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**Environment, Safety and Health
Progress Assessment**

of the

Argonne Illinois Site

**U.S. Department of Energy
Washington, DC 20585**

November 1993

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Executive Summary

EXECUTIVE SUMMARY

This report documents the results of the U.S. Department of Energy (DOE) Environment, Safety and Health (ES&H) Progress Assessment of the Argonne Illinois Site (AIS), near Chicago, Illinois, conducted from October 25 through November 9, 1993. Prior to the onsite assessment, a meeting on August 6, 1993, between senior managers from DOE Headquarters, the Office of the Assistant Secretary for Environment, Safety and Health, and senior managers from the DOE Chicago Operations Office (CH) and the contractor, University of Chicago, was held to discuss the Progress Assessment process and receive scoping input on potential areas to be assessed. In addition, a Progress Assessment Team coordination meeting was held at DOE Headquarters on August 31, 1993. The Progress Assessment Team conducted an initial site visit at AIS from September 13 through September 17, 1993, during which the team received a variety of informational briefings, toured the site, conducted preliminary interviews on the status of ES&H programs and plans, and planned the assessment strategy and developed work scopes. During the Progress Assessment, activities included a selective review of the ES&H management systems and programs with principal focus on the DOE Office of Energy Research (ER); CH, which includes the Argonne Area Office; the University of Chicago; and the contractor's organization responsible for operation of Argonne National Laboratory (ANL). The scope of the assessment did not include the New Brunswick Laboratory due to the primary focus on government owned - contractor operated (GOCO) facilities at AIS.

The ES&H Progress Assessments are part of DOE's continuing effort to institutionalize line management accountability and the self-assessment process throughout DOE and its contractor organizations. The purpose of the AIS ES&H Progress Assessment was to provide the Secretary of Energy, senior DOE managers, and contractor management with concise independent information on the following: (1) change in culture and attitude related to ES&H activities; (2) progress and effectiveness of the ES&H corrective actions resulting from the previous Tiger Team Assessment; (3) adequacy and effectiveness of the ES&H self-assessment process of the DOE line organizations, the site management, and the operating contractor; and (4) effectiveness of DOE and contractor management structures, resources, and systems to effectively address ES&H problems and new ES&H initiatives.

The AIS Progress Assessment was not a comprehensive compliance assessment of ES&H activities. The Progress Assessment was also not a comprehensive sitewide review of all ES&H activities; but rather, a horizontal review of selected management systems, such as self-assessment and corrective action programs, and vertical reviews of the following functional programs:

- environmental monitoring programs;
- hazardous/mixed waste generation practices/waste minimization program;
- conduct of operations;
- Occupational Safety and Health Act (OSHA) and construction safety; and
- industrial hygiene/health physics programs.

The point of reference for assessing programs at AIS was, for the most part, the 1990 AIS Tiger Team Assessment Report, approved by the Secretary of Energy in February 1991, and the Action Plan in Response to the Tiger Team Assessment of the Argonne Illinois Site (April 24, 1991). In addition, other audits, assessments, appraisals, and reviews performed internally by DOE and its ANL contractor, and external organizations outside DOE and its ANL contractor were also used to measure ES&H performance. The AIS Progress Assessment was conducted by a team of 13 professionals from various DOE offices and their support contractors, with expertise in the areas of management, quality assurance, environment, safety, and health, as well as administrative, technical editing, and report production support staff services.

Progress in ES&H Performance

Although a number of ES&H program deficiencies were identified at AIS that represent issues requiring corrective action, it is the judgement of the Progress Assessment Team within the scope of its assessment, that continued operation of AIS does not pose any imminent threat to public or worker safety or to the environment.

Furthermore, the Progress Assessment Team concluded that overall, since the 1990 Tiger Team Assessment there has been commendable progress toward improved ES&H performance in most areas reviewed. Notwithstanding this progress, the team further concluded that additional enhancements are necessary to correct identified programmatic concerns and weaknesses that are impediments to developing and implementing a fully mature ES&H program that is capable of achieving ES&H excellence on an ongoing basis.

The Progress Assessment Team found that DOE Program Offices and CH have recognized the importance of ES&H as an integral component of all program activities and have responded with improvements in oversight and line management implementation of ES&H. ER has established ES&H professional positions within the program line to provide internal technical support to DOE field elements and technical support to the contractor. In addition, ER provided funds soon after the Tiger Team Assessment to initiate corrective actions. Additional funds have been provided by the DOE Office of Environmental Restoration and Waste Management (EM) for environmental restoration and waste management. ER is supportive of and has provided guidance to CH regarding implementation of ES&H utilizing the graded approach and is making efforts to coordinate development of uniform DOE Order implementation guidance with other Program Offices to avoid issuance of conflicting and overlapping guidance.

CH has made a cultural shift throughout its organization and ES&H is now viewed as an integral part of all work. The culture change is exemplified by the many initiatives and actions taken to improve ES&H since the Tiger Team Assessment, as evidence of strong leadership, cooperation, and ownership. CH and CH-AAO have a clear understanding of their roles, responsibilities, and authorities with respect to ANL; and they have taken organizational and individual ownership of ES&H responsibilities. Recent CH-AAO budget guidance to ANL provides strong, unambiguous direction regarding ES&H activities. Substantial progress has been made at CH and ANL in the capture, verification, and closure of Tiger Team corrective actions through individual databases. CH-AAO has developed a Facility Representative program that provides for effective oversight and surveillance of ANL-E's industrial hygiene, occupational safety, and health physics programs. CH has also made progress in implementing self-assessment, conducting

functional and management appraisals, improving their directives system, and implementing formality of operations in the conduct of their work.

The Progress Assessment Team further concluded that the University of Chicago and its ANL operating organization have recognized the importance of ES&H as an integral component of all site activities and have responded with improvements in oversight and line management implementation of ES&H. ANL has made several organizational changes to strengthen its ES&H programs. An oversight organization independent of the line was established headed by the Assistant Laboratory Director for ES&H/Quality Assurance (QA) Oversight who reports to the Laboratory Director. Within the line organization, under the Chief Operations Officer, the functions related to environment, safety, and health were consolidated into two organizations to provide a central focus for the organization's waste management and ES&H sitewide responsibilities. These organizations also perform inspections of ANL facilities and operations and provide assistance as requested. The overall staffing resources assigned to ES&H functions have been significantly increased.

The ANL corporate parent, the University of Chicago, through its Board of Governors Safety and Environment Committee continues to provide oversight of ANL. This oversight has been enhanced through activities such as their involvement in the establishment of ESH/QA performance standards and review of ANL against those standards quarterly. In addition, ANL has made significant progress on the completion of action plans developed in response to the Tiger Team Assessment and the University of Chicago's Board of Governors Safety and Environment Committee reviews the Corrective Action Plan to monitor ANL progress.

The most pervasive evidence of progress within ANL is the cultural shift that has been made throughout the organization. From the Laboratory Director to the laboratory technician, ES&H is now viewed as an integral part of the work conducted at ANL and is recognized and embraced as a responsibility at the individual worker level as well as at all other organizational levels. This cultural change is best exemplified by the many initiatives and actions ANL has taken to improve ES&H since the Tiger Team Assessment, and serves as evidence of ANL management's acceptance of ES&H performance accountability. Examples of these activities and initiatives include: conscientious efforts to reduce existing site risks and existing waste; institution and implementation of effective ES&H training and construction safety programs; improvement of operational guidance/procedures; incorporation of ES&H considerations into project plans at the design phase and throughout the project's life; establishment of the Accelerator Safety Review Committee, which reports to the Laboratory Director; the development of a unique graded approach to conduct of operations; and the establishment and implementation of a self-assessment program that involves ANL-wide participation.

The progress noted above demonstrates the commitment by both DOE and ANL to strengthen ES&H activities and to strive towards excellence in those activities. However, in the course of this assessment, the Progress Assessment Team identified several individual concerns and weaknesses that need to be addressed to continue advancing toward ES&H programs of superior quality. These concerns and weaknesses are specifically related to the following areas: CH and ANL corrective action programs; ANL directives, policies and procedures; ANL planning, budgeting, and resource allocation; ANL human resources management; CH training program; ANL standard operating procedures; CH and ANL quality assurance programs; ER and CH self-assessment programs; ANL

waste minimization; CH oversight of the environmental monitoring programs; and the ANL-E Environmental Monitoring Program. The discussion of these concerns and weaknesses along with specific strength findings representing ES&H initiatives are described in Appendix B.

Key Accomplishments, Key Concerns, and Probable Root Cause

From an analysis of the individual strength, concern, and weakness findings, the Progress Assessment Team identified two key accomplishments, two key concerns, and a probable root cause. In addition to the two key accomplishments, six individual strength findings were identified in the following areas: University of Chicago oversight, ANL ES&H training, the Water Task Force, the methodology for implementing conduct of operations, the construction safety program, and the CH-AAO Facility Representative Program.

The two key accomplishments identified by the Progress Assessment Team are:

CH and ANL-E have effected cultural changes emphasizing the importance of ES&H and the pursuit of ES&H excellence. A number of changes have been implemented at CH and ANL-E which demonstrate a change in culture and attitudes with respect to ES&H issues and compliance. Foremost is the understanding and acceptance of ES&H ownership as a line management function and responsibility. A commitment toward achieving ES&H excellence has occurred, and line organizations have become involved in ES&H issues and implementation beginning at the upper management levels within CH and ANL-E. There is now a positive attitude toward ES&H, and communications between the different organizational levels within ANL-E and between CH, CH-AAO, and ANL-E have improved. Examples of programs that have been successfully developed and implemented include the ES&H Training Program, the Construction Safety Program, and the CH-AAO Facility Representative Program.

CH and ANL-E have successfully instituted a number of organizational enhancements and mobilized their resources towards establishing an effective ES&H program. Since the 1990 AIS Tiger Team Assessment, ANL-E has undergone significant organizational changes in order to implement ES&H activities in a more effective manner. The ANL Director elevated the ESH Department to a division level, created the Environment and Waste Management organization, moved the ESH/QA Oversight organization from a line organization, and created the position of the Assistant Laboratory Director for ESH/QA Oversight now reporting directly to him. Additionally, the Assistant Laboratory Director for ESH/QA Oversight is now a member of the Management Council which provides direct access to senior line management to obtain their understanding and buy-in of the ESH/QA requirements and is the chairman of the ESH/QA Oversight Directorate. He also chairs the ESH/QA Planning and Coordination Committee, which was created to serve as a forum to advise ANL organizations on the development of implementation strategies, and practices in the area of ESH/QA. Also, new high-level ESH/QA Representative positions were established reporting to each of the Associate Laboratory Directors and the Chief Operations Officer. These representatives coordinate all ES&H activities within those organizations; they also meet together periodically to resolve broader issues. In each division, full-time ES&H coordinators were appointed to resolve ES&H issues and coordinate implementation of ES&H activities within the division. Some of these positions existed prior to the Tiger Team Assessment, but they were then generally ancillary or part-time positions. Although some ANL-E safety committees existed prior to the Tiger

Team Assessment, new safety committees were formed to address needs pointed out during the Tiger Team Assessment. Many additional safety and health professionals were hired to fill newly created positions in the ESH Division. The ESH Division has significantly increased in numbers of full-time employees since the Tiger Team Assessment. Specific enhancements were made in Safety Engineering, Industrial Hygiene, Fire Protection Engineering, ES&H Training, and Health Physics. Significant improvements were made in the ES&H training program, and ES&H training needs were determined through a newly developed ANL Job Hazards Checklist.

CH and CH-AAO have both been reorganized since the Tiger Team Assessment, and the number of ES&H professionals in each organization has been significantly increased. A new Facility Representative program was created in CH-AAO, and it is providing for the effective oversight and surveillance of ANL-E's industrial hygiene, occupational safety, and health physics programs.

The Progress Assessment Team identified the following **two key concerns**:

CH and ANL programs, policies, and procedures do not ensure consistent sitewide implementation of ES&H activities. The development and implementation of formal strategies designed to provide sitewide information on ES&H progress, issues, and status are vital to achieving consistent approaches to ensuring ongoing ES&H excellence. CH and ANL currently use several systems, processes, and methods that focus on responding to the needs of individual DOE HQ and other customers. This approach has resulted in a fragmented system for developing programs and implementing procedures. The fragmented system inhibits CH and ANL-E's ability to track and remain knowledgeable of sitewide ES&H deficiencies and share lessons learned, and hampers the development of uniform standards or guidance to assure that sitewide information is used in ES&H procedure and policy development.

Pivotal systems that could provide sitewide information are not integrated, or appropriately defined and communicated for sitewide application. For example, the CH and ANL Corrective Action Program does not fully capture and integrate the sitewide information necessary to determine root cause elimination, perform sitewide trending analyses, establish sitewide budgetary priorities, or determine the sitewide status and progress towards addressing ES&H issues. The ANL organizational and individual roles, responsibilities, and authorities with respect to stop work, stop working, and restart are not clearly and uniformly documented, effectively communicated to, and understood by all effected parties. ANL's basic quality program requirements are not fully supported by all the policies, plans, and procedures necessary for the effective assurance of quality. ANL has not implemented or defined an effective ANL-wide human resources management program to ensure that personnel at all levels of their respective organizations are qualified and, where required, certified to carry out their assigned responsibilities. There is no sitewide waste minimization program at ANL-E; this has resulted in a reliance on individual waste minimization efforts. Operating procedures at ANL do not contain all elements necessary for effective sitewide conduct of operations, or clear uniform guidance regarding expected conformance.

DOE responsibility and accountability for integrated planning, budgeting, and resource allocation is not clearly understood or accepted by all parties with a role in accomplishing the ES&H aspects of the ANL mission. There is widespread confusion throughout the DOE

elements sponsoring activities at ANL-E regarding roles, responsibilities, and authorities with respect to ownership of sitewide ES&H requirements. Limited integration and coordination is occurring at the Cognizant Secretarial Officer (CSO) level (primarily FM, LM, ER, and EM) that would define accountability for ES&H responsibilities, establish priorities for and fully support a sitewide CH and ANL ES&H program needs. Allocation of resources at the CSO level is established primarily on a program/project-specific basis. Local DOE Manager's (e.g., CH and CH/AAO) ability to allocate funding to address programmatic issues has been limited. Specifically, the DOE Chief Financial Officer has placed restrictions on the allocation and expenditure of overhead funds for ES&H activities and initiatives, including some Tiger Team corrective actions, that have been viewed as the responsibility of program line managers.

As an example, responsibility for sitewide waste minimization programs are divided. EM has responsibility for the program plan and the program line management organization has responsibility for program execution. While sufficient ANL overhead funds have been available in past years, DOE funding for initial development of a sitewide waste minimization program has only recently been approved by EM. The lack of an ANL-E waste minimization program was identified by the 1990 Tiger Team Assessment. Furthermore, no clear funding source has been identified to carry out long-term implementation of the program in support of the multiple DOE programs utilizing ANL-E. As a result, current waste minimization activities are fragmented. In addition, various EM environmental monitoring requirements are not being fully integrated into the sitewide environmental monitoring program that supports research and infrastructure requirements. This lack of integration may impact the most effective use of resources.

The Progress Assessment Team evaluated the key concerns and identified the following probable root cause:

The Department and ANL have not developed and implemented integrated planning processes that define, guide, and set priorities for accomplishing the ES&H aspects of the ANL-E mission on the basis of sitewide risks and vulnerabilities. External influences limit CH's and ANL's ability to continue the ES&H performance improvements that were initiated by the Tiger Team Assessment. There is ever increasing budgetary pressure to carry out the DOE mission cost effectively. The recent Departmental realignment, while placing more responsibility in the field, has diffused landlord responsibilities and attendant ownership throughout Headquarters elements. These factors, coupled with confusion throughout the Department with respect to landlord responsibility for ANL-E provides a compelling case for a comprehensive planning, budgeting, and resource allocation process that is integrated both horizontally and vertically throughout all Department and contractor elements that have a responsibility for, or influence on, the execution of the ANL mission.

A legacy of the CH and ANL-E response to the Tiger Team Assessment is that they now have a number of elements of a sound ES&H program that can serve as building blocks for the future. CH and ANL-E have only recently begun to step back from this period of intense activity to define their vision for the site together with the goals and strategic objectives that provide the architecture of a comprehensive sitewide ES&H program to serve the future ANL-E mission. However, the effectiveness of CH and ANL planning processes are inexorably tied to those of the Department. As a result, future progress at ANL-E in achieving ES&H excellence can only be further inhibited by the lack of coordinated and integrated strategic and subordinate implementation planning, budgeting,

and resource allocation processes, horizontally between and among Departmental Headquarters elements, and vertically between and among Department Headquarters elements, CH and ANL. These planning considerations represent an important challenge for the Department as well as ANL.

In conclusion, 3 years of intense activity on the part of DOE and its ANL-E contractor has resulted in substantial progress in correcting the deficiencies identified by the AIS Tiger Team Assessment. Among the more important accomplishments are a positive culture change, an effective construction safety program, enhanced CH oversight of ANL-E, a graded approach to conduct of operations, enhanced ES&H training, and ES&H-related program plans. A legacy of these efforts is that CH and ANL-E are now poised to further enhance their ES&H programs and achieve ES&H excellence. A number of elements of a sound ES&H program are in place that can be built upon. Future success will be based on CH and ANL management's continued commitment to ES&H excellence and to the Department's ability to develop and implement a comprehensive planning process that includes the full and active involvement of all responsible and affected parties.

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1.0

Introduction

1.0 INTRODUCTION

1.1 ENVIRONMENT, SAFETY AND HEALTH PROGRESS ASSESSMENT PROGRAM

In June 1989, the U.S. Department of Energy (DOE) announced a 10-point initiative to strengthen environment, safety, and health (ES&H) programs and waste management operations. One of the initiatives involved conducting independent Tiger Team Assessments of major DOE operating facilities. Thirty-five Tiger Team Assessments have been performed, with the final one completed in June 1992. These large, comprehensive assessments established thorough baselines for ES&H compliance levels, evaluated ES&H management programs, identified root causes of noncompliance, and provided for Corrective Action Plans. The 35 Tiger Team Assessments were conducted by nearly 2,000 DOE and contractor personnel who identified over 18,000 ES&H deficiencies and noteworthy practices. The Argonne Illinois Site (AIS) Tiger Team Assessment, conducted from September 17 through October 19, 1990, was the seventeenth of the 35 assessments. The final AIS Tiger Team Assessment Report was approved in February 1991. A final Corrective Action Plan in response to the Tiger Team Assessment was approved for implementation by DOE in April 1991.

As part of the continuing effort to institutionalize line management accountability and the self-assessment process, and to evaluate the actions taken in response to Tiger Team findings and concerns, DOE directed that small, focused, ES&H Progress Assessments be performed. The ES&H Progress Assessment of AIS is the thirteenth of a series of assessments, which will revisit each of the 35 Tiger Team Assessment sites. Prior to this assessment of AIS, ES&H Progress Assessments were conducted at the following DOE operating facilities: Fernald Environmental Management Project, Y-12 Plant, Hanford Site, Nevada Test Site, Mound Plant, Lawrence Livermore National Laboratory, Brookhaven National Laboratory, Savannah River Site, Pantex Plant, Rocky Flats Plant, Morgantown Energy Technology Center, and the Idaho National Engineering Laboratory.

The primary reference points for assessing progress in remedying ES&H deficiencies at AIS were the AIS Tiger Team Assessment Report and the associated Corrective Action Plan. The level of onsite effort for the Progress Assessment was 13 people for 2 weeks for the onsite portion of this Progress Assessment. By contrast, the Tiger Team Assessment level of effort was approximately 50 people for 4 weeks during the onsite portion of the assessment.

The objectives of the ES&H Progress Assessment were to develop an updated picture of (1) how the AIS has progressed toward the Department's goal of ES&H excellence since the 1990 Tiger Team Assessment; (2) how effectively ANL has corrected specific ES&H deficiencies identified by that team and the root causes of those deficiencies; and (3) whether the current structure, resources, and systems are in place and functioning to identify and correct weaknesses in a timely manner and effectively manage ES&H issues. Accomplishing these objectives involved performing evaluations of the following:

- Change in culture and attitude related to ES&H activities;
- Progress and effectiveness of the ES&H corrective actions resulting from the Tiger Team Assessment;

- Adequacy and effectiveness of the ES&H self-assessment process within the DOE line organization and the site management and operating contractor(s); and
- Effectiveness of DOE and contractor management structures, resources, and systems to effectively address ES&H problems and new ES&H initiatives.

The assessment was conducted by a team of specialists, principally from DOE Headquarters (HQ) and field organizations, as well as support contractors, with expertise in the areas of environment, safety, health, and management. In addition to its broad experience, the team's composition brought a balanced perspective of DOE HQ and field elements as well as DOE contractors. The Progress Assessment Team Leader is a senior manager from DOE HQ, Office of Special Projects (EH-5). Progress Assessment Team members, with their areas of responsibility and work-related experience, are identified in Appendix C.

The assessment process consisted of a coordination meeting for the team; an initial site visit; offsite review of documents; DOE HQ interviews; onsite interviews with University of Chicago, Chicago Operations Office (CH), Argonne Area Office (CH-AAO), and Argonne National Laboratory (ANL) personnel; as well as onsite observations, inspections, and document reviews. The coordination meeting was held on August 31, 1993, in Washington, DC. It included presentations by the Deputy Manager of CH-AAO concerning Argonne's current mission, organization, and ES&H issues and the EH Site Representative concerning recent ES&H-related appraisals of ANL-E (e.g., construction safety and quality assurance). The initial site visit was conducted from September 13 through 17, 1993. This activity included presentations by DOE and ANL-E; a general site tour followed by on-the-ground tours of selected ES&H-related areas; identifying, collecting, and reviewing documents; planning the assessment strategy and developing assessment work scopes (see Appendix D); and conducting preliminary interviews with CH, CH-AAO, and ANL-E employees. Team members also developed assessment activity schedules (see Appendix E) in preparation for the October 1993 assessment. Four members of the Progress Assessment Team, led by the Team Leader and Associate Team Leader, conducted interviews with DOE HQ personnel from the Office of Laboratory Management, Office of Energy Research, Office of Energy Restoration and Waste Management, and the Office of the Associate Secretary for Field Management on October 13 and October 14, 1993. Additional telephone interviews of DOE HQ, CH, CH-AAO, and contractor staff were conducted by team members from September 20 through October 22, 1993.

The onsite Progress Assessment was conducted from October 25 through November 9, 1993. During this period, the Progress Assessment Team conducted interviews with University of Chicago, CH, CH-AAO, and ANL-E personnel; inspected facilities; reviewed additional documentation; developed the results of the assessment; drafted the assessment report; and held a formal closeout with DOE and contractor management. Daily team meetings were held to discuss issues and assessment progress. To facilitate the full understanding of the issues and encourage involvement in the assessment process, DOE and ANL-E personnel attended these meetings. In addition, DOE and ANL-E personnel provide Factual Accuracy Review comments on drafts of preliminary findings. Senior managers also participated in the development of the key accomplishments, key concerns, and the probable root cause.

The approach used by the Progress Assessment Team to perform the evaluations and achieve the objectives involved both horizontal and vertical reviews of ES&H program elements and activities. The horizontal reviews evaluated the existence and adequacy of management structures and systems for identifying and addressing ES&H problems and requirements. The management elements evaluated included planning, budgeting, and resource allocation; organization, including roles and responsibilities; human resource management, including staffing and training; formality of operations; oversight; directives, including policies and procedures; and quality assurance. Horizontal (and vertical) reviews were also performed of the self-assessment and corrective action programs (with emphasis on Tiger Team Corrective Action Plans). Although these two programs are integral parts of ES&H management systems, they are addressed as separate disciplines in the report. The distinction was made because of the importance of these two programs as indicators of progress since the 1990 Tiger Team Assessment, and because of the recent initiatives to establish and institutionalize total quality management and the self-assessment process as key elements for a sustainable and effective ES&H program.

Vertical reviews were used to determine if the existing management systems are adequate and effective at all levels. Vertical cuts in environmental management systems included environmental monitoring, and waste management, specifically waste generation and waste minimization. The programs selected for vertical evaluations of safety and health systems were OSHA and construction safety; conduct of operations; industrial hygiene/health physics. The selection of these areas for vertical cuts was based on the results of the Tiger Team Assessment Report and the associated Corrective Action Plan, other assessments (e.g., Office of Basic Energy Sciences "Review of Progress on the Corrective Action Plan of the Argonne National Laboratory" (October 1991), EH Site Representative Reviews in Construction Safety and Quality Assurance, etc.), occurrence reports, input received from senior DOE field and contractor management (August 6, 1993, meeting at CH), and information obtained during the initial site visit.

The Progress Assessment Team conducted a focused, programmatic review of management systems, structures, and resources to measure progress made by both DOE and the site contractor since the 1990 Tiger Team Assessment. Individual strengths, concerns, and weaknesses; along with key accomplishments, key concerns, and a probable root cause are identified in the report. The key accomplishments provide evidence of exceptional development, improvement, and maturation. By their design or execution, key accomplishments are likely to result in significantly improved ES&H performance. Key concerns represent the essence of programmatic weaknesses and deficiencies identified by the Progress Assessment Team, and the probable root cause is the fundamental reason for the occurrence of programmatic deficiencies.

The correction of Tiger Team Assessment deficiencies and their associated root causes and self-assessment activities were subjects reviewed by all team members in both the horizontal and vertical reviews. The observations of team members related to Tiger Team corrective actions, other corrective actions, and self-assessments were consolidated and evaluated from a sitewide perspective. Details of the specific subjects covered by these reviews are provided in Section 2.0 and Appendix B of this report.

The analysis conducted by the Progress Assessment Team resulted in no observations in the immediate concern category. However, the team found programmatic observations in

the categories of concerns, weaknesses, and strengths. The definitions of these categories follow:

- **Immediate Concern.** Any situation or adverse condition including any non-conformance with applicable law or agreement that significantly endangers the safety or health of the public or workers, or would have substantial adverse effect on the environment.
- **Concern.** Any situation or adverse condition that does not meet the requirements of an applicable law, agreement, DOE rule or Order, DOE procedure, or constitutes a significantly deficient practice not covered by procedure, and is not classified as an immediate concern.
- **Weakness.** Any situation that indicates less than optimal performance and could be an indication of more serious problems and is not classified as an immediate concern or concern. The term is also used for any series of situations or adverse conditions related to findings that indicate a degradation in the performance of a program or management system.
- **Strength.** A strength is an example of exceptional performance or achievement of excellence. A strength may be a noteworthy practice, activity, or program that clearly exceeds the acceptable level of performance and that warrants documentation supported by findings of fact. Strengths may have general application to other DOE programs or operations. The purpose for documenting the strength is for communicating the strength within DOE. General application of a strength, either by its design or its execution, results in more effective and improved management or operation performance.

1.2 ARGONNE ILLINOIS SITE

AIS is located on a 1,700-acre site in DuPage County, Illinois, approximately 22 miles southwest of downtown Chicago, Illinois. Within the boundaries of AIS are ANL-E and the New Brunswick Laboratory (CH-NBL). AIS is surrounded by the Waterfall Glen Forest Preserve, a 2,040-acre public recreational area. Most of this land was formerly ANL-E property, but was deeded to the DuPage County Forest Preserve District in 1973 for use as a public recreational area, nature preserve, and demonstration forest. Clustering of facilities at AIS has resulted in substantial open space between major facilities. Naturally wooded plots have been preserved, and considerable portions of the site have been reforested. Approximately 55 acres is retained as park land on the site for staff recreational activities.

Argonne National Laboratory is a large multi-program laboratory operated by the University of Chicago for DOE. ANL-W is located at the Idaho National Engineering Laboratory (INEL) near Idaho Falls, Idaho. This assessment covers only the ANL facilities located in Illinois (ANL-E). The Laboratory's scientific and technical resources are used to support the nation's needs in energy technology, environmental quality, industrial competitiveness, and

educational infrastructure. This support occurs primarily in the following six major mission areas:

- **Energy and Environmental Technologies.** Development of advanced nuclear power, focusing on the liquid metal reactor and related fuel cycles; selected technologies in conservation, renewable energy, fossil energy, environmental restoration, and waste management; supporting research in materials, chemical, and electrochemical technologies. Focus on the Integral Fast Reactor, advanced batteries and fuel cells, thermal sciences, biotechnology, environmental technologies, superconducting materials and components, and advanced coal technology.
- **Basic Research.** Experimental and theoretical work in the physical, life, and environmental sciences to support the development of energy and environmental technologies and to advance general scientific understanding. Major research includes advanced techniques using synchrotron radiation for research in the physical and life sciences, algorithms and tools for massively parallel computers, and synthesis of advanced materials.
- **National Research Facilities.** Development and operation of national facilities for use by university, industry, and national laboratory groups in research on technology-related and basic science problems; development of advanced instruments and methods for facilities-centered research. Among the major national user facilities currently being operated by Argonne are the Intense Pulsed Neutron Source and the Argonne Superconducting Tandem Linear Accelerator. In addition, Argonne is constructing the Advanced Photon Source, the world's most brilliant source of x-rays for use in forefront research in technology and science.
- **Technical Evaluation.** Characterization and evaluation of nationally important projects and technology options in terms of their environmental, cost, and other implications. Major activities in this area include site-specific environmental impact and remediation studies, evaluations of advanced energy technologies, and assessments of environmental regulatory policies.
- **Education.** Enhancement of U.S. science and mathematics education through programs for students and teachers at all levels, ranging from enrichment programs for younger students to direct involvement in Laboratory research by university students, post-graduates, and faculty. One purpose of these programs is to encourage under-represented societal groups to pursue careers in science and engineering.
- **Technology Transfer.** Strengthening of U.S. technological competitiveness through research and development partnerships with industry that capitalize on the Laboratory's expertise and facilities. Principal mechanisms include cooperative research and development, work for non-DOE sponsors, personnel exchanges, and licenses.

ANL-E performs work for many of DOE's program elements; however, the majority of its work is concentrated in the areas of basic energy sciences and advanced reactor

technology. Activities in these areas include primarily the Advanced Photon Source and associated facilities, and the Integral Fast Reactor. These two areas constitute approximately half of the research performed by the Laboratory. Other research is performed for DOE, other Federal agencies, non-Federal agencies, and the private sector.

Management of ANL-E operations is assigned to CH-AAO. Major DOE program offices with programmatic responsibilities for ANL-E are Energy Research, Nuclear Energy, and Environmental Restoration and Waste Management.

CH-NBL's mission is to serve as the Federal government's nuclear materials measurements and standards laboratory and to provide technical expertise to support the government's statutory responsibility for safeguarding nuclear materials. Administratively, CH-NBL reports to CH, while programmatically, it is responsible to the Office of Safeguards and Security in the Office of Security Affairs.

1.3 REPORT STRUCTURE

The results of the assessment are addressed in two main sections of this report: Section 2.0, Performance and Progress of Argonne Illinois Site ES&H Programs; and Appendix B, Assessment Details. Section 2.0 presents the Progress Assessment Team's overall evaluation of the results of this assessment. This includes an identification of key accomplishments, key concerns, the probable root cause of the assessment results, as well as overview sections for each programmatic discipline. Each overview section provides a summary of the assessment conclusions identifying progress and accomplishments made since the 1990 Tiger Team Assessment as well as areas requiring further improvement. Appendix B includes programmatic concerns, weaknesses, and strengths presented by discipline. A summary table of the concerns, weaknesses, and strengths is presented in Appendix A.

Each evaluation item is given a number that identifies the discipline and the category. The disciplines are identified by the following designations: M = ES&H Management Systems, E = Environmental Programs, and S = Safety and Health Programs. The categories are represented as follows: C = Concern, W = Weakness, and S = Strength. These letters are followed by a sequential number assigned to each evaluation item within a given category and discipline. As an example, the first safety and health concern is written as S/C-1. These identifiers are used in both the body of the report and in Appendix B.

Where appropriate, discussions are supported by references to specific interviews and documents. These references are tied to the reference numbers on the interviews and documents listed in Appendices F and G, respectively. In the report, the references are shown by placing the reference number in parentheses. The first letter in the reference number is either I or D, indicating whether the reference is an interview or document. The second letter is a Progress Assessment Team member identifier used for internal document control. The alphabetic designation is followed by a sequential number. As an example, the sixth interview reference by Progress Assessment Team member "A" would be I-A-6.

2.0

***Performance and Progress of
AIS ES&H Programs***

2.0 PERFORMANCE AND PROGRESS OF AIS ES&H PROGRAMS

2.1 OVERVIEW

The Progress Assessment Team has concluded that the Chicago Operations Office (CH), its contractor, the University of Chicago; and the Argonne National Laboratory-East (ANL-E) operating organization recognize and accept the importance DOE places on Environment, Safety and Health (ES&H) excellence. Progress has been made in correcting the deficiencies identified in the 1990 Argonne Illinois Sites (AIS) Tiger Team Assessment Report and in implementing regulations and DOE directives and guidance that have been issued since that time. Although several major ES&H management systems have not yet fully matured and programmatic concerns and weaknesses were noted in several areas, these deficiencies do not diminish the overall progress made since the Tiger Team Assessment.

