvement of the environmental restoration program would be enhanced by regular internal appraisals (see Finding PE-1).

Based on the audit team's assessment, there are no findings in this portion of the audit.

3.4 FORMALITY OF ENVIRONMENTAL PROGRAMS

3.4.1 Overview

The purpose of the formality of environmental programs portion of the routine environmental reaudit was to assess if formal systems and procedures are in place to manage day-to-day environmental compliance. The audit focused on systems and processes within AAO-W and ANL-W to ensure ongoing environmental compliance and achievement of environmental performance goals. The audit was designed to evaluate whether environmental protection activities are conducted in accordance with formal programs supported by controlled documentation. Table 1-1 includes the regulations, requirements, and guidelines used during this audit.

An important aspect of the audit was to assess adherence to requirements as embodied in DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," and DOE 5700.6C, "Quality Assurance." Specifically, the audit 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 audit was to review DOE Orders, environmental regulatory requirements, and background documents provided by CH, AAO-W, and ANL-W prior to arrival onsite. Onsite activities included additional document review and interviews with management and staff within AAO-W; the ANL-W Environment, Safety, and Waste Management (ESWM) Department; the operational divisions; and the ANL-W Environmental Safety and Health and Quality Assurance (ESH/QA) Compliance organization. This portion of the audit relied on input from all members of the audit team.

Regulatory Tracking and Translation

The regulatory tracking and translation system at AAO-W consists primarily of transmitting regulatory requirements received from CH and DOE Headquarters to ANL-W for review, comment, and/or implementation. In addition, AAO-W relies on ANL-W to conduct reviews of proposed or newly issued regulations to identify opportunities for comment or to assess the implications on the ANL-W site.

The Environment and Waste Management (EWM) Section at ANL-W is responsible for tracking and determining the applicability of specific provisions contained within DOE Orders, and Federal and state environmental regulations. One way the EWM Section staff stays abreast of emerging regulatory issues is by subscribing to several newsletters and professional association journals that provide notice of changes to Federal and state regulations. Specific Federal regulations of interest are further reviewed in proposed and final form as they appear in the Federal Register. Additional guidance is obtained from AAO and other management and operating (M&O) contractors at INEL. Further sources of information on new regulations are available to ANL-W through the Lexus System at ANL-W and EG&G's Regulatory Support Section at INEL. No formal arrangements have been made between ANL-W and EG&G to ensure that applicable information is provided on a routine basis, however EG&G has made this resource available to ANL-W informally.

The EWM Section is responsible for notifying all divisions at ANL-W of impending changes to the regulations and DOE Orders that are expected to have implications on their operations. It is the responsibility of the EWM Section to translate environmental regulations, DOE Orders, or management policies into procedures for implementation at ANL-W. Line organizations are responsible for incorporating any changes in regulation or ANL-W requirements into their operating procedures.

Procedures

Environmental procedures that apply to all site activities are maintained in the ANL-W ES&H Manual. Environmental monitoring and surveillance procedures are described in Section IX, Chapter 6. The audit team determined that procedures in this manual have not been kept up-to-date, and a major revision is not expected to take place until after the Fuel Cycle Facility Phase III start-up, which is expected in the first half of calendar year 1994. Line organizations may develop specific procedures that integrate environmental requirements into their operations.

The IFR Division Document Management System Procedure includes a system for formal review of the procedures to ensure consistency (D-C-52). However, there is no coordination of procedures developed by separate organizations within ANL-W. Procedures are circulated for review to other departments (including EWM) selected at the discretion of the line organizations, however this is not a coordinated system. ANL-W has not implemented a control system for sitewide procedure development.

Finally, ANL-W's program for subcontractor management and control is not supported by formal sitewide procedures. As a result, there is inadequate assurance that the environmental issues are appropriately handled in all phases of contract scoping and execution.

Routine Facility Inspections

The EWM Section staff have the responsibility to conduct routine facility inspections as part of their job descriptions (10 percent of their time). ECRs are expected to conduct periodic inspections within their units with respect to environmental and waste management compliance issues (D-C-9). The ANL-W ESH/QA Compliance organization is also required to conduct periodic inspections and periodic audits to verify environmental

compliance. ANL-W is also provided with compliance-related information from audits by a variety of external organizations including CH and other DOE oversight organizations.

ANL-W's routine facility inspection program is not consistent among the divisions and lacks the level of formality required by DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities." The DOE Self-Assessment Guidance Document (December 1992), and DOE/EH-0326, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993) performance objectives and criteria provide specific direction on routine walkthrough programs. Specific weaknesses in the routine inspection program with respect to the guidance and the performance objectives and criteria include the following: walkthrough observations and findings are not consistently documented within and across divisions; inspection checklists are not generally used; and trending analysis of the observations/findings as a means to minimize repeat occurrences is not employed.

Recordkeeping and Reporting

Recordkeeping and reporting systems within ANL-W are largely informal. Walk-through and surveillance reports are not maintained in a central area. Documents requiring approval and review by the ESWM Department are tracked by the Manager of Radiation, Fire, and Safety (D-C-61). Environmental documents prepared by ANL-W are forwarded to AAO-W and to ID for review and approval prior to being submitted to regulatory agencies. This is done in a timely manner because of the commitment and diligence of staff in all three organizations.

Project files for the Environmental Restoration program are maintained by the appropriate staff member, and files from closed or inactive projects are kept in a centrally located file within the EWM Section.

The Integrated Resource Management System (IRMS) is used to track findings from the various environmental audits that are conducted at ANL-W. The audit team found that this system was effective in monitoring progress against milestones. Further, the system can be used to alert those individuals responsible for corrective action implementation of upcoming or past due deadlines.

Three findings were identified in the formality of environmental programs pertaining to the formality of environmental programs at ANL-W, the lack of a formal, routine facility walkthrough program, and the lack of formal sitewide procedures for subcontractor management and control.

3.4.2 Findings

FP-1: **Formality of Environmental Programs**

Performance Objective: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," states that "effective implementation and control of operating activities are primarily achieved by establishing written standards, periodically monitoring and assessing performance, and holding personnel accountable." DOE 5480.19 also states that it is the policy of DOE that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities.

DOE 4700.1, "Project Management," states that all projects be managed in accordance with the instruction, formats, and procedures described in the Order.

Finding: ANL-W has not adequately updated and formalized its environmental programs with documented program plans, policies, and procedures as required by DOE 5480.19 and 4700.1.

Discussion: The Argonne National Laboratory Policy Manual states that it is the responsibility of the line organization for implementing the environmental policy requirements and conducting operations in compliance with applicable regulations. Division Directors and Department Heads have the primary responsibility for complying with the environmental protection requirements. The Environment, Safety, and Waste Management (ESWM) Department is responsible for developing and conducting the environmental monitoring and characterization programs and for assisting line management in implementing and maintaining these programs (D-C-2).

Reporting relationships, prime responsibilities, and specific authorities of the ESWM Department managers are defined in the ESWM Department Management Plan (D-C-3). Each division also has at least one Environmental Compliance Representative (ECR) appointed on a part-time basis to be the point of contact within the division for all environmental matters (D-C-59).

Sitewide environmental procedures are currently maintained in the ANL-W ES&H Manual. Section VIII covers waste management and Section IX applies to environmental protection. The Argonne National Laboratory Policy Manual states that the ESWM Department is responsible for developing and maintaining the ES&H manual (D-C-2). A number of deficiencies were noted with the ES&H manual. For example, the environmental protection section includes a number of procedures (including those for effluent and surveillance monitoring) that have not been recently reviewed and updated (I-C-3). The control copy provided to the audit team included procedures that were not the most recent revisions (I-D-4). Other deficiencies have been identified in the format of the procedures and the definition of responsibilities (I-C-19). ANL-W is planning to revise the ES&H manual, however this revision is not expected to begin until late summer 1994 (I-D-19). The need for revision has been raised with the Issues Management Task Group (IMTG), which was established to deal with sitewide issues, and a Table of Contents for the new revision has been drafted (D-C-57; I-C-20).

Each division at ANL-W has its own responsibility for environmental compliance and, as such, may have its own environmental procedures (D-C-20; I-C-19). The ESWM

Department is developing a departmental manual for procedures that apply specifically to ESWM Department staff, however a formal plan to develop this document has not yet been defined (I-C-3).

There are a number of environmental programs at ANL-W that do not have formal policies and procedures or clearly designated roles and responsibilities, including programs required by DOE 5400.1, "General Environmental Protection Program," and DOE 5400.5, "Radiation Protection of the Public and Environment." Specifically, ANL-W has not formalized its radiological and non-radiological monitoring and surveillance activities. Examples of the lack of formality in the environmental programs and procedures are provided below:

- The ESWM Management Plan states that "Managers shall allocate sufficient time to the review of the Orders and Regulations" and "evaluate resource commitments for implementation, potential changes in internal Policies, procedures and practices to achieve compliance." However, the procedures used by the EWM Section for internal activities are not detailed and do not include definitions (D-C-3, I-C-3).
- An Environmental Monitoring Plan that links the sitewide radiological and non-radiological monitoring and surveillance with procedures in the ES&H manual has not been developed (see Finding EP-1). The INEL Environmental Monitoring Plan Baseline Document used by ANL-W provides only a current status of the environmental monitoring programs at INEL (D-C-5). It does not include plans to remedy deficiencies in the monitoring program that were identified as a key finding in the 1991 Tiger Team Assessment. ANL-W has not developed and documented a site-specific environmental monitoring plan to define how site-specific monitoring requirements will be conducted at ANL-W to satisfy the requirements in DOE 5400.1 (see Finding EP-1).
- The ESWM Department policy to maintain current operating manuals and procedures is not being implemented (D-C-3). For example, the Waste Management Plan has not been updated since 1988, and the Waste Management Program does not have formal operating procedures (I-C-11, I-D-13).
- The Environmental Restoration Program does not have a project management plan to define the roles, responsibilities, and authorities of Environmental Restoration staff as required by DOE 4700.1, "Project Management." A project management plan would provide clear direction of the accountability for change orders for subcontractors (D-F-1 and D-F-15; I-F-3, I-F-4, and I-A-6).
- The Quality Assurance Program Plan for the Environmental Restoration Program is outdated (1987) (D-F-30; I-F-2 and I-F-8).
- Roles and responsibilities of the ESWM Department are not well defined. Environmental Radiation Protection issues are addressed by various staff with no individual or group having clear responsibility for coordination of DOE 5400.5 requirements (I-D-1 and I-D-6). Further, the position

descriptions for the Group Leaders in the EWM Section do not accurately reflect the level of supervision that the Group Leaders currently provide. ESWM Department management is aware of this and indicated that the job description would be revised in the near future (I-C-3 and I-C-15). In addition, the duties and responsibilities of the Environmental Compliance Representatives (ECRs) have not been finalized (D-C-59). Finally, there are no formal training programs to ensure that staff are provided with adequate skills to perform their function (see Finding SR-1).

- Tracking and interpreting new and/or changed regulations is conducted informally by the ESWM Department (I-C-1 and I-C-11). The ESWM Department does not have a formal procedure to interpret emerging regulations that are relevant to ANL-W or to ensure that new requirements are systematically and routinely incorporated into existing programs, policies, and procedures in a timely manner (I-C-15).

Other systems lacking in formality include the Conduct of Operations section of the ESWM Management Plan; the ESWM Management Plan itself, which is in need of revision (D-C-3; I-C-3); and the procedures for routine inspections and training activities.

FP-2: Routine Facility Inspection Program

Performance Objective: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," directs DOE facilities to establish a routine site and equipment inspection program to ensure compliance with all relevant regulations, applicable DOE Orders, and overall performance goals. The DOE Self-Assessment Guidance Document (December 1992) offers specific guidance on the design and implementation of routine facility inspection programs.

Finding: ANL-W does not have a formal routine facility inspection program as required by DOE 5480.19.

Discussion: DOE 5480.19 requires that routine facility inspections be carried out at all facilities. Walkthroughs used to determine environmental compliance status should be completed by environmental or other staff capable of generally evaluating environmental issues and determining the specific compliance status of activities that may affect the environment. The DOE Self-Assessment Guidance Document and DOE/EH-0326, Protocols for Conducting Environmental Management Assessments of DOE Organizations (June 1993), suggest that walkthrough inspectors should regularly test the performance of critical pollution monitoring/control equipment, use standard checklists to ensure consistency and completeness, document observations/findings, and employ some system to minimize repeat occurrence (e.g., trending or root cause analysis).

Each division at ANL-W is involved in routine walkthrough inspections of its facilities. ANL-W management and environmental professionals generally recognize the usefulness of these inspections to keep the facility in top operating condition with respect to environmental concerns and to bring items to the attention of upper management (I-G-2, 7, 13, 15, and 21). However, the level of formality of the walkthroughs varies considerably within and across divisions, and not every division has developed a standard checklist with specific environmental issues identified (I-G-2, 7, 14, 19, and 21). The walkthrough program in the Fuels and Engineering Division meets some of the DOE performance objectives. However, the walkthrough programs in the three other divisions reviewed are much less formal and cannot be considered adequate. The routine walkthrough program in the Engineering Physics Division was not reviewed. Specific observations include the following:

- Routine walkthrough inspections take place on a frequent schedule in the Fuels and Engineering Division by the Environmental Compliance Representatives (ECRs) and by line management. Any observations made are entered into the Action Item Tracking System where the individual responsible for corrective actions is identified and a completion date for the item is identified. The tracking system is quite comprehensive and incorporates corrective actions from a range of sources, including the Tiger Team Assessment, the Initial Self-Assessment in 1991, Occurrence Reporting Processing System (ORPS) reports, and Environment and Waste Management (EWM) inspections (I-G-14). While these elements represent the basis for a strong program, some weaknesses still remain. The division has neither developed a standard checklist including environmental items, nor has it implemented a system to minimize repeat exceptions through root cause analysis (I-G-13 and I-G-14).

- The environmental walkthrough inspection programs are generally informal in the Fuel Cycle Division, the IFR Operations Division, and the Reactor Program Services Division. It should be noted that the level of detail and formality of walkthroughs can vary within a single division. ECRs interviewed in these divisions and the ES&H coordinator reported that walkthrough inspections were occurring, but that observations were not documented, checklists identifying environmental items were not used, and trending was not employed (I-G-7, 16, 19, and 21).
- In a memorandum dated April 5, 1993, the EWM Section Manager established a quarterly walkthrough program to be implemented by the three EWM Section groups: Environmental Compliance, Waste Management, and Environmental Restoration (D-G-23). A schedule was established where each group was to look at a different set of facilities each quarter. To date, only the Environmental Compliance Group has met its schedule and conducted walkthroughs with documented observations (I-G-2, 4, 5, and 10). The other two groups are conducting facility inspections, but not in a formal manner or on a regular schedule (I-G-4 and I-G-10). The EWM Section has not developed checklists for its inspectors to use, and has not developed a tracking system for corrective actions. In general, little specific guidance has been developed for the program (D-G-37; I-G-4 and I-G-10).

ANL-W recognizes that the system of routine walkthrough inspections needs a higher degree of formality and clear definition (I-G-2, 4, 6, 7, and 20). As such, efforts are currently under way to develop an ANL-W sitewide procedure for walkthroughs. ANL-W management estimates that this procedure will be finalized in November 1993 (I-G-6 and I-G-20).

A review of the draft procedure, "Self Assessment by Walkthrough," revealed the following deficiencies:

- the roles of the ECRs and divisional environmental engineers on routine ES&H walkthrough inspections are not discussed;
- the routine walkthroughs performed by EWM Section personnel are not discussed; and
- while there are specific sections pertaining to safety, health, and other issues relating to the conduct of operations, there is no environmental deficiencies section in Appendix A of the draft procedure.

Performance Objective:

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides requirements and guidelines for the development of plans and specific procedures relating to the conduct of operations.

Best management practices suggest that sitewide procedures for subcontractor oversight and control should be formalized, implemented, and well understood by all those with a role in these activities. An important objective of such procedures is to provide assurance that all relevant environmental considerations are taken into account for all phases of contract scoping and execution.

Finding: ANL-W does not have a formal, fully-implemented subcontractor oversight and management program as required by DOE 5480.19 and suggested by best management practices.

Discussion: DOE 5480.19 requires that operations procedures be developed and implemented to ensure that the facility is operated safely. DOE performance objectives and criteria as outlined in DOE/EH-0326, Protocols for Conducting Environmental Management Assessments of DOE Facilities (June 1993), specifically state that there should be, "procedures to ensure that any activities that might impact the environment are reviewed for environmental protection considerations." With regard to subcontractor oversight, there should be a means to ensure that subcontractor activities do not adversely affect the environment. Strong subcontract oversight programs would include fully developed and implemented procedures which provide assurance that environmental issues are taken into account during all phases of a subcontractor project, from contract scoping through project completion. Procedures in this area should clearly define roles and responsibilities and should apply sitewide to assure that appropriate activities are taking place.

ANL-W is involved with efforts to improve and formalize contractor oversight policies and procedures. Significant improvement has been and continues to be made in this area (I-G-17 and I-G-23). Specific examples include the following:

- Earlier in 1993, ANL-W management issued a directive requiring the signature of the Group Leader within Project Management on every contract, regardless of its origin, before it can proceed to the Procurement Office. The Group Leader recognizes the importance of environmental review of all proposed contractor activities and routinely seeks review and approval on bid packages and contracts from the Environment, Safety, and Waste Management (ESWM) Department (I-G-17 and I-G-23).
- Sitewide subcontractor oversight and control procedures are being drafted for inclusion into the ANL-W Procedures Manual (I-G-23).

Nevertheless, current subcontractor oversight activities lack the necessary level of formality and specificity with respect to the roles and responsibilities of the ESWM Department, Project Management, and the engineering departments in other divisions at

ANL-W. In general, the current system of control of environmental performance for subcontractors does not provide assurance that environmental issues are adequately handled. More specifically, there is a higher level of assurance that environmental issues are adequately considered in the design phase of a typical project than in the construction phase (I-G-4, I-G-18, and I-G-23). The signature requirement within Project Management helps to provide this higher level of assurance. Specific examples of weaknesses in the current system include the following:

- There are no sitewide procedures specifying the roles and responsibilities of ANL-W staff with respect to environmental issues related to subcontractor management. The current version of the ANL-W Procedures Manual, Volume 3, "Construction Management," is not complete. Of special note, the following four sections mentioned in the manual's table of contents are not yet issued: Baseline ES&H Survey Checklist, Environmental Checklist, ES&H Bid Evaluation, and Construction ES&H policy (D-C-57; I-G-23). Further, there is little or no specific mention of subcontractor control procedures in the current version of the ANL-W ES&H Manual (D-G-37; I-G-18). Procedures for Volume 3 of the ANL-W Procedures Manual are currently being developed and are estimated to be complete by January 1994 (I-G-23).
- In the current system, bid packages and contracts could be developed by any of the following ANL-W organizational units: Project Management, engineering departments in all ANL-W Divisions, or the ESWM Department. Each of these units follows its own procedures (I-G-4, 10, 15, 17, 18, and 23), thus there is no assurance that environmental considerations are being handled consistently across these organizational units (I-G-10, I-G-17, and I-G-18).
- Formal procedures or routine practices are not in place to ensure that the Waste Management Group, under the direction of the Environment and Waste Management Section, provides adequate input into subcontractor waste management plans (I-G-10 and I-G-18). In 1989, a contract was written for the removal of an acid tank at EBR-II and for sludge management activities associated with the removal. The actual tank removal was delayed and did not occur until 1993. The Waste Management Plan in the original contract was inadequate, however the Waste Management Group did not have the opportunity to review it before the work began in 1993 (I-G-10 and I-G-18). It should be noted that the ESWM Department reviewed and concurred with the contract in January 1992 from a safety, health, and industrial hygiene standpoint. It should also be noted that IFR Technical Support identified the waste management issues pertaining to the acid tank removal project in December 1991 (D-G-39).

The sludge was determined to be hazardous waste, rather than industrial waste, as was assumed in the original contract. This triggered additional waste handling requirements for which the site was ill-prepared. The Waste Management Group was required to revise the Waste Characterization Plan for the project. Consequently, was not in compliance with 40 CFR 262.34 for 60 days (I-G-18). It is likely that additional input from the Waste

Management Group before the tank removal subcontractor began work would have avoided this situation of noncompliance (I-G-18).

Management at ANL-W has recognized the need to develop clear and formal procedures pertaining to subcontractor management and control. As such, resources are currently dedicated to completing those portions of the ANL-W Procedures Manual addressing subcontractor issues and the respective roles of the ESWM Department, Project Management, and engineering staff in the divisions (I-G-23). ANL-W management also recognizes the importance of implementing these procedures and plans and of providing training in the new procedures to those ANL-W staff involved in subcontractor management (I-G-23).

3.5 INTERNAL AND EXTERNAL COMMUNICATION

3.5.1 Overview

The purpose of the internal and external communication portion of the routine environmental reaudit was to evaluate the extent and effectiveness of the routine management reporting of environmental performance and issues; the communication of environmental management activities and best management practices among staff and line personnel and laterally across divisions; and the communication of information to external organizations such as regulatory agencies, environmental groups, and the community.

The general approach to this portion of the audit included a review of background documents provided by ANL-W, ANL, AAO-W, AAO, CH, and ID, and onsite interviews with key personnel. Documents reviewed included minutes of meetings, routine status reports, internal memoranda and letters, briefing and presentation material, and material describing ANL-W activities. Interviews were conducted with DOE personnel from AAO-W, CH, ID, EM, NE, and ANL-W personnel, including Division Directors, Environmental Compliance Representatives, and personnel from the ANL-W Environment, Safety, and Waste Management (ESWM) Department. In addition, individuals from the CH Environmental Restoration Division (CH/ERD), EPA, and the Idaho Department of Health and Welfare (IDHW) who interact regularly with AAO-W were contacted. Interviews were not conducted with environmental groups or representatives of the local community.

Communication between ANL-W and AAO-W and among CH, ID, NE, and EM can generally be characterized as excellent. The key to this effectiveness has been regular informal communications, supported by formal correspondence as needed. Communications seemed particularly effective when individuals were willing to go out of their way to be helpful and courteous.

However, the coordination of requests for information from DOE Headquarters has not been effective. Frequently, requests for the same information come from more than one DOE organization, adding significantly to the workload of ANL-W and AAO-W staff. Also, written communications from CH ultimately received by ANL-W Environment and Waste Management (EWM) Section staff sometimes follow a circuitous path: correspondence from the AAO's Environmental Programs Branch in Chicago is sent to the ANL Laboratory Director with copies to ANL management who must in turn send it on to ANL-W where it may pass through several hands before arriving at the EWM Section staff member responsible for its disposition. On the one hand, this paper trail has sometimes delayed timely arrival of important correspondence. On the other hand, it has proven to be a helpful screening technique for reducing the volume of paperwork received at ANL-W and AAO-W.

Lack of coordination with DOE also extends to resolving key issues at ANL-W. Ineffective communication between EM and NE has frustrated efforts by AAO-W and ANL to resolve the disposition of contaminated sodium, sodium-encrusted components, and NaK located at ANL-W and INEL. It is an issue which carries significant risk to ANL-W and INEL (see Finding RM-1).

Communications between the EWM Section staff and the Environmental Compliance Representatives (ECRs) are generally good, particularly when informal communication

networks are strong. However, tensions have occasionally developed when, for example, requests for information from the EWM Section have not received timely response from the ECRs because of the demands on ECRs to perform their operations responsibilities, and the inability of the EWM Section staff to provide more complete assistance to the ECRs because of historic staff shortages. Also, there is concern regarding the distribution of independent appraisal reports generated by the ANL-W ESH/QA Compliance organization at ANL-W. The Environment, Safety, and Waste Management (ESWM) Department and the EWM Section were unaware of four ANL-W ESH/QA Compliance organization appraisals completed over the last 2 years (see Finding PE-2).

Issues between divisions at ANL-W are aired at the Issues Management Task Group, a committee consisting of senior management from each division, which prioritizes and addresses issues across divisions, including environmental issues. This task force has been a principal vehicle for developing a proposed solution to the problem concerning the lack of clarity of the ECR role. However, there is concern about its effectiveness regarding environmental issues, given the significance of the ECR roles and responsibilities issue and the fact that it has remained unresolved for 19 months.

There is a formal system in place, called IMPACT, which allows personnel to anonymously communicate environmental concerns to upper levels of management for resolution. During the 18 months the program has been in effect, employees have raised approximately a dozen questions regarding recycling onsite waste. It has not been used as a forum to air grievances or concerns about environmental programmatic issues.

Environmental awareness at ANL-W is reinforced by the bimonthly publication of AWARE, a newsletter dedicated entirely to ES&H issues.

Communication between AAO-W and external Federal and state organizations, and ANL-W and the general public appears to be conducted quite effectively. Although communication between AAO-W and EPA, the State of Idaho, and CH Environmental Restoration Division (ERD) is often informal, individual commitment to getting the job done appears to make the process successful. In only one interview with IDHW was the issue of AAO-W's availability for weekly telephone conferences raised as a communication issue. However, even that comment was punctuated by an understanding of staff resource constraints (see Section 3.6.1, Staff, Resources, Training, and Development). In no instance was it indicated that communication with these external agencies was the cause of major delays or problems. In fact, the consensus seemed to be that the working relationships and communications between the parties was excellent.