Three years of intense activity by DOE and its ANL-E contractor has resulted in substantial progress in correcting the deficiencies identified by the Tiger Team Assessment. Among the more important accomplishments are an effective construction safety program, enhanced CH oversight of ANL-E, a positive culture change, a graded approach to conduct of operations, enhanced ES&H training, and improved ES&H-related program plans. A legacy of these efforts is that CH and ANL-E are now poised to further enhance their ES&H programs and achieve ES&H excellence. A number of elements of a sound ES&H program are in place that can be built upon. Future success appears to be dependent on CH and ANL management's continued commitment to ES&H excellence and to DOE's ability to develop and implement a comprehensive planning process that includes the full and active involvement of all responsible and affected parties.

Based on the Progress Assessment Team's professional judgement, two key concerns were identified that need to be addressed as a part of DOE's and ANL's efforts to achieve ES&H excellence. In addition, the team identified two key accomplishments, and six strength findings in the implementation of ES&H activities with respect to ANL-E. In general, the concerns and weaknesses relate to the following areas: systems to provide management with ES&H status and corrective action information; self-assessment; ANL-E directive systems; ANL-E roles, responsibilities, and authorities; Department roles, responsibilities, and authorities with respect to ANL-E; sitewide planning, budgeting, and resource allocation management systems; CH and ANL-E training oversight; formality of operations; quality assurance; environmental monitoring and waste minimization programs; and implementation of safety and health programs. Notwithstanding these concerns and weaknesses, key accomplishments and the strength findings demonstrate CH and ANL-E's willingness and ability not only to develop and implement ES&H programs that meet minimum requirements, but to strive for ES&H excellence.

2.1.1 Key Accomplishments

The two key accomplishments identified by the Progress Assessment Team are:

CH and ANL-E have effected cultural changes emphasizing the importance of ES&H and the pursuit of ES&H excellence. A number of changes have been implemented at CH and ANL-E which demonstrate a change in culture and attitudes with respect to ES&H issues and compliance. Foremost is the understanding and acceptance of ES&H ownership as a

line management function and responsibility. A commitment toward achieving ES&H excellence has occurred, and line organizations have become involved in ES&H issues and implementation beginning at the upper management levels within CH and ANL-E. There is now a positive attitude toward ES&H, and communications between the different organizational levels within ANL-E and between CH, CH-AAO, and ANL-E have improved. Examples of programs that have been successfully developed and implemented include the ES&H Training Program, the Construction Safety Program, and the CH-AAO Facility Representative Program.

CH and ANL-E have successfully instituted a number of organizational enhancements and mobilized their resources towards establishing an effective ES&H program. Since the 1990 AIS Tiger Team Assessment, ANL-E has undergone significant organizational changes in order to implement ES&H activities in a more effective manner. The ANL Director elevated the ESH Department to a division level, created the Environment and Waste Management organization, moved the ESH/QA Oversight organization from a line organization, and created the position of the Assistant Laboratory Director for ESH/QA Oversight now reporting directly to him. Additionally, the Assistant Laboratory Director for ESH/QA Oversight is now a member of the Management Council which provides direct access to senior line management to obtain their understanding and buy-in of the ESH/QA requirements and is the chairman of the ESH/QA Oversight Directorate. He also chairs the ESH/QA Planning and Coordination Committee, which was created to serve as a forum to advise ANL organizations on the development of implementation strategies, and practices in the area of ESH/QA. New high-level ESH/QA Representative positions were established reporting to each of the Associate Laboratory Directors and the Chief Operations Officer. These representatives coordinate all ES&H activities within those organizations; they also meet together periodically to resolve broader issues. In each division, full-time ES&H coordinators were appointed to resolve ES&H issues and coordinate implementation of ES&H activities within the division. Some of these positions existed prior to the Tiger Team Assessment, but they were then generally ancillary or part-time positions. Although some ANL-E safety committees existed prior to the Tiger Team Assessment, new safety committees were formed to address needs pointed out during the Tiger Team Assessment. Many additional safety and health professionals were hired to fill newly created positions in the ESH Division. The ESH Division has significantly increased in numbers of full-time employees since the Tiger Team Assessment. Specific enhancements were made in safety engineering, industrial hygiene, fire protection engineering, ES&H training, and health physics. Significant improvements were made in the ES&H training program, and ES&H training needs were determined through a newly developed ANL Job Hazards Checklist.

CH and CH-AAO have both been reorganized since the Tiger Team Assessment, and the number of ES&H professionals in each organization has been significantly increased. A new Facility Representative program was created in CH-AAO, and it is providing for the effective oversight and surveillance of ANL-E's industrial hygiene, occupational safety, and health physics programs.

2.1.2 Key Concerns

The Progress Assessment Team identified the following **two key concerns**:

CH and ANL programs, policies, and procedures do not ensure consistent sitewide implementation of ES&H activities. The development and implementation of formal

strategies designed to provide sitewide information on ES&H progress, issues, and status are vital to achieving consistent approaches to ensuring ongoing ES&H excellence. CH and ANL currently use several systems, processes, and methods that focus on responding to the needs of individual DOE HQ and other customers. This approach has resulted in a fragmented system for developing programs and implementing procedures. The fragmented system inhibits CH and ANL-E's ability to track and remain knowledgeable of sitewide ES&H deficiencies and share lessons learned, and hampers the development of uniform standards or guidance to assure that sitewide information is used in ES&H procedure and policy development.

Pivotal systems that could provide sitewide information are not integrated, or appropriately defined and communicated for sitewide application. For example, the CH and ANL Corrective Action Program does not fully capture and integrate the sitewide information necessary to determine root cause elimination, perform sitewide trending analyses, establish sitewide budgetary priorities, or determine the sitewide status and progress towards addressing ES&H issues. The ANL organizational and individual roles, responsibilities, and authorities with respect to stop work, stop working, and restart are not clearly and uniformly documented, effectively communicated to, and understood by all effected parties. ANL's basic quality program requirements are not fully supported by all the policies, plans, and procedures necessary for the effective assurance of quality. ANL has not implemented or defined an effective ANL-wide human resources management program to ensure that personnel at all levels of their respective organizations are qualified and, where required, certified to carry out their assigned responsibilities. There is no sitewide waste minimization program at ANL-E; this has resulted in a reliance on individual waste minimization efforts. Operating procedures at ANL do not contain all elements necessary for effective sitewide conduct of operations, or clear uniform guidance regarding expected conformance.

DOE responsibility and accountability for integrated planning, budgeting, and resource allocation is not clearly understood or accepted by all parties with a role in accomplishing the ES&H aspects of the ANL mission. There is widespread confusion throughout the DOE elements sponsoring activities at ANL-E regarding roles, responsibilities, and authorities with respect to ownership of sitewide ES&H requirements. Limited integration and coordination is occurring at the Cognizant Secretarial Officer (CSO) level (primarily FM, LM, ER, and EM) that would define accountability for ES&H responsibilities, establish priorities for and fully support a sitewide CH and ANL ES&H program needs. Allocation of resources at the CSO level is established primarily on a program/project-specific basis. Local DOE Manager's (e.g., CH and CH/AAO) ability to allocate funding to address programmatic issues has been limited. Specifically, the DOE Chief Financial Officer has placed restrictions on the allocation and expenditure of overhead funds for ES&H activities and initiatives, including some Tiger Team corrective actions, that have been viewed as the responsibility of program line managers.

As an example, responsibility for sitewide waste minimization programs are divided. EM has responsibility for the program plan and the program line management organization has responsibility for program execution. While sufficient ANL overhead funds have been available in past years, DOE funding for initial development of a sitewide waste minimization program has only recently been approved by EM. The lack of an ANL-E waste minimization program was identified by the 1990 Tiger Team Assessment. Furthermore, no clear funding source has been identified to carry out long-term

implementation of the program in support of the multiple DOE programs utilizing ANL-E. As a result, current waste minimization activities are fragmented. In addition, various EM environmental monitoring requirements are not being fully integrated into the sitewide environmental monitoring program that supports research and infrastructure requirements. This lack of integration may impact the most effective use of resources.

2.1.3 Probable Root Cause

The Progress Assessment Team evaluated the key concerns and identified the following probable root cause:

The Department and ANL have not developed and implemented integrated planning processes that define, guide, and set priorities for accomplishing the ES&H aspects of the ANL-E mission on the basis of sitewide risks and vulnerabilities. External influences limit CH's and ANL's ability to continue the ES&H performance improvements that were initiated by the Tiger Team Assessment. There is ever increasing budgetary pressure to carry out the DOE mission cost effectively. The recent Departmental realignment, while placing more responsibility in the field, has diffused landlord responsibilities and attendant ownership throughout Headquarters elements. These factors, coupled with confusion throughout the Department with respect to landlord responsibility for ANL-E provides a compelling case for a comprehensive planning, budgeting, and resource allocation process that is integrated both horizontally and vertically throughout all Department and contractor elements that have a responsibility for, or influence on, the execution of the ANL mission.

A legacy of the CH and ANL-E response to the Tiger Team Assessment is that they now have a number of elements of a sound ES&H program that can serve as building blocks for the future. CH and ANL-E have only recently begun to step back from this period of intense activity to define their vision for the site together with the goals and strategic objectives that provide the architecture of a comprehensive sitewide ES&H program to serve the future ANL-E mission. However, the effectiveness of CH and ANL planning processes are inexorably tied to those of the Department. As a result, future progress at ANL-E in achieving ES&H excellence can only be further inhibited by the lack of coordinated and integrated strategic and subordinate implementation planning, budgeting, and resource allocation processes, horizontally between and among Departmental Headquarters elements, and vertically between and among Department Headquarters elements, CH and ANL. These planning considerations represent an important challenge for the Department as well as ANL.

2.1.4 Strengths

The Progress Assessment Team identified the following six strengths:

The University of Chicago's Board of Governors Safety and Environment Committee continues to be proactive in providing review of and advice to ANL organizations with emphases on ES&H performance, ES&H internal and external assessments, unusual occurrence reporting, onsite ES&H evaluations, and review/evaluation of ANL's goals. The University of Chicago's Board of Governors Safety and Environment Committee has shown a strong interest and involvement in ES&H issues at ANL. This committee frequently performs special reviews, sets ES&H performance goals, and reviews ES&H progress and trends. The involvement and oversight by this committee was considered to be a

Noteworthy Practice by the 1990 AIS Tiger Team Assessment, and this involvement continues to be a strength.

The ANL-E Training Management System establishes an effective sitewide method for identifying individual ES&H training needs based on assigned responsibilities, and communicating those needs to the individual and their supervisor. ANL-E has developed an effective method for identifying individual ES&H training needs on a continuing basis. A potential Job Hazards Checklist is prepared for each individual's job at ANL-E. This checklist addresses hazards such as ionizing radiation, non-ionizing radiation, use of powered equipment, use of hoisting and rigging equipment, chemicals, and biohazards. Through use of a computer program, information from the checklist results in the generation of a training profile for the individual employee that is comprehensive and eliminates duplication of training. As individual training courses are made available or as job changes occur, the input and software can be updated and new training profiles generated.

The Water Systems Management Task Force has effectively integrated environmental monitoring program considerations into long-range water resource planning in support of the site mission. ANL-E has established a formal Water Management Task Force to evaluate and ensure the availability of future water resources and facilitate environmental compliance. This program is chaired by the ANL-E Special Projects Office and has representation from Plant Facilities Services and other ES&H and line program organizations. Information developed includes updated water usage data and a sitewide water balance study. This effort has resulted in improvements in water management at the Waste Treatment Facility and other utilities.

A unique and effective methodology was employed for application of conduct of operations by a graded approach at ANL-E. Initial implementation of conduct of operations at AIS has proceeded very effectively. Every organizational subunit at ANL-E has addressed the issue very effectively and is proceeding with implementation. Each of the organizational subunits has been required to complete a standardized applicability assessment showing which conduct of operations guidelines were applicable to their operations, as well as a list of those deficiencies which need to be corrected. This methodology was vital to getting implementation of conduct of operations at ANL-E off to a good start with uniform implementation of the graded approach across 150 organizational subunits.

CH-AAO and ANL-E have developed and implemented an effective construction safety program. Safety has now been totally integrated into the construction process from conceptual design through completion of a project. Safety performance on the job is heavily monitored by ANL-E and CH-AAO. Safety performance of individual subcontractors is tracked in a database which is used in determining awards for future work. As a result of the construction safety program, subcontractors at ANL-E have become more safety conscious and accident rates have dropped by 50 percent compared to where they were at the time of the Tiger Team Assessment. The program has been adopted by a number of the subcontractors as a model program, and they have used it to improve construction safety at other job sites.

CH-AAO has developed a Facilities Representative Program that provides for the effective oversight and surveillance of ANL-E's industrial hygiene, occupational safety, and health

physics programs. The CH-AAO Facilities Representative (FR) Program has been in operation for a little over 1 year. The program assigns individual ANL-E facilities to FRs based on their ES&H expertise and the types of risk found in each facility. Comprehensive training of FRs in a number of ES&H disciplines such as conduct of operations, OSHA compliance, and industrial hygiene, is an integral part of the program. The program has been instrumental in strengthening CH-AAO oversight of the contractor's facilities on a scheduled basis which will contribute to enhanced ANL-E compliance to ES&H requirements.

2.2 OVERVIEW OF ES&H MANAGEMENT SYSTEM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of DOE Headquarters, CH, the University of Chicago, and ANL-E as they relate to the ES&H programs at ANL-E. The assessment was conducted through a combination of interviews, reviews of key documents, and where appropriate, field inspection of facilities, activities, and processes. Specific management systems were selected for review based on the 1990 Tiger Team Assessment areas of concern, or because those systems were believed to be highly characteristic of ES&H performance. The management systems specifically assessed at the Argonne Illinois Site were corrective action program; self-assessment program; oversight; directives, policies, and procedures; organization; planning, budgeting, and resource allocation; human resources management; formality of operations; and quality assurance.

There is clear evidence that positive actions have been taken by DOE and its contractor since the Tiger Team Assessment, and that these actions have produced commendable progress in most aspects of the ES&H programs. The DOE Office of Energy Research (ER) has established a line support group and professional positions within line organizations to provide technical support to the contractor. CH and ANL have made a cultural shift throughout their organizations and ES&H is now viewed as an integral part of all work. The culture change is exemplified by the many initiatives and actions taken to improve ES&H since the Tiger Team Assessment, as evidence of strong leadership, cooperation and ownership. The University of Chicago through the Board of Governor Safety and Environment Committee continues to provide strong oversight of ANL ES&H programs. CH-AAO has established a FR Program and ANL has made significant progress in implementing conduct of operations. Notwithstanding this progress, the team observed that additional enhancements are necessary to correct identified programmatic concerns and deficiencies that are impediments to the development of ES&H management systems that are capable of achieving ES&H excellence on an ongoing basis.

Based on the review of these areas, the Progress Assessment Team reached the following conclusions with respect to the status of the management systems and the progress in improving these systems:

- Although progress has been made at CH and ANL-E in the capturing, verifying, and closing Tiger Team corrective actions through individual databases, there is no formal sitewide process for capturing, prioritizing, tracking, or trending; or for providing sitewide information regarding the overall ES&H status, lessons learned, or progress in eliminating root causes. In recognition of these corrective action program deficiencies, the Manager, CH has recently requested the review of currently utilized performance

indicators and the development of new performance indicators which can be used to provide sitewide information on tracking, trending, and the elimination of findings and root causes.

- The self-assessment program at CH, CH-AAO, and ANL-E demonstrates considerable improvement since the Tiger Team Assessment. Although self-assessment is in various stages of implementation in CH, CH-AAO, and ANL-E, the varying reporting activities among DOE and ANL-E organizations inhibit the successful consolidation of organizational self-assessment results. Self-assessment results are a contributing factor in acquiring a program-wide view that would provide DOE and the Laboratory Manager with information to measure continuous improvement in the organization's ES&H activities. In addition, the development of formal mechanisms for training, tracking, lessons learned, and trending are needed to improve the self-assessment program (see Section 2.2.1, Corrective Action Program)
- ER has made considerable progress in the oversight area since the Tiger Team Assessment. ER has a strong presence at AIS and has effective working relationships with CH and ANL-E. EM provides good project management controls on assigned projects and also has good relations with CH and ANL-E. Nevertheless, it is questionable who is going to continue the ES&H oversight responsibility from the various Cognizant Secretarial Officers in light of confusion as to who the site landlord is and the rescinding of Secretary of Energy Notice (SEN-6), which required self-assessment. CH has made progress towards improving oversight roles and now has the challenge of better defining its role with the October 1993 CH reorganization and the DOE HQ realignment. The Laboratory Director has made a significant change within the management structure (horizontally) and within the line functions (vertically) since the Tiger Team Assessment.
- CH has made progress in their directive systems. Although ANL has made substantial progress in implementing the ES&H requirements delineated by the DOE Directives System and directives issued by other Federal, state, and local regulatory bodies, it does not contain a sitewide process to identify the need for, prepare, review, approve, revise, and control policies and associated procedures.
- Wide-spread confusion exists throughout the Department regarding organizational roles, responsibilities, and authorities with respect to ANL-E site-wide landlord activities including environmental compliance. CH and CH-AAO have a clear understanding of their roles, responsibilities, and authorities with respect to ANL-E. However, while ANL-E has made substantial progress in correcting organizational deficiencies identified during the TTA, wide-spread confusion persists with respect to individual and organizational stop work and restart roles, responsibilities, and authorities.
- CH and CH-AAO planning processes, like the Department-wide planning processes, are in transition. The CH reorganization that took effect during this assessment was supported by an implementation plan. With respect to budgeting and resource allocation, recent CH-AAO budget guidance to ANL

has provided strong, unambiguous direction regarding ES&H activities. ANL-E implementation or operational planning processes have improved and most are functioning, but strategic planning processes at ANL-E are not yet fully functional. The highest strategic-level ANL-E planning process is associated with the Annual Institutional Plan. ANL-E senior management recognizes the need for a comprehensive strategic planning process and has taken several initial steps to institute one.

- Human resources management at both CH-AAO and ANL-E has been enhanced since the Tiger Team Assessment. At CH-AAO significant progress has been made in the area of technical training for individuals with line ES&H responsibilities, but additional enhancements remain to be implemented. Development of a comprehensive CH-wide training program is still in its initial phase and significant additional attention is needed. At ANL-E, excellent progress has been made in establishing and implementing a sitewide ES&H training program, although additional progress is required in this area. There are sitewide human resources management issues (e.g., lack of a policy on required training) that prevent its full implementation. ANL-E has made progress in other human resources management areas but significant additional progress is needed since effective implementation is inhibited by the lack of sitewide formal programs.
- Both CH and ANL-E have made significant progress in implementing conduct of operations. CH has made progress in implementing conduct of operations as it applies to its routine operations; however, this has been done on an ad hoc basis, and a formal program that establishes top down guidance has not yet been developed. CH-AAO has made significant progress in implementing a FR Program. While it has some weak areas that would benefit from improvement, it is essentially a good program. ANL-E has made excellent initial progress in implementing conduct of operations. While this progress continues to evolve, it has several weaknesses that may impede further progress.
- Although CH has in place processes that could be utilized as building blocks for an integrated quality assurance program ensuring the quality of work performed within CH, several elements either do not exist or are incomplete. In addition, no effort has been made to integrate these elements into a cohesive, integrated, effective program. Within ANL, progress since the Tiger Team Assessment has largely been limited to organizational restructuring so that there is now a QA organization independent from the influence of the line organization, which is developing a minimum framework for QA within the Laboratory. This program has yet to be implemented and several elements are not complete.

2.2.1 Corrective Action Program

The corrective action program review examined the existence and utilization of various components of corrective action program planning, management, oversight, and execution. The review results formed the basis of the assessment of the status of sitewide corrective action program implementation and effectiveness. The corrective action program

management components reviewed included management knowledge and involvement throughout the DOE HQ, CH, and ANL-E hierarchy for corrective action implementation and oversight; management and staff accountabilities for corrective action program implementation; the existence, ability, and effectiveness of the corrective action process to capture new corrective actions; the existence of permanent and viable processes to report, track, trend, verify, close, and validate corrective actions; the ability of the corrective action process ability to prioritize action implementation in view of budgetary and other resource constraints; and the utility of the program and its attendant processes in providing sitewide information regarding ES&H status, issues, and progress. In addition, this review assessed the ER, CH, and ANL-E progress on the completion of corrective actions utilizing data from other Progress Assessment Team members' reviews of selected corrective actions.

The approach taken by the team included interviews with DOE HQ, CH, and ANL-E line management and support staff; review of relevant documentation; corrective action activities; systems and processes; and tours of the site. The review looked at the organizational hierarchy approaches to corrective action program implementation from the DOE HQ elements through all pertinent levels of the Operations Office, including CH-AAO, and ANL-E organizations, and was supported by other team member reviews of corrective action program implementation in vertical reviews of various functional areas. The review included sampling of corrective action file documentation both from the overall implementation of the corrective action program implementation process across DOE HQ, CH, and ANL-E as well as vertical reviews for selected corrective action documentation.

The key standards against which the DOE and ANL-E corrective action program implementation process was assessed included Performance Objectives and Criteria for Action Plan Programs (Progress Assessment Manual, Appendix B-2, December 1992), action plans developed in response to the 1990 AIS Tiger Team Assessment for findings related to performance measurement, reporting, and tracking, appraisal and followup systems, and action plans developed which are related to root cause correction; corrective action program requirements such as the capture of all ES&H findings, issues, and root causes; and the elevation of significant management issues for management attention.

In October 1990, the Tiger Team identified that tracking, trending, and other measurement tools for assessing progress and identifying issues did not exist at CH, and ANL-E. In addition, the Tiger Team found that CH and ANL-E management did not monitor performance adequately to determine the systems that were not working, identify why not, and implement corrective actions. In 1990, the Tiger Team found that the ANL-E management philosophy was to establish minimum ANL-wide requirements and provide maximum flexibility to operating divisions in the development of procedures. At both ANL-E and CH, it was found that the internal oversight program was not effective in large part due to a lack of self-evaluation and feedback mechanisms which would allow management to be aware of the status of ES&H programs. An October 1991 review of the ANL-E progress on the Corrective Action Plan conducted by the ER Office of Basic Energy Sciences indicated that "...slippage in Corrective Action Plan due dates is not receiving adequate management attention." Subsequently, a report issued on April 28, 1992, by the DOE Office of the Inspector General found that "Argonne's actions and plans address all of the Tiger Team findings," and that "The majority of corrective actions were completed within the proposed timeframes and appear to have corrected the problems."

In February 1993, a Progress Assessment was conducted at the Brookhaven National Laboratory (BNL), which also reports to CH. Findings in the Corrective Action Program area indicated that CH had developed an ES&H/quality assurance (QA) tracking system (consisting of a group of individual databases) but was not conducting trending (with the exception of some OSHA-related deficiencies), and root cause analysis, and was not communicating lessons learned from the data collected in the ES&H/QA tracking system (see also Section 2.2.2, Self-Assessment). By October 1993, little progress had been made in correcting the specific CH deficiencies identified in the BNL Progress Assessment.

Since the Tiger Team Assessment, CH, CH-AAO, and ANL-E have made progress in developing certain corrective action program components. Management systems, using several databases, have been developed by DOE and ANL-E to track Tiger Team, functional appraisal, and other ES&H corrective actions. There is a formal, documented Tiger Team Corrective Action Plan and updates which have received approval from ANL-E, CH, and DOE HQ management. As of October 25, 1993, CH-AAO has verified completion of 46 percent of the ANL-E Tiger Team corrective actions (102 out of 221 ANL-E Tiger Team corrective actions; 119 ANL-E actions remain open). In addition, CH-AAO or CH-LMSD has verified as complete, 76 percent (25 out of 33) of CH actions; 8 CH actions remain open. CH-AAO performs verification and closure for ANL-E and for all DOE actions, except those completed by CH-AAO. CH-AAO actions are verified by CH-LMSD. CH-AAO performs 100 percent verification of all actions submitted to them as complete, and CH performs a 10 percent random sample verification of CH-AAO's closed actions as a process check. CH performs its verification activities during its ongoing appraisal process in which CH-AAO management processes for corrective action capture, management, verification, and closure activities may be reviewed. This arrangement provides an appropriate separation of verification responsibility.

The June 1993 realignment of DOE functions, in part, called for the previous ER Office and Scientific Technology Advisor (ST-30) functions for ER Multiprogram Laboratory infrastructure management and support functions to be transferred from the newly created LM to the newly created FM. The "infrastructure" management element includes the oversight of the ES&H Program Funding (formerly called Tiger Team Remediation funding) which is used for funding items at ANL-E in the 5-year ES&H plan, and monitoring and oversight of CH/ANL-E corrective action program implementation. The former ST-30 organization issued guidance on reporting of status on corrective action program implementation through the CH submittal of quarterly reports. Documentation reviewed during the Progress Assessment indicates that CH-AAO is submitting the quarterly reports to LM as required. However, LM indicated that due to the uncertainties surrounding the responsibilities and placement of these functions within LM and/or FM, regular quarterly reports are not being received, and monitoring of sitewide CH/ANL-E ES&H progress and issues through the corrective action program implementation process is not being performed by this organization or any other DOE HQ entity. At the DOE HQ level, the oversight of corrective action program implementation and accompanying budgetary resources currently controlled by LM do not result in a sitewide view of CH/ANL-E status, issues, or progress. Other ER program organizations expressed confusion regarding the LM role in the corrective action program implementation process (see also Section 2.2.5, Organization). There does not appear to be a direct correlation between the ES&H Program Support funding currently administered by LM with any ES&H funding priorities established by the ANL-E Tiger Team Corrective Action Plan, additional ES&H reviews and subsequent findings which may require funding, or CH/ANL-E internal budget activities

which may also establish budgetary priorities for the correction of ES&H deficiencies. At the DOE HQ level, the EM 5-year plan is not reviewed for duplication, connection, or compatibility with the ES&H Program Support funding. This results in a disconnected approach to the planning, budgeting, and expenditure of funds for CH/ANL-E corrective activity for ES&H.

The ER ES&H/QA personnel in the Office of Basic Energy Sciences (BES) use the CH/ANL-E corrective action status reports as a part of their oversight process. However, BES ES&H/QA personnel also conduct undocumented oversight and/or technical assistance activities at ANL-E for their cognizant program areas. There is no mechanism in place to coalesce any of this information to provide sitewide knowledge; no communication of findings, lessons learned, progress or issues among involved DOE HQ program elements; and no formal mechanism to coordinate sitewide issues with LM. Since program elements have no funding earmarked for corrective activities, the lack of coordination with each other and LM hampers the ability to provide sitewide information regarding CH/ANL-E ES&H progress, and may have an adverse impact in determining the elimination of key findings and root causes identified by the Tiger Team and subsequent ES&H assessments.

EM has no formal mechanism to monitor CH/ANL-E corrective actions outside of the EM activity data sheets, and no formal, direct coordination with ER, LM, or FM on sitewide corrective activity implementation. Although EM closes completed corrective actions for CH/ANL-E EM activity, there is confusion as to whether this should be an LM or an FM role. Most EM oversight of CH/ANL-E corrective action implementation is limited to the review of existing documents which provide ES&H status; however, EM-20, as the EM policy arm, has issued no guidance on the CH/ANL-E corrective action implementation process for EM activities.

In summary, although progress has been made at CH and ANL-E in capturing, verifying, and closing Tiger Team, functional appraisal, and other corrective actions through individual databases, there is no formal sitewide process for capturing, prioritizing, tracking, or trending; or for providing sitewide information regarding the overall ES&H status, lessons learned, or progress in eliminating root causes. In recognition of these corrective action program deficiencies, the Manager, CH has recently requested the review of currently used performance indicators and the development of new performance indicators which can be used to provide sitewide information on tracking, trending, and elimination of findings and root causes. DOE HQ organizations have individual systems for the monitoring of CH/ANL-E corrective action implementation, which are diverse and disconnected, resulting in the lack of an effective mechanism to monitor and remain informed regarding CH/ANL-E sitewide ES&H progress.

The Progress Assessment Team identified one overall concern related to the corrective action program, which is identified in Appendix B-1 (see Concern M/C-1, CH and ANL-E Corrective Action Program).

2.2.2 Self-Assessment

The self-assessment review included an examination of the existence and implementation of self-assessment programs within the FM, LM, ER, EM, CH, CH-AAO, and ANL-E organizations. The review assessed the adequacy of ER, EM, CH, CH-AAO, and ANL-E Self-assessment Program Plans as they address self-assessment training, methodologies,

procedures, root cause analyses, and the self-assessment data management systems to track, trend, and communicate lessons learned information. The Progress Assessment Team also examined how this information is communicated and used by management to support and ensure continuous ES&H improvement. In addition, the CH and ANL self-assessment programs were reviewed for incorporation of and adherence to the ER/HQ and EM/HQ self-assessment guidance. The results from this review were used to measure progress made by DOE and ANL-E since the 1990 AIS Tiger Team Assessment towards establishing comprehensive self-assessment programs.

The approach taken by the team included examining existing self-assessment programs and associated documentation (e.g., procedures, plans, and self-assessment results) and conducting interviews with cognizant DOE HQ (i.e., ER/EM/FM/LM), CH, and ANL-E personnel. The document reviews and interviews were used to support a comprehensive assessment of the progress made by DOE and ANL-E to establish self-assessment programs in accordance with applicable DOE requirements, guidance, and performance objectives and criteria.

The key standards against which the site was assessed include the self-assessment criteria outlined in the Secretary's July 31, 1990, memorandum and the Progress Assessment Manual (December 1992). Also included was the guidance provided in ER's Self-Assessment Program Plan (July 11, 1991) and in the EM Self-Assessment Management Plan (November 1992).

The Tiger Team Assessment identified significant findings in the AIS self-assessment programs related to the site not fully meeting self-assessment criteria, monitoring the status of findings, and having effective tracking methods or procedures, taking prompt action to correct deficiencies, and having an effective trending and root cause analysis and lessons learned program.

A recent (February 1993) Progress Assessment conducted at the Brookhaven National Laboratory (BNL) identified five major ER and CH self-assessment activities that were discussed in the BNL Progress Assessment Report and are briefly summarized below as they relate to CH and ANL-E and this assessment.

The first activity describes the process and content of ER's approved comprehensive guidance for self-assessment program plans and implementing guidelines submitted to CH in August 1991. The second activity discusses the implementation requirements made in CH's Order for the organization units self-assessment program (CH 1100.c, May 5, 1992) to perform independent assessments. Thirdly, the designation of a CH Self-Assessment Officer is discussed. The fourth activity discusses the implementation of approved and issued self-assessment plans. The fifth activity describes the elements of the CH-AAO Program Plan and Guidance.

FM and LM interviews revealed that these organizations do not play a role in CH and ANL-E's self-assessment activities. FM's role is one of a facilitator of issue resolution between the field elements and DOE HQ organizations; however, this role is not clearly understood. FM's role in CH's ES&H activities is one of maintaining awareness of issues and/or progress from field organizations; however, there are no formal mechanisms established to collect and communicate information (e.g., dissemination of self-assessment lessons learned data to the field organizations). FM relies on the line organizations and the

field to carry out ES&H programs and has no direct influence on program-wide self-assessment implementation, progress, or issues and provides no guidance in these areas. LM is not involved with any self-assessment activity at CH or ANL-E.

Since the Tiger Team Assessment, several self-assessment programs and activities have been implemented by ER, EM, CH, and ANL-E in response to Tiger Team Assessment findings. The status and progress of these activities and programs are discussed below.

ER

ER-8 conducted an assessment of CH in mid-1991 and has participated in periodic onsite reviews. Due to the elimination of SEN-6, ER-8 no longer has responsibility for self-assessment guidance oversight to ER organizations in the field. CH, CH-AAO, and ANL-E have adopted and referenced ER's guidance in the organizational units self-assessment plans, since these documents were developed prior to the DOE realignment (DOE N 1132.A).

EM

EM has not conducted its own self-assessment. EM does review field reports that provide self-assessment status; however, EM-20 performs no oversight of ANL's self-assessment program. EM's Self-Assessment Management Plan (November 1992) provided EM self-assessment guidance to cognizant field offices and organizations. The CH Assistant Manager of Environmental Management submitted a response to EM-20, dated April 25, 1993, stating that the organization implemented its Self-Assessment Plan (approved by CH Self-Assessment Officer (SAO) September 2, 1992) in accordance with the CH SAO's direction and the DOE CH Field Office Self-Assessment Program Order CH 5110.a (May 19, 1992). CH management has chosen to adopt the ER self-assessment guidance which also encompasses major elements of the EM guidance.

CH

CH 5110.a states that each manager is expected, on a continuing basis, to assess the performance of their organization and to implement appropriate actions for resolution of deficiencies. The CH Order requires periodic submittals of written self-assessment summary reports to ER. The last report submitted to ER was in November 1991. Since then, CH submitted a copy of the organizational unit's October 1992 Assurance memorandum which contained a self-assessment status report.

CH has had a number of external assessments that have identified areas of weaknesses that were used to develop the scopes of a series of self-assessments conducted since 1991. Report development is the sole responsibility of the unit managers. These reports are submitted to the SAO who then tracks the reports on a database and manages report products. A review of the tracking system data indicates that there are numerous delays and slippages in reporting commitments (some self-assessment Corrective Action Plans are not always submitted within the SAO's prescribed timeframe and self-assessment corrective actions are not always completed).

As part of CH's oversight and self-assessment responsibility, CH-ESHD performed a thorough and candid management assessment of CH-AAO in June 1993. This assessment

documented findings, and observations and gave recommendations where appropriate. The assessment was determined by the Progress Assessment Team to be a comprehensive and credible report that included the criteria and methodology used for the assessment, described the team makeup, and identified a number of major deficiencies. A second self-assessment performed in January 1993 by CH-ESHD resulted in a comprehensive report that documents criteria used for the assessment, consensus of evaluations, and the root causes.

Root cause analysis training for the purposes of conducting self-assessment has not been made available to all DOE employees until recently. In October 1993, CH initiated a Total Quality Management (TQM)/QA awareness training course that covers the basics of self-assessment and root cause analysis. The SAO has provided some informal self-assessment training to CH and has assisted the CH-AAO Self-Assessment Coordinator in periodically providing informal training to CH-AAO, and reviewing and approving their reports and plans. In addition, the SAO is responsible for developing lessons learned and trending data to CH. At present, however, there is no formal system for developing or distributing trending and lessons learned data. In addition, CH recently conducted some strategic planning training as an initial phase to implement self-assessment in their quality management system (see Section 2.2.9, Quality Assurance).

CH-AAO

The AAO Self-Assessment Plan (September 4, 1992), incorporates the basic self-assessment elements included in the EH and ER self-assessment guidance and CH Order and requires the submittal of self-assessment reports to the Assistant Manager of Laboratory Management and the CH SAO. In addition, the plan requires the Self-Assessment Coordinator to oversee implementation of the self-assessment process and maintain an action-item database/tracking system to track self-assessment findings on a quarterly basis. CH-AAO's Self-assessment Plan does not address the lessons learned element of self-assessment. Although CH-AAO has not begun trending self-assessment information or developing a self-assessment lessons learned program, it is using information from the ORPs database to trend ES&H activities and develop lessons learned information.

The AAO Self-Assessment Plan requires six discipline areas to be assessed within a 3-year period on a rotating basis. Since the fall of 1991, CH-AAO has conducted two self-assessments and has had a recent indepth independent ES&H management assessment conducted by CH-ESHD. The assessment report was officially issued in October 1993. CH-AAO does not have a written standard operating procedure (SOP) describing procedures and criteria for closing self-assessment findings. In addition, the CH-AAO performs periodic reviews of ANL-E self-assessment reports and conducts surveillance of ANL-E as part of their oversight responsibility.

CH-AAO recently scheduled a retreat that provided a forum for performing their own self-assessment. The methodology included gathering information from CH-AAO personnel with questionnaires and holding open discussions on the resulting information. Lessons learned information was shared. The retreat also provided the opportunity for conducting some informal self-assessment training for their employees. Goals and milestones were generated as a result of consolidating information from the retreat.

ANL-E

ANL-E has made considerable progress and satisfied a major Tiger Team finding in that it has successfully developed and implemented a comprehensive and effective self-assessment program. ANL-E initiated its self-assessment program on September 11, 1992, requiring line management to formally conduct and assess activities of their ES&H programs and of the performance of the implementation of associated management plans. The ANL-E Internal Appraisals Program, ESH/QA Oversight, has provided guidance on self-assessment activities and has also developed excellent and detailed performance objectives and criteria for line management implementation to assist managers in the development of their assessments. The Assistant Laboratory Director for ESH/QA Oversight has been delegated responsibility by the Laboratory Director to coordinate self-assessment program activities at ANL-E.

Self-assessment divisional reports are prepared annually. These reports are rolled-up to each cognizant Associate Laboratory Director (ALD), who in turn submits the division reports, which include corrective action information, and the line ALD summary report to the Laboratory Manager. The Laboratory Manager is responsible for reviewing the reports and providing recommendations and direction for corrective actions, as necessary. The reports and summaries are maintained in a central library. ANL-E has opted not to submit self-assessment reports to CH-AAO as was suggested in the ER guidance document.

Since 1991, all division organizations have conducted annual self-assessments. A review of the report documentation indicates that the self-assessment program is uniformly implemented among the ALD organizations.

ANL-E has developed and implemented an Internal Appraisal Program to provide independent oversight assessments for senior management. The information from this program is used by pertinent laboratory management for continuous improvement activities.

ANL-E has a lessons learned program in effect that gleans data from the ORPs database, internal appraisals, and internal and external sources and makes this information available to the organizational units through newsletters, other documentation, and regular meetings held with special duty ANL-E personnel. ANL-E has also provided root cause analysis training to the ALDs, and Division and Associate Division Directors.

In summary, the self-assessment programs at CH, CH-AAO, and ANL-E have demonstrated considerable progress since the Tiger Team Assessment. ANL-E has satisfactorily closed out a major Tiger Team finding by establishing a comprehensive and effective self-assessment program. CH and CH-AAO have also implemented self-assessment programs; however, improvements to the program need to be made in the areas of self-assessment training and data management (e.g., tracking, trending, and lessons learned). Also, the varying self-assessment reporting activities among DOE and ANL-E organizations, inhibit the successful consolidation of sitewide self-assessment information that could provide DOE and the Laboratory Managers with the tools to measure continuous ES&H improvement (see Section 2.2.1, Corrective Action Program).

The Progress Assessment Team identified one weakness related to the Self-Assessment Program, which is identified in Appendix B-1 (see Weakness M/W-2, ER and CH Self-Assessment Implementation).

2.2.3 Oversight

In the area of oversight, the Progress Assessment Team evaluated the progress and adequacy of DOE (i.e., CH and ER) and ANL's effort to correct the 1990 AIS Tiger Team Assessment findings and other ES&H findings identified by ongoing oversight. In conducting the assessment, the team looked at how assessment and review activities are performed by selected line and independent oversight organizations of DOE and ANL. Effective ES&H assessment and review oversight is necessary to ensure activities are conducted with formality and rigor and that they comply with ES&H requirements established by law, regulation, and DOE policy. Oversight assists line management in instilling an ES&H culture by providing independent assessment of operational/compliance status.

The approach taken by the team included interviews with DOE (i.e., ER, EM, LM, and CH) ANL personnel (i.e., line staff, support staff, oversight staff, senior management and the University of Chicago's Board of Governors Safety and Environment Committee), review of relevant documentation, and tours of the site. The review included both horizontal and vertical review of the organization.

The key standards against which the site was assessed included the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objectives 1.4, Oversight (DOE HQ); 2.4, Oversight (CH); 3.0, Corporate Parent; and 4.4, Oversight (Contractor); and action plans developed in response to the deficiencies identified in the 1990 AIS Tiger Team Assessment Report related to oversight (e.g., Oversight of CH and ANL-E by the DOE Office of Energy Research (M/BMPF-4), Independence of Oversight Activities (M/BMPF-23), AAO Responsibility for Internal Oversight (M/BMPF-24), ES&H and QA Oversight of AAO (M/CF-18), and ANL Management Actions (M/BMPF-1).

Inadequate monitoring and oversight was one of the Management Root Causes identified in the 1990 AIS Tiger Team Assessment. Of special note was that ANL-E top management's statements regarding ES&H performance excellence were not reflected in their actions. It was evident that ES&H had not been recognized as a priority. Additionally, there were oversight findings in all organizations (e.g., ER, CH, and ANL).

DOE HQ

At the time of the Tiger Team Assessment, ER was the Cognizant Secretarial Officer (CSO). The 1990 AIS Tiger Team Assessment Report stated that the DOE Program Office with primary responsibility for ANL programs and activities (ER) had not provided adequate ES&H guidance and oversight of ANL-E. Since then, ER has made considerable progress in providing both guidance and oversight to AIS. Construction activities at ANL-E were stopped following the Tiger Team Assessment because of serious deficiencies in construction safety. In 1991, ER led a multi-discipline team to review preparation for the restart of ANL-E's construction programs which has resulted in a strong construction safety program at the ANL-E site (see Strength S/S-2). ER has continued maintaining an

ongoing knowledge of the site Corrective Action Plan. ER hired four ES&H technical experts to assist in providing technical direction, which has assisted ANL in implementing ES&H issues. ER took actions to improve the operations and training and qualifications of employees who perform oversight. ES&H training for ER employees was provided by ER ES&H technical experts hired as part of the Corrective Action Plan in response to the Tiger Team Assessment. This training was to provide oversight staff with better knowledge of performing their oversight role. ER ES&H technical experts are frequently onsite observing, assisting, and assessing the ES&H activities of ANL. However, ER does not consistently document its reviews related to ES&H matters. Examples of the meetings, reviews, and workshops that demonstrate ER's involvement in ES&H matters include semiannual ER ESH/QA coordination meetings; OSHA site review; occurrence reporting program review; environmental program review; an ANL-E and CH workshop conducted to disseminate, communicate, and explain expectations of their guidance related to the DOE Performance Indicator Program (February 9-10, 1993); a meeting to discuss DOE 5480.25, "Safety of Accelerator Facility and Associated Guidance" (September 3, 1993); and the working groups that discuss and review issues such as nuclear facility determinations, and how to address facilities with fixed and loose contamination 1993.

Interviews clearly revealed that ER had a strong presence throughout ANL, and within the CH organization, individuals clearly viewed ER as the organization to contact to resolve issues. However, there is confusion related to the AIS landlord roles and responsibilities (see Concern M/C-3).

EM has the responsibility to manage the environmental restoration and waste management activities for assigned projects. EM has approximately \$36 million worth of activities scheduled at ANL-E for 1993, this represents a small portion of the total work on the ANL-E site. EM has very good project management controls, performs project reviews, and receives detailed project status reports. However, EM doesn't necessarily perform ES&H reviews of their projects other than what is covered in the project reviews and status reports. EM relies on the CH-Assistant Manager for Environmental Restoration and Waste Management (AMEM) to assure and manage the funds assigned to the CH office. CH-AMEM collects, reviews, and assesses project status reports for different sites and coordinates efforts with EM. Specifically related to ANL-E, CH-AMEM provides direction to the CH-AAO Contracting Officer to provide direction to ANL.

CH

CH-ESH Division's failure to perform appraisals of CH-AAO was one of the findings noted as a result of the Tiger Team Assessment. Since then, the CH-ESH Division has developed and implemented a Management Appraisal Program that provides good oversight CH-AAO. However, to date only one Management Appraisal (June 1993) has been performed of CH-AAO. The CH-ESH Division plans to perform a management appraisal of each Area Office every 2 years and will strive to coincide the appraisal with functional appraisals at the same site. This Management Appraisal provides a strong management assessment of the operations that are performed by CH-AAO. The appraisal identified areas for improvement (i.e., CH-AAO appraisal plans do not evaluate responsibility for employee health and safety, the CH-AAO directives database should track all suspense dates, a tracking system is needed for regulator suspense issues, CH-AAO has not maintained the surveillance program schedules as planned, not all surveillance results are entered into the CH-AAO Facility Representative database for adequate tracking, and not all staff members'

position descriptions address their stop work authority and responsibility). The appraisal was of high quality and provided clear opportunities for continuous improvement.

In February 1993, a Progress Assessment was conducted at the Brookhaven National Laboratory, which is also an organizational element of CH. Findings in the oversight area related to CH-ESH Division indicated that although CH-ESH Division had made progress in formalizing its appraisal program, execution of the program had been hampered by the lack of available resources. With the October 1993 reorganization of CH, the CH-ESH Division's mission statement was revised to reflect a higher emphasis on technical support. CH-AAO has already requested additional technical support from CH-ESH Division.

The CH-ESH Division Director stated that functional appraisals, and Area Office management appraisals were still accorded the highest priority. However, there were no formal plans to define how higher emphasis will be placed on technical support while carrying out the oversight responsibility with the available resources.

All CH-AAO employees interviewed expressed an ownership of the site and its issues. This conveys a strong management commitment to improving ES&H activities through onsite involvement. The CH-AAO Facility Representative Program has been established, is being implemented, and is maturing. This program was designed to get the Area Office employees out to the facilities on a regularly scheduled basis to evaluate facility and operational issues and conditions. This program currently involves 13 CH-AAO employees that have collateral duties. The onsite buildings were ranked by associated hazards and the Facility Representative assignments were made to balance the workload with the available resources based on interest, capabilities, and qualifications. Although not fully implemented, the Facility Representative Program represents significant progress from the surveillances that were performed during the Tiger Team Assessment (see Strength S/S-3). CH-AAO Facility Representatives are spending 10 to 20 percent of their time out in the field. Not all Facility Representatives have transitioned to their new surveillance activities. However, the Area Manager at CH-AAO has made a strong commitment to strive to increase the time his Facility Representatives spend in the field. CH has recently authorized CH-AAO to hire a much needed resource (an additional physical scientist or engineer). CH-AAO has developed and implemented a well-designed database for the Facility Representatives to record their building surveillance activities. This database provides a central location for concerns by building and provides for followup information. However, as noted in Section 2.2.1, Corrective Action (see Concern M/C-1), there is no formal system for trending, root cause analyses, and lessons learned utilizing the information collected from the Facility Representative database.

University of Chicago

The University of Chicago Board of Governors established a standing Safety and Environment Committee (SEC) in 1989. This committee is chartered to provide a stewardship over ES&H activities at ANL. The SEC has demonstrated a detailed understanding of ANL ES&H issues and has continued to provide oversight of ANL ES&H activities on current and future ES&H programs, concerns and/or issues (see Strength M/S-1).

ANL-E

The ANL-E ESH/Quality Assurance (QA) Oversight organization has been a key to ANL's success in implementing ES&H in diverse "research-oriented" missions. Significant progress has been made within ANL since the Tiger Team Assessment. The ANL Director elevated the ESH/QA Oversight organization from a line organization and has created the position of the Assistant Laboratory Director for ESH/QA Oversight now reporting directly to him. Additionally, the Assistant Laboratory Director for ESH/QA Oversight is now a member of the Management Council (provides direct access to senior line management to obtain their understanding and buy-in of the ES&H/QA requirements) and is the Chairman of the ESH/QA Oversight Directorate that was established in 1990 by the Laboratory Director. The purpose of being involved in both of these groups was to advise ANL management on the appropriateness and effectiveness of strategies, policies, and practices in the area of ESH/QA; and ensure that the strategies, policies, and practices are effectively communicated to the Laboratory population. In June 1991, the ANL Director established a ESH/QA Coordination Committee to review ANL activities; assess the impact of proposed policies and procedures; and foster cooperative, mutually-supportive responses to ESH/QA requirements to normalize the implementation of practices throughout the Laboratory. In January 1992, the ESH/QA Validation and Planning Committee was formed to review ANL programmatic and indirect budgets for resource adequacy to meet applicable ESH/QA requirements. In April 1993, a decision was made by ANL management to strengthen this effort by combining the two previously mentioned committees into a newly formed ESH/QA Planning and Coordination Committee to allow more focus on ESH/QA strategies, policies, and practices. The Assistant Laboratory Director for ESH/QA Oversight is the chairman of the committee. The committee will pursue its function by reviewing requirements, problems, and concerns related to ES&H/QA activities as needs are identified.

The ANL Director did not stop with just the organizational realignment, but firmly embraced the ESH/QA Oversight organization and ESH matters ANL-wide, which has allowed continued progress and improvement in the ESH cultural change. The ESH/QA Oversight organization performs ESH/QA appraisals throughout the site to identify deficiencies within the ANL organization. Each division has an ESH/QA representative that assists in the management of the division by managing the ESH/QA activities; establishing and maintaining policies, procedures, and attitudes to ensure a safe and environmentally-sound program that is consistent with DOE Orders and the ANL-E ES&H Manual; interpreting and implementing DOE regulations; and resolving ES&H violations. ANL also has line ESH/QA representatives that report to each of the Associate Laboratory Directors and the Chief Operations Officer (COO). Their purpose is to assure that the activities of the divisions that report to their Associate Laboratory Director or COO are conducted in conformance with the ESH/QA policies and procedures of ANL as issued in compliance with the prime contract and applicable laws, DOE Orders, and other governmental regulations. The ESH/QA Division provides for continual improvement in their organizational posture with respect to the maintenance of a safe work place, protection of the environment, and the quality of operations. ANL-E has an ESH Division that reports to the COO. The ANL-E ESH Division performs surveillances and inspections of the facilities and provides technical assistance to the ES&H representative and administrators as requested. The ESH/QA Oversight organization provides oversight of the line function and the ESH Division. It also performs appraisals on how effective the policies are implemented and how effective the ES&H/QA programs are functioning.

However, the ESH/QA Oversight organization does perform limited line management functions (i.e., environmental National Environmental Policy Act actions). No adverse consequences related to performing these limited line management functions were observed during this Progress Assessment.

In summary, ER has made considerable progress in the oversight area since the Tiger Team Assessment. ER has a strong presence at ANL and has effective working relationships with CH and ANL-E. EM provides good project management controls on assigned projects and also has good relations with CH and ANL-E. Nevertheless, it is questionable as to who is going to continue the ES&H oversight responsibility from the various CSOs in light of confusion as to who the site landlord is and the SEN-6. CH has made good progress towards improving the oversight roles and now has the challenge of better defining their role with the October 1993 CH reorganization and the DOE HQ realignment. The ANL Director has made a significant change within the management structure (horizontally) and within the line functions (vertically) since the Tiger Team Assessment.

The Progress Assessment Team identified one strength related to oversight, which is identified in Appendix B-1 (see Strength M/S-1, Oversight of ANL by the University of Chicago's Board of Governors Safety and Environment Committee).

2.2.4 Directives

In the area of directives, the Progress Assessment Team evaluated the adequacy and effectiveness of the CH directive process and ANL directives, policy, and procedures system to address the 1990 AIS Tiger Team Assessment findings. The team evaluated the progress made in this area since the Tiger Team Assessment. In conducting the assessment, the team looked at the processes, procedures, and documentation detailing the development, control, distribution, and tracking of DOE directives; the flowdown of ANL's ES&H requirements from directives to policy and procedures; the uniformity of sitewide understanding of requirements; the adequacy and effectiveness of top level policies and procedures; and the programs and processes that control directive, policy, and procedure identification, development, review, approval, issue and maintenance of these documents. In addition, the team looked at how the organizations remain cognizant of updated laws and regulations.

The approach taken by the team included interviews with DOE, CH, and ANL personnel (i.e., line staff, support staff, oversight staff, senior management and the University of Chicago's Board of Governors Safety and Environment Committee); review of documentation; and tours of the site. The review looked at management systems across the organizations.

The key standards against which the site was assessed included the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criteria 2.4.1, Directive System (DOE), and 4.4.1 Directive System (ANL); and action plans developed in response to the deficiencies identified in the Tiger Team Assessment (e.g., CH Determination of Applicability and Distribution of DOE Orders (M/CF-2) and ANL-E Implementation of DOE Directives (M/BMPF-5).

The 1990 Tiger Team Assessment found that CH was not following its CH Order 1321.1B, "Chicago Operations Office Directives System," which would provide for the timely determination of applicability and distribution of DOE and CH directives to ANL. Additionally, ANL had no system to follow up on the determination of applicability and could not assure implementing documentation (e.g., modification of procedures. A directive system should ensure that ES&H laws, regulations, DOE Orders, and other DOE requirements are translated into site-specific guidance and that such guidance is formally transmitted in a timely fashion to ANL.

CH

The contract with the University of Chicago for the management and operation (M&O) of the Argonne National Laboratory (ANL) has been extended 60 days to November 30, 1993, while a request to waive the current limitation on contract extensions is under review by DOE Headquarters. Negotiation of a 5-year contract extension was suspended when, on July 16, 1993, the Department limited multi-year extensions of M&O contracts to 1 year pending DOE's review of its M&O contracting practices. If the waiver request is approved, negotiation with the University of Chicago of a 5-year contract extension would resume. If the request is not approved, the contract will be extended for the balance of the 1-year limitation.

Under current contract language, CH-AAO provides ANL an opportunity to comment on the applicability of directives prior to the Contracting Officer making the final determination of applicability to the contract. The proposed contract language is similar, but enhances the process by allowing ANL-E to appeal to the Manager of CH when disagreement with the applicability or impact of a directive is determined applicable by the CH-AAO Manager.

The Tiger Team Assessment stated there was no local record of new and revised DOE Orders being received by CH, nor was there a record of Orders being transmitted to organizations under CH; Orders were not sent to ANL-E in a timely manner by CH; and CH did not maintain a listing of Orders transmitted to ANL for implementation. CH complied with its CH 1321.1B and CH-AAO issued CH-AAO Standard Operating Procedure No. 5 to ensure policies and procedures reflected corrective actions from Tiger Team Assessment. CH has made progress and does use its directives database. The review of records and interviews revealed an effective distribution of Orders to responsible organizations internal to CH.

This review of the CH-AAO directive system found that CH-AAO has minor discrepancies in its database (i.e., duplicate dates, not all suspense items are maintained related to the contractors response applicability and implementation plans) and that CH-AAO has a different database than CH. It is a well-designed database that is used to provide tracking of the receipt, transmittal, and designation of CH-AAO action branch/person for each directive. CH-AAO has made considerable improvements and progress in assuring that applicability and review of requirements are provided to the contractor in a timely manner. Considering the limited available resources, the CH-AAO database has not been routinely utilized as a management tool to evaluate CH or ANL timeliness on receiving, processing, or implementing DOE Orders. Neither CH nor ANL have taken advantage of the electronic DOE HQ database that would allow the organizations to receive final DOE Orders "on line." Although the DOE HQ electronic system can be accessed through ANL libraries, it is not being utilized to obtain directives on a regular basis. DOE HQ recognizes that its system

needs improving and has requested customer feedback from the user to improve the current DOE HQ system. There is no requirement to utilize this system, and the system's capabilities are limited because the current DOE HQ system does not contain draft Orders. CH-AAO and ANL-E recognize areas needing improvement to achieve more effective and efficient systems.

ANL-E

ANL made improvements in its directives system in response to the finding contained in the 1990 AIS Tiger Team Assessment Report. Recently, ANL became concerned that its system lacked formality. ANL implemented and documented its DOE Directives Processing System. The ANL Policy Manual, General Administrative Matters, Part XXVII, "DOE Directives Processing System" (October 1993), includes a matrix that assigns specific individuals to the various functional areas covered by DOE Orders (both draft and final) and other directives. ANL formed a Quality Management Team to look for areas of improvement. An assessment of the cycle times was performed and resulted in further improvements to the system. From this cycle time review, ANL can determine their performance on meeting response dates to DOE and internal to ANL, and identify subject matter, directive series, or organizational areas that took extended time. In addition, ANL is working on combining the tracking system database in the Chief Operations Office with the incoming mail tracking database maintained in the Office of the Director. This will reduce the amount of duplicate data entries and allow tracking to be more effective and efficient.

Related to the other laws and regulations, ANL purchases regulatory documentation (i.e., National Environmental Policy Act regulations) and computer software systems (i.e., Enviro-Trieve and OSHA-Trieve, both commercial software providers). ANL has multiple access to the software and documents assigned to line management, ESH technical experts, and ESH/QA Oversight personnel in order to assure timely updates to procedures and that the aforementioned ES&H committees are aware of sitewide issues/impacts from regulatory updates. ANL also makes the information available on their local area network to which CH and CH-AAO have access.

ANL has made progress in improving its policies and procedure system. Key policies have been developed regarding environmental protection, health and safety, quality assurance, and building managers. Key documents have been extensively updated and revised such as the ANL-E ES&H Manual, Human Resources Policy and Procedures Manual, Comprehensive Emergency Management Plan, and the Nuclear Safety Procedures Manual. Numerous procedures have been created to implement ES&H, quality assurance, and conduct of operations throughout the working levels of the line organizations. To date, most of the progress in this area has been made from the bottom up. The ANL directives system does not ensure that DOE and other regulatory directives are translated into site-specific policies; that ANL policies provide necessary interpretations and direction to ensure their full implementation; that ANL policies ensure common understanding of requirements and facilitate development of all necessary subordinate policies and procedures; and that site activities are conducted with formality, rigor, and quality assurance. In addition, even for the top-level policy and procedure documents there are no sitewide standards governing policy and procedures with respect to: identifying the need for their format and content, periodic review, document distribution, and recordkeeping. The Progress Assessment Team identified a specific concern regarding operating

procedures and sitewide policy for verbatim compliance with such procedures (see Concern S/C-1).

In summary, CH has made good progress in their DOE directive systems and is continuing to improve them. Although ANL has made substantial progress in implementing the ES&H requirements delineated by the DOE Directives System and directives issued by other Federal, state, and local regulatory bodies, it does not contain a sitewide process to identify the need for, prepare, review, approve, revise, and control policies and associated procedures.

The Progress Assessment Team identified one concern related to ANL directives, which is identified in Appendix B-1 (see Concern M/C-2, ANL Directives, Policies, and Procedures).

2.2.5 Organization

In the area of organization, the Progress Assessment Team evaluated the adequacy and effectiveness of the assigned ES&H roles, responsibilities, and authorities of the various organizations within DOE (i.e., FM, LM, ER, EM, CH, and CH-AAO) and site contractor (ANL-E). The Progress Assessment Team determined the adequacy of documentation; if appropriate checks and balances exist; the independence and objectivity of the independent ES&H organizations; and how well these roles, responsibilities, and authorities are defined, communicated, understood, and implemented. The Progress Assessment Team examined organizational charts, mission and function statements, manuals, ES&H program plans, ES&H committee charters, Memorandums of Agreement (MOAs) between CH and other organizations, other relevant documents and interviewed line and ES&H program managers in all the cited organizations. This area was selected because the 1990 AIS Tiger Team Assessment identified widespread deficiencies in DOE and ANL ES&H functional activities and programs. Organizational deficiencies and weaknesses threaded their way through numerous concerns and findings identified during the assessment. For this reason, and because successful programmatic and ES&H performance is founded on effective organizational management systems, this Progress Assessment examined the progress in correcting the organizational deficiencies identified by the Tiger Team Assessment as well as the effectiveness of the DOE and ANL-E organizational management systems in defining, establishing, and sustaining an environment of continuous performance improvement.

The approach of this assessment was to examine the organizational structure and related organization management systems of FM, LM, ER, EM, CH, CH-AAO, ANL-E, and the University of Chicago by reviewing mission and function statements, policies, goals and objectives, ES&H committee charters, and individual position descriptions and performance appraisal management systems. Also, horizontal slices across and vertical slices down through these organizations were taken to determine how effectively organizational and individual ES&H roles, responsibilities, and authorities are communicated and understood. Primary emphasis was placed on the effectiveness of DOE and ANL-E in defining, documenting, and communicating their ES&H roles, responsibilities, and authorities. The vertical and horizontal slices of these organizations were taken to examine the effectiveness of, and the degree to which, the interface and functional relationships between and among the various program line organizations, and between the line organizations and the ES&H oversight organizations are formally defined, communicated to, and understood by all affected parties. Specifically, vertical slices through CH,

CH-AAO, and ANL-E focused on their respective program line management divisions (e.g., the ANL-E Energy, Environment, and Science and Technology and Advanced Photon Source Directorates), ES&H oversight organizations, and ES&H performance assurance organizations.

The key standards against which DOE and the site contractor were assessed included the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objectives 1.2 (Organization - DOE Headquarters), 2.2 (Organization - DOE Field Office and Area Office), and 4.2 (Organization - Contractor).

In February 1993, a Progress Assessment was conducted at the Brookhaven National Laboratory (BNL), which also reports to CH. A concern in the organization area addressed coordination issues between and among the Program Secretarial Officers (PSOs) now called Cognizant Secretarial Officers (CSOs). While the BNL Progress Assessment predated the Department realignment and the formation of LM and FM, the concern identified by the BNL Progress Assessment with respect to a lack of coordination between ER, EM, and DOE Office of Nuclear Energy (NE) similar to the concern identified during this assessment concerning the confusion surrounding the ANL-E landlord (see Concern M/C-3).

Notwithstanding the preparation for and the clarity of communication concerning the Department realignment, there is confusion throughout the Department regarding organizational roles, responsibilities, and authorities with respect to ANL-E sitewide landlord activities including environmental compliance. The Departmental realignment created FM and LM and assigned FM with responsibility that included "strategic planning for all field elements and management coordination of the multi-purpose Operations Offices including assignment and the oversight of work, resource allocations, infrastructure requirements, and landlord responsibilities...". However, the realignment notice did not define the role of a landlord and as a result, the role is open to and is being interpreted in a variety of ways throughout the Department.

The CH reorganization that took effect during this assessment is supported by an implementation plan with attendant schedules that address the need to review and modify as necessary management systems such as the CH Orders, facilities, budgets, and personnel management systems. Since these management systems are being modified, existing management systems were evaluated to determine management commitment to the formality of its operations and activities. CH and CH-AAO organizational and individual roles, responsibilities, and authorities are defined in a number of formal documents, including management plans and throughout the CH Supplemental Orders. Generally, these documents appear to have been maintained in a manner that ensured they accurately reflected the roles, responsibilities, and authorities throughout the respective organizations. The CH-AAO Management Plan is a comprehensive document that defines the Area Office roles, responsibilities, and authorities. This plan appears to have great utility to CH-AAO staff as well as ANL-E employees. In addition to guiding the activities of CH-AAO staff, the Management Plan serves as a vehicle to communicate how CH will conduct its business with respect to the contractor.

ANL-E has made substantial progress in correcting the deficiencies identified during the Tiger Team Assessment. There was abundant evidence during this assessment that ANL-E

management understands the importance of clearly defined individual and organizational roles, responsibilities, and authorities. ANL-E's effort to establish and communicate ES&H organizational and individual roles, responsibilities, and authorities has proceeded on a broad front, including improved policies and procedures; enhanced training; improved communications through a variety of media including safety committees and safety meetings; and improved program plans. Examples of progress include the following: ANL-E management plans provide formal documentation of organizational roles, responsibilities, and authorities; ES&H committees throughout ANL-E are guided by comprehensive formal charters; ANL-E individual position descriptions include primary activities related to ES&H; and individual performance appraisals contain performance measures for the effective implementation of ANL and division ES&H policies, work rules, and safe work practices.

While ANL-E progress has been substantial, several deficiencies with respect to roles, responsibilities, and authorities have been identified. The first, inconsistent and confusing policy with respect to stop work and restart roles, responsibilities, and authorities throughout ANL-E, represents a potential vulnerability to an otherwise significantly improved ES&H program. The second deficiency, incomplete program plans that would define ES&H roles, responsibilities, and authorities, is a persisting weakness that is discussed in other concerns and weaknesses identified in this assessment (see Concerns S/C-2, E/C-1, E/W-1, and E/W-2). While ANL-E policies and procedures attempt to place stop work authority at the lowest practical level, it is not clearly defined and uniformly expressed across ANL-E. The most prevalent problem is that stop work, the authority to stop another employee's or organization's activities, is often used interchangeably for stop working, each employee's responsibility to stop his/her own work. Another common deficiency is that ANL-E stop work policies are often silent on restart authority. As a result, there is confusion throughout ANL-E with regard to stop work/restart authority, and local interpretations have been developed and implemented.

In summary, there is confusion throughout the Department regarding organizational roles, responsibilities, and authorities with respect to ANL-E sitewide landlord activities including environmental compliance. CH and CH-AAO have a clear understanding of their roles, responsibilities, and authorities with respect to ANL-E. While ANL-E has made substantial progress in correcting organizational deficiencies identified during the Tiger Team Assessment, confusion persists with respect to individual and organizational stop work and restart roles, responsibilities, and authorities.

The Progress Assessment Team identified two concerns related to organizational matters, which are presented in Appendix B-1 (see Concerns M/C-3, DOE Organization, and M/C-4, ANL-E Organization).

2.2.6 Planning, Budgeting, and Resource Allocation

In the area of planning, budgeting, and resource allocation, the Progress Assessment Team evaluated the CH, CH-AAO, and ANL-E management systems used to define and set priorities for sitewide resource requirements, allocate resources appropriately, and monitor the accomplishment of ES&H objectives. This assessment area was selected because the 1990 AIS Tiger Team Assessment identified widespread, systemic deficiencies in the DOE and ANL-E planning, budgeting, and resource allocation process that inhibited the site's ability to formulate and execute an effective ES&H program. Specifically, the Tiger Team

observed: "CH management personnel cited many instances in which inadequate staffing resources are a cause for inadequate ES&H/QA performance. While many necessary activities were not being performed, it was difficult to determine whether these shortcomings resulted from (1) inefficient practices, (2) improper allocation of available staffing resources, or indeed, (3) a CH-wide lack of staff." In addition to these observations, the Tiger Team Assessment Report is replete with deficiencies that can be related directly to the lack of a comprehensive sitewide planning, budgeting, and resource allocation process.

The approach of this assessment was to review planning documents and examine the planning, budgeting, and resource allocation processes of DOE and ANL-E by taking vertical slices down through these organizations. Primary emphasis was on DOE's effectiveness in formally articulating its vision of the present and future AIS mission, communicating its vision to ANL-E, and CH's ability to hold ANL-E management accountable for defining and executing their missions in a planned and disciplined fashion, on the basis of sitewide risks and vulnerabilities. ANL-E-related strategic and subordinate implementation planning processes were examined to evaluate the effectiveness of DOE and ANL-E's planning, budgeting, and resource allocation process. In addition to the vertical slices through these organizations, a horizontal slice across these organizations was taken to examine the degree to which various interrelated subordinate implementation planning processes are coordinated and integrated on a sitewide basis. Specifically, vertical slices through CH, CH-AAO, and ANL-E focused on their respective program line management divisions (e.g., the ANL-E Energy, Environment, Science and Technology and Advanced Photon Source Directorates), ES&H oversight organizations, and the ES&H performance assurance organizations.