Information about the site reaches the public in several ways including public hearings, educational programs, flyers, and pamphlets put together by the IFR Public Information Office, and scheduled tours. In addition, the local media are welcomed onsite and issues are openly discussed through the IFR Public Information Office. ID handles the administrative record and external communication on INEL-wide issues.

For more sensitive site occurrences, the formal DOE Occurrence Reporting system provides a means for communicating environmental risk issues to appropriate Federal and state agencies and eventually the general public. Once the AAO-W and other appropriate DOE and ANL-W organizations have coordinated and established a clear understanding of a

reportable incident, the Occurrence Reporting System distributes the final report to local public library reading rooms.

The ANL-W Emergency Handbook outlines the methods, roles, and responsibilities for external communication with local and state officials and the media in the event of an emergency. In general, Incident Commanders work with the INEL Public Affairs Group and the ID Public Information Duty Officer to coordinate the release of information pertaining to site emergencies.

One finding was identified in the internal and external communication section relating to the coordination of information requests from DOE organizations to ANL-W and AAO-W.

3.5.2

Finding

IC-1: DOE Coordination

Performance Objective: Best management practice suggests that requests for environmental information should be effectively coordinated throughout the DOE complex.

Finding: DOE organizations do not effectively coordinate requests for environmental information in accordance with best management practice.

Discussion: DOE organizations have failed to effectively coordinate information requests to the ANL-W site. A veritable flood of information requests emanates from various branches of the DOE organization. These requests are numerous; poorly coordinated; leave the recipient with little, if any, time to respond; and seriously hamper the efficient use of resources to perform assigned environmental activities (I-A-18, I-A-20, and I-A-30).

The recent requests for mixed waste data illustrates the poor coordination of information requests from various DOE organizations. The October 6, 1992, passage of the Federal Facilities Compliance Act (FFCA) prompted numerous requests for data characterizing mixed waste at ANL-W. Specifically, four different organizations (CH, ID, NE, and Sandia National Laboratories) requested the same mixed waste data, at different times and in different formats (D-A-44; I-A-18, I-A-20, and I-A-30). Response to the initial request took ANL-W staff 1 month to complete; response to the ensuing three requests for the same information in different formats required an additional month (I-A-30).

AAO-W and ANL-W staff stated that data requests frequently have a very short lead time, consequently disrupting the efficient execution of other tasks in order to deal with the information request emergencies (I-A-18, I-A-20, and I-A-30). Further aggravating efficient and effective response is the failure to indicate clearly why the information is being requested so that ANL-W can better understand the context of the request (I-A-18 and I-A-30). Approximately one of the three technical positions in the Waste Management Group is devoted to information request responses (I-A-30).

DOE has begun to address this issue. DOE N1100.32A established the Office of the Associate Deputy Secretary for Field Management (FM), with responsibilities including management coordination and oversight of the multi-purpose Operations Offices. Also, a September 1993 conference in Nevada discussed integrating mixed waste data bases (I-A-30).

3.6 STAFF RESOURCES, TRAINING, AND DEVELOPMENT

3.6.1 Overview

The purpose of the staff resources, training, and development portion of the routine environmental reaudit was to assess staff resources to ensure they are sufficient to effectively develop and implement the organization's environmental protection programs. The assessment evaluated the environmental protection training provided to ANL-W staff and the staff development opportunities available for environmental personnel. Table 1-1 includes the regulations, requirements, and guidelines used during the assessment.

The general approach to this portion of the audit was to review DOE Orders, ANL-W documents, and best management practices prior to the onsite portion of the audit. Onsite activities included reviewing documents pertaining to staff resources, training, and development. Specifically, these documents included position descriptions, performance evaluation forms, training material, training records, position postings, and relevant procedures. The approach also included interviews with ANL-W staff who represented relevant administrative departments (human resources, training), ANL-W environmental staff, division staff, AAO-W staff, and ID staff.

A formal environmental staff training program is not evident at ANL-W. The Centralized Training Department, located within the IFR Division, has not been responsible for administering the specialized environmental training required of the environmental staff, or for evaluating the effectiveness of environmental training provided to ANL-W staff. This has placed a large responsibility on the individuals to determine which training courses they should take. Consequently, ANL-W staff seek guidance from the Environment and Waste Management Section on environmental training requirements.

The IFR Training Department also relies on the Environment and Waste Management Section to provide guidance on sitewide training programs, and to assist in course module writing and delivery. This places an additional burden on the resources of the Environment and Waste Management Section. As a result, delays in providing environmental training have occurred.

Currently, the number of staff is insufficient to effectively maintain sitewide environmental compliance. Key environmental staff positions in the divisions (i.e., the Environmental Compliance Representatives (ECRs) are not given full-time resource allocation, and the skill and training levels of the individuals fulfilling these roles are not consistent and, in some cases, are lacking (see Finding OS-1). The ECRs generally have a significant amount of DOE work experience, but not the necessary environmental training or skills. In interviews with these individuals and other environmental staff that rely on their services, it was clear that specialized environmental training is not consistently provided throughout ANL-W.

As a result of inadequate resources to cover AAO-W's Environmental Restoration Program, a counterpart at CH has had to attend meetings and participate in teleconferences on AAO-W's behalf (see Section 3.3.3.4, Inactive Waste Sites, in this report).

While its ES&H General Employee Training is provided through IFR, the Environment and Waste Management Section has taken the responsibility of seeing that specialized environmental training is provided to staff in its own section. However, there is no formal

training program or evaluation of the effectiveness of the training. Skill needs are being identified, and it is the responsibility of the individual to arrange for training to fill skill gaps. Management of the section is supportive in providing the funding for training and in allowing the time to pursue these training objectives.

Development opportunities for staff in the Environment and Waste Management Section are being developed. Presently, confusion exists within the groups as to roles, responsibilities, authority, and accountability which leads to unclear goals for achieving career growth (see Finding OS-2). Different grade levels exist within the groups, and formality of career development paths is not clearly defined.

The overall Environment and Waste Management Section has grown significantly in size and visibility since the 1991 Tiger Team Assessment. During this growth period, it has focused on providing technical expertise and guidance to ANL-W as it strives to reach and maintain environmental compliance. In doing this, there has not been a focus on the more general mission of the Environment and Waste Management Section. For example, the primary role of the Waste Management Group Leader, as defined in the position description, is to prepare and implement the waste management programs required by Federal and state agencies and DOE Orders. However, this is not being carried out as a priority.

Performance appraisal forms include environmental issues as an explicit performance criteria, and a written example of environmental performance is required in addition to a grade. This is true for staff sitewide. Environment and Waste Management Section staff are evaluated against their position descriptions, which are well documented.

ANL-W has a mechanism to reward individuals for initiative in the workplace and has used it for environmental performance. Senior line management interviewed in one division commented that disciplinary action has been taken for poor performance regarding environmental issues.

Senior management at ANL-W receives environmental training, and a review of training records for the Division Directors revealed that, with one exception, the appropriate courses had been taken.

There were two findings identified in the staff resources, training, and development portion of the audit. ANL-W staffing levels in certain key environmental areas are deficient, and ANL-W has not formalized environmental training programs for ECRs and Environment and Waste Management Section staff.

3.6.2 Findings

SR-1: Environmental Staffing Levels

Performance Objective: Best management practices suggest that an organization charged to perform environmental compliance duties have adequate staff resources to accomplish its mission.

Finding: ANL-W has not staffed key environmental positions as suggested by best management practices.

Discussion: ANL-W currently has 15 full-time equivalents (FTEs) in the Environment and Waste Management Section, including two vacancies. This is a seven FTE increase since the 1991 Tiger Team Assessment, however, the two vacancies have been open for 2 years (I-B-10 and I-B-15). Environmental Compliance Representatives are taking on responsibilities for which they are not adequately trained (I-E-5, I-E-16 and I-A-29), which negates some of their other divisional responsibilities (I-A-29 and I-C-11).

The Waste Certification Program Plan, Waste Management Plan, Waste Minimization Plan, and Pollution Prevention Awareness Plan are all behind schedule because of a lack of Environment and Waste Management Section staff (I-A-33 and I-B-19). Currently outdated versions of the Waste Minimization Plan, which includes the Pollution Prevention and Awareness Plan, are being used (see Finding EP-2). There is a potential that waste shipments from the facility could be suspended without the waste characterization reports in place.

Also as a result of limited resources, the Waste Management Group within the Environment and Waste Management Section has not been able to deliver specific sitewide environmental training material in a timely manner (D-B-89, I-B-19 and I-B-10). Although general environmental training is provided to all staff (D-B-98), job-specific environmental training scheduled for approximately 125 site personnel has been delayed for over 9 months. In lieu of the training available, affected staff are relying on expertise from elsewhere in the ANL-W organization. Placing additional responsibility on the few staff who do have the appropriate training has led to resource constraints in other areas (I-D-3 and I-D-4).

The Safety and Health Five-Year Plan is being used as the formal staffing tool by the Environment, Safety, and Waste Management Department (ESWM). However, the staffing of environmental positions in the divisions is not integrated with the needs of the Environment and Waste Management Section. The level of sitewide environmental staffing cannot be assessed unless the overall needs are established.

Environmental Compliance Representatives are not fulfilling their collateral duties in a timely manner (D-B-150; I-C-1), which has led to excessive workloads (D-B-150 and I-B-14). Staff are rewarded for performance against their position descriptions and in many cases the percentage of time necessary to fulfill the ECR function is significantly higher than documented (D-B-150).

The responsibility for sitewide inspections is described in position descriptions for the Environment and Waste Management environmental staff (D-B-115 and D-B-116).

However, sitewide inspections do not occur on a set or regular basis (I-B-11 and I-A-18) because of inadequate resources. Environmental Compliance Representatives in the divisions are performing satellite accumulation inspections. However, their environmental background and time allocation is not always sufficient to fulfill environmental and waste management requirements (I-D-6 and I-C-22).

Organizational changes within, and external to, the Environment and Waste Management Section are being considered that would better define the role of the Environmental Compliance Representative with respect to waste management. This change is intended to provide more effective utilization of current staff. It will also enable the Environment and Waste Management Section to better understand its requirements in terms of staff resources. However, the unfilled vacancies in the Waste Management and Environmental Compliance Groups will need to be addressed.

SR-2: Environmental Training Program

Performance Objective: DOE 3410.1B, "Training," states that "all employees be provided with opportunities to improve their knowledge, skills and abilities," and have the opportunities for "advancement in accordance with specifically defined and approved training needs." DOE 3410.1B states that "training data shall be electronically entered in the Departmental Training Information System through the preparation of individual training forms, DOE F 3410.4, and stored for the production of desired products . . . training officers or their representatives are responsible for accurate and complete data entries, training status updates (evaluation received, actual costs, and college pass/fail), and the review of produced records to ensure validity."

Finding: ANL-W has not formalized environmental training programs for environmental staff in accordance with DOE 3410.1B.

Discussion: Training is recognized as an important part of the ANL-W Environment and Waste Management Section's staff development; however, there is no formal tracking program, no needs assessment, and no formal evaluation of the effectiveness of the training. The Environment and Waste Management Section does not maintain a formal training system (I-B-10 and I-B-19). Currently, individuals are responsible for maintaining their own records and for informing management of training courses they have taken. Environment, Safety, and Waste Management Department managers rely on individuals in the sections to determine if they are appropriately trained to take on a particular task.

None of the three members of the Environmental Restoration Group under the Environment and Waste Management Section has had 40-hour OSHA Hazardous Waste Operations (HAZWOPER) training and 8-hour site supervisor training, as required by 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response" (I-F-3, I-F-11, and I-F-13). This training element is recommended in the Federal Facility Agreement and Consent Order to effectively and efficiently carry out the Action Plan (D-B-58). Currently, other staff fill the role of site supervisor as required, or external contractors are utilized (I-F-3 and I-F-11). Because staff in the Environmental Restoration Group lack formal training and, thus, are not effectively used, resource constraints are encountered in other groups in the Environment and Waste Management Section (I-B-10).

Environment and Waste Management Section staff are encouraged to take training courses, however there is no determination of a training priority (I-C-1 and I-B-15). Requests for training are made by the individual staff members and, if job-related, are approved by their manager (I-B-6 and I-B-9). By not planning and not formally tracking training, key skills required of the section may be overlooked and external resources are then needed to complete a task (I-F-3 and I-F-11).

Training requirements for staff responsible for environmental management within the divisions have not been clearly defined, and training is reported to be inadequate in many cases (I-C-11 and I-B-10). Environmental training requirements, programs, plans, and records for staff are identified and maintained within the separate divisions and departments at ANL-W (D-B-86; I-B-1 and I-B-2). As a result of each division or department determining its own environmental training requirements, inconsistencies and inadequacies place additional responsibility on the Environment and Waste Management

Section to provide resources to perform the work for which division or department personnel do not have the appropriate training (I-B-10, I-B-16 and I-B-19).

The environmental training received by the Environmental Compliance Representatives is not consistent or centrally documented. The Environment and Waste Management Section relies on the ECRs to carry out specific environmental tasks sitewide; however, the Environment and Waste Management Section Manager does not have training records for ECRs or a formal assessment of their capabilities with respect to their environmental tasks (I-B-10 and I-B-12).

3.7 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

3.7.1 Overview

Two findings were identified in the program evaluation, reporting, and corrective action portion of this audit relating to ANL's independent self-assessment program at ANL-W and ANL-W's self-assessment program.

3.7.2 Finding

PE-1: Self-Assessment Program

Performance Objective: DOE 5482.1B, "Environment, Safety, and Health Appraisal Program for DOE Facilities," establishes specific requirements for self-assessment and appraisal at all levels of the organization. The DOE Self-Assessment Guidance Document (December 1992) directs line organizations to develop and implement comprehensive self-assessment programs to identify and characterize ES&H concerns, as well as to identify, report, and correct environmental deficiencies.

Finding: ANL-W has not fully developed and implemented formal self-assessment programs as required by DOE 5482.1B, and as defined in the DOE Self-Assessment Guidance Document.

Discussion: DOE 5482.1B directs site personnel to formally examine and evaluate those portions of the facility with the potential to adversely affect the environment. As stated in the DOE Self-Assessment Guidance Document, "the self-assessment process [should] consist of a variety of evaluation activities that generate a stream of compliance and performance data, and formal performance analysis and issues management systems for analyzing the data stream, communicating status and lessons learned information to management or other points in the line organization, and for managing corrective actions." DOE guidance suggests that self-assessment activities be formalized into a comprehensive and integrated program. The self-assessment program should include items such as a program charter and implementation plan; a comprehensive scope; formal performance objectives and criteria; self-assessment schedules; evaluation activities such as monitoring, surveillance, program reviews, and appraisals; and an effective reporting and follow-up system.

ANL-W is currently in the midst of designing its comprehensive self-assessment program. In 1992, ANL-W's Office of Quality Assurance began to draft sitewide procedures for a comprehensive assessment program (I-G-6 and I-G-20). At the time of this audit, the following three procedures were available in draft (D-G-34):

- Management Assessment;
- Self-Assessment by Walkthrough; and
- Performance Assessments.

These documents represent significant progress toward the full development of a self-assessment program at ANL-W. It was estimated that the documents would be finalized within 1 to 2 months after this audit (I-G-6 and I-G-20). The ANL-W Office of Quality Assurance will implement and manage the program once the procedures for the line organization are finalized. The Environmental Compliance Officer within the ANL-W Environment, Safety and Health and Quality Assurance (ESH/QA) Compliance Organization will conduct the independent portion of the review.

The site also has two important elements of a comprehensive self-assessment program currently in place:

- ANL-W senior management meet weekly to participate in the Issues Management Task Group (IMTG). A central focus of the meeting is to formally prioritize the issues facing management regarding corrective action funding, planning, and scheduling. The formal process provides a mechanism to rationally respond to the many demands placed on the site (I-G-6).
- The site has implemented the Integrated Resource Management System (IRMS) where findings and corrective actions are logged onto a computerized system and tracked until closure. The system produces reports identifying individuals that have upcoming milestones for completion of a corrective action, and individuals that have missed their milestones (I-G-6 and I-G-9).

Despite the progress discussed above, and the two specific examples of elements of a self-assessment program that have been implemented, the following deficiencies in the overall program were identified:

- A formal process is not in place for performing self-assessments at ANL-W (I-G-2, 6, 13, and 19), and Self-Assessment Program Implementation Plans have not been developed, as suggested by the DOE Self-Assessment Guidance Document (D-G-36).
- A formal ES&H self-assessment has not taken place since before the April 15, 1991, Initial Self-Assessment was completed in preparation for the Tiger Team Assessment (I-G-3, 4, 7, 8, 10, 13, 19, and 21). DOE guidance states that, "self-assessment is an ongoing, multifaceted process that is continually conducted at all levels of a line organization." Informal walk-through inspections take place in most divisions, but this activity does not constitute a formal self-assessment program.
- ANL-W has missed a self-assessment program implementation deadline established by the ANL Laboratory Director. In September 1992, the ANL Laboratory Director formally initiated the laboratory's self-assessment program in a memorandum to Associate Laboratory Directors (D-G-9). The September 1992 ES&H Assessment Program document from the Laboratory Directors' office discussed in detail the elements of the self-assessment program. The Laboratory Director required implementation of the ES&H self-assessment program by January 1993.
- In another memorandum dated September 1993, the Laboratory Director again stated that each major organizational unit should perform a formal self-assessment (D-G-8) and required that each Associate Laboratory Director submit a consolidated report with the results of the self-assessment to his office by November 1, 1993. Detailed guidelines for the self-assessment process accompanied the September 1993 memorandum (D-G-10). No organizational units at ANL-W are currently involved in a formal self-assessment process as defined in the September 1993 ANL

guidance (I-G-1, 4, 7, 13, 15, 20, and 21); therefore, it is very likely that the November 1993 deadline will also be missed.

Top management at ANL and ANL-W recognizes the need to develop and implement a comprehensive self-assessment program. As such, staff resources in the Office of Quality Assurance and within division top management have been allocated to finalizing the self-assessment implementation plan and procedures. Once the procedures are finalized, it will be important for ANL-W to provide guidance and training in their use to expedite implementation.

PE-2: Independent Self-Assessment Program at ANL-W

Performance Objective: DOE 5482.1B, "Environment, Safety, and Health Appraisal Program," and DOE Secretarial guidance direct line organizations to develop and implement self-assessment programs to identify and characterize ES&H concerns, as well as to identify, report, and correct environmental deficiencies. An integral part of a comprehensive self-assessment program is that independent evaluation activities be performed at the operating level by persons not directly responsible for the performance of the activities being appraised.

Finding: ANL has not fully implemented an effective independent appraisal program at ANL-W in accordance with DOE 5482.1B and Secretarial guidance.

Discussion: Secretarial guidance and relevant DOE Orders direct DOE facilities to establish oversight offices to evaluate ES&H programs. These offices should act as a means to provide appraisal information to senior management at the facility. Internal self-assessments are not meant to replace the independent self-assessment discussed in this finding.

A strong independent oversight appraisal program includes such elements as formal procedures, a comprehensive scope for the audited activities, and well defined roles and responsibilities. In addition, the appraisal organization should be independent and separate from line management at the facility to avoid any conflict of interest. Finally, the frequency of the independent appraisals should be determined by analyzing the environmental risks inherent in operations at the facility.

ANL has established some elements of an effective independent appraisal program for ES&H concerns. For example:

- ANL has established the Environment, Safety and Health and Quality Assurance (ESH/QA) Oversight Organization under the direction of an Assistant Laboratory Director. The office provides assessments of ESH/QA issues at ANL-W (D-G-28; I-G-6 and I-G-11). The Internal Appraisal Program procedures were finalized in September 1993. These procedures define the scope of the program, define the roles and responsibility of some individuals involved, and detail the appraisal process (D-G-28; I-G-11).
- The ANL-W ESH/QA Compliance Organization was established to provide an onsite presence representing the ANL ESH/QA Oversight Organization. The Environmental Compliance Officer position was established to provide continuous technical review and oversight of environmental programs at ANL-W (I-G-1).

Despite the strong foundation of an independent oversight program for ANL-W, the program has not been fully and effectively implemented. For example:

- The May 1993 appraisal by the ANL ESH/QA Oversight Organization of ANL's environmental protection and waste management program did not adequately appraise ANL-W's operations, considering that the appraisal is conducted only every other year and is ANL's principal means of providing

independent oversight of operations at ANL-W. The ANL ESH/QA team identified two findings and two concerns at ANL-W pertaining to training issues and to the lack of definition of roles and responsibilities for performing environmental protection and waste management responsibilities. The appraisal did not identify several key issues at ANL-W, including:

- ANL-W does not have a comprehensive and updated Waste Management Plan nor a formal Radioactive Waste Management Program (see Finding EP-4); and
- ANL-W does not have an effective and formal subcontractor management and control system (see Finding FP-3). Two findings relating to this issue at ANL-E were identified in the May 1993 appraisal, however the report mentions no such concerns at ANL-W.
- The schedule for independent appraisals by the ANL Office of ESH/QA Oversight is not developed based on risk analysis, as suggested in Secretarial guidance. ESH/QA is planning to complete a risk-based appraisal schedule by the first quarter of calendar year 1994 (I-G-11).
- The ANL-W ESH/QA Compliance organization is not independent from line management at ANL-W. Staff within the ANL-W ESH/QA Compliance organization routinely provide direct technical programmatic and implementation assistance to various organizational units at ANL-W. On occasion, personnel in the ESH/QA Compliance Organization are used as a direct resource in the laboratory, rather than strictly as independent reviewers and appraisers (I-G-1, 2, 3, 4, and 8).
- Independent appraisal reports completed by the ANL-W ESH/QA Compliance organization are not distributed throughout ANL-W (I-G-1 and I-G-22). Environment, Safety, and Waste Management (ESWM) Department and Environment and Waste Management (EWM) Section were unaware of the following four independent appraisals completed by the ANL-W ESH/QA Compliance organization (I-G-22):
 - Assessment of Hazard Assessment Process (September 1993).
 - Review of the Analytical Laboratory Upgrade Plan (May 1993).
 - Assessment of the Tiger Team Action Plan Program (October 1992).
 - Assessment of Noncompliance with 40 CFR 280, "Underground Storage Tanks" (September 1992).

Further, it was reported by staff within the ANL-W ESH/QA Compliance Organization that the only certain way to forward independent appraisal reports to the appraised organization was through informal channels (I-G-1 and I-A-37).

- Roles and responsibilities for the ANL-W ESH/QA Compliance Organization are not clearly defined (I-G-1, 2, 3, 4, 10, and 15). ANL has recognized this lack of definition and has developed a draft management plan for the Office of Operational Safety to which the oversight office will report (D-G-29).

3.8 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

3.8.1 Overview

The purpose of the environmental planning and risk management portion of the routine environmental reaudit was to assess the extent to which environmental management planning is conducted and integrated into the overall planning process at ANL-W. The adequacy of the approach used by both ANL-W and DOE to identify, evaluate, and mitigate environmental risks was also addressed. Table 1-1 includes the regulations, requirements, and guidelines used in this assessment.

The general approach to this portion of the audit was to review documents provided to the audit team by ANL-W prior to arrival at the facility. Once onsite, interviews were conducted and additional documents were reviewed. Key personnel interviewed included Reactor Program Services Division management staff; and staff in the Environment, Safety and Waste Management (ESWM) Department; Procurement Department; Human Resources Department; and the IFR Emergency Response Organization. In addition, DOE personnel from AAO-W, DOE Headquarters Environmental Restoration and Waste Management (EM), and Nuclear Energy (NE); and CH Environmental Restoration Division (CH-ERD) were contacted. Key documents reviewed for the environmental planning portion of this assessment included the ES&H Five-Year Plan for ESWM funding from ANL overhead; the Environmental Restoration and Waste Management Five-Year Plan, specifically for EM funding for environmental restoration and waste management activities; and the ANL Draft Institutional Plan. Key documents in the area of environmental risk management included the ESWM Management Plan, the TENERA Risk Based Analysis procedures, the Prioritization Categories in Attachment 3 of the EM program guidance manual, and example sheets from the National Environmental Policy Act (NEPA) tracking and risk assessment data base. This portion of the audit relied on input from all members of the audit team.

Environmental planning at ANL-W has been a difficult undertaking given the volatility of funding for the IFR project, particularly over the past year. New plans and budgets are required with each significant adjustment in funding. This has complicated the efforts of ANL-W to implement its environmental planning process and to provide the financial support required for ANL-W to achieve a program of environmental excellence, as well, thoroughly address and minimize environmental risk. However, in terms of environmental planning, ANL-W has demonstrated its ability to be responsive to the recurring planning and funding obstacles set before it. Evidence of a particular strength in the ANL-W environmental planning process is the management and execution of the Environmental Restoration and Waste Management Five-Year Plan. This focused effort appears to play a key role in keeping many of the environmental restoration and waste management programs on target despite funding cuts. In addition, extensive environmental management planning occurs as part of the process to allocate overhead funds. These funds support all ANL-W ES&H activities that are not part of the Environmental Restoration and Waste Management Five-Year Plan. Environmental management funding initiatives are presented by senior ANL-W management to the ANL Management Council where decisions are made on important overhead budget allocations such as ES&H. This process appears to be working well for ANL-W.