The key standards used to assess the progress in addressing these deficiencies were the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objectives and Criteria 1.1 Planning (ER, EM, LM, and FM), 1.3.1 Human Resource Planning (ER, EM, LM, and FM), 1.5.1 Program-Wide Self-Assessment Program plans (ER and EM), 2.1 Planning (CH and CH-AAO), 2.3.1 Human Resource Planning (CH and CH-AAO), 2.5 Field Office-wide Self-Assessment Program Planning (CH and CH-AAO), 4.1 Planning (ANL-E) 4.3.1 Human Resource Planning (ANL-E), and 4.5 Site-wide Self-Assessment Program Plans (ANL-E). In addition, Secretary of Energy Notice (SEN)-25A was also used as a key standard.

CH and CH-AAO planning processes, like the Department-wide planning processes, are in transition. In addition, a CH reorganization took effect during this assessment. The smooth transition that has occurred and continues to occur in CH is evidence of CH and CH-AAO management systems and planning skills. The CH reorganization is supported by an implementation plan with attendant schedules that address the need to review and modify as necessary management systems such as the CH Orders, facilities, budgets, and personnel management systems. The CH planning process has recently been enhanced to ensure broad staff involvement, primarily through the CH Quality Initiative. The CH Quality Council, consisting of the CH Manager and senior staff, have primary responsibility for developing the CH mission and vision, and the quality goals and objectives. The CH Quality Initiative, has been guided by a detailed, formally documented schedule of activities and associated milestones for the development and implementation of a Quality Program. The Initiative provides for broad, and apparently substantive, involvement of CH

staff in the process. This planning process has progressed through the formation of working groups, a series of meetings, offsite retreats, and all-hands presentations, leading to a vision, mission, and goals for the CH Quality Initiative. The CH strategic planning process that was beginning during this assessment appears to be an integral part of this process. CH-AAO has had a comprehensive management plan to guide its business in place for several years and has a draft management plan in place to reflect changes resulting from the recent CH reorganization and other changes to reflect the current management practices of CH-AAO. While the now obsolete management plan had several deficiencies that were identified by a thorough Management Appraisal of CH-AAO by CH, these deficiencies do not appear to materially effect the performance of CH-AAO.

With respect to budgeting and resource allocation, recent CH-AAO budget guidance to ANL provides strong, unambiguous direction regarding ES&H activities. Specifically, CH-AAO guidance states: "ESH/QA activities funds should be requested for all activities required to comply with...compliance agreements and regulatory requirements." and "In the conduct of research, ESH/QA are to be given the highest priority and funds necessary ...shall be factored into your budget requests."

ANL-E implementation or operational planning processes have improved and most are functioning, but strategic planning processes at ANL-E are not yet fully functional. The lack of a sitewide integrated strategic planning process that would serve as the architecture for a comprehensive integrated planning process, coupled with shortcomings in fully integrating corrective action programs on a sitewide basis and ensuing that all corrective actions are captured and corrected on the basis of risks and vulnerabilities (see also Concern M/C-1), inhibits ANL-E's ability to develop formal, risk-based implementation plans that set priorities for and guide ANL-E ES&H activities in a comprehensive and cost-effective manner. As a result, ANL-E ES&H activities may be unnecessarily reactive and may not be addressing the most important issues in a disciplined fashion. Furthermore, the lack of such ES&H implementation plans, particularly those plans that would guide and control the sitewide programs such as waste minimization and environmental compliance may represent a substantial vulnerability for DOE and ANL-E.

Currently, the highest strategic-level ANL-E planning process is limited to activities associated with the preparation of the Annual Institutional Plan. The ANL FY 1993-FY 1998 Institutional Plan, written after the Tiger Team Assessment, contains a clear statement of ANL ES&H policy by the Laboratory Director, and the draft FY 1994-FY 1999 Institutional Plan provides ES&H similar attention. ANL-E senior management recognizes the need for a comprehensive strategic planning process and has taken several initial steps to institute a planning process. ANL-E strategic planning is led by the Strategic Planning Board, a group led by the Associate Laboratory Directors. The ANL-E Deputy to the Director serves as the Strategic Planning Coordinator. Also related to the planning process, the Director of ANL has recently established the ESH/QA Program Review Committee to review the status of programs. The Laboratory Director has also asked his Assistant Laboratory Director for ESH/QA to prepare an ES&H strategic plan. While an ANL strategic planning process has not yet been implemented, ANL-E organizations have been engaged in preparing strategic plans for several years. For example, within the Energy, Environmental Sciences, and Technology (EEST) Directorate, the Environmental Research Division has instituted a strategic planning process and has a strategic plan in place. Also related to ANL-E strategic planning, the President of the University of Chicago and Chairperson of the Board of Governors for ANL recently established the Ad Hoc

Research Review Committed to review ANL's strategic plan. The Board of Governors is preparing to broaden its oversight of ANL planning to include ES&H as well as other activities that are central to ANL-E's successful execution of its programmatic initiatives.

A number of important sitewide implementation plans have been prepared since the Tiger Team Assessment. Other plans such as the ESH 5-Year Plan and the Site Development Plan are "budget-like" documents that describe ES&H core activities and provide a summary forecast of Indirect Funded ES&H activities and various cross-cut summaries of ES&H activities on an annual basis. Taken collectively, these are vital program planning and budget documents that describe the macro-aspects of ANL-E ES&H programs. However, in general, implementation plans that specifically assign individual and organizational responsibility, define what will be accomplished, with attendant schedules, milestones, and resource requirements are immature or lacking. Furthermore, they are not supported by such detailed implementation plans. Notwithstanding these planning deficiencies, an example of a well-planned and effectively managed program was identified during this assessment and others may exist. The Advanced Photon Source (APS) Program is founded on a solid planning process where safety consideration have been accorded a high priority from the project's inception. Furthermore, the APS project has a proactive planning horizon. For example, the APS project has been working with user groups that will not be onsite for several years on facility safety and health-related issues (see also Sections 2.4.2, OSHA and Construction Safety, and Section 2.4.3, Industrial Hygiene/Health Physics Programs).

With respect to resource allocation, there was abundant evidence during this assessment that ANL-E has accorded ES&H requirements a high priority since the Tiger Team Assessment. Compelling evidence of ANL-E management's commitment to enhance its ES&H performance includes the elevation of ES&H to division status and a substantial increase in ES&H professional staff.

In summary, CH and CH-AAO planning processes, like the Department-wide planning processes, are in transition. The CH reorganization that took effect during this assessment is supported by an implementation plan. With respect to budgeting and resource allocation, recent CH-AAO budget guidance to ANL provides strong, unambiguous direction regarding ES&H activities. ANL-E implementation or operational planning processes have improved and most are functioning, but strategic planning processes at ANL-E are not yet fully functional. The highest strategic-level ANL-E planning process is associated with the Annual Institutional Plan. ANL-E senior management recognizes the need for a comprehensive strategic planning process and have taken several initial steps to institute a planning process.

The Progress Assessment Team identified one concern related to the planning, budgeting, and resource allocation area, which is presented in Appendix B-1 (see Concern M/C-5, ANL-E Planning, Budgeting, and Resource Allocation).

2.2.7 Human Resources Management

In the human resources area, the Progress Assessment Team evaluated the adequacy and effectiveness of formal programs for staff development, training, and certification; staff planning and recruitment; and employee relations. In conducting the staff development, training, and certification assessment, the team specifically reviewed ES&H training, career

development training, and qualification and certification training programs. In particular, the review assessed the capability of such programs to identify an individual's training needs based on their assigned responsibility, address these needs in an integrated manner, and develop and teach necessary training courses in a professional manner. In conducting the staff planning and recruitment assessment the team specifically reviewed ES&H staff increases since the 1990 AIS Tiger Team Assessment, the salary structure for ES&H staff, the number of ES&H vacancies and the length of time to fill them, the qualifications of ES&H staff members, and recruitment plans. In conducting the employee relations assessment, the team specifically reviewed programs for individual performance evaluations and employee concerns programs.

The approach taken by the team included interviews with ANL-E, and DOE Headquarters and CH line management and support staff, and review of relevant documentation. The review looked across each of the organizations in a horizontal fashion and included vertical reviews of the implementation of programs throughout all levels of selected organizations. A sample of Tiger Team findings and associated action plans were also reviewed.

The key standards against which human resources programs were assessed include the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criteria 2.3.1 and 4.3.1, Human Resource Planning, 2.3.2 and 4.3.2, Staff Development, Planning, and Training, 2.3.3 and 4.3.3, Staff Recruitment, and 2.3.4 and 4.3.4, Employee Relations. Action plans developed in response to key Tiger Team Management Subteam findings related to human resources, and DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," DOE 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Facilities," DOE 5480.25, "Safety of Accelerator Facilities," and DOE 5700.6C, "Quality Assurance," were also used as standards to review progress since the Tiger Team Assessment.

Progress has been made since the 1990 Tiger Team Assessment at both CH and ANL-E in all human resources areas assessed by the team; however, some weaknesses remain. In many cases the progress was considered to be significant and in one case it was excellent.

CH has developed a Technical Training program in order to establish a baseline of ES&H knowledge for staff with ES&H line and oversight responsibility. This training was developed under a formally convened committee and the structure of the training program is defined in a CH Order. All CH-AAO personnel that have ES&H line management and oversight responsibility, up to and including the technical Branch Chiefs, are required to take this training. This training has some weaknesses, the most notable being its lack of procedures that provide detail on the process for certifying the adequacy of training courses including vendor evaluation, validating the training process, and defining recordkeeping requirements.

CH has also made progress in using the Individual Development Plan process to provide a method for identifying and meeting ES&H training objectives; however, it is not based on a formal job needs analysis; and it is not integrated or prioritized with the training needs of individuals in similar positions or with the needs of personnel throughout CH. CH does not have an integrated training program based on a formally defined and integrated training process that is designed to achieve specific training goals and objectives based on a job needs analysis, nor do they have a plan to develop such a program (see Concern M/C-7).

CH recognizes this weakness and the need for planning, and has made an initial move in this direction by establishing an Employee Development Office within the Human Resources Division to achieve better integration of training. This organization was created in October 1993 during the time of the Progress Assessment so it had not yet been staffed.

For the most part, training issues are being driven across the DOE complex by Defense Nuclear Facility Safety Board Recommendations 93-3 and 92-7, although there are other reasons such as the implementation of DOE 5700.6C. During the last year, progress towards implementing a CH training program has been minimal because CH anticipated that training solutions would be developed by DOE Headquarters; however, no solutions have been developed to date.

Excellent progress has been made in the area of ES&H training at ANL-E since the Tiger Team Assessment, and the program has almost been fully implemented (see Strength M/S-2). A comprehensive sitewide ES&H training program has been established which ensures that ES&H training needs are identified and tracked for every employee at ANL-E. Eighty-nine training courses have been developed since 1989 and over 200,000 contact hours of training have been given; the vast majority of this work was completed after the Tiger Team Assessment. Additional training courses have been identified that remain to be developed and taught, but the effort is approximately 88 percent completed and is progressing quite well. A Job Hazard Questionnaire process has been developed. This questionnaire is required to be completed for each employee and is required to be updated every time an employee's job or assigned responsibilities are changed. The questions in the questionnaire are linked in a formal and defined manner to the training that must be taken if the question applies to the individual's job. The status of every individual's ES&H training is tracked by a sitewide database, the Training Management System. Over 100 line employees have received formal training on accessing and producing status reports from this database (see Strength M/S-2).

ANL-E has progressed in other areas of training as well. The purpose of qualification and certification training is to ensure that an individual is provided with any specific knowledge that they may need to perform their assigned job, that they would not reasonably be expected to know based on their formal education or general job qualifications. Qualification and certification training has been implemented to varying degrees in response to DOE 5480.19. The Training Implementation Matrix has been submitted and is being implemented for one DOE Headquarters-designated nuclear facility at ANL-E in accordance with DOE 5480.20. The staff is intimately familiar with the training requirements of the new accelerator training requirements delineated in DOE 5480.25 and realize that they will have to implement these requirements. In addition to the specific qualification and certification requirements in these Orders, DOE 5700.6C establishes a broad requirement to identify and provide training for all employees regardless of the type of facility they work in.

Although it is possible that ANL-E has captured all required qualification and certification training requirements for its major facilities and accelerators, the current ANL-E process is unable to provide comprehensive assurance that these requirements have been identified for all facilities and personnel. For other than ES&H training, ANL-E has not developed a well-defined formal policy or demonstrated a fully documented process to ensure that all ANL-E positions are critically reviewed for the purpose of identifying all necessary

qualification and certification training. Under recent DOE directives, ANL-E is expected to experience an increase from 1 to as many as 10 nuclear facilities. Operation of 12 (10 existing and 2 coming on-line soon) accelerators will also have associated training requirements as defined in DOE 5480.25.

ANL-E has made some progress in the area of ES&H career and professional development. ES&H career and professional development training entails, among other things, those activities related to increasing an individual's formal knowledge in his/her area of expertise or a related technical discipline, increasing their professional stature, and providing them with other types of management, organizational, and problem-solving skills. Supervisory and other types of non-technical training are available through the Human Resources Division and the line divisions provide various types of technical training for their employees. Although the line divisions expend a significant amount of resources on this type of training, it is for the most part done on an as-needed basis and not in accordance with an established sitewide plan or program (see Concerns M/C-5 and M/C-6). Although, training needs may be identified and documented in the "development needs" portion of individual performance appraisals.

ANL-E has developed and implemented a formal organizational development and succession planning process. This program is comprehensive, includes all staff down to the division director level, and includes other key staff members identified by the division directors. The program culminates in a formal annual review by the Laboratory Director. The succession planning process incorporates a formal element of career development that applies to certain individuals identified by the succession planning process.

The issue of "required training" is an ANL-E weakness that cuts across all training activities at the site. There is no sitewide policy that establishes the distinction between training that must be completed prior to performing a function; training that must be completed prior to working unsupervised or without restriction; and training that must be completed in a timely manner but the lack of which does not result in work restrictions. Consequently, there is not a sitewide common understanding of when specific training courses must be completed nor whether an individual must be trained and qualified prior to performing a particular task (see Concern M/C-6 and Weakness M/W-2). However, it was identified that ANL-E does require qualification and certification for certain tasks or work functions (e.g., radiation worker, radiation technician training, and hoisting and rigging). Recertification dates are tracked and managed for these cases through the Training Management System.

ES&H Staffing levels at both CH, CH-AAO, and ANL-E have progressed since the Tiger Team Assessment. CH-ESHD and CH-AAO increased from 35 and 25 positions in 1990, respectively, to 38 and 39 positions in 1993, respectively. The ANL-E ESH Division increased from 145 positions in 1990 to 170 positions in 1993. The Progress Assessment Team did not identify any specific deficiencies related to the number of positions or the qualifications of personnel filling them. Both CH and ANL-E have staffing plans and some type of recruitment plan. The plans appear to have been sufficient to enable CH to identify and hire most of the necessary ES&H personnel. CH-AAO has only one vacant position but CH-EHSD has six vacant positions. The large number of vacancies in CH-EHSD is due to a high turnover and is not caused by an inability to recruit the requisite personnel. The high turnover was initially caused by a change in the CH-ESHD mission to increase assessment activities, as a result of the Tiger Team Assessment and is

exacerbated by the approximately 30 percent travel requirement for the job and other factors such as salary. As a result, large numbers of EHSD staff left DOE, went to work for the contractor, or transferred to other organizations within CH. Recent indications are that the turnover rate has decreased.

Progress has been made at both CH and ANL-E regarding inclusion of ES&H performance as a part of every individual's performance plans and performance evaluations. In practice, individual position descriptions and performance evaluations contain performance measures relevant to effective implementation of ES&H policies and requirements. There is, however, very limited guidance on the criteria to be utilized in assessing this performance measure and its weight relative to an employee's overall performance evaluation. Consequently, there is no explicit mechanism to ensure that ES&H performance is critically evaluated or that the challenge for continuous improvement in ES&H can be adequately demonstrated.

In summary, human resources management at both CH-AAO and ANL-E has been significantly enhanced in some areas since the Tiger Team Assessment. At CH-AAO substantial progress has been made in the area of technical training for individuals with ES&H line management and oversight responsibilities and they recognize that enhancements remain to be implemented. Development of a comprehensive CH-wide training program is still in its initial phase and additional attention is needed. At ANL-E, excellent progress has been made in establishing and implementing a sitewide ES&H training program, although some additional requirements are necessary to clarify when certain training must be completed prior to commencement of work. ANL-E has made progress in other human resources management areas, but additional progress is needed in the areas of policies regarding required training, a sitewide training needs identification process, and sitewide training standards.

The Progress Assessment Team identified two concerns and one strength related to the human resources management area, which are presented in Appendix B-1 (see Concerns M/C-6, ANL Human Resources Management, and M/C-7, CH Training Program, and Strength M/S-2, ANL-E ES&H Training Program).

2.2.8 Formality of Operations

In the area of formality of operations, the Progress Assessment Team evaluated the adequacy and effectiveness of CH and ANL-E plans and programs to implement formality of operations, on an ongoing basis, throughout all levels of CH and ANL-E. In conducting the formality of operations assessment, the team specifically reviewed formality of operations as it was applied to the performance of business within CH; CH-AAO's oversight of formality of operations implementation by ANL-E; and plans, programs and processes at ANL-E that provide ongoing implementation of formality of operations and oversight of its implementation.

The approach taken by the team included interviews with DOE Headquarters, CH, and ANL-E line and support staff, and review of relevant documentation. The review looked horizontally at CH to evaluate management systems used for internal implementation of formality of operations. It also looked vertically at CH to determine how its organizational units implement conduct of operations; how conduct of operations guidance is provided to the contractor; and how CH-AAO performs its oversight of ANL-E's implementation of

conduct of operations. In addition, the review looked horizontally across ANL-E to evaluate management systems used to implement conduct of operations on a sitewide basis and measure implementation progress. Selected vertical reviews from the Laboratory Director down to the division director level were performed to evaluate the capability of these management systems to implement and measure conduct of operations progress. Vertical reviews down through lower organization levels were performed by another team member (see Section 2.4.1, Conduct of Operations) and the results are summarized in this section. A sample of 1990 AIS Tiger Team findings and associated action plans were also reviewed.

The key standards against which formality of operations programs were assessed include the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criteria 2.4.2 and 4.4.2, Assessment and Review. Action plans developed in response to key Tiger Team Management Subteam findings related to human resources, and DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," DOE 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Facilities," DOE 5480.25, "Safety of Accelerator Facilities," and DOE 5700.6C, "Quality Assurance," were also used as standards to review progress since the Tiger Team Assessment.

CH has made some progress in implementing formality of operations as it applies to how business is conducted. CH-AAO and CH-EHSD have a set of operating procedures and other organizational units have draft procedures. CH-AAO has an existing Management Plan and a draft revision to that plan. Various CH organizational units have developed memoranda of understanding to clarify and describe their working relationships. However, no organizational units were observed to have approved quality assurance plans (see Concern M/C-9). Although there is evidence to demonstrate that formality of operations is in the process of being implemented at CH, it is being done on an ad hoc basis within each organizational unit and not in accordance with a defined plan or program. This "bottoms up" approach depends solely on the initiative of the organizational unit. Although it has achieved limited success, additional progress is severely impeded by the lack of leadership and top down guidance that defines how the graded approach to formality of operations will be implemented within all CH organizational units. The CH Operations Manager has recognized this weakness and the need to initiate the planning process to develop and implement a CH-wide formality of operations program; however, the formal planning effort has not yet been initiated.

CH-AAO has made significant progress towards implementing a Facility Representative (FR) Program to provide an ongoing evaluation of ANL-E's implementation of conduct of operations (see Strength S/S-3). The FR Program has been operational since late 1992, is becoming effective in its role, and is continuing to improve. In addition, the representatives are being trained in accordance with a formal training program, the FR program is implemented in accordance with a standard operating procedure, inspection schedules are developed, inspection results are usually documented and tracked using a formal computerized database, and checklists are being developed to ensure consistent and comprehensive inspections. The FR Program is designed to be implemented on a facility-specific basis; however, conduct of operations and ES&H programs at ANL-E are implemented on an Operating Division basis. This may create an issue regarding the FR Program's capability to identify programmatic, departmental, and divisional problems.

However, CH-AAO has taken action to formally associate each facility with all of its associated conduct of operations documents to better enable the FRs to prevent this issue from arising.

FR responsibilities have been implemented as a collateral duty for 13 individuals within CH-AAO which has resulted in both strong and weak points in the program. The strong point is that it gets CH-AAO ES&H staff members out into the field and enables them to become more familiar with ANL-E facilities and ANL-E staff members. The weak point is that most ES&H personnel already have heavy work loads and competing demands for their time which could interfere with effective implementation of their FR responsibility.

ANL has made excellent progress in implementing formality of operations throughout its line organizations (see Strength S/S-1). ANL-E adapted the guidelines of the conduct of operations order to its research and development operations and developed a well defined, logical methodology for implementing formality of operations using a risk-based graded approach. The ANL-E program was developed in several stages with broad participation by line and support organizations. The program was reviewed and approved by ANL-E top management and by CH-AAO, and agreement was reached among the organizations regarding general schedules. This approach is largely responsible for ANL's recent success in making progress towards implementing formality of operations. Implementation of formality of operations is continuing to make progress at ANL; however, the rate of progression appears to be slowing down.

Several factors were identified in the formality of operations program that are impediments to its continuing implementation (see Concern M/C-8). Action plans developed by each organizational unit varied widely in quality and some did not contain target dates for completion. In addition, there is no ANL-wide process to track completion of these action plans, to ensure that completion corrected the identified deficiency, and to ensure that completion is performed in a timely manner (see Concern M/C-1). There is no sitewide formal policy or clearly communicated understanding regarding verbatim compliance with operating procedures (see Concern S/C-1). In general, throughout ANL, there is no distinction between those types of procedures requiring verbatim compliance and other types of procedures. ANL instructions and guidelines for implementing conduct of operations require that an "operations practices" document be prepared for each organizational unit to provide a single document that provides a guide for translating the higher-level requirements of ANL guidance to specific practices to be applied by the operating personnel of each organizational unit. These documents have not been completed for most of the organizational units. Other specific weaknesses regarding implementation of the conduct of operations program are delineated in (see Concern M/C-8).

General concerns in conduct of operations implementation are that the ANL oversight process did not identify the concerns identified by the Progress Assessment Team (see Concerns M/C-8 and S/C-1) and there is no sitewide conduct of operations implementation plan that defines resource requirements, milestones, and schedules (see Concern M/C-5). An additional problem is that events external to conduct of operations may adversely affect its implementation. Organizational units are currently faced with requirements to develop formal programs to implement quality assurance, Total Quality Management, and self-assessment. In general, progress in implementing these programs in the line organization lags significantly behind that of conduct of operations (see Weakness M/W-2).

Many line managers desire to integrate all of these programs into a single document as a part of their effort to achieve efficient and cost-effective implementation of these programs. However, in many instances, completion of conduct of operations program documents has been put on hold, pending receipt of detailed instructions on how to proceed with implementation of the other programs. This can have the undesirable affect of slowing and even halting progress in conduct of operations implementation.

In summary, both CH and ANL-E have made significant progress in implementing formality of operations. CH has made progress in implementing conduct of operations as it applies to its routine operations; however, this has been done on an ad hoc basis, and a formal program that establishes top down guidance has not yet been developed. CH-AAO has made significant progress in implementing a Facility Representative Program. While it has several weak areas that would benefit from improvement, it is essentially a good program. ANL-E has made excellent initial progress in implementing conduct of operations. While this progress continues to evolve the program has several weaknesses that may impede further progress.

The Progress Assessment Team identified one concern related to formality of operations, which is presented in Appendix B-1 (see Concern M/C-8, ANL Conduct of Operations).

2.2.9 Quality Assurance

In the quality assurance (QA) area, the Progress Assessment Team evaluated the adequacy of CH and ANL programs to assure the quality of work performed. In conducting the assessment, the team looked specifically at the organizational structure, roles, responsibilities, and authorities associated with each organization's Quality Assurance Program; each organization's process to control preparation, review, approval, issuance, use, and revision of documents that establish policies, prescribe work, specify requirements, or establish design; and each organization's process to ensure personnel are trained, qualified, and capable of performing their assigned work. These areas were selected because the 1990 AIS Tiger Team Assessment identified as a Management Subteam key finding that, "The ANL management philosophy establishes minimum laboratory-wide requirements and provides maximum flexibility to operating divisions in the development of procedures. This concept does not provide assurance that DOE ES&H/QA requirements will be adequately reflected in operating procedures." The Management Subteam also identified as a root cause, "CH and ANL-E policy and procedures for ES&H/QA are inadequate." Training and qualification was identified as a key concern or root cause by both the Environmental, and Safety and Health Subteams during the Tiger Team Assessment.

The approach taken by the Progress Assessment Team included interviews with personnel from various CH organizations and contractor personnel from each of the line organizations as well as those tasked with QA oversight responsibilities; review of relevant documentation, including sample assessment reports, Quality Assurance Plans, Standard Operating Procedures, and other quality-related documents; and a few abbreviated facility tours. As part of the review, two action plans identified in the 1990 AIS Tiger Team Assessment Corrective Action Plan were selected for validation.

The key standards against which the site was assessed included ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment

Manual, Appendix B-1, December 1992), Performance Objectives 2.4, Oversight (DOE-Field Office/Site Office) and 4.4, Oversight (Site Contractor); action plans developed in response to deficiencies identified in the Tiger Team Assessment that are related to quality assurance; and DOE 5700.6C, "Quality Assurance."

Findings concerning QA were evident throughout the 1990 AIS Tiger Team Assessment Report. The common theme that emerged was that neither CH nor ANL-E had QA programs that satisfactorily addressed the requirements of DOE 5700.6B. Out of this central theme, several specific problem areas were identified. Those areas included the following issues:

- CH had not developed or implemented a program addressing DOE 5700.6B to ensure the quality of work performed within the Operations Office.
- There were considerable disparities of QA and quality control implementation between different divisions within ANL-E, and the variations were not necessarily attributed to a risk-based graded approach.
- The ANL-E Quality Assurance Manual offered little guidance on how to implement QA measures.
- The ESH/QA Oversight group was not sufficiently staffed and was not independent from the Chief Operations Officer (COO).
- The QA program was, in essence, optional in that each Associate Laboratory Director (ALD) and the COO determined to what projects and to what degree QA was applicable.
- There was no process to determine the qualifications of those assigned the duties of Quality Assurance Representatives (QARs).
- There was no vendor qualification process applied to offsite laboratories providing analytical services.

During the past 3 years, CH has developed Supplemental CH 5700.6C, "Quality Assurance" (May 5, 1992), which primarily describes the responsibilities of the Operations Office to monitor and assess contractor's development and implementation of a Quality Assurance Program that complies with the requirements of DOE 5700.6C. The Supplemental Order does not address many of the work processes and products of CH. CH has begun a Quality Initiative in accordance with the Secretary's quality improvement philosophy (see Section 2.2.6, Planning, Budgeting, and Resource Allocation). As quality improvement is a vital component of any QA program, this initiative is obviously a step in the right direction. CH has also begun a formal self-assessment process that could be easily integrated with the independent and management assessment processes prescribed in DOE 5700.6C, Criteria 9 and 10 (see Section 2.2.2, Self-Assessment). Additionally, CH has recently established a working group tasked with establishing performance indicators which could be used as part of the quality improvement process.

Despite the fact that CH has in place some elements that could be used as the building blocks of an effective QA program, there are still several elements missing. CH has yet to

develop and document their approach to QA or a plan identifying when such an approach and how the defining program will be developed and implemented (see Concern M/C-9). Although individual development plans that do address training are prepared for employees, CH does not have a formal process to ensure that personnel are trained and qualified to perform their assigned work (see Concern M/C-7). There is no CH process regarding the identification, preparation, review, approval, and maintenance of documents that prescribe work. CH has not defined a process of independent assessments of the activities performed within CH.

ANL has taken strides toward correcting the Tiger Team Assessment findings. Examples of these corrective measures are presented below:

- In November 1990, ANL moved the Office of Quality Assurance (OQA) from beneath the COO and placed it within the newly created ESH/QA Oversight organization that reports directly to the ANL Director. The OQA consists of a staff of one manager, one secretary, and 10 quality engineers/specialists. This office is tasked with providing assistance and training to the line organization, as well as performing independent assessments of QA. As part of fulfilling its assistance role, OQA has assigned a Cognizant Quality Assurance Engineer to each ANL-E division to provide interface and assistance as necessary.
- ANL has established a forum for QAR informal training and exchange of quality information. Monthly meetings are held with QARs, ESH/QA Representatives, OQA engineers, and other personnel to share information on quality issues at ANL and to provide training on subjects of common interest. The CH-AAO representative cognizant of QA attends these meetings.
- ANL has developed a Quality Assurance Program Plan (QAPP) in response to DOE 5700.6C that has been approved by LM. This plan was developed by a team comprised of representatives from across the ANL organization. This method of development was selected to ensure maximum ownership of the program by line organizations, as well as to ensure that the QAPP serves the diverse needs of ANL.

Notwithstanding the above mentioned progress at ANL, significant improvements are still necessary to obtain effective QA. ANL spent a considerable amount of effort and resources developing a QA manual that was ultimately determined as an inappropriate approach for ANL by ANL's senior management (i.e., division directors and above). This determination was based on the prescriptive nature of the manual, as well as DOE's revision of DOE 5700.6C which encourages the application of QA measures using a graded approach. This setback delayed ANL's progress in developing plans and procedures and implementing a laboratory-wide quality assurance program.

Although the Laboratory has developed a Quality Assurance Program Plan (ANL QAPP) responsive to DOE 5700.6C and has drafted an implementation guide, it is too early in the implementation process to determine the effectiveness of the approach being taken. The ANL QAPP provides a framework of basic program requirements and allows the ALDs and

the COO flexibility to develop a program within that framework that satisfies their own perceived needs for QA.

Remaining weaknesses in the ANL program for assuring quality include the following:

- Many of the ANL organizations need to revise or develop QA plans that address the ANL QAPP.
- Although a working group has been established and has initiated the development of recommended QAR qualification training and criteria, a process that ensures the qualification of QARs has yet to be implemented (see Concern M/C-6).
- The ANL organizations have not formally established performance indicators that would be used to facilitate continuous quality improvement.
- ANL has not established a formalized organization-wide process to identify the need for, preparation, review, approval, and control of policies and associated implementation procedures (see Concern M/C-2).
- ANL has not developed an ANL-wide process to ensure that vendors providing items or services such as analytical services or safety-related systems or equipment are qualified prior to selection. The ANL Procurement Manual does provide for the establishment of a Technical Evaluation Team, that may conduct vendor surveys, for those procurement actions designated as, "Significant" by the Manager of Procurement. However, the general criteria for determining whether a procurement is, "Significant" or not include cost and schedule considerations and do not address other risk factors such as validity of data or safety significance.
- The ANL process for management assessments and independent assessments has yet to be formally established.
- ANL has not developed a ANL-wide process to address quality assurance issues that are common to all ANL elements in a consistent, however graded, manner. The ANL QAPP is designed such that each organizational entity may address issues with their own approach. Each organizational unit will be left to rediscover solutions that may already exist within the organization. Some efforts to overcome this situation have been initiated, such as monthly QAR meetings, assignment of cognizant quality engineers from the Office of Quality Assurance to line organizations, the ES&H QA Planning and Coordinating Committee, and the ESH/QA Directorate. It is too early to determine whether these mechanisms will adequately serve to transfer pertinent quality information within ANL.

Within ANL there are examples of individual divisions that demonstrate a commitment to and expertise in the area of quality assurance (e.g., the Advanced Photon Source Project document control system, the ES&H Training Program (see Strength M/S-2), and Support Services Division - Inspection Group General Calibration Procedures for Measurement and Test Equipment.) The unfortunate aspect of the ANL QA program structure is that there is

only subtle motivation for other organizational units or the organization as a whole to emulate the best practices developed within the organization.

In summary, although CH has in place some processes that could be used as building blocks for an integrated program that ensures the quality of work performed within CH, several elements either do not exist or are incomplete. In addition, no formal effort has been made to integrate these elements into a cohesive, integrated, effective program. Within ANL, progress since the Tiger Team Assessment is most evident in the organizational restructuring so that there is now a QA organization independent from the influence of the line organization, and in the development of a framework of basic quality requirements. The ANL program approach has yet to be implemented and several elements are not complete.

The Progress Assessment Team identified a concern and a weakness in the Quality Assurance area, which are identified in Appendix B-1 (see Concern M/C-9, CH Quality Assurance, and Weakness M/W-2, ANL Quality Assurance Program).

2.3 OVERVIEW OF ENVIRONMENTAL PROGRAM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the ANL-E environmental program and oversight by DOE HQ and CH organizations. The assessment was conducted through a combination of interviews with key personnel at EM, EH, CH, AAO ANL-E, minimal observation of field activities, and a review of documents. Specific environmental programs were selected for review based on areas of concern identified in the 1990 AIS Tiger Team Assessment Report, ER, CH-ESH&D, and ANL-E - ESH/QA external and internal assessments and appraisals; and on their ability to be indicators of current ES&H performance. Other programs were selected for review at the request of CH, CH-AAO, and ANL-E management. Environmental programs assessed at ANL-E were environmental monitoring and waste management, specifically hazardous/mixed waste generation and waste minimization. The assessment was conducted in the context of a vertical programmatic review and not a functional appraisal or regulatory compliance audit.

Based on the review conducted by the Progress Assessment Team, CH and ANL-E have made progress in developing environmental programs since the Tiger Team Assessment. The AIS Tiger Team Assessment Team Report reported a "wide-spread lack of recognition and acceptance of the concepts of environmental protection and the importance of environmental compliance." At that time there was a lack of technical expertise focused on site environmental programs. Critical programs, such as sitewide monitoring and waste minimization were not in place. Key to the progress in each of the programs reviewed were organizational realignment and increased resources at CH-AAO and ANL-E. Organizational realignments within ANL-E and CH-AAO consolidated management and oversight responsibility for ANL-E environmental monitoring and waste management programs, thereby coordinating several organizations which had previously shared environmental program responsibilities. The ANL-E and CH-AAO organizational realignments also resulted in a significant increase in the staffing resources dedicated to environmental programs management. Specific examples related to this progress include:

- Formalization of waste management policies, revised procedures, and clearly defined and communicated roles and responsibilities, specifically in the area

of hazardous/mixed waste generation at ANL-E have been developed and implemented on a sitewide basis. In addition, sitewide waste generator training programs have been developed and implemented to ensure that all generators of hazardous/mixed waste receive the training required to properly generate, handle, and accumulate wastes.

- Routine internal functional appraisals of environmental programs and activities are conducted by ANL-E's ESH/QA oversight organization. Additionally, the EWM/WM Department performs routine quality assurance assessments of waste generators.
- Research divisions have established Environmental Compliance Representatives (ECRs) within their organizations to keep management informed of the state of the environmental protection program. Specific responsibilities include that waste management policies, procedures, and regulatory requirements are clearly communicated and understood among waste generators, their supervisors (including division upper management) and the EWM/WM Department.
- Environmental monitoring programs at the contractor level have improved with the creation of single organization to coordinate sitewide environmental monitoring, sampling, data management, and quality assurance.
- Technical expertise, including hydrogeologists, regulatory compliance specialists, environmental project managers, and data management specialists in support of environmental monitoring and waste management activities has increased.

Although progress has been made in the areas of waste management and environmental monitoring programs, no evidence of progress since the Tiger Team Assessment regarding the development and sitewide implementation of a formal waste minimization program was found at ANL-E. Weaknesses were identified in environmental monitoring programs with respect to integration of sitewide monitoring programs and environmental restoration programs by CH. The ANL-E environmental monitoring program was found to have deficiencies regarding training, procedures, groundwater surveillance, and quality assurance.

Worth mentioning is the acceptance on a ANL-wide basis of the importance of environmental compliance and the overall positive attitude towards external appraisals which is a noticeable improvement to attitudes which existed during the 1990 Team Assessment.

2.3.1 Environmental Monitoring Program

In the environmental monitoring area, the Progress Assessment Team evaluated the adequacy of CH and ANL-E environmental monitoring program management systems and activities. In conducting the assessment, the Progress Assessment Team evaluated progress made since the 1990 AIS Tiger Team Assessment with respect to development and implementation of an environmental protection program and subordinate multimedia monitoring plan. In addition, the team looked specifically at the management systems,

programs, and plans with respect to sitewide groundwater protection and monitoring activities. The area of environmental monitoring programs was chosen for assessment at the request of CH, CH-AAO, and ANL-E management and in recognition that monitoring deficiencies were identified in all environmental disciplines evaluated by the Tiger Team.

The assessment approach included interviews with EH, CH, CH-AAO, and ANL-E management and staff; reviews of relevant documents; and tours of the site. This approach did not include an evaluation at the work process implementation level, such as review of analytical laboratory bench notebooks or observations of field monitoring activities. The review looked horizontally and vertically at DOE and ANL programs. The assessment also included a review of one Tiger Team Corrective Action Plan activity associated with site wide groundwater monitoring.

The key performance standards utilized in this assessment area include the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992) and Performance Objectives and Criteria for Conducting DOE Environmental Audits (Progress Assessment Manual, Appendix B-3, December 1992). Emphasis was placed on the review of planning documents and systems, organizational roles and responsibilities, training, assessment and review activities, and communication between organizations and with Federal, state, and local regulatory agencies.

In the area of environmental monitoring programs, the Progress Assessment Team concluded that progress has been made to address many of the issues identified by the Tiger Team in 1990. At that time, weaknesses in the implementation of a comprehensive, sitewide, environmental monitoring program were represented in all media-specific disciplines. Improvement since 1990 in environmental monitoring programs is evident by better defined organizational roles and responsibilities and increased resources in technical expertise.

Since the Tiger Team Assessment, an organization realignment has occurred at CH-AAO to coordinate environmental program oversight. Environmental monitoring and compliance responsibilities and EM program management responsibilities, historically separated by CH-AAO organizational boundaries, have been consolidated within the CH-AAO Environmental Programs Branch of the Program Management Division. The CH-AAO Environmental Programs Branch has responsibility to coordinate management and oversight of general environmental protection monitoring programs, waste management programs, and environmental restoration programs. CH-AAO is responsible for environmental protection, monitoring, and compliance at ANL-E. It provides information to and coordinates with CH. CH-ESHD provides technical assistance and concurred on CH and CH-AAO approvals of documents. CH-ERD provides restoration program management support to CH-AAO. Efforts to coordinate overlapping environmental monitoring programs issues, on a sitewide basis, have been initiated. For example, during an environmental protection appraisal of ANL-E which included an assessment of an environmental restoration project, CH-ESHD identified that groundwater concentrations reflected in monitoring data exceeded standards and wrote a finding to bring the issue to resolution. In another instance, CH-AAO directed ANL-E to identify how the sitewide hydrogeologic study, which is intended to meet CH DOE 5400.1, "General Environmental Protection Program," requirements as well as environmental restoration projects needs, would be integrated into the Resource Conservation and Recovery Act Facilities Investigation.

Notwithstanding the above, CH oversight with respect to integration of environmental restoration programs and sitewide environmental monitoring programs have not yet been fully developed. The review processes within, and between, CH and CH-AAO associated with the integration of the ANL-E overlapping environmental monitoring programs and restoration programs have not been fully defined to ensure the quality of environmental data and coordinate reporting of information to the public (see Weakness E/W-2).

In 1990, the resources ANL-E committed to the environmental monitoring program were limiting factors in the successful implementation of the program. Adequate technical expertise was not available within a single program to provide the necessary support for environmental monitoring and compliance needs.

Since the Tiger Team Assessment, progress has been made at ANL-E regarding the development of environmental monitoring programs. ANL-E has also had a major organizational realignment since 1990 to place all environmental monitoring programs within the Environment and Waste Management Program (EWM). In January 1992, the Monitoring and Surveillance and the Environmental Compliance Groups were placed under one Department Head within EWM. EWM formed a new administrative group in July 1992 to coordinate project management, data management, procurement, and quality assurance. This realignment has coordinated several organizations that had environmental program responsibilities and authorities in 1990 and resulted in a substantial increase in the resources dedicated to environmental monitoring, surveillance, and compliance program activities. The EWM-M&S Department is now staffed with environmental scientists, a hydrogeologist, project management environmental engineers, environmental specialists, environmental compliance specialists, data management specialists, and a dedicated professional field sampling staff. This increase in resources, centralized within a single organization, has resulted in improvement of sitewide environmental monitoring activities in such areas as National Emissions Standards for Hazardous Air Pollutants (NESHAP) compliance, and reviews in support of planning for numerous facility upgrades to correct National Pollutant Discharge Elimination System (NPDES) permit exceedances.

In addition to the progress stated above, the Progress Assessment Team identified a strength in the area of environmental monitoring programs associated with the Water Systems Management Task Force. Environmental monitoring and compliance considerations have been effectively integrated into long-term planning for water resources needs into support of the site mission. CH has been a participant in the planning process from the initial stages. ANL-E organizations in research programs, plant facilities services and environmental programs have interacted to develop a comprehensive approach to water usage needs, waste treatment and other utility upgrades, and water recycling options.

In summary, although progress has been made in environmental monitoring programs, there remain some needs for improvement. CH has not fully integrated oversight of all restoration programs and sitewide environmental monitoring programs, and ANL-E continues to lack some elements of a comprehensive environmental monitoring program. Weaknesses in the ANL-E environmental monitoring program were identified in training programs, procedures, groundwater surveillance monitoring, quality assurance, and communication. Some parts of a formal training program have not been established for field monitoring staff, and field procedures are not controlled documents. A Groundwater

Surveillance Monitoring Plan to detect the potential releases from facility operations in the site drinking water wells, has not been fully developed (see Weakness E/W-2).

The Progress Assessment Team identified two weaknesses and one strength in the environmental monitoring programs area, which are identified in Appendix B-2 (see Weaknesses E/W-1, CH Integration of Environmental Monitoring Program and E/W-2, ANL-E Environmental Monitoring Program; and Strength E/S-1, ANL-E Water Systems Management Task Force).

2.3.2 Hazardous/Mixed Waste Generation Practices and Waste Minimization Program

In the hazardous/mixed waste generation practices and waste minimization program area, the Progress Assessment Team evaluated the adequacy of CH-AAO and ANL-E to address the 1990 AIS Tiger Team Assessment and other appraisal- and review-identified deficiencies. In conducting the assessment, the team looked specifically at ANL-E sitewide programs for managing hazardous and mixed waste generation activities and the program planning and implementation aspects of ANL-E sitewide waste minimization activities. In addition, the development of waste generator training, the effectiveness of roles and responsibilities regarding oversight of waste generators, and the ANL-E sitewide integration of waste minimization programs were evaluated.

These areas were selected because the Tiger Team Assessment identified the lack of an ANL-E sitewide program and deficiencies in the program plan for ensuring that waste accumulation areas were appropriately managed especially given the large number and varying types of generators at ANL-E. The Tiger Team Assessment also noted the absence of an approved formal waste minimization program plan and ANL-E's failure to implement sitewide waste minimization/pollution prevention activities.

The approach taken by the team included interviews with CH-AAO and contractor (ANL-E) line management staff and employees active in generating waste, overseeing waste generation and minimization activities, and developing and implementing waste generation and minimization program policies and procedures. Physical observations of waste accumulation practices were conducted, and policies and procedures were reviewed as they related to ANL-E waste generation, accumulation, and minimization activities. The review also included validating a sample of AIS Team Assessment corrective actions.

The standards against which the site was assessed included ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criteria 2.4.3.1 and 4.4.3.1, and Performance Objectives and Criteria for Conducting Environmental Assessments (Progress Assessment Manual, Appendix B-3, December 1992), Performance Objectives WM.3, WM.7, and EM.7. Other standards included action plans developed in response to deficiencies identified in the Tiger Team Assessment; and waste management and minimization program requirements such as development and implementation of a written waste minimization program plan and other requirements established in DOE 5400.1, "General Environmental Protection Program," DOE 5400.3, "Hazardous and Radioactive Mixed Waste Program," DOE 5820.2A, "Radioactive Waste Management," and Secretary of Energy Notice (SEN)-37-92, "Waste Minimization Crosscutting Plan Implementation."

Since the Tiger Team Assessment, progress in the area of management of waste generator activities has been significant. Overall, ANL-E has developed and successfully implemented a strong sitewide waste management program which currently meets both the letter and intent of applicable DOE Orders and regulatory requirements. The implementation of such a program in conjunction with well established training standards has aided in creating a positive cultural attitude change within ANL-E's research organizations regarding waste management issues. The program development process began with ANL-E's 1991 organizational realignment which placed waste management program authority with the ANL-E's Waste Management (EWM/WM) Department. Formal waste generator guidance was initiated through revision of the ANL-E's Waste Handling Procedures Manual, which now offers clear guidance to waste generators on a sitewide basis. The program has been further strengthened by allocation of additional resources (specifically, the hiring of technical and regulatory specialists) to ANL (EWM/WM Department). The Department is responsible for managing all ANL-E sitewide generated hazardous, mixed, and radioactive wastes. Additionally, an ANL-E sitewide ES&H training management system has been developed and implemented which, in the area of waste generation, ensures that the training needs of all ANL-E personnel generating waste are assessed and that proper training is administered.

In addition, ANL-E has clarified line management staff responsibilities for assisting and overseeing program implementation. Environmental Compliance Representatives (ECRs) who act as liaisons among waste generators, the EWM/WM Department and divisional upper management now have clearly established and well-documented roles and responsibilities in addition to training specifically geared towards skills needed to perform their duties. Communication of waste management issues was strengthened through creation of a monthly newsletter and EWM/WM Department's sponsoring of a waste management users group.

The Progress Assessment Team, in evaluating ANL-E's progress since the Tiger Team Assessment in the area of waste minimization program planning and implementation found that although individual organizations have made progress in implementation of waste minimization initiatives, ANL-E sitewide program planning in this area has been minimal and does not ensure implementation of waste minimization principles on an ANL-E sitewide basis. ANL-E and CH-AAO staff have not received clear guidance and support from DOE Headquarters organizations regarding allocation of appropriate funding for waste minimization program plan development. Although CH-AAO has acquired DOE Headquarters EM funding for waste minimization program development in FY 1994, funding from EM was not available between 1990 and 1993. A consequence of the difficulty ANL-E has experienced in acquiring DOE Headquarters funding for waste minimization program plan development prior to FY 1994, has been that ANL-E has not revised the 1990 Plant Facilities Services waste minimization plan that was identified as deficient by the Tiger Team Assessment. This plan has never been approved by DOE and was not intended to address ANL-E sitewide waste minimization issues.

Notwithstanding the difficulty ANL-E has had acquiring appropriate funding for the development of a formal sitewide waste minimization/pollution prevention program plan, in 1992 ANL-E staffed a Waste Minimization Coordinator position to manage sitewide waste minimization programs. Additionally, the Progress Assessment Team identified the

following examples of specific progress that have been made towards minimizing waste at ANL-E:

- ANL-E developed a chemical management tracking system initiated by the Physical Research Directorate with the capability of identifying locations within the laboratory that have surplus chemicals and matching the current owner with individuals who can potentially use these chemicals.
- An alternative method of sandblasting painted fire water towers during rehabilitation was implemented whereby a pre-treatment method converts lead in the sandblast paint residue to a non-leachable form allowing the spent paint material to be disposed of as non-hazardous waste in a sanitary landfill.
- The Accelerator Systems Division has switched from harsh caustic cleaners to P3-Almeco 18, a detergent for cleaning aluminum extrusions. The new solution has been reviewed and approved by the EWM/WM Department's regulatory compliance group for disposal into ANL-E's sewer system.
- Non-hazardous scintillation fluors (Ultima Gold) for use in scintillation cocktails ANL-E sitewide have been identified by the EWM/WM Department and recommended for use in preparing scintillation cocktails.
- An annual report on waste generation and minimization progress in accordance with SEN-37-92 was prepared by ANL-E's Waste Minimization Coordinator in March 1993 and submitted to CH-AAO. This report informally discusses ANL-E sitewide waste minimization initiatives and documents some of ANL-E's achievements in the waste minimization area. Although it contains many elements of a waste minimization program plan, it is not intended to be a planning document.
- In August 1992, ANL-E's Plant Facility Services organization initiated a contract with X-L Corporation to sort and separate recyclable materials from all solid waste collected throughout the ANL-E site. Since X-L began collecting, sorting ANL-E's trash, and separating out all of the recyclable/reclaimable materials, a significant amount of ANL-E generated solid waste has been diverted from disposal in municipal landfills.

A programmatic deficiency in the way ANL-E addresses waste minimization/pollution prevention on a sitewide level is that individual achievements, including those listed above, are often not well documented or quantified, thereby making it difficult to track and measure minimization achievements on a sitewide basis. In addition, without a formal, well-integrated program that involves the entire ANL-E community, CH-AAO has no means of evaluating whether ANL-E is moving toward meeting DOE's increasingly more aggressive waste minimization/pollution prevention goals and objectives.

Overall, ANL-E has made significant progress in the area of waste management, specifically regarding management and oversight of hazardous, and mixed waste generation activities. The 1991 ANL-E organizational realignment which placed management responsibility for all waste management programs under the EWM/WM

Department created a strong infrastructure for addressing waste generation activities throughout ANL-E. The EWM/WM Department also conducts routine surveillances of waste generator activities as part of its quality assurance initiative. The revised Waste Handling Procedures Manual is an effective compilation of clear procedures for communicating waste generation requirements to employees throughout the Laboratory. Additionally, ES&H training programs have been developed and implemented in a manner that ensures adequate identification of waste generator training needs and that waste generators ANL-E sitewide receive this training on an ongoing basis.

In addition to the development and formalization of ANL-E's waste generator programs in 1992, the EWM/WM Department created a monthly newsletter entitled "The Waste Line" which was created specifically to communicate ANL-E sitewide waste management activities and achievements to all ANL-E staff, employees, users, and visitors. The newsletter has just recently celebrated its 1-year anniversary and continues to be an effective and interesting tool for maintaining overall ANL-E sitewide awareness regarding waste management and other environmental health and safety issues. In addition to the newsletter, the EWM/WM Department sponsors a users group made up of waste management personnel and many of the department's primary customers with the primary goal of increasing customer satisfaction. The users group convenes bi-monthly to discuss current waste management issues, future changes in waste handling procedures, waste forecasts, changes in regulatory requirements, as well as any concerns or questions raised by the customers.

In summary, ANL-E sitewide progress in the area of waste minimization from a program planning and implementation perspective has been minimal since the Tiger Team Assessment. Although many sitewide waste minimization/pollution prevention initiatives have been undertaken throughout ANL-E's research and support services organizations, ANL-E has not revised its original waste minimization program plan (never approved by DOE) and efforts to establish ANL-E sitewide goals and document waste minimization accomplishments have been informal at best and have continued without DOE's approval and programmatic funding support.

The Progress Assessment Team identified one concern in the waste minimization program area, which is identified in Appendix B-2 (see Concern E/C-1, ANL-E Waste Minimization Program).

2.4 OVERVIEW OF SAFETY AND HEALTH PROGRAM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the AIS safety and health program. The assessment was conducted through a sampling of programmatic organizations and functions, including a combination of interviews; a review of key documents; and, where appropriate, field inspections including a sampling of activities and processes. Specific safety and health disciplines were selected for review based on previous Tiger Team areas of concern, or because those disciplines were believed to be highly characteristic of safety and health program performance, or because the area was not included in the previous Tiger Team Assessment. The safety and health disciplines assessed at AIS were conduct of operations, OSHA and construction safety, and industrial hygiene/health physics programs.

Based on the safety and health review, the Progress Assessment Team reached the following conclusions regarding the status of the reviewed safety and health systems and the progress in improving these systems.

- **Conduct of Operations Program.** Significant progress has been made in implementation of conduct of operations at ANL-E since the Tiger Team Assessment. Applicable portions of DOE 5480.19, "Conduct of Operations," are now in place in each of the four organizational units reviewed indepth, and most of those that were assessed appear to be effective. ANL-E applied a graded approach to implementing this DOE Order over its 150 different organizational subunits. Each of these subunits was required to perform an applicable assessment showing whether or not each of the 18 elements of conduct of operations applies, to provide written statements as to why any did not apply, determine what had to be done to implement each applicable element effectively, and to prepare an action plan for implementation. Logkeeping was found to be performed satisfactorily at all reviewed facilities. Lockout/tagout practices were uniformly applied in a thorough and effective manner. On the other hand, nearly all operating procedure systems were found to be missing one or more elements necessary for effective conduct of operations. Clear guidance is lacking as to which procedures require verbatim compliance and which are really guidelines from which deviations are permitted. Finally, progress is needed in action plan implementation and in preparation of operations practices manuals. In all other areas, continued emphasis and diligence should result in a steadily improving program.
- **OSHA and Construction Safety.** Following the Tiger Team Assessment, organizational improvements were made at ANL-E which elevated ES&H to the division level and moved the ES&H oversight function to the assistant director level. These changes facilitated efforts to implement needed safety improvements and achieve compliance with OSHA requirements. Additional personnel resources were added to the safety disciplines resulting in a threefold increase in staffing for the safety engineering function. The ANL-E ES&H Manual was revised to implement revisions to individual chapters and add additional chapters covering new topics. Although this resulted in an improved ES&H manual, the Progress Assessment Team found that it was not sufficiently comprehensive. The Construction Safety Program developed by ANL-E and CH-AAO was very effective. Improvements in other safety programs were also evident. An effective Lockout/Tagout Program has been developed. Electrical safety deficiencies are being systematically corrected. Hoisting and Rigging activities are much improved and an ANL-E Hoisting and Rigging Manual has been developed. A formal machine guarding program has been developed and partially implemented. While these and the other safety programs haven't been completely developed and implemented, the team observed that immediate safety risks have been controlled, and significant progress has been made overall; it believes that remaining occupational safety deficiencies can be identified and corrected as the program matures.

- **Industrial Hygiene/Health Physics Program.** The ANL-E industrial hygiene program has made considerable progress since the Tiger Team Assessment identified weaknesses in a number of programmatic areas. In particular, the laser safety program now meets the requirements of American National Standards Institute Standard Z136.1, as is required by DOE 5480.4. Of the 46 Tiger Team Assessment action items, 41 have been closed and validated by CH-AAO. ANL-E performs effective self-assessments of their program. There is a continuing effort to improve other industrial hygiene programmatic elements such as workplace monitoring/risk assessment, chemical hygiene, and ergonomics by the drafting of appropriate ES&H manual chapters and standard operating procedures. CH-AAO has increased its oversight of the contractor through the Facility Representative program by scheduled walk-throughs of ANL-E facilities. Overall, there has been substantial, measurable progress in the industrial hygiene program at both ANL-E and CH which has contributed to increased worker health and safety at the site.

Although this assessment primarily focused on industrial hygiene, the status of the DOE RADCON Manual implementation was reviewed to gauge the effectiveness of the health physics program. Site progress in addressing and closing DOE RADCON Manual articles is well advanced. Progress to date has been steady; however, ANL-E has not finalized dates for completing four open articles whose implementation dates have slipped.

2.4.1 Conduct of Operations

In the conduct of operations area, the Progress Assessment Team evaluated the effectiveness of implementation of conduct of operations at ANL-E as defined by the guidelines in DOE 5480.19, "Conduct of Operations." In conducting the assessment, the team took an indepth look at operating procedure systems and logkeeping and, to a lesser extent, the other 16 elements of conduct of operations. The review included both the methodology used to implement conduct of operations in a graded approach at ANL-E and the progress made since the 1990 AIS Tiger Team Assessment.

The approach taken by the team included interviews with contractor line management, supervisors, staff personnel, scientists, engineers, and technicians at the working level and tours of facilities. In addition, documentation related to implementation of conduct of operations throughout ANL-E, and for numerous individual organizational units, was reviewed. This was a vertical review that was accomplished by performing an intensive review of four organizational units representing three different directorates and the Chief Operations Officer's organization. The review covered all operational risk levels, but concentration was placed on the Level I high operational risk facilities. In addition, documentation related to use of operating procedures for 30 other organizational units was reviewed. A horizontal review of formality of operations was also performed by the team (see Section 2.2.8, Formality of Operations).

The key standards against which the site was assessed were the ES&H Performance Objectives and Criteria for Technical Safety Appraisals (Progress Assessment Manual, Appendix B-4, December 1992) OP.1, Organization and Administration; OP.2, Conduct of Operations; OP.3, Operations Procedures; OP.4, Facility Status Controls; and OP.6,

Operator Knowledge and Performance as well as the 18 guidelines accompanying DOE 5480.19.

At the time of the Tiger Team Assessment, DOE 5480.19 had just been issued and its implementation was not addressed in that assessment. However, many of the Tiger Team findings may not have occurred if the elements of an effective conduct of operations program had existed at ANL-E. Clearly, significant progress has been made in that applicable portions of that DOE Order are now in place in each of the reviewed organizational units at ANL-E, and most of those that were assessed appear to be effective.

ANL-E prepared and issued "Guidelines for Conduct of Operations" in December 1991, and this was accompanied by "Instructions for Implementation of Conduct of Operations Program at Argonne National Laboratory." These documents specified the methodology used to apply the provisions of DOE 5480.19 in a risk-based graded approach. The basic implementing unit at ANL-E is typically a division. Each ANL-E unit classified its facilities and activities into functional subunits. For each of the resulting 150 subunits, an assessment of risk potential was performed using a unique numerical scoring system. This system was purposely weighted so that facilities with high hazards, high programmatic importance, and user facilities would be classified as high risk potential (Level I) facilities. The 10 subunits that fell into this category included the Boiler House, the Alpha-Gamma Hot Cell Facility (AGHCF), and the Argonne Tandem Linear Accelerator System (ATLAS), and these three were selected for a detailed assessment by the Progress Assessment Team. The remaining 140 subunits were either Level II (moderate risk potential) or Level III (low risk potential). The Chemical Technology Division, which contains several Level II and III subunits, was also selected by the team for a detailed assessment to typify the implementation of conduct of operations at these lower risk potential facilities.

Each organizational subunit was required to perform an applicability assessment showing whether each of the 18 elements of conduct of operations applies, with documented statements as to why any did not apply. Each subunit also determined how each of the applicable elements of DOE 5480.19 were addressed in existing documentation, and then determined what had to be done to implement the remaining elements of DOE 5480.19. From these activities, over 1,000 required upgrades were identified and action plans were created to implement them. The action plans varied widely in quality among the various subunits. Some contained only general statements to identify the action, and some did not contain target dates for completion.

No ANL-E sitewide system was used to track the progress in implementing these required upgrades; each Associate Laboratory Director was required to followup. During this assessment, it was noted that some corrective actions are not yet complete, but it was not possible to determine what fraction has been completed because no combined list was available and assessment time was not available to review 150 separate action plans. An "operations practices" document or conduct of operations manual was also to be prepared by each organizational subunit; only a few had done so at the time of this assessment (see also Section 2.2.1, Corrective Action Program).

At each of the four organizational units assessed in detail, nearly all of the elements of conduct of operations were effectively implemented. Logkeeping was examined in a detailed manner and was found to be performed satisfactorily at all four units.

The best and most uniform implementation was in the lockout/tagout area. This was probably the case because all units at ANL-E were following a uniform system prescribed in an overall ANL-E procedure that had been carefully prepared and reviewed to ensure that it met all OSHA and conduct of operations requirements.

The converse was found with respect to operating procedures. Of some 30 operating procedure systems that were assessed, only 2 contained all the standard elements for effective conduct of operations, namely guidance on preparation, review, and approval; a method for making temporary changes; revision practices and requirements; and a mandatory maximum review/reissue interval. The other 28 were missing one or more of these elements.

The procedures manuals of some organizations contain both "operating procedures" for which verbatim compliance is expected and also what are in reality "guidelines" for which deviations are allowed, or even necessary at times, based on the operator's judgment. Some attempt was made by at least one ANL-E organization to distinguish between these types of documents in a separate instruction, but none of the interviewed users in that organization understood the practices management had attempted to implement.

One of the main activities during the three detailed assessments was to interview personnel actually performing the work. Most of these personnel at the working level had not had any specific training in conduct of operations, but all seemed to know what it was. These personnel unanimously stated that implementation of conduct of operations had improved their jobs and job performance. Some stated that it had increased their safety awareness, and nearly all stated that it had increased the formality of their work. Most also stated that conduct of operations had slowed down their work, an expected result since more preparation and recordkeeping is now required.

In summary, ANL-E has made significant progress in implementing conduct of operations since the Tiger Team Assessment. The most significant exception is in the operations procedures area in which significant improvements are needed to achieve uniform excellence at ANL-E. Also, progress is needed in action plan implementation and preparation of "operations practices" manuals. Another related concern is covered in Appendix B-1 (see Concern M/C-8, ANL Conduct of Operations). In all the other areas, continued emphasis and diligence should result in a steadily improving program.

The Progress Assessment Team identified one concern and one strength related to conduct of operations at ANL-E, which are presented in Appendix B-3 (see Concern S/C-1, Operating Procedures at ANL-E and Strength S/S-1, Implementation of Conduct of Operations by a Graded Approach at ANL-E).

2.4.2 OSHA and Construction Safety

In the OSHA and Construction Safety area, the Progress Assessment Team evaluated the adequacy of the CH and ANL-E programs to address 1990 AIS Tiger Team Assessment identified deficiencies and other OSHA and construction safety programmatic and compliance issues for AIS operations and construction activities. In conducting the assessment, the team looked specifically at management systems, programs, and policies that support and ensure the effective implementation and oversight of ANL-E's safety program. Progress toward satisfying deficiencies in the areas of Personnel Protection (PP)

and Worker Safety (WS) was reviewed and the corrective action process was verified for Tiger Team Assessment concerns on hoisting and rigging and machine guarding. An evaluation of the ANL-E construction safety program was included in this assessment.

The approach taken by the Progress Assessment Team included interviews with CH and CH-AAO staff, ANL-E managers, and employees having responsibilities relating to occupational safety and OSHA programs and compliance. The ANL-E ES&H Manual was reviewed in addition to supporting manuals and implementing procedures. Limited site visits were conducted at Bldg. 200 Chemistry, Bldg. 363B Central Shops, Bldg. 108 Boiler House, Bldg. 46 Transportation and Grounds Facility Construction, Bldg. 201 Roof Replacement Project construction, Bldg. 306 Waste Management, Advanced Photon Source construction, and Bldg. 205 Chemical Technology. Site visits and interviews were conducted to determine the effectiveness of management systems in the adoption, implementation, and compliance with mandated occupational safety orders, standards, and regulations.

The key standards against which site performance was assessed include the following: DOE 5483.1A, "Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated Facilities"; DOE 5480.9, "Construction Safety and Health Program"; 29 CFR 1910.1910, "Occupational Safety and Health Standards"; 29 CFR 1926, "Safety and Health Regulations for Construction"; ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992); ES&H Performance Objectives and Criteria for Technical Safety Appraisals (Progress Assessment Manual, Appendix B-4, December 1992) relating to Occupational Safety (OS), WS, and PP; and the Tiger Team Assessment Corrective Action Plan for ANL-E.

At the time of the Tiger Team Assessment, a broad spectrum of deficiencies was identified in the PP and WS functional areas resulting in 33 concerns. Approximately one third of these resulted from programmatic issues, and the remainder focused on individual deficiencies or classes of deficiencies, including two Category I Concerns and six Category II Concerns.

Programmatic issues in the PP and WS areas identified as deficient included the lack of an effective organizational structure to ensure that safety requirements were satisfied. Roles and responsibilities for safety requirements were not defined or implemented to facilitate compliance with applicable requirements. Safety requirements were not consistently enforced, and internal audits and internal appraisal findings were often not corrected or acted upon. Identified deficiencies were often ignored by ANL-E management. There was virtually no control over construction subcontractors, and the absence of an effective construction safety program resulted in two Category I Concerns. Individual chapters within the ANL-E ES&H Manual did not incorporate all mandatory requirements; substantive deficiencies were identified in virtually every chapter. The manual was not current or maintained as a controlled document, and it was generally ignored within ANL-E.

Individual deficiencies were identified in every functional performance area, including PP and WS. Category I Concerns were identified for situations observed related to trenching and shoring and use of fall protection. Imminent electrocution hazards were not recognized, hoisting and rigging equipment was not maintained or operated safely, machine guarding was poor, existing hazards were not detected or corrected, and there

was no hazard recognition or communication program. As a result of safety hazards present at ANL-E construction sites, all construction activities (except the Advanced Photon Source project) were halted pending the preparation and implementation of an approved restart program.

Following completion of the Tiger Team Assessment, ANL developed a Corrective Action Plan and the Plan for Restart of Construction at the ANL-Illinois Site. The Corrective Action Plan contained the structure for correcting deficiencies identified in individual concerns in PP and WS and the Plan for Restart of Construction at the ANL-Illinois Site addressed correction of deficiencies in the ANL construction safety program.

Both CH-AAO and ANL-E made organizational changes to strengthen safety functions. Staffing for oversight and implementation of ES&H requirements was increased and ANL-E undertook the task of developing a new safety culture.

The Progress Assessment Team found that there is a new awareness and acceptance of responsibility for safety issues among the line organizations. ES&H Coordinators have been established for each division as a central point of contact for line implementation of safety responsibilities. Building Managers have been appointed to coordinate facility-related issues. Each Associate Laboratory Director has an ES&H/Quality Assurance Representative who ensures implementation according to ANL-E requirements and coordinates interfaces between organizations. A series of safety committees have been established (or strengthened) to address key technical issues such as electrical safety and hoisting and rigging. An ES&H training requirements profile has been developed for each included in the new Training Management System and safety training is being provided. Special ad hoc working groups were established which made AIS-wide inspections to compile a comprehensive database of electrical safety, machine guarding, and hoisting and rigging deficiencies. Permanent management systems were implemented for performing safety inspections, audits, and appraisals on a routine basis.