Despite the appropriate attention to environmental management planning, ANL-W could do more in terms of environmental risk management. ANL-W has not implemented a formal environmental risk management program. While many of the components of an environmental risk management program are in place, such as established NEPA review procedures, the Issues Management Task Group, and the TENERA risk evaluation criteria, formal objectives or approaches to the program have not been established that would serve to proactively address risk management concerns. This weakness is evident in the failure of the Asbestos Management Program to include a comprehensive sitewide inventory (see Finding EP-3), in the inadequacies in the backflow prevention/cross connection control program (see Finding EP-5), and the lack of a formal subcontractor oversight program (see Finding FP-2). Proactive environmental risk management would help eliminate such weaknesses and avoid future liability and environmental risk.

In addition to concerns with ANL-W's risk management program, a second risk management issue identified during this audit involves the responsiveness of DOE Headquarters in resolving environmental issues that can not be resolved at the site or Operations Office level. The primary examples at ANL-W are the issues of long-term onsite storage and/or treatment of radiologically contaminated sodium and the storage and/or treatment of sodium encrusted components that require remote handling as a result of high contact levels of radiation.

There was one finding in the area of environmental risk management relating to the responsiveness on the part of the DOE Headquarters to identified environmental risks at ANL-W.

3.8.2

Finding

RM-1: Mitigation of Known Environmental Risks

Performance Objective: Best management practices suggest that identified environmental risks should be carefully reviewed and addressed as early as possible to mitigate both impacts to human health and the environment, and/or the potential consequences of litigation and compliance violations.

Finding: DOE Environmental Restoration and Waste Management (EM) and Nuclear Energy (NE) have not adequately addressed risk management, with respect to the storage and/or treatment of radiologically contaminated sodium and sodium encrusted components at ANL-W, in accordance with best management practices.

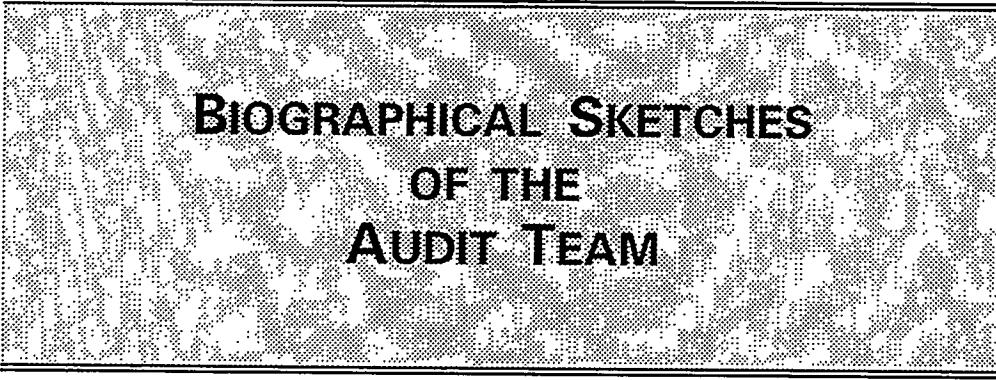
Discussion: Effective management of identified environmental risks is critical to the continuing effort on the part of DOE to achieve environmental excellence complex-wide. In addition, it is critical to the ongoing efforts of the contractors who support DOE, such as ANL-W, that identified environmental risks receive appropriate prioritization when funding decisions are made.

ANL-W has stored radiologically contaminated sodium in approximately 1,400 55-gallon drums since 1984, when it was received from the Detroit Edison Fermi Reactor. The sodium was originally acquired for use as a reactor coolant for the Clinch River Breeder Reactor. When that project was canceled, other uses were planned, including use as a feedstock for the manufacture of NaOH. The NaOH would have then been used to neutralize high-level liquid waste at Hanford. Since 1990, the storage of the contaminated sodium has been an issue with EPA under the Resource Conservation and Recovery Act (RCRA) since EPA alleges the sodium has no use and is therefore considered to be a waste (I-H-8 and I-H-9). Finding SI/WM-1 from the 1991 Tiger Team Assessment indicated that resolution of the contaminated Fermi sodium issue had been elevated to the DOE Headquarters level and would be addressed in the context of broader complex-wide mixed waste compliance issues. With the passage of the Federal Facilities Compliance Act in October 1992, the issue became more critical. To comply with an EPA Notice of Non-Compliance, DOE has until April 1994 to prove to both EPA and the State of Idaho that the Fermi sodium is a product, not a waste. Failure of DOE to resolve this issue will result in the classification of the sodium as a mixed waste which requires management in a RCRA permitted facility. In addition, classification as a mixed waste would bring the sodium under the Federal Facilities Compliance Act (FFCA), including the requirements to identify treatment facilities (I-H-8, I-H-9, and I-H-11). While funding was provided to do a RCRA Part B permit, funding sources to address the treatment issue are still unclear (I-H-8, I-H-9, and I-H-18). AAO-W, with technical support provided by ANL-W, provided information on the funds required to modify an existing ANL-W processing facility in a position paper requested by NE (I-H-8, I-H-9, and I-H-18). This facility would process the reactive sodium waste into salts which would then be low-level radioactive waste with known disposal methods. However, with the compliance deadlines approaching, no clear resolution or funding allocation has been made.

Radiologically-contaminated sodium encrusted components from earlier ANL-W reactor research have been stored at ANL-W for at least two decades. This material has high radiation levels and requires remote handling. Treatment for this waste has been identified

by funding documents since the mid 1980s (I-H-4, I-H-7, and I-H-8). However, funding has been and continues to be postponed. In addition, the cost to DOE to build this treatment facility has escalated from approximately \$36 to \$53 million (I-H-4, I-H-7, I-H-8, I-H-9, and D-B-126). As with the low-level contaminated sodium waste issue, no clear resolution or funding allocation has been made. The issue of sodium encrusted components will require resolution at the DOE EM/NE level (I-A-8, 9, 11, 18, and 23).

APPENDIX A



BIOGRAPHICAL SKETCHES OF THE AUDIT TEAM



NAME: Victor I. Crawford
AREA OF RESP: Team Leader
ASSOCIATION: U.S. Department of Energy, Office of Environmental Audit
EXPERIENCE: 18 Years

- U.S. Department of Energy, Washington, DC
 - Environmental Engineer under the direction of the Audit Team Leader/Environmental Subteam Leader, provides guidance, direction, and assistance to a multi-disciplined group of professionals performing Environmental Audits and Tiger Team Assessments at DOE facilities. Participated as the Deputy Environmental Subteam Leader for the Tiger Team Assessment of the National Institute for Petroleum and Energy Research, and as Deputy Team Leader for the Environmental Management Audit of Uranium Mill Tailing Remedial Action Project and the Superconducting Super Collider, and as the Environmental Subteam Leader on the Progress Assessment of the Brookhaven National Laboratory and Idaho National Engineering Laboratory.
- Naval Facilities Engineering Command, Alexandria, VA
 - Branch Head in the Assistant Commander's Office for Environment, Safety, and Health. Principal duties included developing and/or managing the Navy's Shoreside Environmental Programs for air compliance, asbestos abatement, radon assessments, underground storage tanks, spill response, water and wastewater compliance, and environmental auditing.
- Western Division, Naval Facilities Engineering Command, San Bruno, CA
 - Section Head in charge of Shoreside Compliance Program support for naval installations in northern California.
- Southern Division, Naval Facilities Engineering Command Charleston, SC
 - Environmental Engineer responsible for conducting environmental audits at and providing environmental support to naval installations located throughout the southeastern United States.

EDUCATION: B.S., Civil Engineering, California State University

OTHER: Registered Professional Engineer - South Carolina
Personnel Protection and Safety (29 CFR 1910.120)
DOE Tiger Team Training

NAME: Ching-San Huang, Ph.D., P.E.

AREA OF RESP: Deputy Team Leader

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

EXPERIENCE: 23 Years

- U.S. Department of Energy
 - Deputy Team Leader. Responsible for providing guidance, direction, and assistance to a multi-disciplined group of professionals performing Environmental Audits and Tiger Team Assessments at DOE facilities.
- U.S. Department of Defense
 - U.S. Army Environmental Hygiene Agency. Served as Sub-Program Manager in the area of pollution prevention, and multi-disciplined team leader for environmental audits; also conducted special studies, medical waste management, hazardous waste sampling, and personnel training.
 - U.S. Army HQ V Corps. As Environmental Branch Chief, supervised engineering and consulting services and was responsible for planning, coordinating, and providing environmental protection program guidance/oversight to 10 military communities.
 - U.S. Air Force. Worked as Project Manager in preparing statement of work, program plan, budgets, contractor proposal evaluation, and contract selection. Oversaw other engineers, scientists, and contractors in conducting environmental impact statements (EISs), studies, design, troubleshooting, and analyses.
- Clinton Bogert Associates
 - As a Senior Staff Engineer in supervising water/wastewater and solid waste treatment process design, detailed design, pilot plant studies, cost-effective analyses, cost estimate, specifications preparation, solid waste management plans, and 201 Facility Plans.
- Metcalf & Eddy, Inc.
 - Work covered water/wastewater and solid waste treatment process design/detailed design and research, including reaction kinetics derivation, process parameter and process selection, pilot plant studies, treatment unit design and hardware selection, plant layouts, and technical report writing.

EDUCATION: Ph.D., Environmental Engineering, SUNY at Buffalo, NY
M.S., Civil Engineering, Cheng Kung University, Taiwan
B.S., Civil Engineering, Cheng Kung University, Taiwan

NAME: David J. Allard

AREA OF RESP: Environmental Radiation

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 16 Years

- Arthur D. Little, Inc.
 - Senior Consultant and Certified Health Physicist providing technical support for DOE assessments and audits, and various other government and commercial client cases dealing with radiation protection issues, such as environmental monitoring, waste management, training, operational health physics, and radiation protection management.
 - Participated in the Tiger Team Assessments of the Morgantown Energy Technology Center, Idaho National Engineering Laboratory, Los Alamos National Laboratory; the Environmental Audit of the Fossil Energy Sites in Wyoming; the Environmental Management Assessments of the Continuous Electron Beam Accelerator Facility, Fernald Environmental Management Project, and Superconducting Super Collider; and the Progress Assessment of the Idaho National Engineering Laboratory.
- TGM Detectors, Inc.
 - Vice President with responsibilities for facility radiation protection, gas-filled radiation detector design, testing, engineering, and business management.
- Nuclear Metals, Inc.
 - Supervisor of Health Physics with responsibilities in the areas of environmental monitoring, external and internal dosimetry, shielding, radiation surveys, waste disposal, and regulatory affairs regarding various uranium and thorium manufacturing operations.
- Albany Medical Center
 - Medical Health Physicist with responsibilities involving worker and patient external and internal dosimetry, laboratory radiation protection, x-ray equipment testing, quality assurance, shielding, surveys, and waste disposal.

EDUCATION: M.S., Radiological Sciences and Protection, University of Lowell
B.S., Environmental Sciences, State University of New York at Albany
A.A.S., Environmental Health Technology, Hudson Valley Community College

NAME: Mark Brazell

AREA OF RESP: Surface Water/Drinking Water

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 8 Years

- Arthur D. Little, Inc.

- Responsible for conducting and managing various environmental due diligence assignments. Environmental Investigations have included: Phase I Environmental Site Assessments, peer reviews, and Phase II Subsurface Investigations including hazardous waste characterization, assessment, and determining remedial action alternatives.

- Previous Consulting Experience

- Senior Consultant, responsible for conducting a large multi-site environmental assessment program for a major Wall Street investment bank. Over 600 properties were evaluated. Established the Scope of Work; coordinated a variety of tasks; reviewed Phase I, Phase II, and Phase III reports; and prepared spread sheets detailing findings and recommendations.
 - Project Manager for the NPDES permit program at Hanscom Field and Logan Airport for MASSPORT and combined sewer overflow (CSO) program for the Boston Water & Sewer Commission. Tasks included determining monitoring and sampling locations, installing flow meters and rain gauges, sampling and measuring stormwater and CSO discharges, and determining impacts to area receiving waters.
 - Project Manager for Best Management Practices (BMP) program for the Massachusetts Water Resources Authority CSO Facilities Plan. Evaluated and reported various BMP source controls that could be implemented to reduce concentration of pollutants entering the sewerage system.
 - Participated in the development and execution of a sampling plan for the MWRA for the purpose of determining compliance regulations specific to the Federal Safe Drinking Water Act (SDWA).
 - Project Manager in the Massachusetts Department of Environmental Protection's (DEP's) Bureau of Waste Site Cleanup Waiver Unit. Assessed priority status and determined if site conditions warranted DEP oversight.
 - Performed a 3-year groundwater monitoring program at the Groveland Wells Superfund site in accordance with the site's Record Decision (ROD).

EDUCATION: Master of Business Administration, Northeastern University
B.S., Civil & Environmental Engineering, Clarkson College of
Technology

NAME: Paul E. Farrow

AREA OF RESP: Environmental Commitment; Staff Resources, Training, and Development

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 18 Years

- Arthur D. Little, Inc., Cambridge, MA
 - Director. Environmental, Health and Safety Practice. Manager of business development for FIFRA and TSCA related laboratory services, mass spectrometry group and environmental chemistry business (government and commercial).
 - Responsible for a nationwide seminar series "Managing the Environment Business." Led a team of 5 senior professionals on a 22 venue seminar series. Topics included market assessment, production schedules, resource management, quality control, profitability, and business plan development.
 - U.S. Army Toxic and Hazardous Materials Agency (USATHAMA), managed GC/MS sample analysis of volatile and semi-volatile organics. Completed certification in accordance with 1987 USATHAMA QA/QC procedure for 100+ analytes, in support of USATHAMA's CLASS program (Contract Laboratory Analytical Support Services).
 - USATHAMA PAECT contract, supervised GC-MS analysis of explosives and other trace contaminants on building surfaces in support of a decontamination pilot test program.
- VG Instruments
 - Method development and instrument modification tailored to customers' specific requirements.
 - Worked with leading laboratories worldwide, coordinated VG's entry into the market of custom built instruments for specialized applications.
 - Work involved all aspects of mass spectrometry include both organic and inorganic applications.
- Schering AG (Previously Fisons Agrochemicals and FBC Ltd), Saffron Walden UK
 - Analytical chemist. Support of formulation, residue, and metabolism departments. Analytical method development and experimental design in support of new product registration. Managed analytical services department, providing analytical services such as GC/MS, HPLC, GC, NMR, IR, and basic physical property measurements.

EDUCATION: GRSC, Chemistry, Graduate of the Royal Society of Chemistry, Hatfield Polytechnic, Hatfield, UK

NAME: Peter Gascoyne

AREA OF RESP: Organizational Structure; Internal Communication

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 9 Years

- Arthur D. Little, Inc.

- Participated in the Environmental Management Audit of the Western Area Power Administration, and the Superconducting Super Collider as a Management Specialist covering the areas of Staff Resources and Training. Participated in the Environmental Management Assessment of the Continuous Electron Beam Accelerator Facility as a Management Specialist.
- Prepared a protocol for use in conducting management audits of federally-owned energy facilities.
- Estimated the implied benefits to government and private parties resulting from the failure to treat adequately significant quantities of numerous types of hazardous wastes. The analysis required designing a treatment facility and estimating treatment costs.
- Estimated the economic impact to the recreational boating and construction materials industries resulting from a proposed EPA change in air emissions standards.
- Conducted a cradle-to-grave input-output analysis comparing the environmental impact from the manufacture, use, and disposal of certain paper products versus their cloth counterparts.

- PMI Mortgage Insurance Co.
- Centralized and directed accounting, claims, pricing legal and marketing functions of mortgage pool and reinsurance products; volume: \$18 billion.
- Designed computer system to manage accounting, claims, reporting, and profitability.

EDUCATION: M.A.L.D., Fletcher School of Law & Diplomacy
M.A., Economics, San Francisco State University
B.A., Political Science, University of California at Berkeley

NAME: Gregory T. Haugan, Jr.

AREA OF RESP: Administrator

ASSOCIATION: META, Inc.

EXPERIENCE: 9 Years

- META, Inc.
 - 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.
 - 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, the Morgantown Energy Technology Center ES&H Progress Assessment, the Waste Isolation Pilot Plant Environmental Management Assessment, and National Renewable Energy Laboratory Environmental Management Assessment.
- 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: J. Ivor John, PhD.

AREA OF RESP: Environmental Protection Programs; Formality of Environmental Programs; Air

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 19 Years

- Arthur D. Little, Inc.
 - Consultant responsible for air quality investigations, air quality impact analyses, auditing of air programs, and health risk assessments associated with air toxics and accidental releases of acutely hazardous materials.
 - Air specialist for Tiger Team Assessments of the Morgantown Energy Technology Center, Solar Energy Research Institute, Stanford Linear Accelerator Center, the Naval Petroleum Reserves, and Fermi National Accelerator Laboratory.
 - Air specialist at the Fernald Environmental Management Assessment.
- Santa Barbara County Air Pollution Control District
 - Engineering responsibilities including air quality impact modeling for permit applications, emergency response program management, and analysis of Risk Management and Prevention Programs.
 - Initiation and development of a county air pollution control district emergency response program; selection and training of team members; preparation of emergency response procedures manual; coordination with other county and city agencies.
- Oceanroutes Ltd., United Kingdom
 - Provision of meteorological services to offshore oil and gas industry.

EDUCATION: PhD., Atmospheric Physics, University of Wales, Aberystwyth
B.S., Physics with Meteorology, University of Reading

OTHER: Member of the Air Meteorology Society
Certified Consulting Meteorologist

NAME: Richard B. Lynch

AREA OF RESP: Technical Editor

ASSOCIATION: META

EXPERIENCE: 5 Years

- META
 - Technical Editor. Provided technical writing and editing support for DOE on 13 Tiger Team Assessments, 7 ES&H Progress Assessments, 3 Environmental Audits, and 2 Environmental Management Assessments. Also, oversees the preparation of the final camera-ready copy of assessment and audit reports.
 - Provided technical writing support for DOE's Office of New Production Reactors (NP), including writing NP's Correspondence Manual and a variety of technical articles for publication.
- Advanced Sciences, Inc.
 - Writer/Editor. Researched, wrote, and edited fact sheets and information briefs on energy conservation and renewable energy topics for a DOE-funded energy information service.
 - Response Analyst/Media Liaison. Analyzed and researched inquiries on energy topics from the general public, U.S. Congress, and trade associations. Also, wrote information briefs, monthly news releases, and conducted media outreach activities.

EDUCATION: B.A., General Studies, Louisiana State University

NAME: Raeann Reid

AREA OF RESP: Team Coordinator

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 22 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; Team Coordinator for the Waste Isolation Pilot Plant Environmental Management Assessment; 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: James E. Rice

AREA OF RESP: Inactive Waste Sites

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 12 years

- Arthur D. Little, Inc.

- Participated in the Tiger Team Assessments of the National Institute for Petroleum Energy Research, Stanford Linear Accelerator, Idaho National Engineering Laboratory, Morgantown Energy Technology Center; and the Environmental Audit of the Weldon Spring Site Remedial Action Project.
- Presently managing a remedial investigation/risk assessment at U.S. Corps of Engineers Research facility.
- Managed environmental due diligence of 80-acre parcel in Michigan for U.S. EPA Facilities Management Branch.

- Previous Consulting Experience

- Managed Environmental Site Assessment Group, where SOPs for conducting site investigations and a corporate training manual to ensure consistency in evaluations conducted were developed.
- Conducted more than 50 environmental site assessments and hydrogeological investigations.
- Designed and implemented a leading-edge geology laboratory to assist graduate students in a well-logging course.
- As a field technician at Los Alamos National Laboratories, performed water, soil, and sediment sampling for inorganic and radioactive materials.

EDUCATION: M.S., Geology, New Mexico Institute of Mining and Technology
B.S., Geology, New Mexico Institute of Mining and Technology

NAME: Joseph P. Selle

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

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 8 Years

- Arthur D. Little, Inc.
 - Participated as a management specialist in the Environmental Management Assessments of the Southwestern Power Administration, Continuous Electron Beam Accelerator Facility, and Superconducting Super Collider.
 - As a member of the company's Environmental Business and Strategy Unit, assists private and public sector clients, including Federal and state government entities and quasi-public institutions in developing environmental strategies and policies. Key services provided include government regulatory and procedure analysis as well as legislative and regulatory policy analysis. Past involvement in management system environmental benchmarking studies focusing on the chemical and oil industry.
- Massachusetts Department of Environmental Protection
 - As a regional Planner in the Division of Solid Waste Management, co-authored the Massachusetts Solid Waste Masterplan. In support of the plan, performed quantitative analysis of solid waste generation rates and management methods. Planned and analyzed the state's long-range strategy for solid waste management.
 - Worked to revise the state permit procedure for solid waste facilities, and crafted strategy to ensure use of integrated solid waste planning and management for new and existing facilities.
 - Worked with hydrogeologists to design a risk assessment screening procedure for solid waste landfills. The procedure was designed to dovetail with Federal and state hazardous waste assessment and remediation programs.
 - As a program coordinator for the Office of Program Development and Evaluation, provided ongoing management consulting support to the Commissioner of the Department. Examples of projects include, analysis and revamping of the Department's formal budgeting procedures, redesign of the Department's internal communication and priority setting procedure, and ongoing support in the preparation of annual Department budgets submitted to the Governor.

EDUCATION: Masters of Public and Private Management (MPPM), Yale University
B.A., Geography and Environmental Studies, Dartmouth College

APPENDIX B



AUDIT PLAN



**Plan for the
DOE Environmental Audit
of
Argonne National Laboratory-West
Idaho Falls, Idaho**



**U.S. Department of Energy
Office of Environmental Audit
October 11 - 22, 1993**

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PLAN FOR THE DOE ENVIRONMENTAL AUDIT OF ARGONNE NATIONAL LABORATORY-WEST

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:

- Conducting comprehensive baseline environmental audits of facilities that were not addressed in the Environmental Survey and that were not assessed by a Tiger Team;
- Conducting assessments of environmental management 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 reviews to assess 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 and automation of audit protocols, training, and other mechanisms of transferring the special auditing expertise of EH-24 to the field.

The audit of the Argonne National Laboratory-West (ANL-W) during the period of October 11-22, 1993, will be an Environmental Management Assessment with emphasis on the management of environmental programs in four technical areas. It will evaluate the effectiveness of environmental management programs established by DOE line organizations and their support contractor, Argonne National Laboratory. The assessment will be conducted in accordance with the DOE Environmental Audit Program Guidance (January 1992) and DOE/EH-0326, Protocols for Conducting Environmental Management Assessments of DOE Organizations, June 1993. The protocols are provided as Attachment A.

From an organizational perspective, the scope of the assessment will include the Office of Environmental Restoration and Waste Management (EM), the Office of Nuclear Energy (NE), the Chicago (CH) and Idaho (ID) Operations Offices, the Argonne Area Office (AAO), Argonne Area Office-West (AAO-W), Argonne National Laboratory (ANL-W), and Argonne National Laboratory-West (ANL-W). The assessment team will focus on line management's performance in developing and implementing environmental management systems and programs, consistent with DOE expectations for environmental excellence.

From a functional perspective, the scope of the Environmental Management Assessment is comprehensive in that it covers a full range of relevant management systems. This includes:

- Organizational Structure;
- Environmental Commitment;
- Environmental Protection Programs;
- Formality of Environmental Programs;
- Internal and External Communication;
- Staff Resources, Training, and Development;
- Program Evaluation, Reporting, and Corrective Action; and
- Environmental Planning and Risk Management.

The Environmental Management Assessment will not address National Environmental Policy Act (NEPA) requirements, except as related to the effective management of the NEPA program.

With the concurrence of EM and NE, the Assessment will focus on management of environmental programs in four disciplines: Air, Surface Water/Drinking Water, Environmental Radiation, and Inactive Waste Sites. The results of the Air, Surface Water/Drinking Water, Environmental Radiation, and Inactive Waste Sites activities will be included in the Environmental Protection Programs portion of the Environmental Management Assessment report.

The information in this Environmental Management Assessment plan is based on information received by the assessment team as of the end of the day on September 24, 1993.