To comprehensively define the ES&H program and correct Tiger Team Assessment findings at ANL-E, the ANL-E ES&H Manual was revised and expanded. The format was modified to better define authorities and responsibilities, and the number of chapters was expanded from 63 to 85; approximately another 25 chapters were in various stages of development. Entire manuals were developed for key topics, including the hoisting and rigging program and the construction safety program.

ANL-E developed a machine guarding program that includes a requirement for building managers to maintain an inventory of machines requiring guards, safety rules for use of tools and machinery, and a list of reference documents. The program was implemented through preparing an inventory of machines and tools requiring guarding, evaluating existing guards for adequacy, and modifying or replacing guarding where necessary. Periodic inspections are performed by Safety Engineering and the individual division to ensure that guards remain in place.

Another area strongly criticized during the Tiger Team Assessment was the ANL-E Hoisting and Rigging Program. ANL-E has since developed and implemented a hoisting and rigging program that addresses those deficiencies. A comprehensive hoisting and rigging manual has been developed, hoisting and rigging equipment has been inventoried and upgraded to conform to the program's requirements, and personnel operating hoisting and rigging

equipment have been trained and certified. One strength of this program is that it includes forklifts in the requirements for high consequence and special high consequence lifts.

Construction activities at ANL-E with the exception of the Advanced Photon Source were stopped following the Tiger Team Assessment because of serious deficiencies in construction safety. A restart plan was developed that embodied an aggressive construction safety program, and construction resumed in June 1991 following a Readiness Review by a DOE Headquarters Independent Review Group. Subsequently, the construction safety program established in the restart plan has been converted to a construction safety program document entitled the Manual of Construction for ANL-Illinois. The ANL-E construction safety program is comprehensive, including multiple levels of review for construction safety issues prior to design, during design, during procurement, during the award selection process, prior to construction, during construction, and even at the end of the construction process (see Strength S/S-2).

The Progress Assessment Team evaluated the revised ANL-E occupational safety program (OSHA) as described in the ANL-E ES&H Manual to determine its effectiveness in providing a safe working environment for ANL-E employees and subcontractors and in achieving compliance with OSHA and DOE requirements. Vertical cuts were performed for hoisting and rigging and machine guarding. The Electrical safety, energetic materials safety, walking and working surfaces, laboratory safety, and powered industrial trucks programs were also evaluated. Overall, the direction taken by CH-AAO and ANL-E has been appropriate and effective in establishing safety programs that protect their employees and achieve compliance. Most OSHA-type noncompliance issues have been systematically identified and/or corrected.

Notwithstanding the progress made at ANL-E since the Tiger Team Assessment, the team observed that the ANL-E safety program has not yet reached maturity and continuing efforts will be necessary to communicate safety requirements to AIS employees and fully implement all requirements. Some important safety topics are not formally addressed in ANL-E safety program documentation. ANL-E has identified the need for approximately 25 new and revised chapters for the ANL-E ES&H Manual as necessary to address this issue. Because ANL-E has been operating without adequate health and safety programs for some issues (e.g., energetic materials and ergonomics), the Progress Assessment Team considered this to be a concern.

For the individual safety program components evaluated during the Progress Assessment, implementation was not complete. For example, it was observed during the assessment that one large piece of machinery in the Boiler House was not properly guarded or interlocked as required by OSHA regulations and the ANL-E ES&H Manual. In a laboratory area visited, personnel were unable to demonstrate familiarity with the ANL-E Chemical Hygiene Plan. Some hoisting and rigging equipment encountered during building tours did not fully conform to OSHA requirements. Generally, ANL-E did not provide or require the preparation of instructions or procedures facilitating the implementation of safety requirements.

The team believes that although these remaining deficiencies indicate that ANL-E occupational safety programs have not yet reached maturity, they do not constitute cause to denounce the course ANL-E has charted to come into compliance with applicable safety

requirements. Considering the magnitude of the deficiencies present during the Tiger Team Assessment, ANL-E has made a great deal of progress.

In the area of construction safety, ANL-E has developed and implemented an effective program characterized by cooperative efforts by different organizations within both ANL-E and CH-AAO. There are multiple levels of review at all stages of design and construction. Both CH-AAO and ANL-E are continuing their efforts to ensure that the program remains successful. The real measure of success, however, is that accident rates for ANL-E construction subcontractors have dropped significantly. During tours of ANL-E construction sites, subcontractor employees stated that they had benefitted from their participation in the program through lower insurance costs, better employee morale, and the experience necessary to secure work at other facilities where safety is emphasized. The ANL-E construction safety program is considered a strength by the Progress Assessment Team.

In summary, the Progress Assessment Team recognizes that a strong construction safety program has been implemented since the Tiger Team Assessment. Programs in electrical safety, hoisting and rigging, and machine guarding, for example, have been effective in correcting deficiencies in these areas. However, all elements of the ANL-E safety program are not yet defined or established, and additional efforts are necessary to ensure that these programs are fully developed and implemented.

The Progress Assessment Team identified one strength and one concern in the OSHA and construction safety area, which are identified in Appendix B-3 (see Concern S/C-2, ES&H Manual, and Strength S/S-2, ANL-E Construction Safety Program).

2.4.3 Industrial Hygiene/Health Physics Programs

In the industrial hygiene/health physics programs area, the Progress Assessment Team evaluated the adequacy of the AIS program to correct 1990 AIS Tiger Team Assessment-identified deficiencies and ongoing oversight-identified deficiencies in the areas of ES&H. The team also evaluated self-assessment activities to ensure the effectiveness of the program to recognize, evaluate, and control physical, biological, chemical, and health physics hazards to AIS employees. In conducting the assessment, the team looked specifically at the adequacy of oversight and surveillance by CH-ESHD and CH-AAO, self-assessment, internal quality assurance programs, staffing, and management systems implemented by CH-ESHD, CH-AAO, and ANL-E. In addition, a review was conducted of the actions taken to improve performance of a number of the industrial hygiene elements of the ANL-E program since the Tiger Team Assessment. These areas were selected to look broadly at industrial hygiene management at the site. The Progress Assessment Team selected the chemical hygiene and laser safety programs conducted by ANL-E for vertical slice review to gauge the overall effectiveness of the ANL-E industrial hygiene program, and its ability to adequately apply resources to correct program deficiencies found during the Tiger Team Assessment. Although this assessment was primarily in the area of industrial hygiene, progress made by AIS in implementing the DOE RADCON Manual (June 1992) was also examined to measure the effectiveness of the health physics program.

The approach taken by the team was to interview CH-ESHD, CH-AAO, and ANL-E ES&H managers and employees responsible for industrial hygiene, health physics, and other

occupational safety program elements and to review program procedures, Corrective Action Plans, and appraisals. The chemical hygiene and laser safety programs performance were assessed, in part, through tours of ANL-E laboratories, and other facilities. Progress in DOE RADCON Manual implementation was assessed through interviews with CH-ESHD, CH-AAO, and ANL-E health physics personnel.

The key standards against which AIS was assessed include DOE 5480.10, "Contractor Industrial Hygiene Program," DOE 5480.4, "Environmental Protection, Safety and Health Protection Standards," 29 CFR 1910, "Occupational Safety and Health Standards," 29 CFR 1926, "Safety and Health Regulations for Construction," and ES&H Performance Objectives and Criteria for Technical Safety Appraisals (Progress Assessment Manual, Appendix B-4, December 1992), relates to industrial hygiene, as well as progress made in correcting deficiencies identified in the Tiger Team Assessment and its subsequent Corrective Action Plan. In addition, the progress made in correcting deficiencies noted during the CH-ESHD industrial hygiene and health physics appraisals was used as the basis for performing this assessment.

CH-ESHD performs broad programmatic appraisals of the ANL-E industrial hygiene and health physics programs, while CH-AAO performs routine surveillance of the contractor's performance. Since the Tiger Team Assessment, CH-AAO has reorganized its ES&H management structure and has hired individuals to be responsible for oversight of ANL-E industrial hygiene and health physics program elements. The CH-AAO Health Protection Branch is responsible for ensuring contractor industrial hygiene compliance, independent oversight, and surveillance reviews of the contractor's program. CH-AAO ensures contractor implementation of the ANL-E industrial hygiene and health physics programs through contractual requirements for compliance with DOE Orders and applicable Federal regulations and standards, as well as through day-to-day surveillance of the contractor's programs. This surveillance is essentially through the CH-AAO Facility Representative program, which has been an effective means of getting CH-AAO ES&H personnel into ANL-E facilities to ensure compliance.

Since the Tiger Team Assessment, ANL-E has made significant progress in addressing concerns identified in the Tiger Team Assessment Report. Forty-one of the 46 industrial hygiene elements of the Tiger Team Corrective Action Plan have been closed by CH-AAO. ANL-E manages its industrial hygiene program through formal policies and procedures, which are contained in the ANL-E ES&H Manual (April 1991). Extensive progress has also been made in developing formal industrial hygiene standard operating procedures. Five industrial hygiene chapters are still in need of completion for inclusion in the ANL-E ES&H Manual. Of these, two (i.e., biosafety and chemical monitoring in the workplace) have remained in draft form for over a year, one is a recent draft (i.e., cryogenics safety), and two others (i.e., lighting and ergonomics) have yet to be drafted (see Concern S/C-2). Despite the status of these chapters, the progress in completing industrial hygiene chapters has been steady. Significant progress has been made in overall staffing in industrial hygiene, including the hiring of several Certified Industrial Hygienists. Independent self-assessment of the industrial hygiene program has been accomplished by inspections performed by ANL-W industrial hygiene personnel brought in by the ANL-E ES&H QA group. This has proven to be an excellent venue for pointing out programmatic deficiencies.

A number of industrial hygiene programmatic elements would benefit from further enhancements. For example, although the chemical hygiene program is well documented, the team found several instances where laboratory personnel were unfamiliar with its requirements. In at least one case, a number of incompatible chemicals were discovered stored together. The confined spaces entry program, while well advanced, still has not labelled all such potential spaces. There is also incomplete implementation of the risk assessment/ workplace monitoring, biosafety, and ergonomics programs. On the other hand, the laser safety program is above average. Compliance with American National Standards Institute Standard Z136.1 is required by DOE 5480.4. The ANL-E Laser Safety Program exceeds the requirements of this standard, particularly in the areas of operator training and laser hazards control. It should be noted that this program was rated marginal at the time of the Tiger Team Assessment, is an excellent example of how an industrial hygiene program element can be implemented when there is management commitment. In addition, it appears that ANL-E ES&H components are fostering a team approach towards workplace surveillance. Facility walk-throughs are conducted by building administrators or division directors in conjunction with division ES&H coordinators and worker safety representatives according to a schedule based on the risks associated with the particular facility. Deficiencies are documented by the facility building managers and tracked to completion by the respective division ES&H coordinators. The working relationships between these groups appears to be effective.

DOE RADCON Manual implementation at AIS is well advanced. An approved DOE RADCON Manual implementation plan is in place. The Advanced Photon Source (APS) project has been incorporating DOE RADCON Manual requirements as the building transfers from construction to operational status. From a sitewide implementation viewpoint, 177 of the 184 articles in the manual have been implemented by the contractor and are being reviewed for closure by CH-AAO. Of the seven incomplete articles, two (i.e., control of radioactive drains and radiation calibrations) are long-term fixes. Appropriate long-range plans have been drafted for their completion. Another four (i.e., radioactive source database, pocket and electronic dosimeters, technical requirements for internal dosimetry, and skin dosimetry) have had their milestones delayed. These delays have been agreed to by ER, with the caveat that they should be closed "as close to the original dates as possible." Progress in closing these open articles is being monitored closely by CH-AAO. There have been as yet no appraisals of the status of ANL-E's DOE RADCON Manual implementation by CH. A CH-ESHD health physics appraisal of ANL-E is scheduled for early 1994, followed by an EH one in the summer of 1994.

In summary, the Progress Assessment Team believes that progress to date in correcting Tiger Team Assessment deficiencies in the area of industrial hygiene is well advanced and no concerns or weaknesses were identified. Additionally, site progress towards the implementation of the DOE RADCON Manual is also well advanced, and no concerns or weaknesses were identified in this area either.

The Progress Assessment Team identified one strength in the industrial hygiene/health physics programs area, which is identified in Appendix B-3 (see Strength S/S-3, CH-AAO Facility Representative Program for Safety and Health Oversight).

Appendices

Appendix A

Summary Table of Concerns, Weaknesses, and Strengths

**SUMMARY TABLE OF
CONCERNS, WEAKNESSES, AND STRENGTHS**

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Management Systems		
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M/W-1	ER and CH Self-Assessment Implementation	B-1-27
M/W-2	ANL Quality Assurance Program	B-1-28
M/S-1	Oversight of ANL by the University of Chicago's Board of Governors Safety and Environment Committee	B-1-31
M/S-2	ANL-E ES&H Training Program	B-1-33
Environmental Programs		
E/C-1	ANL-E Waste Minimization Program	B-2-1
E/W-1	CH Integration of Environmental Monitoring Program	B-2-4
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E/S-1	Water Systems Management Task Force	B-2-10
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S/C-1	Operating Procedures at ANL-E	B-3-1
S/C-2	ES&H Manual	B-3-3
S/S-1	Implementation of Conduct of Operations by a Graded Approach at ANL-E	B-3-5
S/S-2	ANL-E Construction Safety Program	B-3-6
S/S-3	CH-AAO Facility Representative Program for Safety and Health Oversight	B-3-8

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Appendix B

Concerns, Weaknesses, and Strengths by Discipline

Enumeration:

M = Management Systems
E = Environmental Programs
S = Safety & Health Programs

C = Concern
S = Strength
W = Weakness

Appendix B-1

Assessment Details - ES&H Management Systems/Concerns, Weaknesses, and Strengths

Assessment Concern Number:

M/C-1

Assessment Concern Title:

CH and ANL-E Corrective Action Program

Performance Objectives

Performance objectives used for the corrective action program assessment were the ES&H Management and Performance Objective and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992). Performance Criterion 2.4.3, ES&H Management Information System; and Performance Objective and Criteria for Action Plan Programs (Progress Assessment Manual, Appendix B-2, December 1992).

Concern

CH and ANL-E do not have a Corrective Action Program which includes sitewide information regarding root cause elimination, trending analyses, budgetary priority, or ES&H status, issues, and progress.

Discussion

Although progress has been made in capturing, managing, and implementing the CH/ANL-E corrective action program, CH and ANL-E do not have an integrated, sitewide process for capturing, tracking, trending, or reporting the status of corrective actions. Tracking of corrective action status for Tiger Team corrective actions is done through a shared CH/ANL-E database, but corrective actions resulting from other ES&H reviews are tracked at CH-AAO through a separate database. There are at least six additional databases (for a total of eight identified operating databases) at CH, and ANL-E that track portions of corrective activity from several sources. ANL-E uses an integrated system for all major actions identified by external review organizations. All must be utilized to gain a sitewide status of ES&H progress and, therefore, yield a splintered approach to corrective action program implementation which does not allow complete tracking, trending, verification, or closure processes to be effectively implemented. Although database outputs are reviewed for duplication and recurrence of findings, there is no process or system to accomplish this type of review on a sitewide basis. Although some of the individual databases are capable of providing trend data, trending analysis is largely done at both CH and ANL-E via the Occurrence Reporting System database, which can provide useful information on incidents and point to recurring deficiencies, but does not provide sitewide information regarding ES&H status or progress. An October 5, 1993, ES&H Management Appraisal of CH-AAO conducted by the CH-ESH Division also concluded that CH-AAO uses several databases to capture and track ES&H deficiencies identified by the Tiger Team and other ES&H assessments. In particular, the review addressed the use of the Facility Representative database for capturing the results of CH-AAO surveillance activity. The review also found that not all surveillance results are entered into the Facility Representative database and that not all Facility Representatives use the database to document or analyze their findings. Since this management appraisal, CH-AAO has included a mandatory requirement in SOP-26 for all Facility Representatives to use the database. Further, the review found that "There is no formal lesson learned program at AAO to collect, incorporate, and disseminate information on ES&H experience at ANL."; the latter being one of the main functions of CH-AAO (see also Section 2.2.2, Self-Assessment). Although the report recognizes that CH-AAO has implemented a higher level of formality of

operations than other CH Area Offices, it stops short of analyzing deficiencies which preclude a sitewide view and knowledge of ANL-E progress in implementing corrective actions, and is silent on the management of the corrective action implementation process (D-A-36 and D-A-47; I-A-1 through 4, 20, 22, 26, 27, and 47).

In recognition of some of the aforementioned CH corrective action program implementation deficiencies, the Manager, CH has recently requested the review of currently used performance indicators and the development of new performance indicators which can be used to remain apprised of sitewide ES&H and other issues, status, and progress (D-A-48).

ANL-E and CH controls are in place for the reporting and acceptance of actions reported as complete and the closure and validation of completed ANL-E findings. At ANL-E, only three individuals have access which allows them to "open" the ANL-E database to change the recorded status of an action; at CH-AAO, only one individual has this authority. At CH-AAO, however, this only applies to Tiger Team corrective actions since, as previously mentioned, other ES&H actions are housed in separate CH databases. In addition, as these four individuals make changes to the database entries, there is no process in place which allows them to check the impacts of their changes on other related action plan items. The absence of such a process creates an obstacle for CH and ANL-E in determining if modified actions are having an impact on the elimination of root causes. CH and ANL-E corrective action status reports appear to be up to date and accurate and do serve as good management tools to determine overall completion statistics. They do not, however, in themselves, provide overall measurements of ES&H progress. There is a strong reliance at CH and ANL-E on these individual database systems rather than a balanced approach which can be derived from the use of an integrated sitewide process. CH staff recognize this issue and are currently exploring various integrated systems as well as processes, in addition to the performance indicator review, to provide sitewide information. However, the cost of acquisition and implementation of an integrated database may be prohibitive. The separate procedures used to implement the various corrective action program implementation components for entry, change, and review are individually sound, but do not culminate in a higher level, documented sitewide process. At ANL-E, no guidance has been developed for Associate Laboratory Director review and sign-off on completed corrective actions or changes which may result in inconsistent management determinations regarding completion or rejection of action documentation, and may be a contributing factor in the current ANL-E 30 to 50 percent internal verification rejection rate for files submitted as complete. In addition, although some of the ANL-E completion files indicate that a review of finding elimination and root cause impact may take place, there is no defined, documented, review process which makes this a consistent review element and, therefore, no consistent assurance that a finding has been eliminated prior to submitting the action item as complete (D-A-13, 17, and 32; I-A-1 through 4, 18, 20, 22, 24, 26, 27, and 31).

Individual ANL-E divisions maintain databases, separate from the ANL-E integrated database and other CH and ANL-E databases previously described. These databases capture and track corrective activity both from the Tiger Team (in divisions which have been assigned corrective actions resulting from the Tiger Team Assessment), as well as actions resulting from their individual surveillance activities. Items of significance surfaced by individual surveillance activities which cannot be handled at the division level are informally communicated to the ES&H Oversight organization for assignment and tracked through the integrated ANL-E database. Because there is no formal documented process

for the communication of this information, there may be instances in which findings having a sitewide impact may not be captured in the integrated ANL-E database, or elevated for management attention (D-A-12 and D-A-46; I-A-2 and 19).

A review of "completed" ANL-E corrective action files indicated they generally adhered to the described ANL-E process for documentation and review by the ANL-E hierarchy. However, in some cases, the files were signed by the same ANL-E management official who signed as the "Contact," the "Associate Laboratory Director," and the "Associate Director" for ESH/QA. The ANL-E response was that these particular actions were assigned to this individual as the point of contact, and in those cases the individual involved provided approvals for each level of ANL-E review. In addition, the individual involved also performs verification reviews of actions submitted as complete by other ANL-E ALDs. This raises the concern that other ANL-E management staff may not be full participants in the process of assuring the appropriate separation of duties for the review and approval of completion determinations (D-A-12; I-A-2 and 26).

CH-AAO sends a monthly Tiger Team Action Plan Status Report to ANL-E which includes a statistical summary of cumulative data on ANL-E corrective actions which have been verified and closed or rejected by CH-AAO. Rejected action plans are accompanied by a listing of reasons for the rejection including further actions needed by ANL-E. Verification activities are assigned to CH-AAO staff who are trained and/or experienced in the area involved in the corrective action. The closure and rejection documentation is complete and clearly describes all verification actions taken to determine closure or rejection. Verification actions for both ANL-E and DOE completions include document reviews, sampling of functional activities and site visits. The "closed" or "rejected" file is signed off on by the CH-AAO Manager, who personally reviews each file submitted for closure, and the CH-AAO Corrective Action Coordinator, and the latter enters the determination into the database. The average CH-AAO rejection rate is currently 10 percent, and rejected files are returned to ANL-E for further action or documentation. Again, this process only covers corrective actions resulting from the Tiger Team review; CH-AAO reviews actions resulting from other ES&H reviews via a separate process. The process reviews individual milestones and does not document any determinations regarding the elimination of findings and root causes, or sitewide progress in ES&H (D-A-21 and 31; I-A-1 and 20).

There is no apparent CH Financial or Budget Division process to integrate determinations on sitewide priorities for funding based on any related vulnerability assessments as a part of the overall budget submittal process. Although budget formulation is appropriately done at the technical or functional division level, the Financial and Budget Division involvement is limited to quality checks on budget process adherence (I-A-17).

Assessment Concern Number: M/C-2

Assessment Concern Title: ANL Directives, Policies, and Procedures

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 4.4.1, states that a DOE contractor directive system be in place to ensure that ES&H laws and regulations and DOE directives are translated into site-specific policies and implementing procedures and formally transmitted throughout the organization. Performance Criterion 4.4.1.1 states that the directives system provides necessary and timely interpretations and direction to ensure full implementation of directives. Performance Criterion 4.4.1.2 states that the directives system ensures common understanding of ES&H requirements, identifies their specific impacts on site activities, and facilitates development of policies and implementing procedures. Performance Criterion 4.4.2.1 states that site activities are conducted with formality, rigor, and quality assurance mandated by DOE ES&H requirements.

Concern

The ANL Policy Manual system does not ensure that DOE directives are translated into site-specific policies and does not ensure connectivity or flowdown between document tiers within ANL's directives system. The ANL directives system does not contain a sitewide process to identify the need for, prepare, review, approve, revise, and control policies and associated procedures.

Discussion

Although, ANL has made substantial progress in implementing the ES&H requirements delineated by the DOE directives system and directives issued by other Federal, state, and local regulatory bodies it is not yet employed for other activities on a sitewide basis. As a part of this effort, ANL has produced numerous policies, procedures, manuals, implementation plans, and other associated documents to implement these directives. However, most of these documents were produced at the lower organizational levels without a defined connectivity or flowdown from upper organizational levels and the ANL directives system. Many organizational units do not have a systematic set of procedures or have not developed all necessary procedures. ANL has prioritized its efforts for ES&H program implementation, and since the 1990 AIS Tiger Team Assessment has concentrated on ES&H policy, implementation plans, and program implementation throughout the line organizations. Consequently, development of ANL directives, policies, and procedures was not always given the highest priority, so development of these documents has lagged the implementation effort. Based on the results of this Progress Assessment, ANL's prioritization has not substantially impacted ES&H implementation. At the time of the 1990 AIS Tiger Team Assessment, it may have been expedient to produce procedures at the working levels without the formality and rigor that comes with well-defined hierarchical and integrated sitewide directive system or a well-structured process for appropriate control of policies and implementation procedures. However, ANL has reached a point in ES&H program implementation where the lack of a well-defined process for developing ANL directives, policies, and procedures may become a limiting

factor and could impede future progress and may cause regression. The following specific deficiencies were identified:

- The existing ANL directive hierarchy is defined in the ANL Policy Manual (D-E-41), which is the single top tier ANL directives document. The second tier of documents are 13 different functional/operation manuals that are delineated in the ANL Policy Manual. The ANL Policy Manual is not current throughout and contains many sections dated from the early 1980s and some from the 1970s. The individual policies in the ANL Policy Manual do not have most of the features of a formal controlled document including the following: they are not numbered or signed, revision numbers are not tracked, and there is no positive indication of the number of pages in a particular policy. The ANL Policy Manual does not contain a formally defined process for the following requirements: identifying new policies or manuals; identifying the content and format of such documents; conducting initial and periodic reviews and approvals; controlling revisions and archiving revoked documents; and controlling the document issue process.
- While the ANL Policy Manual states that the second tier of documents are an extension of its requirements and are to be considered as sitewide directives, the status or applicability of other manuals referenced in the second tier manuals are not defined.
- The ANL Policy Manual defines a third tier of documents that are prepared by line organizations and contain procedural detail. Such documents are defined to be the responsibility of line management and there are no applicable sitewide standards governing their creation or control. In addition, there is no required connectivity or flowdown from first and second tier documents.
- Due to the factors described above, the directives system does not effectively ensure common understanding of requirements, identify their specific impacts on site activities, and facilitate development of policies and implementing procedures. There lacks a sitewide system to control the rapid and voluminous production of third tier documents. The current system encourages the duplication of the same documents in different directorates, within different divisions of the same directorates, and even within different departments and sections of the same division. None of these documents are captured and controlled on a sitewide bases, but there are varying degrees of divisional or lower control.
- The ANL-E ES&H Manual (D-E-45) is still undergoing development and contains several original chapters dated from the early to mid 1980s (see Concern S/C-2). Among others, the Office of Quality Assurance and the ESH Division Training Section do not have any operating procedures. Deficiencies were also identified in the groundwater monitoring and surveillance procedures (see Weakness E/W-2).
- There are no ANL requirements for the capture and control of sitewide implementation plans or subordinate implementation plans. There are

several sitewide applicable documents that are not part of the current directives system, including the following: guidelines and instructions for conduct of operations (D-E-18 and D-E-19) and the ANL Self-Assessment Program and Guidelines (D-E-68 and D-E-69).

- All ANL committees have formal charters that are issued in a Laboratory Committee Book (D-E-86) and approved by the Laboratory Director. However, there are no standards that define the requirements for creation, format and content, initial and periodic review, approval, and document control for these documents.

Assessment Concern Number:

M/C-3

Assessment Concern Title:

DOE Organization

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objective 1.2, Organization (ER, FM, LM, and EM), states that the ES&H roles, responsibilities, and authorities of the Program Secretarial Officer (PSO), now the Cognizant Secretarial Officer (CSO), organizations are clearly defined, formally documented, communicated, and understood. Performance Objective 2.2, Organization (CH and CH-AAO), states that ES&H roles, responsibilities, and authorities of the field organizations are clearly defined, formally documented, communicated, and understood.

Concern

The Department's failure to fully implement and effectively communicate the Departmental realignment has resulted in confusion concerning ES&H-related landlord roles, responsibilities, and authorities with respect to ANL-E throughout DOE Headquarters, CH, CH-AAO, and ANL-E organizations.

Discussion

The Department is undergoing a major organizational realignment with principal objectives that include: "Make clearer assignments of responsibility." and "Assign to Headquarters the primary responsibility for program and policy development, planning, guidance, and oversight" (D-D-68). This realignment was announced by the Secretary in April 1993, and a status report and an updated outline of the Implementation Plan was issued in May 1993. In June 1993, a DOE Notice was issued that clearly communicated the Department Organization and Management. The memoranda that transmitted the Notice indicated that "...full implementation should be completed within 60 days" (D-D-67). Notwithstanding the preparation for and the clarity of communication concerning the Department realignment, there is confusion throughout the Department regarding organizational roles, responsibilities, and authorities with respect to ANL-E sitewide landlord activities including environmental compliance.

The Departmental realignment created FM and LM and assigned FM with responsibility that included "strategic planning for all field elements and management coordination of the multi-purpose Operations Offices including assignment and the oversight of work, resource allocations, infrastructure requirements, and landlord responsibilities..." (D-D-68). The realignment notice did not define the role of a landlord. As a result, the role is open to and is being interpreted in a variety of ways.

LM management believes that they have a landlord role through its Multi-Energy Laboratories-Facility Support (MEL-FS) Program, but has no mechanism within the realigned DOE structure to implement it (I-D-12). This interpretation is based in part on LM management's belief that landlord responsibilities for ANL-E is linked to responsibility for the MEL-FS. ER management's view conflicts with this interpretation (D-D-21). ER management believes the Department realignment, while transferring ST-30 and the

MEL-FS responsibility to LM, did not transfer landlord responsibility to LM. Specifically, ER has managed the MEL-FS program within ER-40 and later in the Office of Science Technology Advisor (ST-30) and landlord responsibility in Basic Energy Sciences (ER-10). The Department realignment of June 1993 transferred ST-30 to LM with a number of responsibilities, including infrastructure issues; general purpose facility (GPF), general purpose plant (GPP), and general purpose equipment (GPE) budgets; ES&H Support Program funding and Inactive Surplus Facilities subprogram budgets; site support activities; sitewide ES&H; general administrative and support services; and other related activities. When ST transferred to LM, GPP and GPE budgets remained with ER, but GPF, ES&H Support and Inactive and Surplus Facilities budgets remained with LM's MEL-FS program. The post- realignment situation is further confused by the following: FM management understands their landlord responsibility, but does not appear to have formal, defined management systems or permanent staff to carry out this responsibility; and neither FM nor LM were provided with the funds to implement their perceived landlord activities since ER still retains the GPP and GPE funds and LM still retains its GPF, ES&H Support and Inactive Facilities funding.

The following is a summary of the confused picture for landlord responsibilities with respect to ANL-E that emerged during the assessment:

- The FM senior official views the FM role as one of facilitation, issues resolution, coordination of CSO activities with respect to the multipurpose laboratories (I-D-11). In recognition of the confusion with respect to roles, responsibilities, and authorities, FM recently issued a memorandum intended to clarify "the roles and responsibilities of the Program Offices vis-a-vis those of..." FM (D-D-69). This document reiterates that the Operations Offices report to FM and that the Program Offices have full responsibility for programs and retain their traditional budget review and approval responsibilities.
- LM management indicated that until the realignment is fully implemented and their role is formally established, LM will continue to function in accordance with the direction they received when the landlord management of ER multi-program laboratories were reassigned in July 1992 (D-D-3; I-D-12).
- Several ER officials believe that the sitewide ANL-E landlord is now LM and that ER landlord responsibilities are now limited to specific ANL facilities that are used for ER program execution (I-D-14). ER ES&H professional staff concur with this view and, furthermore, believe FM is responsible for sitewide landlord responsibilities such as environmental compliance (I-D-16).
- While EM managers acknowledge they retain some responsibility as environmental compliance-related landlord of infrastructure systems, such as the ANL sewer upgrade project, a residual of past activities, they believe organizational landlord responsibility for ANL-E rests with ER (I-D-18), ER or FM (I-D-19), or LM and FM (I-D-20).
- CH senior officials emphasized that, while confusion may exist with respect to the realignment, there is no confusion on the part of CH management. They understand that CH reports to FM, that CH and CH-AAO are the local

landlord, and that a number of DOE Headquarters organizations may be fulfilling a landlord role with respect to ANL-E. Thus, CH and CH-AAO have developed a practical working definition of landlord as an organization with resources that can be allocated to ANL-E (I-D-23 and I-D-26). In applying this definition, the CH Manager believes that ER is the ANL-E landlord in the sense that ER is responsible for funding landlord activities (I-D-23). If CH cannot obtain the necessary landlord support from ER, CH can look to FM to arbitrate the issue.

CH senior management acknowledged that while they may view ER as the landlord, other DOE Headquarters entities in addition to ER play a substantial role in landlord activities. Other CH and CH-AAO management officials, perhaps as a result of identifying a landlord by employing the principle of "following the money," express a variety of views of the landlord, including ER, FM, EM, and LM (I-D-23 through I-D-31). For example, CH-AAO management views the responsibility for "landlord-like" activities to be diffuse: FM is the authority with respect to ANL-E; ER has GPE and GPP responsibility; LM has responsibility for Institutional activities including the Institutional Plan, MEL-FS program including GPF, ES&H Support and Inactive and Surplus Facilities activities; EM has responsibilities for waste management and environmental restoration; and the DOE Office of Administration (AD) has authority and responsibility for human resource issues. As a result of this dispersion of landlord responsibilities, CH-AAO and CH management must negotiate with multiple organizations to gain support for sitewide activities. Activities that cannot gain full support are funded fully or partially from ANL overhead if they qualify under Department cost accounting standards (I-D-26). Finally, this dispersion of landlord responsibility creates confusion with respect to authority for site-wide environmental compliance. While there is unanimous agreement on the part of CH and CH-AAO management that they are responsible for environmental compliance, their view of responsible DOE Headquarters entities varies with their working definition of landlord.

- ANL-E managers and staff also express a variety of views with respect to the ANL-E landlord. These views include ER, CH, CH-AAO, and to a far lesser degree, FM or LM (I-D-32 through 40). In fact, EM also plays a landlord or infrastructure role at ANL-E. Responsibility for waste minimization is shared between EM and ER. EM has the budget for sitewide, cross-cutting waste minimization plans. In this respect, EM serves in a landlord role. ER has responsibility for waste minimization from a program or facility perspective (I-D-18, 26, and 27).

The confusion surrounding landlord responsibilities is apparent to most affected parties, and those in a position to clarify the situation have taken initial steps such as those of FM noted above to improve the situation. Other very recent attempts to remedy the situation are in the formative stages such as a memorandum to the Secretary that addresses and makes recommendations with respect to the Department Realignment Implementation (D-D-157). However, notwithstanding these efforts, this confusion persists.

Assessment Concern Number:

M/C-4

Assessment Concern Title:

ANL-E Organization

Performance Objective

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objective 4.2, Organization (ANL-E), states that ES&H roles, responsibilities, and authorities of the organization are clearly defined, formally documented, communicated, and understood.

Concern

ANL-E organizational and individual roles, responsibilities, and authorities with respect to stop work, stop working, and restart are not clearly and uniformly documented, effectively communicated to, and understood by all affected parties.

Discussion

The 1990 AIS Tiger Team Assessment identified widespread deficiencies in ANL-E ES&H functional activities and programs. Organizational deficiencies and weaknesses threaded their way through many of the deficiencies and weaknesses identified during the assessment. The Tiger Team Assessment found that ANL-E line managers were not adequately executing their line responsibilities for ES&H/quality assurance (QA) performance and management expectations regarding ES&H/QA responsibilities were not clearly defined. These concerns reflect the realization that each employee is an essential thread in the fabric of an effective ES&H program.

While much has been accomplished in correcting deficiencies (a summary is provided below) related to organizational and individual roles, responsibilities, and authorities, several deficiencies persist. The first, inconsistent and confusing policy with respect to stop work, stop working, and restart roles, responsibilities, and authorities, throughout ANL-E represents a potential vulnerability to an otherwise significantly improved ES&H program. The second deficiency, incomplete program plans that would define ES&H roles, responsibilities, and authorities, is a persisting weakness that is discussed in other concerns (see Concern S/C-2).

Decision authorities, including the authority to shutdown work, stop work, and restart work should be placed at the appropriate level, and clearly defined, formally documented, communicated, and understood by all involved parties. While ANL-E policies and procedures attempt to place stop work authority at the lowest practical level, it is not clearly defined and uniformly expressed across ANL-E. The most common problem is that stop work, the authority to stop another employee's or organization's activities, is often used interchangeably for stop working, the responsibility to stop one's own work. Another common deficiency is that ANL-E stop work policy is often silent on restart authority.

ANL-E Stop-Work Authority is expressed inconsistently in a number of ANL-E documents. The following examples of ANL-E stop work-related policy and procedure statements are provided to illustrate the variety of statements and associated deficiencies:

- The ANL Policy Manual (D-D-33), Safety and Health Chapter Section 5, "Surveillance," states that "Members of ESH or ESWM have the authority to stop any activity at their site if, in their judgement, there is a clear and present threat to the health and safety of personnel." Most ANL-E employees were aware of this clear expression of an organizational authority to stop the work of others or shut down operations. However, this authority does not address restart or resumption of activities.
- The DOE RADCON Manual (D-D-50) states "ESH personnel, as well as Laboratory personnel, are authorized to stop any work that poses an imminent danger to the personnel involved or which reflects a consistent and documented pattern of violation of ANL-E radiation protection policy. In such cases, ESH will immediately bring the conditions to the attention of division management with an explanation of the basis for the actions taken, and will provide support to division personnel for the development of corrective action." Most ANL-E staff and managers were also aware of and understood this expression of organizational stop work and shut down authority. This authority also does not address restart authority.
- In the Fuel Cycle Division (FCD), Operations Management Plan Stop Work Authorities include "Fuel Cycle Operations line personnel have the responsibility to stop work.... FCD also acknowledges the authority delegated to ONS, OQA, ESWM, and other support personnel to recommend to line supervision that operations be halted immediately for cause." This is an example of the ambiguities and confusion that surrounds ANL-E stop work authority in that the ability to recommend that operations be curtailed is not stop work authority.
- In response to the Progress Assessment Team's request for information on stop work authority, Intense Pulsed Neutron Source (IPNS) management acknowledged (D-D-27) that it did not have a clear stop work authority statement for its users. However, the IPNS User's Handbook, which is required reading for all users and employees of IPNS, provides the following statement of authority for HP personnel: "ESH-HP personnel are authorized to stop any work that poses an imminent danger to the personnel involved or which reflects a consistent and document pattern violation of the ANL-E Radiation Protection Policy" (D-D-28). To its credit, this organization responded almost immediately to the identification of this deficiency by developing a statement concerning stop work authority (I-D-40), communicated the stop work policy at an IPNS Division Meeting, and appropriately revised a video presentation for new users (a qualification requirement prior to using the facility). Unfortunately, this expression of authority uses the term "stop work" in the broadest terms (common throughout ANL-E) and does not address restart authority.

- The ANL Quality Assurance Program Plan (D-D-10) also addresses stop work authority: "Employees at all levels in the Argonne organization are responsible for...Halting work that poses an immediate threat for harm to the environment or personnel." This statement, like many others throughout ANL-E, does not define if authority refers to an employee's obligation to halt one's own work or to stop the work of others. Furthermore, the plan does not address restart work authority.
- The Plan for Restart of Construction at the ANL-Illinois Site (D-D-155) which has guided construction oversight since the Tiger Team Assessment, provides a clear, unambiguous stop work statement: "ANL construction field representatives ...have full and total authority to stop and construction work due to an ES&H infraction. ESH safety representatives also have full and total authority..." However, this authority, like others, does not address restart authority. This plan has been recently superseded by the Manual for Construction for Argonne National Laboratory-East (D-D-154). The manual expands on plan by providing for subcontractor stop work authority.
- A document entitled Safe Supervision of Students at Argonne (D-D-100) provides general safety-related information, but does not address ANL-E policy on stop work.

An example of stop-work authority that also addresses restart authority exists in the ANL-E ES&H Manual (D-D-14): "ESH Division personnel, the project manager, and the construction field representative have the authority and responsibility to stop any activity that, in their judgement, presents a serious and imminent danger to the health and safety of Laboratory, contractor or subcontractor personnel, or to the property or programs of the Laboratory. After hazards have been abated and prior to restart, ESH shall confirm that corrective action has been taken." A recent revision of the ANL-E ES&H Manual, (October 1, 1993), and transmittance incorporated into the manual on October 15, 1993, addresses stop work authority and restart authority. This statement provides for the following authority: "Employees, line supervisors, and members of surveillance or oversight organizations (ESH, EWM, ESH/QA Oversight) ...are all empowered and obligated to stop any activity that they deem to have placed them or others in danger" (D-D-159). The stop work authority in the manual also provides for restart authority: "The individual or organization that initiated the stop work action shall be afforded the opportunity to concur that the corrective action has been effective." Notwithstanding this clarification of stop work authority for ES&H oversight groups, a patchwork of confusing stop work authorities exist throughout ANL-E, that was confirmed through interviews (I-D-7, 8, 10, 34, 37, and 39).

Interviews (I-D-39) with research staff from the Energy, Environmental Sciences, and Technology Directorate (EEST) revealed that, while there is no standard stop work authority or common understanding of stop work/stop working authority in this organization, it appears that these employees have developed their own local understanding and effectively exercise their authority as they understand it. All employees believe they have stop working responsibility and that ES&H personnel have stop work authority over them. Furthermore, these employees could cite examples where they stopped the work of others in an apparently appropriately manner. However, this local

success in the face of ill-defined and poorly understood stop work authority is a tribute to the resourcefulness of the employees and a measure of their commitment to a safe work place rather than evidence that the current policies with respect to stop work are in fact adequate.

Notwithstanding the deficiencies in the ANL-E stop work/restart management system, there was much evidence during this assessment that ANL-E management understands and accepts the importance of roles, responsibilities, and authorities. ANL-E's effort to establish and communicate ES&H organizational and individual roles, responsibilities, and authorities proceeded on a broad front, including improved policies and procedures; enhanced training; improved communications through a variety of media including safety committees and safety meetings; and improved program plans. Examples of progress include the following:

- ANL-E management plans (e.g., D-D-16, 17, 81, 84, and 98) provide formal documentation of organizational roles, responsibilities, and authorities. Some of these plans, such as the IPNS Division Management Plan, undergo annual revisions. IPNS Division Management Plan (D-D-29) has been revised annually since 1991.
- ANL-E Laboratory Safety Committees are guided by comprehensive formal charters. The Charters of the Reactor Safety Review Committee (RSRC) and Nuclear Facility Safety Committee (NFSC) have been recently documented in the ANL Nuclear Safety Manual (D-D-18). In addition, there are numerous other ES&H committees throughout ANL-E (e.g., Division Safety committees) that provide senior management with expert advice and to provide oversight in the form of surveillances. These roles, responsibilities, and authorities of these committees are also guided by clear formal charters.
- ANL-E position descriptions include primary activities related to ES&H. In general, these primary activities represent 10 to 20 percent of the position's individual responsibility (D-D-31, 79, and 132). Individual performance appraisals, (e.g., the merit review performance assessment, contain a performance measure for the effective implementation of ANL and division ES&H policies, work rules, and safe work practices. In addition, the performance appraisal form provides the manager the opportunity to document specific performance measurements.

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Assessment Concern Number:

M/C-5

Assessment Concern Title:

ANL-E Planning, Budgeting, and Resource Allocation

Performance Objectives

The performance objectives and criteria that apply to this concern are listed in the ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992). These include Performance Objectives and Criteria 1.1, Planning (ER, EM, LM, and FM); 1.3.1, Human Resource Planning (ER, EM, LM, and FM); 1.5.1, Program-Wide Self-Assessment Program Plans (ER, EM); 2.1, Planning (CH and CH-AAO); 2.3.1, Human Resource Planning (CH and CH-AAO); 2.5, Field Office-wide Self-Assessment Program Planning (CH and CH-AAO); 4.1, Planning (ANL-E); 4.3.1, Human Resource Planning (ANL-E); and 4.5, Site-wide Self-Assessment Program Plans (ANL-E). Secretary of Energy Notice (SEN)-25A was also used as a measure of performance in this concern. These performance standards define the need for strategic and subordinate implementation planning processes.

Concern

ANL-E has not fully implemented a strategic and subordinate implementation planning process that would define, set priorities for, and guide its sitewide ES&H activities. As a result, ANL is not able to fully define its ES&H requirements or to allocate resources to satisfy those requirements on the basis of risks and vulnerabilities.

Discussion

Strategic and subordinate implementation or operational planning is the systematic process management uses to define, communicate, and transform its vision for accomplishing its mission into action. The planning process defines the organization's strategic goals and objectives, policies and procedures, resources, organizational relationships, management systems, and goals and objectives of subordinate organizations required to accomplish the mission. The goals and objectives from this planning process form the basis of a hierarchy of strategic and implementation planning processes by subordinate organizations that, when completed, serve to define, set priorities for, guide, and coordinate the programmatic and ES&H activities of all participants on an integrated, sitewide basis.

While the ANL-E implementation or operational planning processes have improved and most are functioning, strategic planning processes at ANL-E are not yet fully functional. The lack of a sitewide integrated strategic planning process that would serve as the architecture for a comprehensive integrated planning process, coupled with shortcomings in fully integrating sitewide corrective action programs and ensuring it fully captures and sets priorities for corrective actions (see Concern M/C-1), inhibits ANL-E's ability to develop formal, risk-based implementation plans that set priorities for and guide ANL-E ES&H activities in a comprehensive and cost-effective manner. As a result, ANL-E ES&H activities may be unnecessarily reactive and may not be addressing the most important issues in a disciplined fashion. Furthermore, the lack of such ES&H implementation plans, particularly those plans that would guide and control the sitewide programs such as waste

minimization (see Concern E/C-1) and environmental compliance (see Weaknesses E/W-1 and E/W-2) may represent a substantial vulnerability for DOE and ANL-E.

In support of the above observations, the following summary of ANL-E planning processes and associated inadequacies is offered to focus ANL-E's attention on its planning deficiencies and to place these deficiencies in the context of the significant progress that has been made since the Tiger Team Assessment.

Currently, the highest strategic-level ANL-E planning process is associated with the Annual Institutional Plan. ANL-E senior officials recognize the need for a comprehensive strategic planning process and acknowledge that such a process is not yet in place (I-D-9, 32, and 40), and initial steps have been taken to institute a planning process. ANL-E strategic planning is led by the Strategic Planning Board, a group led by the Associate Laboratory Directors. The ANL-E Deputy Director serves as the Strategic Planning Coordinator. Also related to the planning process, the Director of ANL has recently established the ESH/QA Program Review Committee to review the status of programs "...from the standpoint of progress to date and the direction to be taken in the future" (D-D-46). Finally, the Laboratory Director has recently asked his Assistant Director for ESH/QA to prepare an ES&H strategic plan. This initiative has not yet been begun.

With the exception of the recent draft vision statement, the current hierarchy of ANL plans begins with the ANL Institutional Plan. The ANL FY 1993-FY 1998 Institutional Plan (D-D-40), written after the Tiger Team Assessment and published in August 1992, contains a clear statement of ANL ES&H policy by the Laboratory Director in Section I, a discussion of the Laboratory Strategic View with respect to ES&H (Section III), and a section devoted to ES&H (Section VI). In the current draft FY 1994 - FY 1999 Institutional Plan, the Laboratory Director's statement with respect to ES&H is limited to a brief mention of the "...great strides in our ES&H program" together with several examples of progress. The Draft Institutional Plan also notes that "The number of personnel working on Laboratory ES&H programs has roughly doubled since 1987..." and then states that "Management estimates that this level of effort is sufficient to meet Argonne's commitment to excellence in all aspects of ES&H performance,..." (see Section III.) (D-D-11). However, there are no ANL-E near- or long-range plans that support these assertions. Furthermore, the Chemical and Materials Technology Division (D-D-13) self-assessment completed 10 months ago observed that "The organizations within the Laboratory assigned responsibility for...ES&H areas do not have adequate staff to meet previously promised deadlines and schedules." and "...schedules and commitments are developed and agreed to by those who do not appreciate the level of effort required or the realism of resource restrictions at the laboratory." This apparent contradiction was attributed to the multitude of assessments and the commitment of management to correct deficiencies as soon as possible (I-D-37). However, this contradiction appears to support an inability on the part of ANL-E to set priorities on a sitewide basis and to appropriately modify the priorities as necessary (a capability a comprehensive sitewide corrective action program would provide (see Concern M/C-1)).

Also related to the strategic planning, the President of the University of Chicago and Chairperson of the Board of Governors for ANL recently established the Ad Hoc Research Review Committed to "review the strategic plan of the ANL, to evaluate the plan in the context with ...and DOE missions..." (D-D-49). In its report (D-D-48), the Committee found that "...the process of planning, prioritizing, and developing initiatives is the central

function of strategic planning at ANL." And "the approved set of Laboratory initiatives--is regarded by both management and staff as a clear and succinct statement of the Laboratory's most important plans and objectives for the future" (D-D-48). However, the Committee's programmatic review did not address the ES&H aspects of strategic planning with respect to ANL initiatives. While the Board of Governors Safety and Environment Committee (SEC) provides ES&H oversight of ANL activities (D-D-47), it has not reviewed ANL strategic initiatives to determine if they adequately address the ES&H aspects of the present and future DOE mission at ANL (I-D-36). However, the Board and its SEC have already recognized, and are preparing to respond to, the need to oversee ES&H as well as other activities that are central to ANL-E's successful execution of its programmatic initiatives (I-D-36). Finally, while an ANL strategic planning process has not been fully implemented, ANL-E organizations have been engaged in preparing strategic plans for several years. For example, within the Energy, Environmental Sciences, and Technology (EEST) Directorate, the Environmental Research Division has instituted a strategic planning process and has a strategic plan in place (D-D-152).

A number of important sitewide implementation plans have been prepared since the Tiger Team Assessment including the Laboratory Facilities Infrastructure Plan (D-D-9), the site Comprehensive Emergency Management Plan (D-D-16 and D-D-17), the Quality Assurance Program Plan (D-D-10), and the Ground-Water Protection Management Program Plan for ANL-E (see also Weakness E/W-2)

Other plans such as the ESH 5-Year Plan (D-D-80) and the Site Development Plan (D-D-77) are "budget-like" documents that describe ES&H core activities and provide a summary forecast of indirect-funded ES&H activities and various cross-cut summaries of ES&H activities on an annual basis. Taken collectively, these are vital program planning and budget documents that describe the macro-aspects of ANL-E ES&H programs. However, for the most part, they are not implementation plans that specifically assign individual and organizational responsibility, and define what will be accomplished, with attendant schedules, milestones, and resource requirements. Furthermore, they are not supported by detailed implementation plans. In general, ANL-E ES&H plan implementation is guided and controlled by a variety of annual and multi-year planning and budgeting documents, procedures, and sometimes surveillance schedules. In cases where program plans are supported by schedules, these schedules often take the form of near-term schedules with time horizons of a few weeks to a year.

While many of the higher level program plans are in place, several important ES&H program implementation plans are either obsolete (see Concern S/C-2), in draft form or nonexistent. Examples of such planning deficiencies include the following:

- Although there has been a requirement (DOE 5400.1, "General Environmental Protection Program") for a Waste Minimization Program Plan since 1988, a fact that the Tiger Team Assessment noted, there is neither a sitewide nor ANL-wide Program Plan (also see Concern W/C-1). The Waste Minimization Plan that does exist, dated May 10, 1990, pre-dates the Tiger Team Assessment.
- The Draft ANL-E Environmental Protection Implementation Plan (EPIP) (D-D-84), while a DOE requirement, was never intended as a working level implementation plan. Furthermore working level implementation plans that

would provide vital information such as responsibilities, schedules, milestones, and associated resources requirements are lacking. Finally, in the EPIP, ANL-E management recognizes that the plan rests on subordinate implementation plans such as a Waste Minimization plan or a Pollution Prevention Awareness Program plan that are outdated or nonexistent.

- In response to the Progress Assessment Team's request for a training program implementation plan, ANL-E responded with a related set of documents such as the draft Training Management Guides (D-D-12), the Draft ANL-E ES&H Training Management Plans (D-D-8), the Training Management System (D-D-75) and procedures, schedules, and budget documents. While these documents represent vital elements of an implementation plan, an architecture that describes how the various elements relate one to the other is lacking and other vital elements of an effective training program are not addressed. This example of the status of ANL-E implementation planning is provided because it illustrates a common problem throughout the planning process. Following the Tiger Team Assessment, ANL-E management worked very hard to put essential management systems in place, building most programs from the bottom up. ANL-E has not yet stepped back to take a strategic look at what they wish to accomplish and to construct effective programs from the top down using the tools and building blocks it has accumulated over the past 3 years.
- Other plans that are DOE requirements such as the Sludge Management Plan (D-D-76) and the Oil and Hazardous Materials Spill Prevention, Control, and Countermeasure Plan (D-D-76) are actually protocols in appendices of standard operating procedures (SOPs) for developing implementation plans. While these protocols may meet the implementation details for operations and/or regulatory compliance, these protocols are not supported by current implementation plans.

With respect to resource allocation, there was substantial evidence during this assessment that ANL-E has accorded ES&H requirements a high priority since the Tiger Team Assessment. Compelling evidence of ANL-E management's commitment to enhance its ES&H performance includes the elevation of ES&H to Division status and the increase in ES&H professional staff. The division has an FTE authorization of 170, including 28, which were transferred from the Fire Department. This is contrasted with 97 FTEs and a commitment for an additional 20 persons at the time of the Tiger Team Assessment. Specific ES&H professional staff enhancements since the Tiger Team Assessment include an increase in Safety Engineering from 4 to 12 staff members, Industrial Hygiene from 9 to 12, Fire Protection Engineering from 1 to 10, Training from 1 to 11, Health Physics from 45 to 55 and the addition of ES&H professionals for ES&H Manual Management, Safety, Design and Operation Review Coordination, and Deputy Emergency Management Officer. While these staffing increases are an important aspect of ANL-E's commitment to ES&H excellence, as noted above, enhancements in ANL-E's planning and resource allocation management systems have not kept pace to fully ensure these resources are applied to the most important ES&H activities.

Assessment Concern Number:

M/C-6

Assessment Concern Title:

ANL Human Resources Management

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 4.3.2, states that formal programs for staff development, training, and certification ensure that only fully qualified personnel are assigned to ES&H programs. Criterion 4.3.2.1 states that a career development program provides personnel with opportunity for ES&H career development and growth within the organization. Criterion 4.3.2.2 states that training requirements are an integral part of the career development program. Criterion 4.3.2.3 states that training and certification programs include documented training goals and objectives, curricula and training material, testing and recordkeeping. Criterion 4.3.2.4 states that a formal process evaluates and documents the effectiveness of the training and certification programs.

Several DOE Orders contain requirements for certification and qualification training, including the following: DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities"; DOE 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities"; DOE 5480.25, "Safety of Accelerator Facilities"; and DOE 5700.6C, "Quality Assurance."

Concern

ANL-E's human resources management program does not adequately ensure that personnel at all levels of their respective organizations are trained and, where required, certified to carry out their assigned duties and responsibilities.

Discussion

ANL-E human resources management has made progress in all areas of training identification, development, and implementation. However, certain policy and practice aspects of sitewide training require additional improvement. Excellent progress has been made in the area of ES&H training (see Strength M/S-2). Other areas of sitewide training and human resources management have been progressing at a much slower rate.

DOE Orders define qualification in terms of education, experience, training, and any special requirements necessary for performance of assigned responsibilities. Certification is generally a more rigorous and formal process relevant to qualification and is defined in DOE Orders as the documented endorsement by contractor management that an individual has satisfactorily completed all qualification and any other specified requirements (e.g., medical examination). The ANL-E human resources management program lacks a comprehensive sitewide policy on required training. For other than ES&H training, ANL-E has not implemented a sitewide consistent risk-based, graded approach, to training; and has not

established sitewide training standards. Specific concerns are discussed below (I-E-17, 44, 52 through 57, 60, 61, 64, 67, and 68):

- There is no sitewide policy which requires that training categories be developed and that all training be categorized in a manner to accomplish the following: (1) identify all necessary training that must be completed prior to performing a function; (2) identify all required training that must be completed prior to allowing an individual to perform the activity without the direct supervision of a trained individual; and (3) identify all required training that must be completed in a timely manner but the lack of which does not restrict an individual's activities. Lack of such a policy and associated guidance makes it difficult to determine when an individual is qualified. In addition, there are no sitewide policies or procedures that define timely completion. These categorization and time frame concerns apply to re-training as well as to the initial training. Some training at ANL, however, is currently implemented as a pre-requisite to performing work (e.g., hoisting and rigging, radiation worker, and waste certification).
- ANL has not developed a sitewide program to ensure that a consistent risk-based, graded approach is applied throughout the site on a continuing basis to identify all current and any future qualification and certification needs. ANL currently has training and certification programs for its major facilities, including nuclear facilities and reactors. Training for major facilities has been addressed under the conduct of operations program. Training for nuclear facilities and accelerators is subject to extensive external oversight, and internal oversight from the reactor and safety review committees. Although not reviewed as a part of this assessment, it is likely that all if not most required certification and qualification training has been identified at these facilities. However, the approach used to identify this training, is for the most part, specific to each facility. For other than major facilities, qualification and certification training needs are identified on an as needed basis by supervision.
- The significant increase in training requirements commensurate with nuclear facility, accelerator, and quality assurance requirements will place an additional demand on the capability of current training and qualification efforts to ensure that all ANL positions are critically reviewed for the purpose of identifying all necessary qualification and certification training. Qualification and certification training requirements delineated in DOE 5480.19, DOE 5480.20, and DOE 5480.25 among others. DOE 5700.6C establishes a broad requirement to identify and provide training for all employees regardless of the type of facility they work in (see Weakness M/W-2). In the past, ANL has implemented DOE qualification requirements on a facility-specific basis as needed. ANL has recently had its number of nuclear facilities increased from 1 to as many as 10 and has identified 12 accelerators (10 existing and 2 coming on-line soon) that will require training under the new accelerator training order.
- For other than ES&H training, there are no sitewide standards that define how certification and qualification training is to be developed, taught,

maintained, and documented (see Concern M/C-2). Two different guidance documents are available from the ES&H Training Section and the Human Resources Division (D-E-59 and D-E-82) that provide detailed information on the proper way to develop, teach, and maintain training courses. However, there is no requirement that this guidance be adhered to for certification and qualification training under the control of line organizations. There is no requirement that line training be reviewed against the guidance documents. This type of training must meet documentation and review requirements specified in the ANL-E ES&H Manual (D-E-43) before it can be entered into the Training Management System (D-E-42), but the training is not required to be entered into the database and the documentation and review requirements are minimal. The ESH Division Training Section has expertise to provide review or training development assistance to the line organizations. It is a staff support organization that is utilized on an as-requested basis and they have not been delegated any formal authority to review and approve non-ES&H training conducted by the line organizations.

- While large amounts of career development training are provided to ES&H personnel, much of it is provided without a clearly documented plan or under a well-defined program (see Concern M/C-5). The review performed by the Progress Assessment Team indicated that ES&H personnel are well qualified and trained for their assigned responsibilities. Hence, the concerns regarding the career development plan and program have not resulted in any adverse effect on the ES&H personnel. Technical ES&H professional development is the responsibility of the individual line organizations. The non-technical aspects of the ANL career development program are implemented by the Human Resources Division and include supervisory and management training, and college courses taken for credit.

Assessment Concern Number:

M/C-7

Assessment Concern Title:

CH Training Program

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 4.3.2, states that formal programs for staff development, training and certification ensure that only fully qualified personnel are assigned to ES&H programs. Criterion 2.3.2.1 states that a career development program provides personnel with opportunity for ES&H career development and growth within the organization. Criterion 2.3.2.2 states that training requirements are an integral part of the career development program. Criterion 2.3.2.3 states that training and certification programs include documented training goals and objectives, curricula and training material, testing and recordkeeping. Criterion 2.3.2.4 states that a formal process evaluates and documents the effectiveness of the training and certification programs. Criterion 2.4.2.1 states that activities throughout the Operations Office are conducted with the formality, rigor and quality assurance mandated by DOE ES&H requirements. DOE 5700.6C, "Quality Assurance," contains broad training requirements.

Concern

CH does not have a compliance training program that identifies staff training needs, provides necessary training, and assures that personnel receive the training necessary to perform their assigned jobs.

Discussion

The lack of a formal qualification and certification training program for DOE technical staff is currently an issue across the entire DOE complex. For the most part, this issue is being driven by Defense Nuclear Facility Safety Board Recommendations 93-3 and 92-7, although there are other reasons such as the implementation of DOE 5700.6C. Over the last few years, CH has committed a substantial and increasing amount its funding and staff resources to accomplish the training of its staff members. However, these actions are not based on a formally defined and integrated training program that was designed to achieved specific training goals and objectives based on a job needs analyses. As a part of their October 1993 reorganization (D-E-7), CH created an Employee Development Office within the Human Resources Division to achieve better integration of training, but as yet this office is not staffed. CH has made progress in identifying training needs for personnel with ES&H line management and oversight responsibility, and providing this training. This training is accomplished through two primary mechanisms: the Technical Training Program and Individual Development Plans. The following specific concerns related to the lack of an integrated and formal training program were identified (I-E-2, 5, 13, 21, 22, 46, and 51):

- Outside of the Facility Representative Training Program (D-E-84), CH has not developed a formal, well-defined, and integrated program to implement technical training and career development training for its staff. CH and particularly CH-AAO appear to have made maximum use of the Individual

Development Plan process. Although the IDP process does provide a thoughtful method for identifying and meeting training objectives, it is not based a formal job needs analysis and it is not integrated with the training needs of individuals in similar positions or with the needs of personnel throughout CH.

- CH has not completed a plan for the development of a process that will identify general and technical training requirements, develop or obtain training programs, and assure each individual receives the required training.
- Other than the Facility Representative training program, CH's rate of progress in planning and implementing its training program is decreasing. In addition, CH has not developed a contingency plan to address the possibility of excessively long delays or failure on the part of DOE HQ activities to meet CH's needs. Because these training issues are being addressed throughout the DOE complex and various organizations with DOE HQ are working on it, CH has adopted an informal policy of waiting for this process to progress to the point where it solves most, if not all, of CH's training needs. The DOE HQ efforts have made some progress over the last couple of years but have produced almost no useable products. In addition, the progress is erratic, often stopping completely for long periods of time. Although the DOE HQ activities are part of the solution, they may not come to fruition or meet all of CH's training needs.
- The Technical Training Program described in CH 3410.1 (D-E-84) represents substantial progress in the area of providing core ES&H training to personnel with ES&H line management and oversight responsibility. However, this training is only required for appropriate Area Office, New Brunswick Laboratory, and Environmental Measurements Laboratory personnel. The status of individual training is maintained on a database, but the Technical Training Program does not have any associated standards or procedures (see Weakness M/W-2) that address the following areas: the course review and approval process including review and retention of course materials; recordkeeping; evaluation of individual training courses; and the technical training system as a whole.

Assessment Concern Number:

M/C-8

Assessment Concern Title:

ANL Conduct of Operations

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 4.4.2.1, states that site activities are conducted with formality, rigor, and quality assurance mandated by DOE ES&H requirements.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," and DOE 5700.6C, "Quality Assurance," delineate numerous requirements for formality in the performance of DOE activities to ensure effective and efficient operations and compliance with ES&H requirements.

Concern

The ANL-E Conduct of Operations Program is not consistently implementing some program requirements, identifying programmatic weaknesses, and being implemented under a plan that defines responsibilities, resource requirements, milestones, and schedules.

Discussion

Although ANL has made excellent progress in its ongoing effort to implement conduct of operations throughout its line organizations, several weaknesses remain. As its initial effort, ANL developed a well-defined, logical methodology (see Strength S/S-1) for implementing formality of operations (D-E-18 and D-E-19) using a graded approach. This initial effort has almost been completed and implementation of formality of operations is continuing to make progress; however, the rate of progress demonstrated in the early stages of program development has not been maintained. Several conduct of operation concerns were identified in the areas of planning, identification of programmatic weaknesses, and implementing program requirements that are impediments to progress in its continuing implementation (see Concern S/C-1) including the following (I-E-3, 4, 8, 11, 12, 25, 46 through 57, 67, and 69):

- Roles, responsibilities, and authorities for implementing conduct of operations have not been formally assigned and are not described in the ANL Policy Manual (D-E-41) (see Concern M/C-4). The Conduct of Operations guidelines and instructions for implementation (D-E-18 and D-E-19) define the roles, responsibilities, and authorities for implementation of conduct of operations. ANL line management took the roles, responsibilities, and authorities delineated in these documents as directives and acted accordingly.
- Most organizational subunits have not prepared the "operations practices" required by the conduct of operations implementation instructions (D-E-19) (see Concern M/C-2).

- The momentum demonstrated in the earlier stages of program development has not been maintained for completion of the "operations practices" document. This is due in part to many line organizations holding off on its preparation until they have received guidance on implementation of quality assurance and Total Quality Management requirements, so they can be combined with the operations practices requirements into a single encompassing implementation document. Delays in receiving this guidance can have the undesirable affect of slowing and even halting progress in conduct of operations implementation.
- Although, the Associate Laboratory Directors (ALDs) and Chief Operating Officer (COO) implement numerous and diverse activities to provide ongoing measurement of conduct of operations implementation, these activities do not meet established requirements because they are not implemented in accordance with a formal documented and auditable assessment program (see Weakness M/W-1). The conduct of operations instructions (D-E-19) state that it is the role of the ALDs and the COO to provide coordination, tracking, and surveillance of initial implementation of conduct of operations actions and of the continuing program. In addition, the ANL Self-Assessment Program (D-E-68) requires that the ALDs and COO establish a documented and auditable assessment program including implementing procedures to monitor ES&H activities for the purpose of providing an ongoing determination of status of implementation.
- Conduct of operations training has not yet been developed and implemented on a sitewide basis for staff below the Associate Division Director level (see Concern M/C-6). ANL has recognized the need for this training, has recently assigned the responsibility to the ESH Division Training Section, and has established a tactical plan for its development (D-E-81).
- There is no sitewide plan that defines resource requirements, milestones, and schedules for the following: formal assignment of conduct of operations roles, responsibilities, and authorities; completion of all organizational subunit action plans; development of "operation practices" documents of all organizational units and subunits; development of a formal, documented, and auditable process to provide ongoing measurement of conduct of operations implementation; and development of and teaching a conduct of operations training course for all appropriate ANL personnel (see Concern M/C-5).

Assessment Concern Number:

M/C-9

Assessment Concern Title:

CH Quality Assurance Program

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objective 2.4.2, states that staff are actively and personally involved in assessment (e.g., appraisals, audits, and surveys) and review of Field Office/Site Office and site contractor activities to ensure that such activities are conducted with formality and rigor and that they comply fully with ES&H requirements established by law, regulation, and DOE policy.

DOE 5700.6C, "Quality Assurance" (August 21, 1991), requires that departmental elements shall develop Quality Assurance Programs by applying the quality assurance (QA) criteria specified in subparagraph 9b of the Order.

Concern

CH has not developed and implemented a comprehensive quality assurance program.

Discussion

CH has not developed a program that defines how QA will be applied to the activities performed by CH utilizing a graded approach. Supplemental CH 5700.6C, "Quality Assurance" (May 5, 1992), primarily describes the responsibilities of the Operations Office to monitor and assess contractor's development and implementation of a Quality Assurance Program that complies with the requirements of DOE 5700.6C. The Supplemental Order does not address all the work processes and products of the Chicago Operations Office.