2.0

ENVIRONMENTAL MANAGEMENT ASSESSMENT IMPLEMENTATION

The ANL-W Environmental Management Assessment will be conducted by a team consisting of a Team Leader and Deputy Team Leader from the DOE Office of Environmental Audit (EH-24) and a Team Coordinator, management systems specialists, and technical specialists from Arthur D. Little, Inc. (ADL). The administrative support will be provided by Maria Elena Toraño Associates, Inc. (META). The names and assignments are listed below:

Vic Crawford	DOE	Team Leader
Ching-San Huang	DOE	Deputy Team Leader
Raeann Reid	ADL	Team Coordinator
Peter Gascoyne	ADL	Organizational Structure Internal Communication
Paul Farrow	ADL	Environmental Commitment Staff Resources, Training, and Development
Ivor John	ADL	Environmental Protection Programs Formality of Environmental Programs Air
Joe Selle	ADL	Program Evaluation, Reporting, and Corrective Action
Hank Rej	ADL	Environmental Planning and Risk Management External Communication
Mark Brazell	ADL	Surface Water/Drinking Water
David Allard	ADL	Environmental Radiation
James Rice	ADL	Inactive Waste Sites
Greg Haugen	META	Administrative Support
Richard Lynch	META	Technical Editor

2.1

PRE-ASSESSMENT ACTIVITIES

Pre-assessment activities for the ANL-W Environmental Management Assessment included the issuance of an introduction and information request memorandum, a site visit, a visit to Argonne, Illinois, and initial review of documentation provided to the assessment team by CH, ID, AAO, ANL, and ANL-W as a result of the information request memorandum and the visits.

The pre-assessment site visit was conducted on September 13, 1993, by the DOE Team Leader and the Team Coordinator and Organizational Structure and Internal Communication Specialist from Arthur D. Little, Inc. The purpose of the pre-assessment site visit was to brief site personnel on the purpose and scope of the Environmental Management Assessment, to become familiar with ANL-W and its operations and environmental protection programs, to review information being supplied by ANL-W and AAO, to request additional information, and to coordinate activities for the upcoming assessment. The visit included presentations by ANL-W and AAO-W. On September 14 and 15, 1993, these assessment team members interviewed Chicago Operations Office, Argonne Area Office, and Argonne National Laboratory personnel in Argonne, Illinois.

Interviews with EM and NE managers, with responsibility for ANL-W, will be conducted the week of October 4, 1993. The purpose of these interviews is to facilitate an understanding of the activities of EM and NE with respect to effective environmental management of ANL-W.

2.2 ONSITE ACTIVITIES AND REPORTS

The onsite activities for the Environmental Management Assessment will begin October 11 and continue through October 22, 1993. Onsite activities will include interviews with ANL-W and AAO-W management and staff and ID management and staff who provide technical support to ANL-W; record and document reviews; and field inspections of selected site operations and various environmental media sampling events.

The agenda for the assessment (including a preliminary interview schedule) is shown in Attachment B. The interview schedule reflects the assessment team's best attempt to identify relevant personnel to be interviewed. Based on past experience, these schedules will change as additional information is gathered by the assessment team members and based on availability of site personnel. Modifications to the interview schedule, or other elements of the agenda, will be coordinated with the designated AAO-W, ANL-W, and ID contacts.

During the assessment, the team will conduct daily debriefing sessions with the AAO-W, ANL-W, and ID management to review progress and concerns to date. Factual accuracy reviews of all findings will begin during the second week of the assessment. On October 22, 1993, a closeout briefing will be conducted at the conclusion of the onsite portion of the assessment. A summary of the results of the assessment, including key findings, will be presented by the assessment Team Leader at that time. Also at the closeout, a draft assessment report will be provided to EM, NE, CH, ID, AAO, AAO-W, ANL, and ANL-W for review and comment.

2.3 POST-SITE ACTIVITIES

Following the onsite activities, EM, NE, CH, ID, AAO, AAO-W, ANL, and ANL-W will have the opportunity to submit final comments on the draft assessment report. After reviewing these comments, EH-24 will issue a final report.

ANL-W will be responsible for preparing a corrective action plan that will be reviewed by EH-24. Following is a tentative schedule for completion of these post-assessment activities.

November 8	Site comments on draft report due
December 6	Draft corrective action plan due
December 13	Final assessment report issued by EH-24
December 20	Comments on draft corrective action plan by EH-24
January 12	Final corrective 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 the organizational structures of Argonne National Laboratory-West (ANL-W), Argonne National Laboratory (ANL), the Argonne Area Office-West (AAO-W), Argonne Area Office (AAO), and the Chicago Operations Office (CH) ensure 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 Argonne National Laboratory-West (ANL-W), Argonne National Laboratory (ANL), the Argonne Area Office (AAO), and the Chicago Operations Office (CH) will be reviewed while considering the relationship of these organizations to the Office of Environmental Restoration and Waste Management (EM), the Office of Nuclear Energy (NE), and the Idaho Operations Office (ID).

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

- The clarity with which the organizational structure is delineated and communicated to site staff.
- The degree to which actual lines of environmental management authority and responsibility are consistent with formal documents that define organizational roles, responsibilities, and authority. Based on pre-assessment activities, this will be especially important with respect to roles, responsibilities, and authorities of CH and ID.
- The degree to which decision-making authority related to environmental protection is assigned to the organizational levels to provide for 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, as well as distribution of employees with environmental responsibilities across the ANL, AAO, and CH offices and departments; and Program Evaluation, Reporting, and Corrective Action regarding the periodic review and assessment of the ANL-W organizational structure.

3.2 RECORDS REQUIRED

The following documents will be reviewed prior to and during the assessment at ANL-W:

- Latest organization charts for each organization (ANL-W, ANL, AAO-W, AAO, and CH);
- 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;
- Environmental Protection Implementation Plan (EPIP); and
- Other records as determined onsite.

4.0 ENVIRONMENTAL COMMITMENT

4.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria (POC) EM.2, "Environmental Commitment," will review and evaluate the commitment of the organizations to achieving environmental excellence. The Assessment Team will evaluate whether ANL-W 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 ANL-W, AAO-W, and ID 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 ANL-W'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

The following documents will be reviewed prior to and during the assessment at ANL-W:

- 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

The Environmental Management Assessment activities for Performance Objectives and Criteria (POC) EM.3, "Environmental Protection Programs," will evaluate whether ANL-W has the 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 purpose of the assessment will be to determine whether effective and comprehensive programs are in place and whether there is sufficient planning, oversight, and staff training regarding these programs. The assessment will focus on environmental management programs in four disciplines: Air, Surface Water/Drinking Water, Environmental Radiation, and Inactive Waste Sites. This assessment will evaluate the extent to which Argonne National Laboratory-West (ANL-W) has developed and implemented specific environmental protection programs and plans which, if properly managed, would help maintain compliance and reduce potential future legal and financial liabilities associated with the activities of ANL-W.

Based on a review of pre-assessment information provided to the Assessment Team, the key issues that will be addressed are the requirements of the following:

- Long-range environmental protection plan;
- Waste minimization and pollution prevention awareness programs;
- Environmental monitoring programs;
- Groundwater protection management program;
- Hazardous substance release reporting and spill response program;
- Emergency response plans;
- Environmental radiation protection programs;
- Radioactive and mixed waste programs; and
- Contractor oversight.

5.1

ISSUE IDENTIFICATION

The general approach used in conducting the assessment of environmental protection programs will consist of interviews with ANL-W, AAO-W, and ID personnel responsible for environmental program development and implementation and review of documentation supporting those programs. Areas of particular interest will include:

- Understanding of applicable regulatory requirements;
- Responsibilities for program development and implementation;
- Identification and regular monitoring of emission sources;

- Documentation of an environmental surveillance screening program;
- Prevention and minimization of environmental releases;
- Emergency response provisions;
- Recordkeeping and reporting;
- Training and requirements; and
- Oversight and review of programs.

In addition to interviews and document review, the specialists may also conduct inspections and reviews of selected ANL-W facilities which could include observations of various site operations and field sampling activities.

5.2 RECORDS REQUIRED

The following documents will be reviewed prior to and during the assessment at ANL-W:

- Environmental protection program plans required by DOE 5400.1;
- Environmental monitoring and surveillance plans and reports;
- Source and emission inventories for air and water pollution control;
- NESHAPs agreement;
- Emergency response and remedial action plans;
- Environmental incident reporting procedures;
- Preventive maintenance and inspection procedures;
- Reports to management or regulatory agencies; and
- Other records as determined onsite.

6.0 FORMALITY OF ENVIRONMENTAL PROGRAMS

6.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria (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;
- The 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 ANL-W and AAO-W 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 ANL-W 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; Program Evaluation, Reporting, and Corrective Action regarding inspections, recordkeeping, corrective action, reporting, tracking and trending; 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 ANL-W organizations; and Organizational Structure regarding issuance of program implementation guidance.

6.2 RECORDS REQUIRED

The following documents will be reviewed prior to and during the assessment at ANL-W:

- 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;
- Documentation and records of environmental performance; and
- Other records as determined onsite.

7.0 INTERNAL AND EXTERNAL COMMUNICATION

7.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria and (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 communication of environmental policies, standards, guidance, and performance to employees by the Chicago Operations Office (CH), the Argonne Area Office (AAO), Argonne Area Office-West (AAO-W), Argonne National Laboratory (ANL), and Argonne National Laboratory-West (ANL-W);
- Lateral communication of environmental activities and best management practices across ANL-W;
- 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 ANL-W; and
- Employee awareness of personal environmental responsibilities and management systems to promote that awareness.

External Communication

- 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 the commitment of ANL-W and AAO-W to environmental protection.

The general approach to the assessment will include interviews with ANL-W, AAO-W, and ID personnel responsible for environmental policy and program communication, as well as interviews with affected personnel. As appropriate, interviews will be conducted with DOE line organizations and selected external parties (e.g., Idaho Department of Health and Welfare). 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

The following documents will be reviewed prior to and during the assessment at ANL-W:

- Samples of the scope of relevant management reports and staff meeting minutes;
- Forms and guidelines for internal anonymous reporting of environmental issues and procedures for and records of responses to those reports;
- Guidance documents for interpretation and implementation of environmental regulations and policies;
- ANL-W 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 Performance Objectives and Criteria (POC) EM.6, "Staff Resources, Training and Development," will involve a review and analysis of Argonne National Laboratory- West (ANL-W) operations and support activities and Argonne Area Office-West (AAO-W) oversight activities 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:

- The number of staff is sufficient to ensure environmental goals are met.
 - Staffing levels today are adequate for achieving the environmental performance goals of ANL-W.
 - Planned staffing levels for ANL-W and operational phases are adequate for achieving its environmental protection goals.
 - There is a system for identifying short-term and long-term staffing requirements for ANL-W.
 - Staffing support for environmental protection activities is provided in a timely and responsive manner.
- Qualifications of staff are adequate 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 ANL-W and AAO-W 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

The following documents will be reviewed prior to and during the assessment at ANL-W:

- 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;
- Presentation materials for environmental protection training programs; and
- Other records as determined onsite.

9.0 PROGRAM EVALUATION, REPORTING, AND CORRECTIVE ACTION

9.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria (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 ANL-W and AAO-W 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:

- ANL-W's and AAO-W's understanding of all required program evaluation mechanisms, including self-assessments, audits, and appraisals;
- Scope and approach of self-assessments and appraisals;
- Adequacy of ANL-W and AAO-W 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

The following documents will be reviewed prior to and during the assessment at ANL-W:

- 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;
- Documentation of the qualifications/training of staff responsible for conducting environmental oversight activities; and
- Other records as determined onsite.

10.0 ENVIRONMENTAL PLANNING AND RISK MANAGEMENT

10.1 ISSUE IDENTIFICATION

The Environmental Management Assessment activities for Performance Objectives and Criteria (POC) EM.8, "Environmental Planning and Risk Management," will include evaluating the effectiveness of Argonne National Laboratory-West 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 ANL-W and AAO-W 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, compared with research and development, in the planning and budgeting process; and
- The adequacy of planning for needs in the areas of pollution control technology and related equipment and services for supporting environmental protection activities at ANL-W.

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

The following documents will be reviewed prior to and during the assessment at ANL-W:

- 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;
- Descriptions of programs and reports with an emphasis on risk management; and
- Other records as determined onsite.

APPENDIX C

SCHEDULE OF ONSITE ACTIVITIES



ROUTINE ENVIRONMENTAL REAUDIT OF THE ARGONNE NATIONAL LABORATORY-WEST SCHEDULE OF ONSITE ACTIVITIES

October 10	October 11	October 12	October 13	October 14	October 15	October 16
Travel to Idaho	<p>Badging</p> <p>Orientation</p> <p>Organize Office</p> <p>Assessment Team Roundtable Discussion w/:</p> <p>Environmental Representatives</p> <ul style="list-style-type: none"> • ANL-W • AAO • ID 	<p>Daily Debrief</p> <p>Interviews begin</p>	<p>Daily Debrief</p> <p>Interviews begin</p>	<p>Daily Debrief</p> <p>Interviews begin</p>	<p>Daily Debrief</p> <p>Followup interviews</p> <p>Findings development</p>	<p>Develop findings and overviews</p>
October 17	<p>Team Meeting</p> <p>am Followup interviews as needed; findings development</p> <p>pm Factual accuracy reviews (FARs) for EC, SR, and RM</p>	<p>Team Meeting</p> <p>am FARs for EP</p>	<p>Team Meeting</p> <p>am FAR for IC</p>	<p>Team Meeting</p> <p>pm FAR for PE</p>	<p>pm Finalize draft report</p> <p>pm COB Draft report to printer</p> <p>Prepare Executive Summary, Chapter 1 and Chapter 2</p>	<p>Close-out meeting</p>
						<p>Editing Final Draft sections</p>

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: Peter J. Gascoyne

Area: Organizational Structure Internal Communication

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: Paul E. Farrow

		Area: Environmental Commitment Staff Resources, Training, and Development				
		Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	Bedding Orientation Organize Office	M. Sanchez, ANL-W Manager •Environmental commitment	P. Mikolaycik, ANL-W EWM Manager •Environmental commitment •Staff development opportunities	M. Derbridge •Environmental commitment	Daily Debrief	Daily Debrief
	Assessment Team Roundtable Discussion w/ Environmental Representatives: •ANL-W •AAO •ID	M. Janecko, ANL-W Manager •Staff development opportunities •Talent resource pool	E. Hughes, CH Manager •Staff resource •Funding priorities	Other interviews to be determined	Followup Interviews	
pm	M. Finerty, ANL-W IFR Training Specialist •Environmental training	R. Lindsey, ANL-W Manager •Public awareness	J. Sackett, ANL-W IFR Operations •Training to perform ECR duties	P. Mikolaycik, ANL-W	Findings development	
	J. Driscoll, ANL-W IFR Training Specialist •Environmental training records	L. DeLuce, ANL-W Public Relations Specialist •ANL-W newsletters, message postings, etc.	L. Witbeck, ANL-W •Training to perform ECR duties	G. Marshall, ANL-W	G. Marshall, ANL-W	
	C. Till, ANL Associate Lab Director •Environmental commitment	G. Marshall, ANL-W EWM Manager •Support with funding for environmental projects and staff •Staff development opportunities	M. Holzemer, ANL-W ERWM Manager •Staff resources, training, development	R. Grant, ANL-W Manager •Environmental commitment and staff resources, training, and development	T. Zahn, ANL-W •Environmental commitment	
	T. Brooks, ANL-W Human Resource Specialist •Hiring •Performance evaluations					Team Meeting
						Team Meeting

Name: J. Ivor John

SCHEDULE OF ONSITE ACTIVITIES (continued)

Area: Environmental Protection Programs Air Formality of Environmental Programs: Air

		Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	Badging Orientation Organize Office	F. Hall, IDHW AIP Environmental Scientist and R. Bobo, IDHW AIP Environmental Scientist •Air program oversight •Radionuclide emissions measurements	R. Grant, ANL-W Environmental Engineer •Waste min/pollution prevention program	P. Mikolaycik, ANL-W EWM Manager •Formality of environmental protection programs	Daily Debrief	Daily Debrief
	Assessment Team Roundtable Discussion w/ Environmental Representatives: •ANL-W •AAO •ID	C. Anderson, ID Environmental Engineer •NESHPAs •INEL air permit •Meteorological monitoring	R. Rubick, ANL-W Environmental Engineer •Asbestos management program and notification of abatement activities	G. Bass, AAO-W Environmental Engineer •Environmental management •Environmental compliance •Air programs	D. Kirschner, ANL-W TREAT Facility Manager •TREAT emissions, meteorological data	D. Kirschner, ANL-W EWM Manager •ESWM documentation review
pm	A. Powell, ANL-W EWM Group Leader •Air program •Environmental compliance program, in general	D. Rasch, ID Environmental Engineer J. Lyle, ID Manager •Sitewide EP programs •RESL •SARA Title III	C. Martin, ANL-W Environmental Engineer •Agreement in Principle as it relates to all ANL-W environmental programs	R. Swanson, ANL-W Environmental Engineer •Operating permits	E. Clifton, ANL-W Plant Service Manager •Motor vehicles and facility maintenance	A. Croft, ANL-W EWM Environmental Engineer •CFC substitution
	A. Croft, ANL-W, EWM Environmental Engineer •Air program, air toxics inventory, CFC inventory	W. Russell, ID Environmental Engineer •Operating permits	L. Witbeck, ANL-W Environmental Engineer •Environmental oversight	D. Moore, IFR Procedures Manager •Procedures and documentation	Findings development	10/18 Followup w/ S. Richards, IDHW
	G. Marshall, ANL-W ESWM Manager •Environmental procedure development, implementation, management	Team Meeting	Team Meeting	Team Meeting	Team Meeting	Team Meeting

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: David J. Allard

Area: Environmental Radiation

		Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	<p>Badging</p> <p>Orientation</p> <p>Organize Office</p> <p>Assessment Team Roundtable Discussion: Environmental Representatives:</p> <ul style="list-style-type: none"> •ANL-W •AAO •ID 	<p>R. Allen, ANL-W Waste Engineer</p> <ul style="list-style-type: none"> •Rad waste <p>S. Wallace, ANL-W Waste Engineer</p> <ul style="list-style-type: none"> •Mixed waste 	<p>E. Clifton, ANL-W IFR Manager</p> <ul style="list-style-type: none"> •Liquid rad waste processing facility <p>A. Croft, ANL-W Environmental Engineer</p> <ul style="list-style-type: none"> •Environmental Monitoring Plan (EMP) 	<p>R. Grant, ANL-W Waste Management Specialist</p> <ul style="list-style-type: none"> •TRU waste •HL waste <p>E. Chew, ID Waste Management Specialist</p> <ul style="list-style-type: none"> •INEL site environmental monitoring <p>D. Hinckley, ID Waste Management Specialist</p> <ul style="list-style-type: none"> •TRU waste 	<p>Daily Debrief</p>	<p>Daily Debrief</p>
pm	<p>D. Kirschner, ANL-W EW/M Manager</p> <ul style="list-style-type: none"> •Radiation programs •Rad Emergency Plan <p>L. Burke, ANL-W Health Physicist</p> <ul style="list-style-type: none"> •Rad control & engineering •RadCon Manual <p>R. Grant, Waste Management Engineer</p> <ul style="list-style-type: none"> •Environmental rad. program •Rad waste •Mixed waste 	<p>A. Powell, ANL-W Environmental Engineering Group Leader</p> <ul style="list-style-type: none"> •Air effluent monitoring •NESHPAs •Annual report <p>C. Martin, ANL-W Environmental Engineer</p> <ul style="list-style-type: none"> •Environmental monitoring •Ground water •Soils •Surface water 	<p>J. Krsul, ANL-W Section Manager</p> <ul style="list-style-type: none"> •Rad chem lab procedures •QA/QC <p>G. Bass, AAO-W Environmental Engineer</p> <ul style="list-style-type: none"> •Environmental program oversight 	<p>R. Black, ANL-W Manager Environmental Support</p> <ul style="list-style-type: none"> •D&D planning <p>J. Maesser, ANL-W Issue Management Coordination</p> <ul style="list-style-type: none"> •Rad Tiger Team corrective actions 	<p>D. Hoff</p> <ul style="list-style-type: none"> •EMP <p>R. Grant</p> <ul style="list-style-type: none"> •Mixed waste <p>Findings development</p>	<p>10/16 and 10/17</p> <p>10/18/93</p> <p>R. Wilhelmse, EG&G Monitoring and Surveillance</p> <p>L. Burke</p> <ul style="list-style-type: none"> •Site Area Emergency DCG levels
		Team Meeting	Team Meeting	Team Meeting	Team Meeting	Team Meeting

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: Mark J. Brazell

Area: Surface Water/Drinking Water

Monday, October 11		Tuesday, October 12		Wednesday, October 13		Thursday, October 14		Friday, October 15	
am	<p>Bedding</p> <p>Orientation</p> <p>Organize Office</p> <p>Assessment Team Roundtable Discussion:</p> <p>Environmental Representatives</p> <ul style="list-style-type: none"> •ANL-W •AAO •ID 	<p>M. Bennett, ID</p> <p>S. Madson, ID</p>	<p>C. Martin, ANL-W EWM Environmental Engineer</p> <ul style="list-style-type: none"> •Observe sampling activities 	<p>Daily Debrief</p>	<p>B. Drewes, IDHW DEQ (teleconference)</p> <ul style="list-style-type: none"> •Drinking water 	<p>Daily Debrief</p>	<p>B. Drewes, IDHW DEQ (teleconference)</p> <ul style="list-style-type: none"> •Drinking water 	<p>Daily Debrief</p>	<p>E. Hughes, AAO-W Director</p> <ul style="list-style-type: none"> •"Waters of the US"
pm	<p>G. Bass, AAO-West Environmental Engineer</p> <ul style="list-style-type: none"> •Surface water program oversight •"Waters of the state" -Status of approval of definition by EPA 	<p>R. Batten, IFR Operations Environmental Compliance Representative</p>	<p>P. Mirkolaycik, EWM Manager</p>	<p>M. Nelson, IDHW DEQ (teleconference)</p> <ul style="list-style-type: none"> •Surface water 	<p>S. Moller, Environmental Compliance Rep.</p> <ul style="list-style-type: none"> •Reactor program supply 	<p>J. Stringham, Alternate ECR, TREAT</p>	<p>C. Martin, ANL-W EWM Environmental Engineer</p> <ul style="list-style-type: none"> •Industrial Waste Ponds, Sanitary Lagoons 	<p>G. Tarbet, FCF Environmental Compliance Rep.</p> <ul style="list-style-type: none"> •ICF 	<p>E. Hughes, AAO-W Director</p> <ul style="list-style-type: none"> •"Waters of the US"
									<p>B. Gay, IFR Maintenance Manager Technical Support</p> <p>C. Martin, ANL-W Environmental Engineer</p> <ul style="list-style-type: none"> •Surface water program •Land application permit status •Potable water program •Sanitary waste treatment
									<p>B. Gay, IFR Maintenance Manager Technical Support</p> <ul style="list-style-type: none"> •IFR Maintenance <p>Findings development</p>
									<p>Team Meeting</p>
									<p>Team Meeting</p>

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: James E. Rice

Area: Inactive Waste Sites

	Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	<p>Badging</p> <p>Orientation</p> <p>Organize Office</p> <p>Assessment Team Roundtable Discussion w/ Environmental Representatives:</p> <ul style="list-style-type: none"> • ANL-W • AAO • ID 	<p>Daily Debrief</p> <p>A. Powell, ANL-W EC Group Leader</p> <ul style="list-style-type: none"> • Environmental compliance activities • EM responsibilities 	<p>Daily Debrief</p> <p>G. Bass, AAO-W Environmental Engineer</p> <ul style="list-style-type: none"> • EM program • EM oversight activities • AR/CR 	<p>Daily Debrief</p> <p>L. Green, ID</p> <ul style="list-style-type: none"> • Integration of ANL-W into sitewide 	<p>Daily Debrief</p> <p>C. Martin, ANL-W Environmental Engineer</p> <ul style="list-style-type: none"> • WAG 9 drilling
pm		<p>C. Martin, ANL-W EWM Environmental Engineer</p> <ul style="list-style-type: none"> • Groundwater Plan implementation • IWS interaction 	<p>S. Nielsen, CH Environmental Engineer</p> <ul style="list-style-type: none"> • ER program management 	<p>S. Jenkins, ANL-W</p> <ul style="list-style-type: none"> • SARs 	<p>G. Bass, AAO-W Environmental Engineer</p> <ul style="list-style-type: none"> • Followup interview - communications
				<p>N. Stewart, ANL-W former ER Group Leader</p> <ul style="list-style-type: none"> • PCB Cleanup 	<p>E. Kennedy, ANL-W ER Environmental Engineer</p> <ul style="list-style-type: none"> • Funding
					<p>J. Shelton</p> <ul style="list-style-type: none"> • ER Projects
					<p>Findings development</p>
					<p>M. Holzemer, ANL-W ERWM Group Leader</p> <ul style="list-style-type: none"> • Duties/responsibilities
					<p>P. Mikolaycik, ANL-W EWM Section Manager</p> <ul style="list-style-type: none"> • Plans • Policies • INEL interaction • DOE guidance
					<p>Team Meeting</p>
					<p>Team Meeting</p>
					<p>Team Meeting</p>

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: Joseph P. Selle

Area: Program Evaluation, Reporting, and Corrective Action

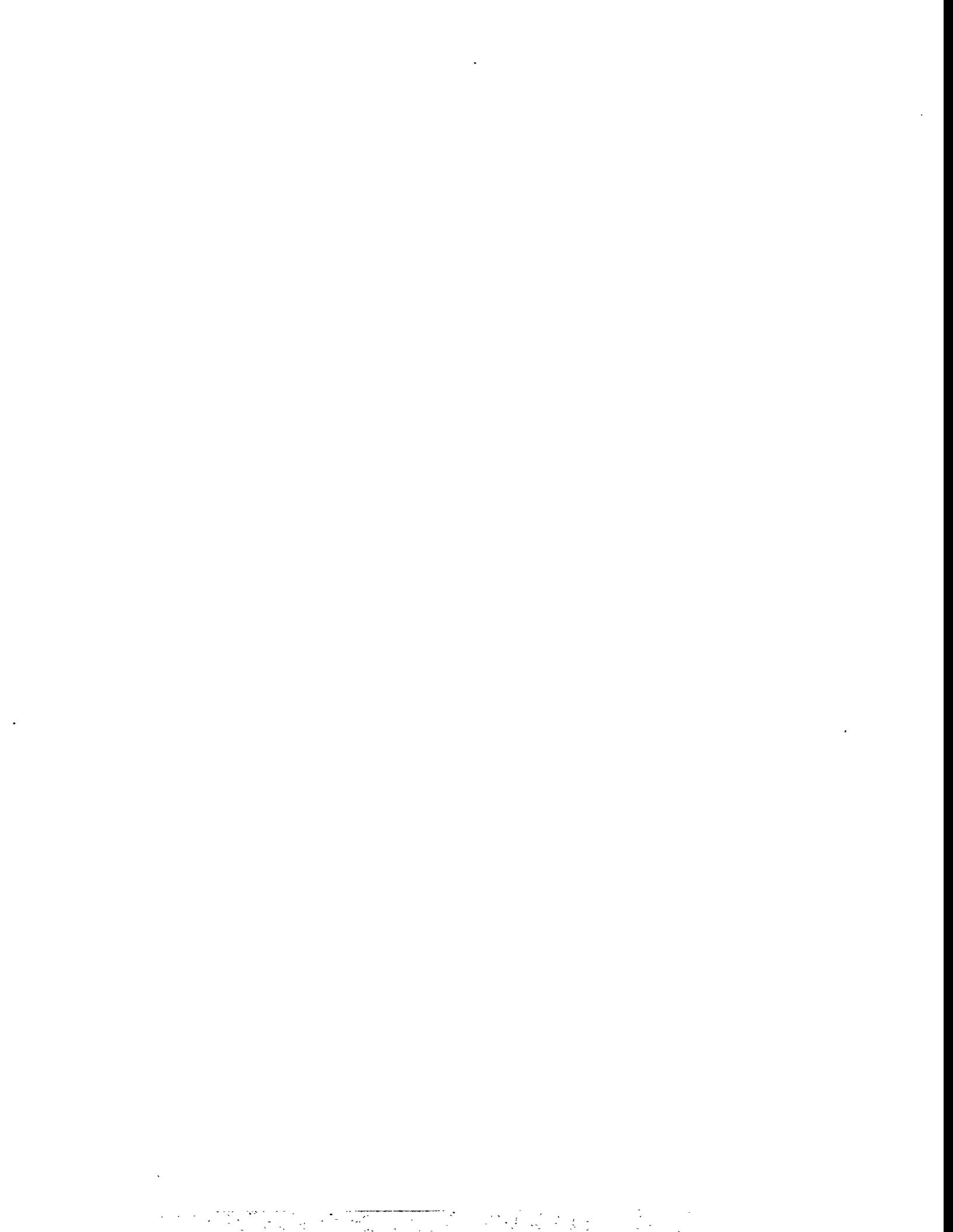
		Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	pm					
		<p>Badging</p> <p>Orientation</p> <p>Organize Office</p> <p>Assessment Team</p> <p>Roundtable Discussion w/ Environmental Representatives:</p> <ul style="list-style-type: none"> •ANL-W •AAO •ID 	<p>Daily Debrief</p> <p>A. Powell, ANL-W EWM Environmental Compliance Leader</p> <ul style="list-style-type: none"> •Environmental restoration program evaluation <p>N. Stewart, ANL-W EWM Environmental Engineer</p> <ul style="list-style-type: none"> •Environmental compliance program evaluation 	<p>Daily Debrief</p> <p>J. Maeser, ANL-W Data Base Maintenance Manager</p> <p>R. Grant, ANL-W EWM Environmental Engineer</p>	<p>Daily Debrief</p> <p>L. Walters</p> <ul style="list-style-type: none"> •Evaluation of F&E programs to control impact on the environment <p>T. Zahn</p> <ul style="list-style-type: none"> •Evaluation of F&E programs to control impact on the environment 	<p>Daily Debrief</p> <p>R. Grant, ANL-W EWM Environmental Engineer</p> <ul style="list-style-type: none"> •FCF Environmental Programs <p>B. Southon, ANL-W QA Manager</p> <ul style="list-style-type: none"> •QA and self-assessment program
		<p>L. Witbeck, ESH Environmental Compliance Officer</p> <ul style="list-style-type: none"> •Internal oversight •Internal environmental program evaluation activities 	<p>Daily Debrief</p> <p>J. Sackett, IFR Director</p> <ul style="list-style-type: none"> •Evaluation of IFR programs to control impact on the environment <p>M. Swanick, ANL-W Director</p> <ul style="list-style-type: none"> •Evaluation of IFR programs to control impact on the environment <p>P. Mikolaycik, ANL-W EWM Manager</p> <ul style="list-style-type: none"> •Evaluation of environmental program •Evaluation of line programs <p>G. Bass, AAO-W Environmental Engineer</p> <ul style="list-style-type: none"> •Oversight by AAO-W •Evaluation by AAO-W 	<p>M. Lineberry, Fuel Cycle Div. Director</p> <ul style="list-style-type: none"> •Evaluation of FCF programs to control impact on the environment <p>G. Winner, ANL Internal Appraisal Manager</p> <p>M. Morrissey, ANL-W QA Specialist</p>	<p>R. Smith</p> <ul style="list-style-type: none"> •Evaluation of RPSD programs to control impact on the environment <p>S. Molen</p> <ul style="list-style-type: none"> •Evaluation of Warehouse programs to control impact on the environment <p>R. Black</p> <ul style="list-style-type: none"> •Contractor oversight 	<p>M. Lineberry, Fuel Cycle Division Director</p> <ul style="list-style-type: none"> •FCF Environmental Programs <p>P. Mikolaycik, ANL-W EWM Manager</p> <p>P. Wells, ANL-W Construction Manager</p>

SCHEDULE OF ONSITE ACTIVITIES (continued)

Name: Henry F. Rej

Area: Environmental Planning and Risk Management
External Communication

		Monday, October 11	Tuesday, October 12	Wednesday, October 13	Thursday, October 14	Friday, October 15
am	Badging Orientation Organize Office	Daily Debrief	M. Holzemer, EWM Waste Management Engineer •Environmental planning •Input to the Five-Year Plan •Funding for ER, WM activities	E. Hughes, AAO-W Director •Procedures for input to INEL PR for release to the public •Release of information related to unusual occurrences to public and government entities	M. Wallace, EWM Environmental Engineer •FFCA activities •Land disposal restriction agreement with State of Idaho	Daily Debrief
	Assessment Team Roundtable Discussion w/ Environmental Representatives: •ANL-W •AAO •ID		P. Mikolaycik, EWM Manager •Environmental planning and risk management activities •Preparation of reports/ news releases for external entities	G. Bass, AAO-W Environmental Engineer •Direct interface with state on environmental issues limited to ANL-W site	J. Ward •Environmental budget planning	
pm	S. Mousseau, Emergency Response Coordinator/ Manager M. Janecko, Human Resources •External communications •Procedures for staff planning	G. Wray, ANL-W Purchasing Manager •Environmental budgets •Evaluation of projects for impact on the environment	C. Martin, EWM Environmental Engineer •Agreement in Principle/ •Direct interface with State	G. Marshall, ANL-W ESH Manager •Environmental planning and risk management activities •Preparation of reports/ news releases for external entities	J. Shelton, EWM Environmental Engineer •NEPA project review data base	S. Nielson, CH Environmental Restoration Prog. Manager •CH ERD Program Manager Findings development
	N. Stewart, Waste Management Engineer •Planning aspects of environmental restoration activities			G. Marshall, ANL-W ESH Manager •Environmental planning and risk management activities •Preparation of reports/ news releases for external entities	D. Lindsey, IFR Public Relations •Public relations	S. Rosenberger, IDHW FFCA Waste Area Group Manager •CERCLA E. Jones, EPA FFCA Area Manager •CERCLA
		Team Meeting	Team Meeting	Team Meeting	Team Meeting	Team Meeting



APPENDIX D

LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM



LIST OF SITE DOCUMENTS REVIEWED BY THE AUDIT TEAM

Document #	Title/Description	Author	Organization	Recipient	Document Date
P. Gascoyne - Organizational Structure: Internal and External Communication					
D-A-1	Organization Charts	ANL-W	ANL-W	Not indicated	6/16/93
D-A-2	Policy Manual	Not indicated	AAO-W	Not indicated	Various
D-A-3	Environment, Safety and Waste Management Department Management Plan	ESWM	ANL-W	Not indicated	10/92
D-A-4	Environmental Protection/Waste Management Argonne National Laboratory 5/3-28/93 Appraisal Report, Draft	ANL	ANL	Not indicated	Undated Draft
D-A-5	EH-24 Environmental Management Assessment Pre-Assessment, ANL-W Presentation	ANL-W	ANL-W	EH-24	9/13/93
D-A-6	Chicago Operations Office Directives System (Order CH1321.1B)	CH	CH	Not indicated	7/20/93
D-A-7	Mission and Function Statements	CH, AAO	CH, AAO	Not indicated	Not indicated
D-A-8	Various Articles (Recycling Transuranic Waste in IFR; Experimental Breeder Reactor-II; The Greenhouse Effect; Can Nuclear Help?; IFR Metallic Fuel; Fuel Cycle Facility; Fuel Cycle Technology; Integral Fast Reactor; Fuel Manufacturing Facility; Hot Fuel Examination Facility; Inherent Safety Characteristics of the IFR; Recycling Transuranic Waste in IFR)	ANL-W	ANL-W	Not indicated	Various
D-A-9	Federal Facility Agreement and Consent Order	DOJ	DOJ	Not indicated	12/9/91
D-A-10	Environmental Oversight and Monitoring Agreement ("Agreement in Principle")	DOE, State of Idaho	DOE, State of Idaho	Not indicated	5/90
D-A-11	CH and AAO Organization Charts	CH, AAO	ANL	Not indicated	Various
D-A-12	Sections of Contract that legally commits and motivates the contractor to attain an acceptable level of environmental performance	DOE	DOE	University of Chicago	Not indicated
D-A-13	Description of ANL-W Environmental Programs	ANL-W	ANL-W	Not indicated	Not indicated
D-A-14	ANL-W Position Descriptions	ANL-W	ANL-W	Not indicated	Various
D-A-15	1993 Environmental Protection Implementation Plan	ANL-W	ANL-W	AAO-W	1/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-16	1993 ANL Environmental Protection/Waste Management Program Appraisal, Draft Report for Factual Review, May 3-28, 1993	ANL	ANL	Not indicated	Undated Draft
D-A-17	Standard Operating Procedure: Implementation of/and Compliance with the National Environmental Policy Act	Not indicated	ANL-W	Not indicated	7/91
D-A-18	AAO Standard Operating Procedure, Revision 2, DOE Directives Distribution and Implementation Program	AAO	ANL-W	Not indicated	8/5/93
D-A-19	Argonne Area Office Operating Procedures (AAO SOPs)	AAO	ANL	Not indicated	Various
D-A-20	INEL Tiger Team Report (Chapter 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-A-21	INEL Tiger Team Report (Chapter 5 Management Assessment)	EH-5	DOE	INEL	11/91
D-A-22	INEL Tiger Team Report (Chapter 6 Evaluation of Self-Assessment Programs and Reports for DOE Field Offices Idaho and Chicago and the Idaho National Engineering Laboratory Contractors)	EH-5	DOE	INEL	11/91
D-A-23	Occurrence Reporting and Processing of Operations Information (Order CH 5000.3A)	Not indicated	CH	Not indicated	8/30/90
D-A-24	General Environmental Protection Program (Order CH 5400.1)	Not indicated	CH	Not indicated	12/14/92
D-A-25	Environmental Compliance Issue Coordination (Order CH 5400.2A)	Not indicated	CH	Not indicated	12/11/92
D-A-26	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Requirements (Order CH 5400.4)	Not indicated	CH	Not indicated	8/12/92
D-A-27	Conduct of Operations (Order CH 5480.19)	Not indicated	CH	Not indicated	9/21/92
D-A-28	Department of Energy Chicago Field Office Environment, Safety, and Health/Quality Assurance Tracking System (Order CH 5482.8)	Not indicated	CH	Not indicated	3/17/93
D-A-29	Quality Assurance (Order CH 5700.6C)	Not indicated	CH	Not indicated	5/5/92
D-A-30	Radioactive Waste Management (Order CH 5820.2A)	Not indicated	CH	Not indicated	9/7/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-31	Training Management System ANL-W Job Hazards Checklist	Not Indicated	ANL	IFR training recipients	Rev.1, 10/92
D-A-32	ESH Manual Section with duties of ECRs, Section IX, Chapter I	ANL-W	ANL-W	Not indicated	Rev.7, 9/8/93
D-A-33	Letter: Taboas to Schriesheim	A. Taboas	AAO	A, Schriesheim, ANL	Various, 6/29/92 - 8/2/93
D-A-34	Memorandum re: State RCRA Inspection conducted September 13-17, 1993	M. Hinman	ID	Distribution	10/1/93
D-A-35	Letter re: FFCIA - Information Request for Federal Facility Compliance Act Chief Financial Officer Report, Fiscal Year 1993	J. Haugen	CH	R. Baker, et al.	9/1/93
D-A-36	Letter re: Federal Facility Compliance Act	J. Haugen	CH	R. Baker, et al.	6/22/93
D-A-37	Letter re: Public Participation Calendar Update	J. Haugen	CH	J. Fletcher, et al.	2/19/93
D-A-38	Intra-Laboratory Memo re: Divisional Environmental Compliance Representative and Facility Safety Representative Roles and Responsibilities	M. Derbridge	ANL-W	Division Directors	3/13/92
D-A-39	ESH Manual Section IX, Chapter 1 - Duties of ECRs (Draft)	ANL-W	ANL-W	Not indicated	Rev.7 9/8/93
D-A-40	Title I - Federal Facility Compliance Act	Not indicated	Not indicated	Not indicated	9/21/92
D-A-41	Intra-Laboratory Memo re: Notice of Noncompliance Consent Order	R. Peralta	ANL-W	J. Sackett	4/16/92
D-A-42	Position Description for Technical Staff - Environmental Engineering Section	Not indicated	ANL-W, FED	Not indicated	9/9/93
D-A-43	LDR Requirements Timeline	Not indicated	Not indicated	Not indicated	Not indicated
D-A-44	Mixed Waste Data Request Correspondence	Various	Various	Various	Various
D-A-45	'AWARE' Newsletter	Not indicated	ANL-W	General distribution	5/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-A-46	ANL Position Description for Environmental Engineer, Grade 704	Not indicated	ANL-W	Not indicated	11/92
D-A-47	ANL Position Description for Environmental Engineer, Grade 705	Not indicated	ANL-W	Not indicated	11/92
D-A-48	ANL Position Description for Environmental Engineer, Grade 705	Not indicated	ANL-W	Not indicated	11/92
D-A-49	Intentionally left blank	Not indicated	Not indicated	Not indicated	Not indicated
D-A-50	MOU ESH at ANL-W and ESH at ANL-E	Marshall, Winner	ANL-W, ANL-E	Marshall, Winner	9/28/93
D-A-51	ANL Draft Institutional Plan 1994-1999	Various	ANL	Distribution	5/93
D-A-52	Strategy for Implementing CERCLA/NEPA	J. Lyle	ERD	Distribution	9/17/91
D-A-53	Organization Review	M. Janecekko	ANL-W	Not indicated	10/93
D-A-54	Letter: Taboas to Schriesheim	A. Taboas	AAO-W	A. Schriesheim, ANL	Various, 6/29/92 - 8/2/93
P. Farou: Environmental Commitment, Staff Resources, Training, and Development					
D-B-1	Organization Charts	Not indicated	ANL-W	Not indicated	6/16/93
D-B-2	Environmental Restoration and Waste Management Five-Year Plan FY 1994-1998 Volumes I (Complex-Wide Information), II (Installation Summaries), and III (Public Comments on Preliminary Plan)	EM-14	DOE Headquarters	Not indicated	1/93
D-B-3	Policy Manual	AAO	AAO-W	Not indicated	Various
D-B-4	Environment, Safety and Waste Management Department Management Plan	ESWM	ANL-W	Not indicated	10/92
D-B-5	Management-Environment-Safety and Health Initial Self-Assessment	Not indicated	ANL-W	Not indicated	4/15/91
D-B-6	Drawings (related to surface water)	Not indicated	ANL	Not indicated	9/10/93
D-B-7	Environmental Protection/Waste Management Argonne National Laboratory 5/3-28/93 Appraisal Report, Draft	Not indicated	ANL	Not indicated	Undated Draft

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-8	INEL Environmental Monitoring Plan Baseline Document	Not indicated	ID	Not indicated	9/92
D-B-9	Topographic Map	Not indicated	EG&G	Not indicated	7/2/91
D-B-10	Aerial Photos	Not indicated	ANL-W	Not indicated	5/93
D-B-11	Spill Report Log	Not indicated	ANL-W	Not indicated	6/92
D-B-12	INEL Site Environmental Report (Preface, Executive Summary, Table of Contents, only)	Not indicated	ID	DOE	6/93
D-B-13	INEL Environmental Monitoring Plan Preliminary Table of Contents (Proposed Revision)	Not indicated	ID	Not indicated	8/27/93
D-B-14	Policy Manual and Management Plan	ANL	ANL	Not indicated	Not indicated
D-B-15	Radiation Monitoring	Not indicated	ANL-W	Not indicated	Not indicated
D-B-16	Meteorological Monitoring and Air Emissions Information	Not indicated	ANL-W	Not indicated	Not indicated
D-B-17	WAG 9	Not indicated	ANL-W	Not indicated	Not indicated
D-B-18	Letter in response to ANL-W locations alleged in the May, 1992 State of Idaho, Division of Environmental Quality Inspection's Notice of Violation	G. Marshall	ANL-W	E. Hughes, AAO-W	2/24/93
D-B-19	IRMS Projects (related to all media)	Not indicated	ANL-W	Not indicated	Not indicated
D-B-20	Training Requirements, Programs, Plans, Records	Not indicated	ANL-W	Not indicated	Various
D-B-21	Spill Prevention, Control and Countermeasure Plan (Section IX-Chapter 7)	Not indicated	ANL-W	Not indicated	5/1/91
D-B-22	ANL-W Submittal for the DOE Safety and Health Five Year Plan	Not indicated	ANL-W	Not indicated	4/92
D-B-23	Environmental Restoration and Waste Management Five Year Plan Activity Data Sheet	Not indicated	ANL-W	Not indicated	4/26/93
D-B-24	Standard Operating Procedures: Radiological, Volatiles and Semi-Volatiles, GC, and Inorganic Data Validation	Not indicated	EG&G	Not indicated	Various
D-B-25	The Quality Assurance Plan	Not indicated	ANL-W	Not indicated	6/1/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-26	Portable Water Sampling and Radioactivity; Production Wells Water Analysis; Industrial Waste Pond; Sanitary Lagoon Environmental Sampling Procedure; Sediment, Soil, and Vegetation Sampling; Operating Procedure Cover Sheet; Document Approval Cover Sheet; Levels of Method Validation	Not indicated	ANL-W	Not indicated	Various
D-B-27	Waste Minimization Plan	Not indicated	ANL-W	Not indicated	5/1/91
D-B-28	Quality Assurance Program	Not indicated	ANL-W	Not indicated	8/28/92
D-B-29	Technical Basis Document for the Priority Planning Grid Application of the Risk Ranking Technique	Not indicated	ANL-W	Not indicated	3/25/91
D-B-30	Chapter 10 Public Information	Not indicated	ANL-W	Not indicated	10/92
D-B-31	Telephone Directory, ANL-W	Not indicated	ANL-W	Not indicated	8/23/93
D-B-32	Division Building Checklist	Not indicated	ANL-W	Not indicated	Not indicated
D-B-33	Underground Utilities Map	Not indicated	ANL-W	Not indicated	Not indicated
D-B-34	ANL-W 779 Pond Seepage Test	Not indicated	ANL-W	Not indicated	11/92
D-B-35	1992 Environmental Surveillance Report	Not indicated	ANL-W	Not indicated	1992
D-B-36	Stormwater Pollution Prevention Plan for Industrial Activities	Not indicated	ANL-W	Not indicated	7/30/93
D-B-37	Underground Utilities Map	Not indicated	ANL-W	Not indicated	Not indicated
D-B-38	Drinking Water Sampling Procedures	Not indicated	ANL-W	Not indicated	1993
D-B-39	Surface Water Matrix	Not indicated	ANL-W	Not indicated	Not indicated
D-B-40	Certificates, Cross-Connection/Backflow Prevention Training	Not indicated	ANL-W	Not indicated	Not indicated
D-B-41	Letter Regarding Monthly Bacterial Analysis of Public Water Systems at the INEL (AM/SES-93-3379)	M. B. Hinman, Director Environmental Support Division	IDH&W		7/27/93
D-B-42	Site Development Plan	Not indicated	ANL-W	Not indicated	1/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-43	1993 Telephone Directory, ANL and CH	ANL	CH	Not indicated	3/93
D-B-44	1992/1993 INEL Telephone Directory	INEL	INEL	Not indicated	1992
D-B-45	EH-24 Environmental Management Assessment Pre-Assessment, ANL-W Presentation	Not indicated	ANL-W	EH-24	9/13/93
D-B-46	Chicago Operations Office Directives System (Order CH1321.1B)	Not indicated	CH	Not indicated	7/20/93
D-B-47	Mission and Function Statements	Not indicated	CH, AAO	Not indicated	Not indicated
D-B-48	Security Interest Areas with Access Control Card Readers	Not indicated	ANL-W	Not indicated	Not indicated
D-B-49	ANL Telephone Directory, Chicago Personnel ESH/QA Oversight Directorate	ANL	ANL	Not indicated	9/7/93
D-B-50	DOE-CH Facts (The U.S. Department of Energy's Chicago Operations Office)	Not indicated	CH	Not indicated	4/93
D-B-51	Article (Engineering and You)	Not indicated	National Society of Professional Engineers	Not indicated	Not indicated
D-B-52	Environment Safety and Health at Argonne	Not indicated	ANL	Not indicated	Not indicated
D-B-53	Various Articles (Recycling Transuranic Waste in IFR; Experimental Breeder Reactor-II; The Greenhouse Effect; Can Nuclear Help?; IFR Metallic Fuel; Fuel Cycle Facility; Fuel Cycle Technology; Integral Fast Reactor; Fuel Manufacturing Facility; Hot Fuel Examination Facility; Inherent Safety Characteristics of the IFR; Recycling Transuranic Waste in IFR)	Not indicated	ANL-W	General Public	Various
D-B-54	INEL Site Environmental Report for Calendar Year 1992	INEL	ID	DOE	1992
D-B-55	Memo Regarding 1993 ANL Self-Assessment	A. Schriesheim	ANL	H. Drucker, et al	9/3/93
D-B-56	ANL Self-Assessment Program "ES&H Assessment Program"	Not indicated	ANL	Not indicated	9/92
D-B-57	ANL Guidelines Self-Assessment of ESH/QA Performance	ANL	ANL	Not indicated	9/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-58	Federal Facility Agreement and Consent Order	Not indicated	DOJ	Not indicated	12/9/91
D-B-59	Environmental Oversight and Monitoring Agreement ("Agreement in Principle")	Not indicated	DOE, State of Idaho	Not indicated	5/90
D-B-60	Tentative Agenda for the Environmental Protection Appraisal of ANL-W, 5/24/28/93	Not indicated	ANL	Not indicated	Undated
D-B-61	CH And CH-AAO Organization Charts	CH	CH	Not indicated	Various
D-B-62	Scheduled ESHD Appraisal at ANL-West + enclosed letter	A.L. Taboas	AAO	M.J. Flannigan	5/11/93
D-B-63	Status of CH Orders	Not indicated	ANL-W	Not indicated	6/16/93
D-B-64	Sections of Contract that legally commits and motivates the contractor to attain an acceptable level of environmental performance	Not indicated	DOE	University of Chicago	Not indicated
D-B-65	Description of ANL-W Environmental Programs	Not indicated	ANL-W	Not indicated	Not indicated
D-B-66	ANL-W Position Descriptions	Not indicated	ANL-W	Not indicated	Not indicated
D-B-67	1993 Environmental Protection Implementation Plan	Not indicated	ANL-W	Not indicated	1/93
D-B-68	Notice of Violation (NOV) Issued to DOE for May 18-22, 1992 Inspection	Not indicated	IDHWH Division of Environmental Quality	ID	2/2/93
D-B-69	1993 ANL Environmental Protection/Waste Management Program Appraisal, Draft Report for Factual Review, May 3-28, 1993	Not indicated	ANL	Not indicated	Undated Draft
D-B-70	Standard Operating Procedure: Implementation of/and Compliance with the National Environmental Policy Act	Not indicated	ANL-W	Not indicated	7/91
D-B-71	AAO Standard Operating Procedure, Revision 2, DOE Directives Distribution and Implementation Program	AAO	ANL-W	Not indicated	8/5/93
D-B-72	Argonne Area Office Operating Procedures (AAO SOPs)	AAO	ANL	Not indicated	Various
D-B-73	INEL Tiger Team Report (Chapter 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-B-74	INEL Tiger Team Report (Chapter 5 Management Assessment)	EH-5	DOE	INEL	11/91

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-75	INEL Tiger Team Report (Chapter 6 Evaluation of Self-Assessment Programs and Reports for DOE Field Offices Idaho and Chicago and the Idaho National Engineering Laboratory Contractors)	EH-5	DOE	INEL	11/91
D-B-76	Occurrence Reporting and Processing of Operations Information (Order CH 5000.3A)	Not indicated	CH	Not indicated	8/30/90
D-B-77	General Environmental Protection Program (Order CH 5400.1)	Not indicated	CH	Not indicated	12/14/92
D-B-78	Environmental Compliance Issue Coordination (Order CH 5400.2A)	Not indicated	CH	Not indicated	12/11/92
D-B-79	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Requirements (Order CH 5400.4)	Not indicated	CH	Not indicated	8/12/92
D-B-80	Conduct of Operations (Order CH 5480.19)	Not indicated	CH	Not indicated	9/21/92
D-B-81	Department of Energy Chicago Field Office Environment, Safety, and Health/Quality Assurance Tracking System (Order CH 5482.a)	Not indicated	CH	Not indicated	3/17/93
D-B-82	Quality Assurance (Order CH 5700.6C)	Not indicated	CH	Not indicated	5/5/92
D-B-83	Radioactive Waste Management (Order CH 65820.2A)	Not indicated	CH	Not indicated	9/7/93
D-B-84	Biennial Appraisal of the Argonne National Laboratory's Hazardous Materials Packaging and Transportation Program	Not indicated	ANL	Not indicated	4/12/92 - 4/22/92
D-B-85	Information Packet: Argonne Science & Engineering Careers	Human Resources Department	Argonne National Laboratory	General Public	12/91
D-B-86	Intra-Laboratory Memo re: Information Request for Pre-Audit Review	J. Driscoll, Manager	IFR Training, ANL	A. Powell, ESWM	9/10/93
D-B-87	Intra-Laboratory Memo re: Waste Management Training - Line Management	J. Sackett, DAL	ANL-W Operations	Distribution	4/29/93
D-B-88	TPM Revision Status listing w/ environmental and related training programs	Not indicated	Not indicated	Not indicated	Not indicated

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-89	Intra-Laboratory Memo re: Waste Management/ Basic RCRA Training Action Plan Number: WM/CF-13.AP05	M. Finnerty, Specialist	IFR Training, ANL	J. Driscoll, Manager IFR Training	9/30/92
D-B-90	Intra-Laboratory Memo re: Waste Management Training Handout of written materials of subjects covered in the waste management training class	R. Peralta, Counsel	ANL-W	Distribution	5/19/93
D-B-91	Draft outline of RCRA training done by attorney: Waste Management Training Resource Conservation and Recovery Act - Senior Management	Counsel	ANL	Not indicated	1/93
D-B-92	ANL-West Hazardous Material Clean-Up Team. The Four Major Classes General Safe Handling, Storage and Emergency Procedures	Not indicated	ANL-W	Not indicated	Not indicated
D-B-93	Hazardous Material Clean-Up Team Training Qualification Listing	Not indicated	ANL-W	Not indicated	5/27/93
D-B-94	Hazardous Material Clean-Up Team Training sign-in roster	Not indicated	ANL-W	Instructors Wilcox, Finnerty	7/30/93
D-B-95	Hazardous Material Clean-Up Team Spill Exercise "Kerosene Spill!"	Not indicated	ANL-W	Not indicated	Not indicated
D-B-96	Hazardous Material Clean-Up Team overheads	Not indicated	ANL-W	Not indicated	Not indicated
D-B-97	ESHERT: ES&H Training Handbook Part III - Hazardous Materials Clean-Up Team	Not indicated	ANL-W	Not indicated	Rev.0, 7/92
D-B-98	Environment Safety & Health Training Handbook	ES&H Training Group	ANL	Employees	1/93
D-B-99	Letter re: Hiring of Environmental Engineers	T. Brooks	ANL-W Human Resources	P. Farrow	10/12/93
D-B-100	Form ANL-1: Blank Human Resources Requisition	Not indicated	ANL	Not indicated	1993
D-B-101	Position Description: Environmental Engineer	Not indicated	ANL	Human Resources	11/92
D-B-102	Recent Posting for Environmental Engineer, and attached Position Description	Not indicated	ANL-W Human Resources	Not indicated	5/12/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-103	Transmittal Letter w/attachments re: Performance Assessments	J. Bohren	Human Resources	Division Directors and Dept. Heads	4/16/93
D-B-104	'The ES&H Focus' Newsletter	Not indicated	ANL ES&H Division	General distribution	5/93
D-B-105	'AVARE' Newsletter	Not indicated	ANL-W	General distribution	5/93
D-B-106	Training Course Report - Hazardous Materials Response	Not indicated	Not indicated	Not indicated	10/11/93
D-B-107	Training Qualification Report - Hazardous Materials Response	Not indicated	Not indicated	Not indicated	10/11/93
D-B-108	Training Course Report - RCRA Line Management Seminar	Not indicated	Not indicated	Not indicated	10/11/93
D-B-109	Organization Chart: IFR Training	IFR	ANL-W	Not indicated	Not indicated
D-B-110	Intra-Laboratory Memo re: Response to Impact Form #AW-2733	R. Grant, Waste Management Engineer	ANL-W	M. Sovereign, AW Impact Coordinator	7/9/93
D-B-111	Intra-Laboratory Memo re: Response to Impact Form #AW-2648	R. Grant, Waste Management Engineer	ANL-W	M. Sovereign, AW Impact Coordinator	8/4/93
D-B-112	Section 3.5.4.4, "Special Issue," from the INEL Tiger Team Assessment	EH-5	DOE	INEL	11/91
D-B-113	ANL Position Description for Section Manager, Analytical Laboratory	Not indicated	ANL-W	Not indicated	7/26/93
D-B-114	ANL Position Description for Manager, EWM	Not indicated	ANL-W	Not indicated	11/92
D-B-115	ANL Position Description for Environmental Engineer, Grade 704	Not indicated	ANL-W	Not indicated	11/92
D-B-116	ANL Position Description for Environmental Engineer, Grade 704	Not indicated	ANL-W	Not indicated	11/92
D-B-117	ANL Position Description for Environmental Engineer, Grade 703	Not indicated	ANL-W	Not indicated	11/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-118	ANL Position Description for WAG-9 Project Evaluator	Not indicated	ANL-W	Not indicated	1/93
D-B-119	ANL Position Description for Environmental Engineer, Grade 705	Not indicated	ANL-W	Not indicated	11/92
D-B-120	ANL Position Description for Environmental Engineer, Grade 705	Not indicated	ANL-W	Not indicated	11/92
D-B-121	ANL Position Description for Environmental Engineer, Grade 704	Not indicated	ANL-W	Not indicated	11/92
D-B-122	ANL Position Description for Environmental Engineer, Grade 703	Not indicated	ANL-W	Not indicated	11/92
D-B-123	ANL Position Description for Waste Management Engineer, Grade 705	Not indicated	ANL-W	Not indicated	11/92
D-B-124	ANL Position Description for Environmental Engineer, Grade 703	Not indicated	ANL-W	Not indicated	11/92
D-B-125	ANL Position Description for Waste Management Engineer, Grade 704	Not indicated	ANL-W	Not indicated	11/92
D-B-126	ANL-W Division Director's Meeting Minutes	Dr. C. Till	ANL-W	Division Directors	Various 7/30/93 - 10/7/93
D-B-127	ANL Mission Statement	Not indicated	ANL	Not indicated	Undated
D-B-128	Intra Laboratory Memo re: Information Request for Pre-Audit Review	A. Powell	ANL-W	Not indicated	9/1/93
D-B-129	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	1/20/93
D-B-130	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	2/9/93
D-B-131	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	3/9/93
D-B-132	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	3/23/93
D-B-133	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	4/27/93
D-B-134	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	4/13/93
D-B-135	Intra Laboratory Memo re: Recommending Solutions to Issues Related to Waste Management	R. McCormick	ANL-W	IMTG Members	5/6/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-136	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	5/11/93
D-B-137	Intra Laboratory Memo re: Approaches to ES&H Issues	J. Sackett	ANL-W	Various	5/10/93
D-B-138	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	7/27/93
D-B-139	Intra Laboratory Memo re: Backlog of Findings	IMTG	ANL-W	J. Sackett	Undated
D-B-140	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	7/13/93
D-B-141	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	8/3/93
D-B-142	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	8/24/93
D-B-143	Intra-Laboratory Memo: Review of ES&H Manual Chapters	R. McCormick	ANL-W	IMTG Members	8/25/93
D-B-144	Intra-Laboratory Memo: Waste Issues	G. Marshall	ANL-W	R. McCormick	9/1/93
D-B-145	Minutes from the Issue Management Task Force Group	Task Force	ANL-W	Not indicated	9/14/93
D-B-146	Integral Fast Reactor Public Relations Material Folder	R. Lindsey, IFR	ANL-W	General Public	Not indicated
D-B-147	Intra-Laboratory Memo re: Concerns with the Environmental Compliance Program Internal and External to the IFR Operations Division	M. Swanick	IFR Technical Support	J. Sackett, IFR Operations	3/23/92
D-B-148	Individual Training Report/ Course Records for Manager EP-West	Human Resources	ANL-W	Not indicated	10/15/93
D-B-149	TARUS Courses Listing	Not indicated	ANL-W	Not indicated	10/15/93
D-B-150	Intra-Laboratory Memo re: Excessive Workload on the IFR Technical Support Environmental Engineer	M. Swanick	IFR Technical Support	B. Gay, E. Clifton	2/25/93
D-B-151	Intra-Laboratory Memo re: Divisional ECRs and Facility SRs Roles and Responsibilities	M. Derbridge	ANL-W, RPS	Division Directors	3/13/92
D-B-152	Listing of ANL-W ECRs and FSRs	Not indicated	ANL-W	Not indicated	1/11/93
D-B-153	Package of Intra-Laboratory Memos re: Suggestions from Swanick to Improve Waste Management Operations	M. Swanick	ANL-W	Various	Various
D-B-154	Succession Planning Chart	Not indicated	ANL-W	Not indicated	Not indicated

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-B-155	Intra-Laboratory Memo re: Supervisory Training	M. Janecek,o	ANL-W	Distribution	10/5/93
D-B-156	ANL ESH Pamphlet "IMPACT"	Impact Coordinator	CH Human Resources	Not indicated	Not indicated
D-B-157	Intra-Laboratory Memo re: Leadership Training	R. Tew	ANL-W	Distribution	10/19/93
I. John Air Environmental Protection Programs: Formality of Environmental Programs					
D-C-1	Organization Charts	Not indicated	ANL-W	Not indicated	6/15/93
D-C-2	ANL Policy Manual	ANL	ANL	Not indicated	2/93
D-C-3	Environment, Safety and Waste Management Department Management Plan	Not indicated	ANL-W	Not indicated	10/92
D-C-4	AAO-W Policy Manual	Director	AAO-W	Not indicated	5/20/93
D-C-5	INEL Environmental Monitoring Plan Baseline Document	M. Hinman	ID	Distribution	9/92
D-C-6	INEL Site Environmental Report (Preface, Executive Summary, Table of Contents, only)	ID	ID	Not indicated	6/93
D-C-7	NESHAP Report for 1992	ID	ID	Not indicated	1992
D-C-8	Radiation Monitoring	Not indicated	ANL-W	Not indicated	Not indicated
D-C-9	Meteorological Monitoring	Not indicated	ANL-W	Not indicated	Not indicated
D-C-10	The Quality Assurance Plan	D. Porter	ANL-W	Not indicated	6/1/93
D-C-11	Waste Minimization Plan	R. Grant	ANL-W	Not indicated	5/1/91
D-C-12	Quality Assurance Program	ANL-W	ANL-W	Not indicated	8/28/92
D-C-13	Telephone Directory, ANL-W	ANL-W	ANL-W	Not indicated	8/23/93
D-C-14	1992 Environmental Surveillance Report	ID	ID	ID	1992
D-C-15	Site Development Plan	B. Harris	ANL-W	ID	1/92
D-C-16	1993 Telephone Directory, ANL and CH	CH	CH	Not indicated	3/93
D-C-17	Environment Safety and Health at Argonne	ANL-E	ANL-E	Not indicated	Not indicated
D-C-18	INEL Site Environmental Report for Calendar Year 1992	ID	ID	Not indicated	1992

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-19	Environmental Oversight and Monitoring Agreement ("Agreement in Principle") Oversight	IDHW AIP	IDHW AIP	Not indicated	5/90
D-C-20	ANL-W ES&H Manual, Section IX, "Environmental Protection"	ANL-W	ANL-W	Not indicated	Not indicated
D-C-21	ANL-W Position Descriptions	ANL-W	ANL-W	Not indicated	11/92
D-C-22	1993 Environmental Protection Implementation Plan	G. Marshall	ANL-W	Not indicated	1/93
D-C-23	Notice of Violation (NOV) Issued to DOE for May 18-22, 1992 Inspection	D. Pisarski	IDHW Division of Environmental Quality	ID	2/2/93
D-C-24	AIP Environmental Surveillance Program Plan	IDHW AIP	IDHW AIP	Not indicated	9/28/93
D-C-25	ID Sitewide Program Priorities	J. Lyle	ID	Not indicated	10/12/93
D-C-26	General Environmental Protection Program (Order CH 5400.1)	Not indicated	CH	Not indicated	12/11/92
D-C-27	Environmental Compliance Issue Coordination (Order CH 5400.2A)	Not indicated	CH	Not indicated	12/14/92
D-C-28	Radioactive Waste Management (Order CH 5820.2A)	Not indicated	CH	Not indicated	9/7/93
D-C-29	ESWM Action Assignment Tracking System (IRMS)	J. Maeser	ANL-W	Not indicated	8/91
D-C-30	Ozone Depleting Substance - Regulatory Update	G. Marshall	ESWM	Distribution	6/22/93
D-C-31	Refrigerant Recovery/Recycling Certification	G. Marshall	ESWM	J. Sackett	7/9/93
D-C-32	Refrigerant Recovery & Recycling	G. Yerlich	IFR Plant Services	G. Marshall	6/30/93
D-C-33	Class I Compound Evaluation	G. Marshall	ESWM	E. Hughes	1/29/93
D-C-34	Phase-out of Ozone Depleting Substances at DOE Facilities	G. Marshall	ESWM	E. Hughes	11/11/93
D-C-35	Use of Halon Fire Extinguishing Agent at ANL-W	G. Marshall	ESWM	E. Hughes	9/17/93
D-C-36	MACS Certification for CFC Recycling	Not indicated	Mobile Air Conditioning Society	W. Butler	8/14/93
D-C-37	Refrigerant Equipment Maintenance PM Work Order	E. Clifton	IFR	N/A	10/14/93
D-C-38	MSDS for Safety Kleen 105	E. Clifton	IFR	Not indicated	10/14/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-39	ANL-W, ESH Manual, "Asbestos"	G. Marshall	ESWM	E. Hughes	11/4/93
D-C-40	Notification of Asbestos Removal	G. Marshall	ESWM	E. Hughes	11/30/93
D-C-41	Asbestos Incident Bldg. 782	R. Rubick	EWM	R. Peralta	12/2/92
D-C-42	Notification to EPA of Asbestos	G. Marshall	ESWM	E. Hughes	3/10/93
D-C-43	Notification of Asbestos Removal	G. Marshall	ESWM	E. Hughes	12/3/92
D-C-44	Asbestos Air Sampling Data	R. Rubick	EWM	Hunter Servicemen Construction	3/10/92
D-C-45	Request for EPA Approval of Dry Asbestos	G. Marshall	ESWM	E. Hughes	3/11/93
D-C-46	Asbestos Abatement Procedure Removal	R. Stewart	IFR	N/A	5/5/93
D-C-47	CLPA D&D Technical Accomplishments/Issues	ESWM	ESWM	CH/EM-40	8/31/93
D-C-48	ADS for 5-Year Planning Process	R. Grant	EWM	N/A	12/3/92
D-C-49	Waste Minimization Funding	G. Marshall	ESWM	J. Haugen	7/26/93
D-C-50	Pollution Prevention Awareness Program Contest Announcement (Draft)	R. Grant	EWM	N/A	Undated
D-C-51	ANL-W 1992 Annual Report on Waste Generation and Waste Minimization	G. Marshall	ESWM	R. Borland	3/13/93
D-C-52	ANL-W Procedures Manual Document Management System	J. Sackett	ANL-W	N/A	9/3/93
D-C-53	Guidance Document INEL Air Emissions Inventory Annual Update 1992	Not indicated	EG&G Idaho	Not indicated	1/4/93
D-C-54	CAA Operating Permit Application Preparation	A. Powell	EWM	Stack Emissions Task Force	9/1/93
D-C-55	ANL-W Pollutant and Emission Rate List	A. Powell	EWM	N/A	10/12/93
D-C-56	HEPA Filter Documentation	N. Bingham	Not indicated	G. Tarbet	6/7/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-C-57	ES&H Manual Revision - Proposed Table of Contents	Dept. of Training and Procedures	IFR	Not indicated	6/9/93
D-C-58	ES&H Manual, Section V, Chapter 10, Asbestos	R. Bryan, R. Rubick	IFR	Not indicated	11/25/92
D-C-59	Roles and Responsibilities for Divisional ECRs (Draft)	M. Derbridge	RPS Division	Division Directors	3/13/92
D-C-60	Operating Instructions for Transient Reactor Test Facility	R. Swenson	TREAT	Not indicated	Not indicated
D-C-61	ESWM Procedure Review Tracking Sheet	D. Kirschner	ESWM	Not indicated	10/15/93
D-C-62	State RCRA Inspection, September 13 - 17, 1993	M. Hinman	ID	Not indicated	10/1/93
D-C-63	Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV Meteorological Measurements	AREAL	EPA	Not indicated	8/89
D-C-64	Request for Guidance on Environmental Monitoring Requirements at ANL-W	G. Marshall	ESWM	AAO-W	1/14/93
D. Allard - Environmental Radiation					
D-D-1	Organization Charts	Various	ANL-W	Not indicated	6/16/93
D-D-2	Environmental Restoration and Waste Management Five-Year Plan FY 1994-1998 Volumes I (Complex-Wide Information), II (Installation Summaries), and III (Public Comments on Preliminary Plan)	EM-14	DOE Headquarters	Not indicated	1/93
D-D-3	Policy Manual	AAO-W	AAO-W	Not indicated	Various
D-D-4	Environment, Safety and Waste Management Department Management Plan	Not indicated	ANL-W	Not indicated	10/92
D-D-5	Management-Environment-Safety and Health Initial Self-Assessment	Not indicated	ANL-W	Not indicated	4/15/91
D-D-6	Environmental Protection/Waste Management Argonne National Laboratory 5/3-28/93 Appraisal Report, Draft	Not indicated	ANL	Not indicated	Undated Draft
D-D-7	INEL Environmental Monitoring Plan Baseline Document	INEL	ID	Distribution	9/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-8	Topographic Map	Not indicated	EG&G	Not indicated	7/2/91
D-D-9	Aerial Photos	Not indicated	ANL-W	Not indicated	5/93
D-D-10	Spill Report Log	Not indicated	ANL-W	Not indicated	6/92
D-D-11	INEL Site Environmental Report (Preface, Executive Summary, Table of Contents, only)	INEL	ID	Not indicated	6/93
D-D-12	INEL Environmental Monitoring Plan Preliminary Table of Contents (Proposed Revision)	Not indicated	ID	Not indicated	8/27/93
D-D-13	Policy Manual and Management Plan	ANL	ANL	Not indicated	Not indicated
D-D-14	Radiation Monitoring	Not indicated	ANL-W	Not indicated	Not indicated
D-D-15	Meteorological Monitoring and Air Emissions Information	Not indicated	ANL-W	Not indicated	Not indicated
D-D-16	WAG 9	Not indicated	ANL-W	Not indicated	Not indicated
D-D-17	Letter in response to ANL-W locations alleged in the May, 1992 State of Idaho, Division of Environmental Quality Inspection's Notice of Violation	G.C. Marshall	ANL-W	E.J. Hughes, AAO-W	2/24/93
D-D-18	IRMS Projects (related to all media)	Not indicated	ANL-W	Not indicated	Not indicated
D-D-19	Training Requirements, Programs, Plans, Records	Not indicated	ANL-W	Not indicated	Various
D-D-20	Spill Prevention, Control and Countermeasure Plan (Section IX-Chapter 7)	Not indicated	ANL-W	Not indicated	5/1/91
D-D-21	ANL-W Submittal for the DOE Safety and Health Five Year Plan	Not indicated	ANL-W	ID	4/92
D-D-22	Environmental Restoration and Waste Management Five Year Plan Activity Data Sheet	Not indicated	ANL-W	ID	4/26/93
D-D-23	Standard Operating Procedures: Radiological, Volatiles and Semi-Volatiles, GC, and Inorganic Data Validation	Not indicated	EG&G	Not indicated	Various
D-D-24	The Quality Assurance Plan	D. Porter	ANL-W	Not indicated	6/1/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-25	Potable Water Sampling and Radioactivity; Production Wells Water Analysis; Industrial Waste Pond; Sanitary Lagoon Environmental Sampling Procedure; Sediment, Soil, and Vegetation Sampling; Operating Procedure Cover Sheet; Document Approval Cover Sheet; Levels of Method Validation	Not indicated	ANL-W	Not indicated	Various
D-D-26	Waste Minimization Plan	R. Grant	ANL-W	Not indicated	5/1/91
D-D-27	Quality Assurance Program	ANL-W	ANL-W	Not indicated	8/28/92
D-D-28	1992 Environmental Surveillance Report and Supplement	C. Martin	ANL-W	ESWM and Division Directorsates	6/93
D-D-29	Drinking Water Sampling Procedures	Not indicated	ANL-W	Not indicated	1993
D-D-30	EH-24: Environmental Management Assessment Pre-Assessment, ANL-W Presentation	Not indicated	ANL-W	EH-24	9/13/93
D-D-31	Various Articles (Recycling Transuranic Waste in IFR; Experimental Breeder Reactor-II; The Greenhouse Effect; Can Nuclear Help?; IFR Metallic Fuel; Fuel Cycle Facility; Fuel Cycle Technology; Integral Fast Reactor; Fuel Manufacturing Facility; Hot Fuel Examination Facility; Inherent Safety Characteristics of the IFR; Recycling Transuranic Waste in IFR)	Not indicated	ANL-W	General Public	Various
D-D-32	INEL Site Environmental Report for Calendar Year 1992	ID	ID	Not indicated	1992
D-D-33	Environmental Oversight and Monitoring Agreement ("Agreement in Principle")	IDHW AIP	DOE, State of Idaho	Not indicated	5/90
D-D-34	Notice of Violation (NOV) Issued to DOE for May 18-22, 1992 Inspection	D. Pisarski	IDHW Division of Environmental Quality	ID	2/2/93
D-D-35	INEL Tiger Team Report (Chapter 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-D-36	General Environmental Protection Program (Order CH 5400.1)	Not indicated	CH	Not indicated	1/2/14/92
D-D-37	Environmental Compliance Issue Coordination (Order CH 5400.2A)	Not indicated	CH	Not indicated	12/11/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-38	Radioactive Waste Management (Order CH 5820.2A)	Not indicated	CH	Not indicated	9/7/93
D-D-39	ANL-W Shipping Moratorium Documents	R. Grant	ANL-W	D. Becker	10/1/93
D-D-40	Memo re: Spent Nuclear Fuel w/ attachments	E. Hughes	AAO-W	R. Rothman	3/15/93
D-D-41	Memo re: Waste Management Plan	J. Haugen	CH	E. Hughes et al.	6/28/93
D-D-42	Checklist: Main Stack Operational Readiness Evaluation	G. Bass	AAO-W	Record	4/93
D-D-43	Tiger Team Environmental Findings Tracking Printout	Not indicated	ANL-W	Finding Task Managers	10/14/93
D-D-44	CLPA D&D Work Breakdown	Not indicated	ANL-W	R. Black	9/7/93
D-D-45	Site Engineering Management Plan	Not indicated	ANL-W	R. Black	Not indicated
D-D-46	Memo re: Waste Management Operations at ANL-W	J. Sackett	ANL-W	Division Directors	6/6/93
D-D-47	INEL Environmental Monitoring Plan Correspondence	ID, SAIC, ANL-W	Not indicated	INEL M&Os	Various
D-D-48	Waste Management Plan for ANL-W	D. Kirchner, L. Witbeck	ANL-W	AAO-W	12/88
D-D-49	1993 ANL-W Environmental Protection Implementation Plan	A. Croft	ANL-W	E. Hughes	1/4/93
D-D-50	ANL-W ES&H Manual, Volumes I and II	SES Department	ANL-W	ANL-W Divisions	Various
D-D-51	ANL-W List of Waste Streams	Not indicated	ANL-W	ANL-W Division	3/30/93
D-D-52	Radioactive Liquid Waste Treatment Facility	R. Black	ANL-W	Report	7/84
D-D-53	Underground Radioactive Liquid Waste Steam Hydro Test	R. Chace	ANL-W	Procedure	5/8/92
D-D-54	Memo re: Waste Characterization for SHADE Set #9	P. Mikoleycik	ANL-W	E. Clifton	10/22/92
D-D-55	Memo re: Suspect Liquid Waste Transfer to RLWTF Certification Form	Not indicated	ANL-W	ANL-W Division	Not indicated

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-D-56	Memo re: Environmental Measurement Lab QA Analysis	J. Krsul	ANL-W	T. Zahn	1/6/93
D-D-57	Memo re: Environmental Measurement Lab QA Analysis	J. Krsul	ANL-W	T. Zahn	7/14/92
D-D-58	ANL-W Disposition of Suspect Liquid Waste Form	Not indicated	ANL-W	T. Zahn	Not indicated
D-D-59	Temp RWIMS Liquid and Air Master Data Base List (Printout)	Not indicated	ANL-W	Not indicated	9/15/93
D-D-60	EBR-II Radioactive Effluent Summary Report	R. Batten	ANL-W	R. Allen	9/14/93
D-D-61	MOU By and Between ESWM ANL-W and ES&H ANL-E	G. Marshall	ANL-W, -E	R. Wagner	9/28/93
D-D-62	ONS ANL-W Radiological Evaluation Observations (Draft)	DOE/ONS	DOE	ANL-W	9/17/93
D-D-63	Memo re: Review of Stack Monitor Alarm Settings	R. Fryer	ANL-W	D. Tracy	4/14/93
D-D-64	ANL-W Health Physics Information Bulletins	D. Kirchner	ANL-W	HP Techs	Various
D-D-65	ANL-W Radiation Safety Manual	SS&S Dept.	ANL-W	Various	Rev. 10/1/90
D-D-66	ANL-W Radiological Control Manual	ESWM Dept.	ANL-W	Various	1/2/3/92
D-D-67	DOE/ID-10399 Radiological Control Manual	ID	ID	Various	1/2/92
D-D-68	ANL-W Implementation Plan DOE Radiological Control Manual	G. Marshall	ANL-W	A. Taboas	4/1/93
D-D-69	ES&H Progress Assessment of the INEL	EH-5	DOE	Various	8/93
D-D-70	Tiger Team Assessment of the INEL	EH-5	DOE	General Public	1/1/91
D-D-71	Action Plan Response to Tiger Team Assessment	ID	ID	Various	1/92
D-D-72	Request for Guidance on Environmental Monitoring Requirements at ANL-W	G. Marshall	ANL-W	G. Bass	1/14/93
M - Brazel - Surface Water/Drinking Water					
D-E-1	Management-Environment-Safety and Health Initial Self-Assessment	Not indicated	ANL-W	Not indicated	4/15/91
D-E-2	Drawings (related to surface water)	Not indicated	ANL	Not indicated	9/10/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-3	Environmental Protection/Waste Management Program Argonne National Laboratory 5/3-28/93 Appraisal Report, Draft	Not indicated	ANL	Not indicated	Undated Draft
D-E-4	INEL Environmental Monitoring Plan Baseline Document	M. Hinman	ID	Distribution	6/92
D-E-5	Topographic Map from DOE Library	Not indicated	EG&G	Not indicated	7/2/91
D-E-6	Spill Report Log	Not indicated	ANL-W	Not indicated	6/92
D-E-7	INEL Environmental Monitoring Plan Preliminary Table of Contents (Proposed Revision)	Not indicated	ID	Not indicated	8/27/93
D-E-8	Radiation Monitoring	Not indicated	ANL-W	Not indicated	Not indicated
D-E-9	Letter in response to ANL-W locations alleged in the May, 1992 State of Idaho, Division of Environmental Quality Inspection's Notice of Violation	G. Marshall	ANL-W	E. Hughes, AAO-W	2/24/93
D-E-10	IRMS Projects (related to all media)	Not indicated	ANL-W	Not indicated	Not indicated
D-E-11	Training Requirements, Programs, Plans, Records	Not indicated	ANL-W	Not indicated	Various
D-E-12	Spill Prevention, Control and Countermeasure Plan (Section IX-Chapter 7)	Not indicated	ANL-W	Not indicated	5/1/91
D-E-13	Potable Water Sampling and Radioactivity; Production Wells Water Analysis; Industrial Waste Pond; Sanitary Lagoon Environmental Sampling Procedure; Sediment, Soil, and Vegetation Sampling; Operating Procedure Cover Sheet; Document Approval Cover Sheet; Levels of Method Validation	Not indicated	ANL-W	Not indicated	Various
D-E-14	Waste Minimization Plan	R. Grant	ANL-W	Not indicated	5/1/91
D-E-15	Telephone Directory, ANL-W	ANL-W	ANL-W	Not indicated	8/23/93
D-E-16	Underground Utilities Map	Not indicated	ANL-W	Not indicated	Not indicated
D-E-17	ANL-W 779 Pond Seepage Test	Not indicated	ANL-W	Not indicated	11/92
D-E-18	1992 Environmental Surveillance Report	ID	ID	Not indicated	1992
D-E-19	Stormwater Pollution Prevention Plan for Industrial Activities (Incomplete, Draft)	Not indicated	ANL-W	Not indicated	7/30/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-20	Underground Utilities Map	Not indicated	ANL-W	Not indicated	Not indicated
D-E-21	Drinking Water Sampling Procedures	C. Martin	ANL-W	Not indicated	1993
D-E-22	Certificates, Cross-Connection/Backflow Prevention Training	Not indicated	ANL-W	Not indicated	Not indicated
D-E-23	Letter Regarding Monthly Bacterial Analysis of Public Water Systems at the INEL (AM/SES-93-3379)	M.B. Hinman, Director Environmental Support Division	ID	IDHW	7/27/93
D-E-24	Memo Regarding 1993 ANL Self-Assessment	A. Schriessheim	ANL	H. Drucker, et al	9/3/93
D-E-25	ANL Self-Assessment Program "ES&H Assessment Program"	Not indicated	ANL	Not indicated	9/92
D-E-26	Environmental Oversight and Monitoring Agreement ("Agreement in Principle")	IDHW AIP	DOE, State of Idaho	Not indicated	5/90
D-E-27	Description of ANL-W Environmental Programs	Not indicated	ANL-W	Not indicated	Not indicated
D-E-28	ANL-W Position Descriptions	Not indicated	ANL-W	Not indicated	Not indicated
D-E-29	1993 Environmental Protection Implementation Plan	Not indicated	ANL-W	Not indicated	1/93
D-E-30	Notice of Violation (NOV) Issued to DOE for May 18-22, 1992 Inspection	D. Pisarski	IDHW Division of Environmental Quality	ID	2/2/93
D-E-31	INEL Tiger Team Report (Chapter 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-E-32	INEL Tiger Team Report (Chapter 6 Evaluation of Self-Assessment Programs and Reports for DOE Field Offices Idaho and Chicago and the Idaho National Engineering Laboratory Contractors)	EH-5	DOE	INEL	11/91
D-E-33	Occurrence Reporting and Processing of Operations Information (Order CH 5000.3A)	Not indicated	CH	Not indicated	8/30/90
D-E-34	Telecon Memo w/ EPA Attorney, Adrienne Allen re: "Waters of the US"	M. Garvey	ID, OCC	Not indicated	10/7/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-E-35	Letter re: ANL-W position on "Waters of the US" designation for the Industrial Waste Pond	C. Martin	ANL-W	T. Brock	9/30/93
D-E-36	Letter re: Submission of Completion of Corrective Action Notices	J. Maeser	ANL-W, IMS Coordinator	E. Hughes	9/30/93
D-E-37	Intra-Lab Memo re: Closeout of Tiger Team Action Item SW/BMPPF-2.AFO4	C. Martin	ANL-W	P. Mikolaycik	8/13/93
D-E-38	Letter re: Strategy to Identify "Waters of the US" at INEL	P. Hinman	ID	S. Bubnick	1/5/93
D-E-39	Excerpt from 33 CFR 328 - Definitions of Waters of the US	Not indicated	Federal Government	Not indicated	3/1/92
D-E-40	Intra-Laboratory Memo re: Status of ES&H Deficiency Corrections	W. Stephens	ANL-W	H. McFarlane, Site Manager	3/15/91
D-E-41	Intra-Laboratory Memo re: ANL-W Site Backflow Prevention funding Request	B. Gay	IFR Technical Support	W. Barak	1/13/92
D-E-42	Intra-Laboratory Memo re: EBR-II Construction Project Data Sheet Submittal for FY 1994	J. Sackett	IFR Operations	W. Stephens	1/17/92
D-E-43	Intra-Laboratory Memo re: Formulation of FY 1995 Construction budget Request	C. Till	Engineering Research	J. Hutton	2/5/93
D-E-44	ANL-W Environment, Safety, and Health Manual	ANL-W	EWM	C. Martin	Not indicated
J. Rice: Inactive Waste Sites					
D-F-1	Environmental Restoration and Waste Management Five-Year Plan FY 1994-1998 Volumes I (Comprehensive Information), II (Installation Summaries), and III (Public Comments on Preliminary Plan)	EM-14	DOE Headquarters	Not indicated	1/93
D-F-2	Policy Manual	AAO-W	AAO-W	Not indicated	Various
D-F-3	Environment, Safety and Waste Management Department Management Plan	ESWM	ANL-W	Not indicated	10/92
D-F-4	Environmental Restoration and Waste Management Five-Year Plan Activity Data Sheet	ESWM	ANL-W	Not indicated	4/26/93
D-F-5	The Quality Assurance Plan	D. Porter	ANL-W	Not indicated	6/1/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-F-6	Quality Assurance Program	ANL-W	ANL-W	Not indicated	8/28/92
D-F-7	ANL-W 779 Pond Seepage Test	Not indicated	ANL-W	Not indicated	11/92
D-F-8	Memo Regarding 1993 ANL Self-Assessment	A. Schriesheim	ANL	H. Drucker, et al	9/3/93
D-F-9	ANL Self-Assessment Program "ES&H Assessment Program"	Not indicated	ANL	Not indicated	9/92
D-F-10	Federal Facility Agreement and Consent Order	Not indicated	DOE	Not indicated	12/9/91
D-F-11	Standard Operating Procedure: Implementation of/and Compliance with the National Environmental Policy Act	Not indicated	ANL-W	Not indicated	7/91
D-F-12	AAO Standard Operating Procedure, Revision 2, DOE Directives Distribution and Implementation Program	AAO	ANL-W	Not indicated	8/5/93
D-F-13	INEL Tiger Team Report (Section 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-F-14	Status of Program Management System Manual - Memo	C. Hyde	ANL-W	A. Collins	11/11/93
D-F-15	Task Description Document that Includes Project Management System Manual	M. Holzemer	ANL-W	DOE Headquarters	5/10/93
D-F-16	Position Description - Environmental Engineer	Not indicated	ANL-W	S. Jenkins	9/92
D-F-17	Track 1 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL	Not indicated	ID	Not indicated	7/92
D-F-18	Draft Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL	Not indicated	ID	Not indicated	8/93
D-F-19	PCB Cleanup in EBR-II - Transformer Yard	E. Hughes, G. Marshall	CH/ANL-W	EPA	3/93
D-F-20	CH/EM-40 Project Review	Not indicated	ANL-W	Not indicated	8/31/93
D-F-21	Environmental Oversight and Monitoring Agreement	Not indicated	DOE/State of Idaho	Not indicated	5/21/90
D-F-22	Current Year Work Plan (1993)	Not indicated	ANL-W	DOE EM-40	10/92
D-F-23	Environmental Restoration (EM-40) Baseline 1993-1999	ANL-W	ANL-W	DOE EM-40	11/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-F-24	Memorandum of Understanding between CH and ID	CH, ID	CH, ID	Not indicated	6/90
D-F-25	Track 1 Report - ANL Sewage Lagoons (Draft)	Not indicated	ANL-W	EPA, Idaho	Not indicated
D-F-26	Track 1 Report - Sanitary Waste Lift Station (Draft)	Not indicated	ANL-W	EPA, Idaho	Not indicated
D-F-27	Track 1 Report - Sodium Boiler Building (766) Hotwell (Draft)	Not indicated	ANL-W	EPA, Idaho	Not indicated
D-F-28	Track 1 Report - Knawa Butte Debris Pile (Draft)	Not indicated	ANL-W	EPA, Idaho	Not indicated
D-F-29	Track 1 Report - Industrial Waste Lift Station (Draft)	Not indicated	ANL-W	EPA, Idaho	Not indicated
D-F-30	ANL-W's Quality Assurance Plan for RCRA/CERCLA EPA Remedial Action	M. Holzemer	ANL-W	Not indicated	5/87
J. Seller - Program Evaluation, Reporting, and Corrective Action					
D-G-1	Policy Manual	AAO-W	AAO-W	Not indicated	Various
D-G-2	Environment, Safety and Waste Management Department Management Plan	ESWM	ANL-W	Not indicated	10/92
D-G-3	Management-Environment-Safety and Health Initial Self-Assessment	Not indicated	ANL-W	Not indicated	4/15/91
D-G-4	Environmental Protection/Waste Management Argonne National Laboratory 5/3-28/93 Appraisal Report, Draft	Not indicated	ANL	Not indicated	Undated Draft
D-G-5	Policy Manual and Management Plan	ANL	ANL	Not indicated	Not indicated
D-G-6	Letter in response to ANL-W locations alleged in the May, 1992 State of Idaho, Division of Environmental Quality Inspection's Notice of Violation	G. Marshall	ANL-W	E. Hughes, AAO-W	2/24/93
D-G-7	Mission and Function Statements	CH, AAO	CH, AAO	Not indicated	Not indicated
D-G-8	Memo Regarding 1993 ANL Self-Assessment	A. Schriessheim	ANL	H. Drucker, et al	9/3/93
D-G-9	ANL Self-Assessment Program "ES&H Assessment Program"	ANL	ANL	Not indicated	9/92
D-G-10	ANL Guidelines Self-Assessment of ESH/QA Performance	ANL	ANL	Not indicated	9/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-G-11	Tentative Agenda for the Environmental Protection Appraisal of ANL-W, 5/24-28/93	Not indicated	ANL	Not indicated	Undated
D-G-12	Scheduled ESHD Appraisal at ANL-West + enclosed letter	A. Taboas	AAO	M. Flannigan	5/11/93
D-G-13	Description of ANL-W Environmental Programs	Not indicated	ANL-W	Not indicated	Not indicated
D-G-14	1993 Environmental Protection Implementation Plan	Not indicated	ANL-W	Not indicated	1/93
D-G-15	Argonne Area Office Operating Procedures (AAO SOPs)	Not indicated	ANL	Not indicated	Various
D-G-16	INEL Tiger Team Report (Chapter 5 Management Assessment)	EH-5	DOE	INEL	11/91
D-G-17	INEL Tiger Team Report (Chapter 6 Evaluation of Self-Assessment Programs and Reports for DOE Field Offices Idaho and Chicago and the Idaho National Engineering Laboratory Contractors)	EH-5	DOE	INEL	11/91
D-G-18	Department of Energy Chicago Field Office Environment, Safety, and Health/Quality Assurance Tracking System (Order CH 5482.a)	CH	CH	Not indicated	3/17/93
D-G-19	Biennial Appraisal of the Argonne National Laboratory's Hazardous Materials Packaging and Transportation Program	Not indicated	ANL	Not indicated	4/12/93 - 4/22/93
D-G-20	Letter: Taboas to Schriesheim	A. Taboas	AAO-W	A. Schriesheim, ANL	Various, 6/29/92 - 8/2/93
D-G-21	Letter w/Attachment re: Nuclear Energy (NE) Delegation of Authority for Safety Documentation Approval and attached Management Agreement between NE and CH	C. Langgenfeld	CH	E. Brolin, NE	9/22/93
D-G-22	Transmittal letter (Detsis to Distribution, 9-22-93) and attachment: ES&H Appraisal of Argonne Area Office	ES&H Division	CH	AAO	7/2/93
D-G-23	Memo on Quarterly Walk-Throughs	P. Mikolaycik	ANL-W, EWM	EWM staff	4/5/93
D-G-24	Third Quarter Walk-Throughs - EC Group	A. Powell	ANL-W, EWM	P. Mikolaycik	9/23/93
D-G-25	IRMS Print-Outs	J. Maeser	ANL-W, Office of QA	General	10/93
D-G-26	ESH/QA Schedule and Appraisals	L. Witbeck	ESH/QA	General	Various

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-G-27	EWM Mission Statements	P. Mikolaycik	EWM	General	2/8/93
D-G-28	Independent Internal Appraisal Program	D. Parzyck	ESH/QA	G. Winner	1/92
D-G-29	ESH/QA Program Documents	G. Winner	ESH/QA	G. Winner	Various
D-G-30	Site Engineering Management Plan	R. Black	Site Engineering	General	Not indicated
D-G-31	AAO-W Assessment Procedure	G. Bass	AAO-W	General	5/93
D-G-32	ANL-W Performance Indicator and Lessons Learned Procedures	M. Morrissey	QA	General	Draft
D-G-33	AAO-W Quarterly Report Card for ANL-W	G. Bass	AAO-W	CH	10/93
D-G-34	Procedures for Sitewide Assessment	J. Sackett	RPS	General	Draft
D-G-35	AAO-W Management Plan	E. Hughes	AAO-W	General	5/93
D-G-36	ANL-W Procedures Manual	Various	Various	General	Various
D-G-37	ESH Manual	Various	Various	General	Various
D-G-38	Comprehensive Review of ANL-W	E. Hughes	AAO-W	General	8/92
H. Ref: Environmental Commitment: Environmental Planning and Risk Management					
D-H-1	Organization Charts	Not indicated	ANL-W	Not indicated	6/16/93
D-H-2	Environmental Restoration and Waste Management Five-Year Plan FY 1994-1998 Volumes I (Complex-Wide Information), II (Installation Summaries), and III (Public Comments on Preliminary Plan)	EM-14	DOE Headquarters	Not indicated	1/93
D-H-3	Policy Manual	AAO-W	AAO-W	Not indicated	Various
D-H-4	Environment, Safety and Waste Management Department Management Plan	Not indicated	ANL-W	Not indicated	10/92
D-H-5	Environmental Protection/Waste Management Argonne National Laboratory 6/3-28/93 Appraisal Report, Draft	Not indicated	ANL	Not indicated	Undated Draft
D-H-6	INEL Environmental Monitoring Plan Baseline Document	M. Hinman	ID	Distribution	9/92
D-H-7	INEL Site Environmental Report (Preface, Executive Summary, Table of Contents, only)	Not indicated	ID	Not indicated	6/93

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-8	INEL Environmental Monitoring Plan Preliminary Table of Contents (Proposed Revision)	Not indicated	ID	Not indicated	8/27/93
D-H-9	Policy Manual and Management Plan	ANL	ANL	Not indicated	Not indicated
D-H-10	WAG 9	Not indicated	ANL-W	Not indicated	Not indicated
D-H-11	Letter in response to ANL-W locations alleged in the May, 1992 State of Idaho, Division of Environmental Quality Inspection's Notice of Violation	G. Marshall	ANL-W	E. Hughes, AAO-W	2/24/93
D-H-12	ANL-W Submittal for the DOE Safety and Health Five Year Plan	Not indicated	ANL-W	ID	4/92
D-H-13	Environmental Restoration and Waste Management Five Year Plan Activity Data Sheet	Not indicated	ANL-W	ID	4/26/93
D-H-14	Waste Minimization Plan	R. Grant	ANL-W	Not indicated	5/1/91
D-H-15	Technical Basis Document for the Priority Planning Grid Application of the Risk Ranking Technique	Not indicated	ANL-W	Not indicated	3/25/91
D-H-16	Chapter 10 Public Information	Not indicated	ANL-W	Not indicated	10/92
D-H-17	Telephone Directory, ANL-W	ANL-W	ANL-W	Not indicated	8/23/93
D-H-18	1993 Telephone Directory, ANL and CH	CH	INEL	Not indicated	March 1993
D-H-19	1992/1993 INEL Telephone Directory	INEL	INEL	Not indicated	1992
D-H-20	EH-24 Environmental Management Assessment Pre-Assessment, ANL-W Presentation	Not indicated	ANL-W	EH-24	9/13/93
D-H-21	ANL Telephone Directory, Chicago Personnel ESH/QA Oversight Directorate	ANL	ANL	Not indicated	9/7/93
D-H-22	DOE-CH Facts (The U.S. Department of Energy's Chicago Operations Office)	Not indicated	CH	Not indicated	4/93
D-H-23	Various Articles (Recycling Transuranic Waste in IFR; Experimental Breeder Reactor-II; The Greenhouse Effect; Can Nuclear Help?; IFR Metallic Fuel; Fuel Cycle Facility; Fuel Cycle Technology; Integral Fast Reactor; Fuel Manufacturing Facility; Hot Fuel Examination Facility; Inherent Safety Characteristics of the IFR; Recycling Transuranic Waste in IFR)	Not indicated	ANL-W	Not indicated	Various

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-24	INEL Site Environmental Report for Calendar Year 1992	ID	ID	Not indicated	1992
D-H-25	Federal Facility Agreement and Consent Order	Not indicated	DOJ	Not indicated	12/9/91
D-H-26	Environmental Oversight and Monitoring Agreement ("Agreement in Principle")	IDHW AIP	DOE, State of Idaho	Not indicated	5/90
D-H-27	CH And CH-AAO Organization Charts	Not indicated	ANL-W	Not indicated	Various
D-H-28	Sections of Contract that legally commits and motivates the contractor to attain an acceptable level of environmental performance	Not indicated	DOE	University of Chicago	Not indicated
D-H-29	Description of ANL-W Environmental Programs	Not indicated	ANL-W	Not indicated	Not indicated
D-H-30	ANL-W Position Descriptions	Not indicated	ANL-W	Not indicated	Not indicated
D-H-31	1993 Environmental Protection Implementation Plan	Not indicated	ANL-W	Not indicated	1/93
D-H-32	Standard Operating Procedure: Implementation of and Compliance with the National Environmental Policy Act	Not indicated	ANL-W	Not indicated	7/91
D-H-33	INEL Tiger Team Report (Chapter 3 Environmental Assessment)	EH-5	DOE	INEL	11/91
D-H-34	INEL Tiger Team Report (Chapter 5 Management Assessment)	EH-5	DOE	INEL	11/91
D-H-35	Technical Note - Advance Reactor Development	C. Till	ANL-W	Article	1/20/89
D-H-36	Sample ADD for Hiring - from Personnel	M. Janecko	ANL-W	Not indicated	Not indicated
D-H-37	Integral Fast Reactor (IFR/IFR) Program Explanation	Various	ANL-W	Not indicated	Not indicated
D-H-38	ANL-W Emergency Response Plan	Various	ANL-W	distribution	6/14/93
D-H-39	Prioritization Categories - Attachment 3	Various	EM	Distribution	Not indicated
D-H-40	MOU ESH at ANL-W and ESH at ANL-E	Marshall, Winner	ANL-W, ANL-E	Marshall, Winner	9/28/93
D-H-41	ANL Draft Institutional Plan 1994-1999	Various	ANL	Distribution	5/93
D-H-42	Strategy for Implementing CERCLA/NEPA	J. Lyle	ERD	Distribution	9/17/91
D-H-43	Determination Under NEPA	D. Goldman	CH	AAO	9/19/92

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

Document #	Title/Description	Author	Organization	Recipient	Document Date
D-H-44	Sample Sheets NEPA Tracking Data Base	Not indicated	Not indicated	Not indicated	10/93
D-H-45	Organization Review	M. Janecekko	ANL-W	Not indicated	10/93
D-H-46	SOW for EBR-II Leach Pit Sludge Removal	N. Stewart	ANL-W	Various	3/93
D-H-47	ANL Procurement Procedure No. 59	Various	ANL	Distribution	4/93
D-H-48	Section IX - Chapter 2 Implementation of NEPA	Various	ANL-W	Distribution	2/91
D-H-49	Construction Contract Request	M. McDermott	ANL-W	Not indicated	4/8/93
D-H-50	Section 1, Chapter 2, ANL-W ESH Program	Various	ANL-W	Distribution	2/91
D-H-51	Contingency Funds Justification	G. Marshall	ANL-W	Not indicated	Not indicated
D-H-52	DOE S&H Data base ESWM FTE Loading	Not indicated	ANL-W	Not indicated	2/4/93
D-H-53	Sample ANL-W Activity Data Sheets	G. Marshall	ANL-W	Not indicated	12/8/92
D-H-54	ANL-W Five Year S&H Plan	J. Sackett	ANL-W	AAO-W	3/11/93
D-H-55	Sample Funding Rejection/Submittal	J. Ward	ANL-W	EM-30	9/16/93
D-H-56	Explanation of Argonne Overhead Management Program (Fax)	Various	ANL	Distribution	10/14/93



APPENDIX E

LIST OF CONTACTS/INTERVIEWS BY THE AUDIT TEAM



LIST OF CONTACTS/INTERVIEWS BY THE AUDIT TEAM

Ref. #	Date	Auditor	Organization	Position	Topic
P. Gascoyne - Organizational Structure, Internal and External Communications					
I-A-1	9/14/93	P. Gascoyne	CH	Area Manager	Organizational structure, internal and external communications, staffing
I-A-2	9/14/93	P. Gascoyne	ANL-E	ES&H Manager	Internal communications
I-A-3	9/15/93	P. Gascoyne	CH	ES&H Director	Organizational structure, internal communications, oversight
I-A-4	9/15/93	P. Gascoyne	ANL	ESH/QA Oversight Director	Organizational structure, internal and external communications, oversight
I-A-5	9/15/93	P. Gascoyne	CH	Chief, Environmental Protection	Organizational structure, internal communications, oversight
I-A-6	9/15/93	P. Gascoyne	CH	Chief, Environmental Protection	Organizational structure, internal communications, oversight
I-A-7	9/15/93	P. Gascoyne	CH	Program Manager	Organizational structure, internal communications
I-A-8	9/15/93	P. Gascoyne	CH	Program Manager	Organizational structure, internal communications
I-A-9	9/15/93	P. Gascoyne	CH	5-Year Plan Coordinator	Organizational structure, internal and external communications, budget
I-A-10	10/1/93	P. Gascoyne	ANL	Chair, Safety and Environmental Committee	Organizational structure, internal and external communications, oversight
I-A-11	10/5/93	P. Gascoyne	DOE, NE-47	Environmental Compliance Group Leader	Organizational structure, internal and external communications
I-A-12	10/6/93	P. Gascoyne	DOE, EM-40	Director, EM-44	Organizational structure, internal communications
I-A-13	10/6/93	P. Gascoyne	DOE, EM-40	Environmental Restoration Officer	Organizational structure, internal communications

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-A-14	10/6/93	P. Gascoyne	DOE, NE-47	Director	Organizational structure, internal and external communications, budget
I-A-15	10/11/93	P. Gascoyne	AAO-W	Director, Site Office	Organizational structure, internal and external communications
I-A-16	10/11/93	P. Gascoyne	ANL-W	ESH Coordinator, FCF	Organizational structure, internal communications
I-A-17	10/11/93	P. Gascoyne	ANL-W	IFR Training Manager	Organizational structure, internal communications
I-A-18	10/12/93	P. Gascoyne	AAO-W	Environmental Engineer	Organizational structure, internal and external communications
I-A-19	10/12/93	P. Gascoyne	ANL-W	Environmental Compliance Representative	Organizational structure, internal communications
I-A-20	10/12/93	P. Gascoyne	ANL-W	EWM Manager	Organizational structure, internal communications
I-A-21	10/12/93	P. Gascoyne	ANL-W	Group Leader	Organizational structure, internal communications
I-A-22	10/12/93	P. Gascoyne	ANL-W	Environmental Engineer	Organizational structure, internal communications
I-A-23	10/13/93	P. Gascoyne	ID	Associate Program Director	Organizational structure, internal and external communications
I-A-24	10/13/93	P. Gascoyne	ID	Associate Program Manager	Organizational structure, internal and external communications
I-A-25	10/13/93	P. Gascoyne	ID	Physical Scientist	Organizational structure, internal and external communications
I-A-26	10/13/93	P. Gascoyne	ID	Physical Scientist	Organizational structure, internal communications
I-A-27	10/13/93	P. Gascoyne	ID	Waste Management Director	Organizational structure, internal communications
I-A-28	10/13/93	P. Gascoyne	ID	Waste Management Officer	Organizational structure, internal communications

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-A-29	10/13/93	P. Gascoyne	ANL-W	Waste Management Officer	Organizational structure, internal communications
I-A-30	10/14/93	P. Gascoyne	ANL-W	Waste Management Group Leader	Organizational structure, internal communications
I-A-31	10/14/93	P. Gascoyne	ANL-W	IMPACT Coordinator	Internal communications
I-A-32	10/14/93	P. Gascoyne	ANL-W	ERWM Program Manager	Organizational structure, internal and external communications
I-A-33	10/14/93	P. Gascoyne	ANL-W	Manager, ESWM	Organizational structure, internal communications
I-A-34	10/14/93	P. Gascoyne	ANL-W	Division Director, PSD	Organizational structure, internal and external communications
I-A-35	10/14/93	P. Gascoyne	ANL-W	Associate Division Director, PSD	Organizational structure, internal and external communications
I-A-36	10/15/93	P. Gascoyne	ANL-W	EWM Manager	Organizational structure, internal communications
I-A-37	10/15/93	P. Gascoyne	ANL-W	Environmental Engineer	Organizational structure, internal communications
I-A-38	10/15/93	P. Gascoyne	ANL-W	Technical Advisor to Deputy Associate Laboratory Director	Organizational structure, internal communications
I-A-39	10/15/93	P. Gascoyne	ANL-W	Deputy Associate Laboratory Director	Organizational structure, internal and external communications
I-A-40	10/15/93	P. Gascoyne	ANL-W	Division Director, FCF	Organizational structure, internal communications
I-A-41	10/18/93	P. Gascoyne	ANL-W	Environmental Compliance Representative	Organizational structure, internal communications
P. Farrow : Staff Resources, Training, and Development Environmental Commitment					
I-B-1	10/11/93	P. Farrow	ANL-W	IFR Training Specialist	Environmental training
I-B-2	10/11/93	P. Farrow	ANL-W	IFR Training Department Manager	Environmental training records
I-B-3	10/11/93	P. Farrow	ANL	Associate Lab Director	Environmental commitment

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-B-4	10/11/93	P. Farrow	ANL-W, Human Resources Department	Specialist	Hiring policy and evaluations
I-B-5	10/12/93	P. Farrow	ANL-W, Safeguards and Security	Manager	Environmental commitment
I-B-6	10/12/93	P. Farrow	ANL-W, Human Resources Department	Manager	Staff resources, training, and development
I-B-7	10/12/93	P. Farrow	ANL-W, Public Relations	Manager	External communications of environmental commitment
I-B-8	10/12/93	P. Farrow	ANL-W, Public Relations	Specialist	Internal communications of environmental commitment issues
I-B-9	10/12/93	P. Farrow	ANL-W, ESWM	Manager	Resources and support for environmental projects
I-B-10	10/13/93	P. Farrow	ANL-W	EWM Manager	Environmental commitment and staff resources
I-B-11	10/13/93	P. Farrow	CH	Manager	Environmental commitment
I-B-12	10/13/93	P. Farrow	ANL-W	IFR Operations	Environmental commitment
I-B-13	10/13/93	P. Farrow	ANL-W	Oversight	Environmental commitment
I-B-14	10/13/93	P. Farrow	ANL-W	ERWM Group Leader	Environmental commitment
I-B-15	10/14/93	P. Farrow	ANL-W	Director, RPS	Environmental commitment, resources development
I-B-16	10/14/93	P. Farrow	ANL-W	Group Leader	Resources, environmental commitment
I-B-17	10/14/93	P. Farrow	ANL-W	Manager	Environmental commitment followup on F&E issue
I-B-18	10/14/93	P. Farrow	ANL-W	Manager	Environmental commitment followup on F&E issue
I-B-19	10/14/93	P. Farrow	ANL-W	Group Leader	Training, development, and resources
I-B-20	10/14/93	P. Farrow	ANL-W	Environmental Compliance Representative	Environmental commitment

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

Ref. #	Date	Auditor	Organization	Position	Topic
I. John Environmental Protection Programs: Air, Formality of Environmental Programs					
I-C-1	10/11/93	I. John	ANL-W, EWM	Group Leader	Air program; environmental compliance program
I-C-2	10/11/93	I. John	ANL-W, EWM	Environmental Engineer	Air program; air toxics inventory; air emissions; CFC inventory
I-C-3	10/11/93	I. John	ANL-W, ESWM	Manager	Environmental procedure development, implementation, management
I-C-4	10/12/93	I. John	IDHW AIP	Environmental Scientist	Air program oversight; radionuclide emissions measurements
I-C-5	10/12/93	I. John	IDHW AIP	Environmental Scientist	Air program oversight; radionuclide emissions measurements
I-C-6	10/12/93	I. John	ID	Environmental Engineer	NESHAPS; INEL air permit; meteorological monitoring
I-C-7	10/12/93	I. John	ID	Environmental Engineer	RESL; surveillance monitoring
I-C-8	10/12/93	I. John	ID	Environmental Engineer	NOVs at ANL-W
I-C-9	10/12/93	I. John	ID	Manager, Sitewide Programs	Sitewide EP programs; RESL; surveillance monitoring
I-C-10	10/12/93	I. John	ID	Environmental Engineer	Operating permits
I-C-11	10/13/93	I. John	ANL-W, EWM	Group Leader	Waste minimization; pollution prevention program
I-C-12	10/13/93	I. John	ANL-W, EWM	Environmental Engineer	Asbestos management program
I-C-13	10/13/93	I. John	ANL-W, EWM	Environmental Engineer	Agreement in Principle; surface and groundwater program
I-C-14	10/13/93	I. John	ANL-W, Oversight	Environmental Engineer	Environmental oversight
I-C-15	10/14/93	I. John	ANL-W	EWM Manager	ANL-W environmental programs
I-C-16	10/14/93	I. John	AAO-W	Environmental Engineer	ANL-W environmental programs

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

Ref #	Date	Auditor	Organization	Position	Topic
I-C-17	10/14/93	I. John	ANL-W, EP	TREAT Facility Manager	Meteorological data at TREAT
I-C-18	10/14/93	I. John	ANL-W, IFR	Plant Service Manager	Motor vehicles and facility maintenance program
I-C-19	10/14/93	I. John	ANL-W	IFR Procedures Manager	Procedures and documentation
I-C-20	10/15/93	I. John	ANL-W	Technical Advisor to the Deputy Associate Director	Integrated management of environmental issues
I-C-21	10/15/93	I. John	ANL-W, EWM	Manager of Radiation, Fire, and Safety	ESWM documentation review
I-C-22	10/15/93	I. John	ANL-W, EWM	Environmental Engineer	Ozone depleting substances
I-C-23	10/18/93	I. John	IDHW, DEQ	Permit Engineer	ANL-W relationship with ID air agency
D. Allard Environmental Radiation					
I-D-1	10/11/93	D. Allard	ANL-W	Manager, Radiation, Fire, and Safety	Radiation programs
I-D-2	10/11/93	D. Allard	ANL-W	Staff Health Physicist	Radiation control and engineering
I-D-3	10/11/93	D. Allard	ANL-W	Waste Management Engineer	Radioactive waste
I-D-4	10/12/93	D. Allard	ANL-W	Waste Engineer	Radioactive waste
I-D-5	10/12/93	D. Allard	ANL-W	Waste Engineer	Mixed and sodium waste
I-D-6	10/12/93	D. Allard	ANL-W	Environmental Engineering Group Leader	Environmental radiation programs
I-D-7	10/12/93	D. Allard	ANL-W	Environmental Engineer	Environmental radiation survey
I-D-8	10/13/93	D. Allard	ANL-W	IFR Maintenance Manager	Liquid radioactive waste
I-D-9	10/13/93	D. Allard	ANL-W	Environmental Engineer	Environmental Monitoring Plan
I-D-10	10/13/93	D. Allard	ANL-W	Section Manager, Analytical Labs	Sample analysis
I-D-11	10/13/93	D. Allard	ANL-W	Chemist	Sample analysis
I-D-12	10/13/93	D. Allard	AAO-W	Environmental Engineer	Environmental program oversight

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-D-13	10/14/93	D. Allard	ANL-W	Waste Management Engineer	Radioactive waste
I-D-14	10/14/93	D. Allard	ID	Waste Management Specialist	TRU waste
I-D-15	10/14/93	D. Allard	ID	Member, Environmental Support Team	Environmental Monitoring Plan
I-D-16	10/14/93	D. Allard	ANL-W	Manager, Engineering Support	D&D programs
I-D-17	10/14/93	D. Allard	ANL-W	Issue Management Coordination	Tiger Team finding tracking
I-D-18	10/15/93	D. Allard	ANL-W	Deputy Associate Laboratory Director	High-level waste
I-D-19	10/15/93	D. Allard	ANL-W	Environmental Engineer	D&D of hot cells
I-D-20	10/15/93	D. Allard	ANL-W	Regulatory Compliance Manager	D&D of hot cells
I-D-21	10/15/93	D. Allard	ID	Member, Environmental Support Team	D&D of hot cells
I-D-22	10/15/93	D. Allard	ANL-W	Waste Management Engineer	Mixed Waste
I-D-23	10/18/93	D. Allard	EG&G ID	Health Physicist	INEL environmental monitoring and surveillance
I-D-24	10/18/93	D. Allard	ANL-W	Staff Health Physicist	Site Area Emergency DCG levels
M. Brazell - Surface Water/Drinking Water					
I-E-1	10/11/93	M. Brazell	AAO-W	Environmental Engineer	Surface water, drinking water
I-E-2	10/11/93	M. Brazell	ANL-W, EWM, EC	Environmental Engineer	Surface water, drinking water
I-E-3	10/12/93	M. Brazell	ID, Office of Program Execution	Environmental Engineer	Surface water
I-E-4	10/12/93	M. Brazell	ID	Environmental Engineer	Drinking water
I-E-5	10/12/93	M. Brazell	IFR Operations	ECR	Surface water, drinking water
I-E-6	10/12/93	M. Brazell	IFR Maintenance	Technical Support Manager	Surface water, drinking water

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-E-7	10/13/93	M. Brazell	ANL-W, EWM, EC	Environmental Engineer	Potable drinking water sampling
I-E-8	10/13/93	M. Brazell	IFR Plant Services	Environmental Compliance Representative	Surface water, drinking water
I-E-9	10/13/93	M. Brazell	IFR Plant Services	Acting Manager, IFR Technical Support	Drinking water
I-E-10	10/13/93	M. Brazell	ANL-W	EWM Manager	Surface water, drinking water
I-E-11	10/14/93	M. Brazell	ECR Reactor Program Supply	Warehouse Supervisor/ ECR	ECR Role/surface water, drinking water
I-E-12	10/14/93	M. Brazell	TREAT	Assistant ECR	ECR Role/surface water, drinking water
I-E-13	10/14/93	M. Brazell	ANL-W, EWM, EC	Environmental Engineer	Surface water
I-E-14	10/15/93	M. Brazell	AAO-W	Director	Surface water
I-E-15	10/15/93	M. Brazell	FCF	ECR	ECR roles/responsibilities
I-E-16	10/15/93	M. Brazell	ANL-W, EWM, EC	Environmental Engineer	Surface water/drinking water
I-E-17	10/15/93	M. Brazell	ICR Maintenance	Technical Support Manager	Surface water/drinking water, above ground storage tanks
J. Rice - Inactive Waste Sites					
I-F-1	10/11/93	J. Rice	ANL-W/AAO-W/ID	Various	Intro to Issues
I-F-2	10/11/93	J. Rice	ANL-W, W/M	Past ER Group Leader	ER Activities
I-F-3	10/11/93	J. Rice	ANL-W, ER	ER Group Leader	ER Activities
I-F-4	10/12/93	J. Rice	ANL-W, EC	EC Group Leader	EC/ER Interactions
I-F-5	10/12/93	J. Rice	ANL-W, EC	Environmental Engineer	WAG 9 Projects, Groundwater
I-F-6	10/12/93	J. Rice	ANL-W	ERWM Group Leader	Duties, ER funding, Proj. Mgmt
I-F-7	10/12/93	J. Rice	ANL-W	EWM Manager	Duties, Proj. Mgmt
I-F-8	10/13/93	J. Rice	AAO-W	Environmental Engineer	ER Oversight
I-F-9	10/13/93	J. Rice	CH	Environmental Engineer	Duties
I-F-10	10/14/93	J. Rice	ID	Environmental Engineer	Integration of ANL-W

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

Ref #	Date	Auditor	Organization	Position	Topic
I-F-11	10/14/93	J. Rice	ANL-W, ER	Environmental Engineer	PCB soil removal
I-F-12	10/14/93	J. Rice	ANL-W, WWM	Past ER Group Leader	PCB cleanup
I-F-13	10/14/93	J. Rice	ANL-W, ER	Environmental Engineer	ER guidance
I-F-14	10/14/93	J. Rice	ANL-W	ERWM Group Leader	ER position funding
I-F-15	10/15/93	J. Rice	ANL-W, EC	Environmental Engineer	Contractor oversight
I-F-16	10/15/93	J. Rice	AAO-W	Environmental Engineer	ANL-W participation in FFA/CO activities
I-F-17	10/15/93	J. Rice	ANL-W, ER	ANL-W, ER Group Leader	Management Plan
J. Selle - Program Evaluation, Reporting, and Corrective Action					
I-G-1	10/11/93	J. Selle	ESH/QA Oversight	Environmental Compliance Officer	Internal oversight; Internal environmental program evaluation activities
I-G-2	10/11/93	J. Selle	ANL-W	EWM Manager	Evaluation of environmental programs and line programs
I-G-3	10/11/93	J. Selle	AAO-W	Environmental Engineer	Oversight by AAO-W; evaluation by AAO-W
I-G-4	10/12/93	J. Selle	ANL-W, EWM	Engineer	Environmental compliance program evaluation
I-G-5	10/12/93	J. Selle	ANL-W, EWM	Environmental Compliance Leader	Environmental restoration program evaluation
I-G-6	10/12/93	J. Selle	IFR	Director	Evaluation of IFR programs to control impact on the environment
I-G-7	10/12/93	J. Selle	ANL-W, IFR Operations	Environmental Engineer and ECR	Evaluation of IFR programs to control impact on the environment
I-G-8	10/12/93	J. Selle	AAO-W	Director	Oversight by AAO-W; Evaluation by AAO-W
I-G-9	10/13/93	J. Selle	ANL-W, IFR-TAB	Data Base Maintenance	Program evaluation, reporting, and corrective action

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

Ref. #	Date	Auditor	Organization	Position	Topic
I-G-10	10/13/93	J. Selle	ANL-W, EVM	Environmental Engineer	Program evaluation, reporting, and corrective action
I-G-11	10/13/93	J. Selle	ANL Internal Appraisal	Manager	Program evaluation, reporting, and corrective action
I-G-12	10/13/93	J. Selle	QA	QA Specialist	Program evaluation, reporting, and corrective action
I-G-13	10/14/93	J. Selle	ANL-W, F&E	Division Director	Evaluation of F&E programs to control impact on the environment
I-G-14	10/14/93	J. Selle	ANL-W, F&E	ECR and Environmental Engineer	Evaluation of F&E programs to control impact on the environment
I-G-15	10/14/93	J. Selle	ANL-W, Reactor Program Service Division	Division Director	Evaluation of RPSD programs to control impact on the environment
I-G-16	10/14/93	J. Selle	ANL-W, Reactor Program Service Division	Warehouse Manager	Evaluation of warehouse programs to control impact on the environment
I-G-17	10/14/93	J. Selle	Site Engineering	Section Manager	Program evaluation, reporting, and corrective action
I-G-18	10/15/93	J. Selle	ANL-W, EVM	Environment Engineer	Program evaluation, reporting, and corrective action
I-G-19	10/15/93	J. Selle	Fuel Cycle Division	ES&H Coordinator	FCF environmental programs
I-G-20	10/15/93	J. Selle	QA	Manager	QA and self-assessment program
I-G-21	10/15/93	J. Selle	Fuel Cycle Division	Division Director	FCF environmental programs
I-G-22	10/15/93	J. Selle	ANL-W	EWM Manager	Program evaluation, reporting, and corrective action
I-G-23	10/15/93	J. Selle	Construction Management	Manager	Program evaluation, reporting, and corrective action

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

Ref. #	Date	Auditor	Organization	Position	Topic
H. Rej Environmental Commitment, Environmental Planning and Risk Management					
I-H-1	10/11/93	H. Rej	Emergency Response	Emergency Management Coordinator	Risk Management Programs; External Communication
I-H-2	10/11/93	H. Rej	Human Resources	Manager Human Resources	Staff planning; External Communication
I-H-3	10/11/93	H. Rej	Environmental Waste Management	Waste Management Engineer	Environmental Planning - Environmental Restoration
I-H-4	10/12/93	H. Rej	ANL-W	ERWM Group Leader	Environmental Planning Input to 5-yr Plan Funding for ER and WM activities
I-H-5	10/12/93	H. Rej	ANL-W	EWM Manager	Environmental Planning and Risk Management
I-H-6	10/12/93	H. Rej	ANL-W	Purchasing Manager	Environmental Risk Procedures for procurement of services and materials
I-H-7	10/12/93	H. Rej	Environment, Safety, and Waste Management	Manager, ESH	Environmental Planning, and Risk Management; External Communication
I-H-8	10/13/93	H. Rej	AAO-W	Director, Site Office	Environmental Planning, and Risk Management; External Communication
I-H-9	10/13/93	H. Rej	AAO-W	Environmental Engineer	Environmental Planning, and Risk Management; External Communication
I-H-10	10/13/93	H. Rej	Environment and Waste Management	Environmental Engineer	Agreement in Principle with Idaho
I-H-11	10/13/93	H. Rej	Environment, Safety, and Waste Management	Manager, ESH	Follow up on documents and environmental funding issues
I-H-12	10/14/93	H. Rej	Environment and Waste Management	Environmental Engineer	FFCA - Planning and Funding
I-H-13	10/14/93	H. Rej	ANL-W, RPS	Environmental Engineer	Environmental budget planning and priority setting

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

Ref #	Date	Auditor	Organization	Position	Topic
I-H-14	10/14/93	H. Rej	Environment and Waste Management	Environmental Engineer	NEPA review process under risk management
I-H-15	10/14/93	H. Rej	IFR - Public Information	Manager Public Information Office	External Communication Programs
I-H-16	10/14/93	H. Rej	IDWD - CERCLA	FFCA Waste Area Group Manager	External Communications and Relations with ANL-W
I-H-17	10/14/93	H. Rej	EPA - FFCA	EPA - FFCA Area Manager	External Communications and Relations with ANL-W
I-H-18	10/15/93	H. Rej	ANL-W	Director, RPS	Funding priorities; Environmental Risk Management; and Organization changes
I-H-19	10/15/93	H. Rej	CH/ERD	Environmental Restoration Program Manager	Planning, Funding and Communication with ANL-W pertaining to Environmental Restoration
I-H-20	10/15/93	H. Rej	IDHW	RCRA Permit Writer	Quality of Communication with ANL-W

APPENDIX F

DEFINITION OF CAUSAL AND CONTRIBUTING FACTORS



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 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	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.
Appraisals/Audits/Reviews	

APPENDIX G

GLOSSARY OF ACRONYMS AND ABBREVIATIONS



GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Definition
ACMs	Asbestos-Containing Materials
ALARA	As Low As Reasonably Achievable
AMA	Assistant Manager for Administration
ANL-W	Argonne National Laboratory - West
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CH	Department of Energy Chicago Operations Office
CY	Calendar Year
D&D	Decontamination and Decommissioning
DCG	Derived Concentration Guide
DOE	Department of Energy
ECR	Environmental Compliance Representative
EH	Office of the Assistant Secretary for Environment, Safety and Health
EM	Office of Environmental Restoration and Waste Management
EMP	Environmental Monitoring Plan
EPA	Environmental Protection Agency
EPIP	Environmental Protection Implementation Plan
ES&H	Environment, Safety and Health
ES&Q	Environment, Safety and Quality
ESD	Environmental Support Division
ESWM	Environment, Safety, and Waste Management (Department)
EWM	Environment and Waste Management (Section)
FFA/CO	Federal Facility Agreement and Consent Order
FR/ID	Federal Register Department of Energy, Idaho Operations Office
IDHW	Idaho Department of Health and Welfare
IDPs	Individual Development Plans
IFR	Integral Fast Reactor
INEL	Idaho National Engineering Laboratory

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (Continued)

Acronym/ Abbreviation	Definition
IRMS	Integrated Resource Management System
M&O	Management and Operating (Contractor)
NE	Office of Nuclear Energy
NEPA	National Environmental Policy Act
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NOAA	National Oceanic and Atmospheric Administration
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RESL	Radiological and Environmental Sciences Laboratory
RI/FS	Remedial Investigation/Feasibility Study
RPS	Reactor Program Services
RSWF	Radioactive Scrap and Waste Facility
RWMC	Radioactive Waste Management Complex
RWMIS	Radioactive Waste Management Information System
SAAs	Satellite Accumulation Areas
TDB	Training and Development Branch
TREAT	Transient Reactor Test Facility
WAG	Waste Area Group
WERF	Waste Experimental Reduction Facility
WIPP	Waste Isolation Pilot Plant