A finding similar to this was identified during the 1990 AIS Tiger Team Assessment. Since that time, the Order addressing QA has been revised from revision "B" to revision "C". CH developed Action Plan AP119 to address the Tiger Team finding. In response to issuance of DOE 5700.6C, CH deviated from the milestones described in AP119. The original action plan had called for development of a Quality Assurance Requirements Document (QARD) and a Quality Assurance Program Description (QAPD) document, as required by DOE 5700.6B. However, the requirement for these two documents was eliminated from DOE 5700.6C and replaced with the requirement that Field Offices develop Quality Assurance Programs responsive to the new Order. Although CH modified AP119 so that the QARD and QAPD were no longer required, they did not incorporate the new Order's requirement in the action plan revision.

There is no CH process regarding the identification, preparation, review, approval, and maintenance of documents that prescribe their own work. Some specific elements of CH have defined such a process, but those instances are few and the process applies only to procedures that are applicable within that organizational element.

CH has not established a process of planned, periodic independent assessments conducted to measure item quality and CH process effectiveness, performed by technically qualified

individuals knowledgeable in the areas assessed, who have sufficient authority and freedom from the line organization to carry out their assessment responsibility.

The delay in development of a CH Quality Assurance Program was, in part, based on CH's intention to integrate QA, self-assessment, Total Quality Management, and conduct of operations into a single integrated system that satisfied all the individual requirements while providing maximum efficiency and effectiveness. While an admirable goal, the verbalization of this intent alone is not sufficient evidence that a true management commitment has been made to this approach. No plan identifying milestones, dates, and resources to accomplish such an integration effort exists.

Assessment Weakness Number: M/W-1

Assessment Weakness Title: ER and CH Self-Assessment Implementation

Performance Objectives

The ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objective 1.5, states that a comprehensive, institutionalized, Program-wide self-assessment program regularly evaluates and reports to the Cognizant Secretarial Officer (CSO) the status and quality of all aspects of the ES&H performance of all organizational levels (i.e., CSO, Field Office/Site Office, contractor) under its cognizance, determines root causes for deficiencies, and ensures that corrective actions are taken.

Weakness

ER and CH have not implemented all of the basic elements of a self-assessment program, such as reporting, trending, lessons learned, and root cause analysis.

Discussion

Currently, CH does not submit written self-assessment reports to ER as prescribed in the ER Self-Assessment Program Plan Implementation Guidelines, Table A-3 and A-5. There is no evidence that ER and FM are being informed of self-assessment results to provide them with a program-wide view to measure continuous improvement (D-B-58 and D-B-60).

CH-Assistant Manager for Restoration and Waste Management has not closed all identified self-assessment findings (I-B-9 and I-B-10).

The CH-AAO Self-Assessment Plan does not include the element of lessons learned in accordance with the Secretary's July 31, 1990, guidance and ER guidance. CH and CH-AAO do not have a formal trending and lessons learned program that includes self-assessment data (D-B-58 and D-B-60).

CH and CH-AAO do not have a formal self-assessment training program in place to facilitate a common understanding of the self-assessment process, alternative assessment methodologies, root cause analysis, and the overall basic elements of a self-assessment program (I-B-1, 4, and 12).

Assessment Weakness Number:

M/W-2

Assessment Weakness Title:

ANL Quality Assurance Program

Performance Objectives

ES&H Management Performance Objectives and Criteria Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 4.4.2 states that staff are actively and personally involved in assessment (e.g., appraisals, audits, and surveys) and review of site activities to ensure that such activities are conducted with formality and rigor and comply fully with ES&H requirements established by law, regulations, and DOE policy.

DOE 5700.6C, "Quality Assurance," requires that contractors shall develop quality assurance (QA) programs by applying the QA criteria specified in subparagraph 9b of the Order.

Weakness

The Argonne National Laboratory's basic quality program requirements are not fully supported by all the policies, plans, and procedures necessary for the effective assurance of quality.

Discussion

Several findings regarding inadequacies of the ANL QA program were identified as a result of the 1990 AIS Tiger Team Assessment. Although progress has been made in rectifying some of these deficiencies, several have not been corrected. In some instances where corrective measures have been implemented, the actions have not included the creation of a process that would preclude the recurrence of similar deficiencies across ANL.

Without supporting implementing plans and procedures that provide specificity, the Quality Assurance Program, as described in the Argonne National Laboratory Quality Assurance Program Plan (ANL QAPP) (February 17, 1993) is inadequate to assure the quality of work performed within ANL. The ANL QAPP provides a very general framework of basic program requirements and allows the ALDs and the COO the flexibility to develop a program within that framework that satisfies their own perceived needs for QA. Each Associate Laboratory Director (ALD) and the Chief Operations Officer (COO) are assigned the responsibility of identifying those organizational units within their organization that require the development of an individual Quality Assurance Plan (QAP). An organizational unit is defined by the ANL QAPP as, "A division, program, office, department, section or other organized entity that functions as a unit and has common mission and goals and similar risks and operational characteristics." This policy allows for the potential of significant gaps and disparities, unrelated to any risk-based graded approach, within the ANL QA program. As yet, the ALDs and the COO have not identified organizational units that require the development of QAPs.

Although the ANL QAPP requires that the ALDs and COO identify their organizational units that must prepare QAPs, there is no requirement to establish and document the bases on which this determination is made; there are no sitewide guidelines on how to implement

the process in a uniform risk-based graded approach, or how and to whom it is to be communicated. There is no requirement that the ANL organization tasked with QA oversight, namely Environment, Safety, and Health and Quality Assurance Oversight (ESH/QA Oversight), be apprised of the ALDs' and the COO's determinations and the bases for those determinations.

A review, concurrence, and approval process for QAPs is not clearly defined. In Section 3.3 of the QAPP, it is indicated that the heads of subtier organizations are responsible for ensuring that their operations conform to an existing quality assurance plan (e.g., for division). However, the QAPP does not define whether the ALD/COO or the division directors have approval authority for QA plans prepared by subtier organizations. In current practice, division directors approve QA plans for organizations/projects below the division level.

It is stated in the ANL QAPP, under the Office of Quality Assurance (OQA) responsibilities, that the OQA shall review each ANL QAP. However, there is no discussion of to whom OQA's comments are to be submitted or a defined comment resolution process. Without such a formal process, OQA's review and comments could easily be ignored. It is also not clear whether it is required that all QAPs be submitted for review to OQA or only those for the division level and above.

The head of each organizational unit is required to designate a QA Representative who is directly responsible to the head of a organizational unit (D-F-61). Some QA Representatives serve as a representative for several organizational units. ANL has not established minimum training and/or qualification criteria to ensure that personnel assigned as QA Representatives (who often have collateral duties) are competent to fill the duties of the position (see Concern M/C-6). The OQA has established a working group to develop training curriculum to be offered to QA Representatives; however, it is not anticipated that any training or qualification will be identified as a requirement (I-F-23).

ANL has no laboratory-wide standards regarding the review, and approval of ANL policies and plans (see Concern M/C-2).

ANL has not established a consistent, comprehensive process to ensure that items and services are only procured from suppliers whose capability to provide items or services of an acceptable quality level has been verified. For items that are purchased routinely, ANL has established 17 standing purchase agreements. The OQA will maintain a listing of qualified vendors for routinely purchased items and will verify this qualified vendors list through the conduct of periodic vendor surveillance audits. This process has yet to be defined in a written procedure. For non-routine purchases though, the vendor qualification process is left to the discretion of the requisitioner. Some organizational units within ANL have developed procedures to address vendor qualification and reference those procedures in their QAP; however, others do not address the subject or do not address it adequately. The ANL Procurement Manual does provide for the establishment of Technical Evaluation Teams, that may conduct vendor surveys, for those procurement actions designated as, "Significant" by the Manager of Procurement. However, the general criteria for determining whether a procurement is "Significant" or not include cost and schedule considerations and do not address other risk factors such as validity of data or safety significance (D-F-61). There is not an ANL process that ensures suppliers of analytical services or safety-related items are qualified prior to selection.

In its capacity as QA oversight, OQA, a subelement of ESH/QA Oversight, is tasked with performing periodic internal independent assessments of the implementation of the ANL QA program. OQA has not developed formal procedures describing how this oversight function will be accomplished, what is expected from the results of the assessments in the way of response, and how identified concerns will be addressed both by line management and by the oversight organization.

ANL has not defined a process for management assessments. It is ANL's intention to use the ES&H Self-Assessment process as a component of Management Assessments; however, this has not been clearly identified as an objective and no plan to meet this objective has been established (I-F-23).

Finally, ANL has not developed an implementation plan that identifies milestones and dates against which to monitor progress of sitewide implementation of the ANL QAPP.

Assessment Strength Number:

M/S-1

Assessment Strength Title:

Oversight of ANL by the University of Chicago's Board of Governors Safety and Environment Committee

Strength

The University of Chicago's Board of Governors Safety and Environment Committee (SEC) continues to be proactive in providing review of and advice ANL organizations with emphases on ES&H performance, ES&H internal and external assessments, unusual occurrence reporting, onsite ES&H evaluations, and review/evaluation of ANL's goals.

Discussion

The Safety and Environment Committee of the University of Chicago's Board of Governors was identified as a Noteworthy practice by the 1990 AIS Tiger Team Assessment. The SEC has continued to be a significant contributor to achievement of ES&H enhancements at ANL.

The SEC membership still includes highly regarded former executives from Commonwealth Edison, Dow Chemical, and a former Secretary of Environment for the State of Florida (I-C-14, 40, and 41). Since the Tiger Team Assessment, the SEC's activities and accomplishments with respect to ANL include the following:

- Involvement in the setting of ESH/OA performance standards, and reviews ANL performance against these standards on a quarterly basis.
- Requests for accumulation of safety and health performance statistics and reviews of trends against established goals.
- Technical reviews of radiological safety to assure the Board of Governors that the Laboratory Director has the correct emphasis on ES&H.
- Reviews the restart of construction activities.
- Participation in briefings and a tour of the environmental controls of effluent discharges from the site.
- Review of the Corrective Action Plan to monitor ANL progress.
- Review of an ANL reorganization plan to ensure that focus of ES&H is appropriate.
- Review of an attitude survey to assess ANL employee morale.
- Review of the waste management program and emergency management review.

- Review of occurrences at ANL to assure the Board of Governors that appropriate attention was applied to the significant occurrences and the repetitive root cause are addressed a timely manner.
- Review of the machine guarding program.
- Review of the Fire Protection Program and Environment Program.

Assessment Strength Number:

M/S-2

Assessment Strength Title:

ANL-E ES&H Training Program

Strength

The ANL-E Training Management System establishes an effective sitewide method for identifying individual ES&H training needs based on assigned responsibilities, and communicating those needs to the individual and their supervisor.

Discussion

The Training Management System (TMS) consists of three main components, the ANL Job Hazards Checklist, a matrix relating required training courses to each question on the checklist, and a computer program that implements the process and tracks training status. The TMS was developed to implement ANL-E training programs and its use is a requirement of the ES&H training program. The strength of the TMS lies in its capability to efficiently and effectively implement ES&H training.

The ANL Job Hazards Checklist consists of 133 questions designed to identify all of the ES&H concerns associated with an individual's job and address the following areas, among others: assigned responsibilities, potential exposure to ionizing and non-ionizing radiation, use of powered equipment, and chemical and bio-hazards. It is a sitewide requirement that this checklist be completed for every new employee and every time an individual's assigned responsibilities are modified. A draft Job Hazards Checklist Guide provides detailed guidance for completion of the checklist.

The training matrix provides a formal method for identifying which training courses each individual needs based on the answers in the checklist. The ES&H Division Training Section has established an ongoing process to identify all regulatory and other necessary training requirements. A new training course is developed or an existing course modified to address these training requirements, and a list of all required training courses is maintained. The Training Section, in conjunction with other ES&H personnel, identified which of these training courses would be required based on the response to every question. As a result, a matrix defining course requirements for every question was established. An ongoing process is implemented to keep this matrix current. The TMS also interfaces with the Medical Surveillance and Occupational Health Survey programs.

The computer system fulfills several key TMS roles associated with automating and tracking its implementation. It is essential that this system be automated because of the large mass of data associated with its implementation; one questionnaire for each of several thousand employees and almost 200 training courses. The responses from each individual's checklist is entered into the database, the computer compares these responses to the training course/checklist matrix, and a list of required courses is developed for that individual. The computer automatically eliminates duplicate training requirements since many checklist questions invoke the same training course. When the training matrix process adds additional training courses and associates them with a checklist question, the computer will review the response to that question on each individual's checklist and, depending on the response, add the new training course to their list of requirements.

The TMS also has the capability to track the training status of every course required for each individual. This status includes last date taken, next due date, and course enrollment status.

Appendix B-2

Assessment Details - Environmental Programs/ Concern, Weaknesses, and Strength

Assessment Concern Number:

E/C-1

Assessment Concern Title:

ANL-E Waste Minimization Program

Performance Objectives

ES&H Performance Objectives and Criteria for Conducting DOE Environmental Audits (Progress Assessment Manual, Appendix B-3, December 1992), Performance Objective WM.7, Waste Minimization/Reduction, requires that a program be in place to ensure that wastes are minimized to the greatest practical extent and that waste minimization activities are performed in accordance with all applicable DOE, Federal, state, and local requirements.

DOE 5400.1, "General Environmental Protection Program," establishes the minimum waste minimization and pollution prevention awareness program requirements that include establishing goals (with projected annual reductions) for minimizing the volume and toxicity of all wastes; development of a written waste minimization plan that is reviewed annually and updated every 3 years, comparing changes in waste quantity, volume, and toxicity that are achieved with the previous year's generation and reporting, as appropriate; and identifying the proposed methods of treatment, storage, and disposal that accomplish waste minimization.

Implementation guidance for DOE 5400.1 states that the combination of DOE 5820.2A, "Radioactive Waste Management," and the Resource Conservation and Recovery Act (RCRA) make waste minimization activities mandatory for DOE's radioactive, mixed, and hazardous waste programs. The basic elements of effective waste minimization and pollution prevention awareness program implementation, which the guidance document suggests be discussed in planning documents include employee training and awareness; conduct of periodic waste minimization assessments/audits; establishment of an explicit program scope; development of objectives and numerical goals, designation of a sitewide waste reduction coordinator; and securing of top management support.

CH 5400.1 issued December 14, 1992, to implement the provisions of DOE 5400.1, requires Area Office managers to require contractor organizations to prepare and submit to DOE for review waste minimization program plans and implement waste minimization programs that meet the programmatic and planning requirements established in the Order.

SEN-37-92, regarding implementation of the Department's Waste Minimization Crosscut Plan, requires field organizations to submit an annual report to DOE Headquarters detailing waste generated by type, waste stream, site program, and progress made to minimize these wastes by April 30, 1993.

Concern

A formalized sitewide waste minimization program has not been established at ANL-E due to lack of priority and support from DOE.

Discussion

The success of any waste minimization program depends on management's ability to provide its operational organizations with a clear set of objectives, goals, and methods for achieving and tracking its waste minimization successes.

In 1988, DOE, by issuing DOE 5400.1, required each of its facilities' line organizations to prepare documented waste minimization program plans that clearly establish goals (with annual reductions) for minimizing the volume and toxicity of wastes, quantitatively capture and track waste minimization achievements, and describe the methods used to accomplish said achievements. The plans are required to be reviewed annually and updated every 3 years.

The activities of the 1990 AIS Tiger Team Assessment resulted in the identification of deficiencies with ANL-E's waste minimization program, including failure to prepare a sitewide waste minimization/pollution prevention program plan; conduct sitewide periodic waste minimization assessments/audits; train employees regarding waste minimization/pollution prevention; establish minimization goals; document minimization accomplishments, and develop methods for achieving those accomplishments. In addition, existing waste minimization initiatives and activities had not received top management support and a sitewide waste reduction coordinator had not been designated.

Coordinated ANL-E sitewide waste minimization efforts continue to be hindered in part by the lack of a revised and approved waste minimization program plan. The plan reviewed and found to be deficient by the Tiger Team (see bullets below) continues to be ANL-E's only existing sitewide program planning document (D-H-2). As a result, waste minimization activities at ANL-E remain independent and are not consistently practiced or integrated on a sitewide basis. Policies and procedures for ensuring that waste minimization becomes an integral part of the planning process for research projects on a sitewide basis have not been established by the contractor. Without the existence of clearly defined waste minimization goals and objectives and documented methods for attaining those goals at the contractor level, CH-AAO cannot evaluate ANL-E's conformance to DOE's waste minimization/pollution prevention goals.

Deficiencies identified with the existing program include the following:

- ANL-E has not conducted waste minimization/pollution prevention awareness training.
- The waste minimization program plan (which was the Plant Facilities Services Plan and never a CH-AAO approved plan) has not been reviewed annually, updated in 3 years, or approved by DOE.
- The waste minimization program plan mentioned above discusses minimization goals and objectives in only general terms and methods for achieving said goals are not documented.
- All ANL-E sitewide waste minimization activities are not coordinated and achievements are not quantified, documented, or tracked and measured on a sitewide basis.

In assessing ANL-E's lack of progress in developing a sitewide waste minimization program plan, the Progress Assessment Team found that although DOE Headquarters responsibility for funding waste minimization program development clearly belongs to the EM group, funding appropriations for preparation of ANL-E's 1990-91 program plan was minimal (\$10,000) (I-D-29). In addition, a consensus opinion exists between ANL-E and CH-AAO staff that 1992 funding requested of EM through the Activity Data Sheet (ADS) process was zeroed out based on DOE's decision that waste minimization at ANL-E was not considered a high priority at ANL-E (I-H-33, 34, 37, 38, 39, and 40). Subsequently, requests for 1993 program plan development and individual minimization project implementation funding was requested primarily by submittal of individual project funding proposals to EM for available surplus funds. Funding was also requested by factoring waste minimization capital expenditure costs into project budget considerations for those projects funded by EM (I-H-14, 34, 38, and 39).

ANL-E and CH-AAO staff agree that although funding for FY 1994 has been secured for waste minimization program planning activities through Headquarters's EM-352 group, EM-352 will not be providing funds for program implementation activities (i.e., process waste assessments) (I-H-28, 34, 37, and 38). Additionally, implementation of sitewide waste minimization projects has not received ER support. Specifically, approval of funding for program implementation has not been provided and clear guidance from DOE HQ regarding the other sources of funding has not been clearly communicated to CH (I-H-33, 38, 39, and 41).

DOE HQ, CH-AAO, and ANL-E staff also indicate that no clear policy has been issued to by DOE HQ establishing which HQ organization (i.e., EM, ER, FM, and LM) will be accepting responsibility for funding waste minimization implementation activities, such as process waste assessments (I-H-33, 34, 37, 38, 39, and 41) (see Concern M/C-3). A memorandum from DOE HQ EM-352 group dated March 1993 communicates EM-352's position regarding the types of waste minimization activities to which EM organization funding can be applied. The memorandum clearly indicates that EM-352 will fund non-generator planning reporting, training, and recycling activities only. The memorandum goes on to state that "...each generator organization is responsible for implementing WMin practices for its own facilities..." (D-H-29).

Notwithstanding the lack of guidance from DOE HQ regarding the source of funding for waste minimization/pollution prevention program implementation, several research and development and facility services operations have minimized their generation of hazardous and mixed waste overall. The following are examples of several independent waste minimization/pollution prevention initiatives which have been undertaken: development of a chemical management tracking system by the Physical Research Directorate; implementation of alternative lead-based painted fire water tower sandblasting methods; use of alternative cleaners for aluminum extrusions by Accelerator Systems Division (ASD); and the EWM/WM Department's recommending the use of non-hazardous scintillation fluors (Ultima Gold) in scintillation cocktails. The lack of a formal waste minimization/pollution prevention program plan has hindered ANL-E primarily in that regardless of these and other individual waste minimization successes, ANL-E has no vehicle for capturing and quantifying this valuable information and ensuring that similar activities (where applicable) are practiced and tracked consistently throughout ANL-E.

Assessment Weakness Number:

E/W-1

Assessment Weakness Title:

CH Integration of Environmental Monitoring Program

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Criterion 2.4.2, states that personnel involved in review of contractor activities ensure that such activities are conducted with formality and rigor and that they fully comply with ES&H requirements established by law, regulation, and DOE policy. Performance Criterion 2.4.2.3 states that contractor-generated ES&H documents are to be reviewed by site office line and oversight organizations, and that formal mechanisms exist for timely approval.

CH 5400.1, "General Environmental Protection Program," Section 6.h.(1) states that the Area Office Managers ensure that contractors or staff develop and implement programs to execute environmental protection compliance regulations, statutes, Executive Orders, DOE Orders, and CH policies; and provide for oversight, confirmation, and independent verification of those programs.

Weakness

CH has not ensured full integration of environmental restoration and sitewide environmental monitoring programs.

Discussion

CH is currently implementing a reorganization to define the roles, responsibilities, and authorities with respect to providing technical assistance to CH-AAO. The responsibilities for identifying and coordinating overlapping issues between environmental monitoring programs in the areas of environmental restoration and sitewide environmental monitoring have not been fully defined (D-G-24 and D-G-32; I-G-11, 12, 15, and 16).

The CH-AAO organizational structure was realigned in 1992 so that environmental protection program oversight staff and the environmental restoration program manager report to the Environmental Programs Branch, located within the Program Management Division. This realignment was implemented to coordinate CH-AAO oversight responsibilities for ANL-E environmental programs. The Environmental Programs Branch is responsible for management and direction of programs and projects in the functional areas of environmental restoration, waste management, and environmental compliance at ANL-E (I-G-11, 14, and 25). The values of the projects in these areas range from several thousand to millions of dollars (D-G-32).

CH reviews ANL-E environmental programs and plans in the oversight of environmental restoration and sitewide monitoring. Approval authority for the Environmental Protection Implementation Plan and the Environmental Long Range Plan resides with the CH Manager. Approval authority of the annual Site Environmental Report has recently been delegated to CH-AAO. CH-ESH Division provides technical assistance to CH-AAO, and concurs on

approval of programs, plans and reports stipulated in CH 5400.1. CH-ERD provides program management support to CH-AAO with respect to restoration program/project management. Among the environmental programs and plans which CH reviews and approves are the following:

- the Environmental Protection Implementation Plan;
- the Annual Site Environmental Report (SER);
- the Environmental Monitoring Plan (EMP), including the Groundwater Monitoring Plan (GMP); and
- the Groundwater Protection Management Plan (GPMP).

Additional CH-AAO specific oversight responsibilities include ensuring that ANL-E has quality assurance programs covering each element of environmental monitoring and surveillance programs which are developed and maintained consistent with DOE 5700.6C, "Quality Assurance," and DOE 5400.1, "General Environmental Protection Program." CH-AAO is responsible to "Ensure that all laboratories (including outside contractor laboratories) performing monitoring and surveillance work in connection with CH operations are appropriately certified in accordance with DOE requirements" (D-G-10).

The CH review system, as defined by CH 5400.1, does not ensure that overlapping restoration and sitewide monitoring issues are integrated in programs, plans, and reports. The CH system does not (1) fully identify potential overlapping issues; (2) coordinate planning, programs, and implementation plans; (3) maximize utilization of environmental data; and (4) ensure the most cost-effective use of environmental data.

Specific observations, from interviews and documents reviewed, with respect to overlapping environmental restoration and the sitewide environmental monitoring program are as follow:

- The EH guidance for DOE 5400.1 states that "EIPs serve as a management tool to assist the field organization managers and staff and their contractors in meeting the requirements of DOE 5400.1." It further states that "The EIP will allow field organizations to address all environmental protection programs and activities in a single, integrated document." The ANL-E Environmental Protection Implementation Plan (EPIP), as approved by CH, has not effectively established a framework within which overlapping sitewide environmental monitoring and environmental restoration issues are identified for, or by CH (D-G-24); nor has CH established a subordinate plan to the EPIP this purpose. Oversight interrelationships in environmental restoration and sitewide monitoring have not been defined by CH, nor has guidance been provided by ER and EM on how these programs are to interface.
- The Annual Site Environmental Report is a defined means by which DOE provides information to the public. The CH Operations Manager and the CH-AAO Manager approve the release of this report and certify to the validity of the monitoring data. As environmental restoration activities have

increased at ANL-E, much more information and monitoring data has been included in this report with respect to these activities. The process by which the Site Environmental Report is reviewed and integrated into environmental restoration activities is neither well defined nor understood by CH and EH (D-G-24; I-G-10, 11, and 15).

- The basis used by CH in 1991 to determine that offsite groundwater monitoring of domestic wells was not needed has not been formally established or documented. Although, records relating to a proposed CH groundwater monitoring project of off site domestic wells existed, those records had not been transferred to the CH-AAO Environmental Programs Branch during the 1992 reorganization. Among these were records related to public meetings, a draft monitoring plan, and information regarding sampling being conducted by local public health authorities (I-G-27).
- The CH-AAO Environmental Programs Branch has not established a system to identify all off site analytical laboratories used by ANL-E for environmental monitoring support. There is no system to evaluate whether these laboratories are appropriately certified in accordance with DOE requirements, or if ANL-E is properly evaluating these laboratories, in such areas as drinking water quality and groundwater surveillance monitoring (I-G-11, 19, and 22). CH is not independently ensuring the data quality requirements supporting environmental monitoring programs are being met. The quality assurance practices used in the groundwater surveillance monitoring program have not been compared to the quality assurance requirements in the environmental restoration program to identify constraints or opportunities to integrate the data from these two programs.

CH has not fully integrated overlapping environmental monitoring program activities and environmental restoration activities which may limit the most cost-effective use of resources and may negatively impact public relations.

Assessment Weakness Number: E/W-2

Assessment Weakness Title: ANL-E Environmental Monitoring Program

Performance Objectives

ES&H Management Performance Objectives and Criteria for Progress Assessments (Progress Assessment Manual, Appendix B-1, December 1992), Performance Objective 4.1, states that ES&H plans and programs are an integral part of sitewide strategic and implementation planning, and of the budgeting process. Performance Objective 4.3.1 states that the human resource requirements for full implementation of ES&H programs are identified and prioritized, and plans ensure that these resource requirements are met.

DOE 5400.1, "General Environmental Protection Programs," Chapter IV, paragraph 4, contains a requirement that each site that uses, generates, releases, or manages significant pollutants or hazardous materials shall prepare a written environmental monitoring plan (EMP). The EMP should contain the rationale for the site's program, should discuss the extent and frequency of monitoring and measurements, laboratory analytical procedures, quality assurance, program implementation, and report preparation. Chapter III, Section 4.a, requires a Groundwater Protection Management Plan.

35 Illinois Administration Code (IAC) 601, 615, 616, and 617, together with Section 14 of the Illinois Environmental Protection Act (IEPA), constitute the Illinois Groundwater Protection Act (IGPA) and establish a program for protection of groundwater, including wellhead protection. In addition to the requirements, best management practices such as those portions of the IGPA which apply to community water supply wells could also be implemented for non-community water supply wells to provide for groundwater protection.

Weakness

The ANL-E environmental monitoring program lacks some elements in the areas of training, procedures, groundwater surveillance, quality assurance, and communication.

Discussion

In 1991, an ANL-E Environment and Waste Management Program (EWM) organization was established by the Chief Operations Officer to consolidate most environmental functions at ANL-E, particularly the DOE-funded Environmental Restoration and Waste Management activities. In 1992, the Monitoring and Surveillance (EWM-M&S) and Environmental Compliance Groups were placed under one Department Head within the EWM. EWM formed a new Administrative Group in 1992 to coordinate budgeting, project management, automation of data, procurement, and quality assurance. Line programs retain responsibility for ES&H implementation, including support divisions such as Plant and Facilities Services (PFS). The Chief Operations Officer has been delegated implementation authority for the environmental protection program from the Laboratory Director (D-G-24).

Substantial increases in resources have been applied to environmental monitoring activities since the Tiger Team Assessment. However, the Progress Assessment Team identified several deficiencies that detract from an otherwise strong environmental monitoring and surveillance program. These deficiencies relate to training, procedures, groundwater

surveillance, quality assurance and quality control, and EWM communications. The observations which support these deficiencies are:

- Portions of a formalized training program have not been established which includes assessing the needs of field staff collecting samples in support of the environmental monitoring program. Practices associated with on-the-job training in sampling procedures are not formal or documented. While staff are actively involved in the development and revisions of these procedures, these documents are not part of a formal document control system. Changes resulting from external appraisals have been incorporated into these procedures (D-G-31; I-G-17 and I-G-19).
- One of the stated purposes of the Groundwater Monitoring Plan with respect to monitoring onsite drinking water wells is to detect potential contamination from site operations (D-G-26). These surveillance activities are neither fully defined nor implemented through monitoring requirements developed in accordance with the Safe Drinking Water Act. No specific monitoring plan has been established for this groundwater surveillance requirement. Quality assurance and quality control for this sampling is designed to meet the data requirements for safe drinking water. Specific target parameters have not been defined in this surveillance monitoring plan with respect to potential contamination from onsite operations, or any potential offsite influences. Action levels, other than drinking water criteria, have not been established to trigger additional surveillance sampling based on background groundwater quality. No groundwater sampling is conducted to establish a background control in the groundwater monitoring program. Deficiencies exist in the system to review, resolve, and document anomalous measurements that are included in the Annual Site Environmental Report, such as the contaminants identified in Production Well #1 in June 1992. In addition, no evaluation has been conducted to determine if this surveillance data will either meet the quality assurance and quality control requirements in support of the planned sitewide hydrogeologic study, or serve as a source of monitoring data that could be utilized in the current environmental program activities (D-G-25, 26, and 28; I-G-19 and I-G-22).
- Implementation plans with respect to the Groundwater Protection Management Program have not been developed. All issues associated with a proactive protection program have not been identified, and some of those identified have not been defined. For example, "risk-based best management practices" which will be applied for preventing or minimizing degradation of groundwater quality have not been defined (D-G-25). In addition, the program does not address Production Well #1A, which has not been in service since the late 1950s. This well has not been abandoned per state water well construction code within the 30-day requirement after it is no longer used for the purpose for which it was intended (D-G-36). A written request has not been submitted to the state indicating the reasons for requesting an exemption from this requirement and an estimate of time in which the well will be sealed or reused. The potential for Production Well #1A to be a route for contamination to move to a deeper aquifer is not being evaluated under the current Groundwater Monitoring Plan.

- Communication within EWM with respect to EWM-M&S monitoring activities are primarily informal. The EWM Manager position was recently vacated. The EWM Environmental Projects Manager position was recently filled. The Quality Assurance Representative within the EWM Support Department, who is updating the EWM Quality Assurance Program Plan to meet DOE 5700.6C, "Quality Assurance," requirements was not aware of the support services provided to EWM M&S by the ANL-E ESH Division with respect to offsite analytical laboratories, nor the methods by which the ANL-E ESH Division evaluations of these laboratories were conducted (I-G-22). An internal 1993 ANL-E-ESH/QA appraisal identified the lack of a formalized method to assure transfer of critical information between EWM programs (D-G-34).

The lack of some elements in an otherwise strong environmental monitoring, surveillance, and compliance program are representative of program weaknesses.

Assessment Strength Number:

E/S-1

Assessment Strength Title:

Water Systems Management Task Force

Strength

The Water Systems Management Task Force has effectively integrated environmental monitoring program considerations into long-range water resource planning in support of the site mission.

Discussion

ANL-E has established a formal Water Systems Management Task Force in cooperation with CH to evaluate options for ensuring further water resource needs. Environmental program compliance and protection requirements are key considerations in the planning strategy. CH, through CH-AAO representation as an observer on the Task Force, has been kept informed since the early stages of the decision-making process.

The Task Force is chaired by the ANL Special Projects Office, which is independent of the line organizations. Environmental program organizations representing compliance and monitoring are interacting with plant facilities services and research line program interest as key participants. Local regulatory authorities have attended meetings and provided input.

Among the principal motivations for forming this task force were to evaluate options regarding use of onsite wells, offsite sources of water, recycling options for industrial water, wastewater treatment upgrades, and to address environmental compliance problems with respect to discharges of total dissolved solids to surface water.

Information resulting from the planning process, such as updated and accurate water usage data and a sitewide water balance study, have utility beyond the Task Force process. The involvement of environmental monitoring and compliance program, plant facilities, and research program interests, and CH has resulted in a comprehensive approach to water usage needs, waste treatment facility and other utilities upgrades, and water recycling options that meets all interest (D-G-20 and D-G-27; I-G-8 and I-G-21).

Appendix B-3

Assessment Details - Safety and Health Programs/Concerns and Strengths

Assessment Concern Number:

S/C-1

Assessment Concern Title:

Operating Procedures at ANL-E

Performance Objectives

ES&H Performance Objectives Criteria for Technical Safety Appraisals (Progress Assessment Manual, Appendix B-4, December 1992) Performance Objective OP.3 states that: "Approved written procedures, procedure policies, and data sheets should provide effective guidance for normal and abnormal operation of each facility on a site." Among the criteria accompanying this performance objective are: (1) the preparation, review, approval, and revision of operating procedures are properly controlled, auditable, and checked for safe operation; (2) a policy governing the use of procedures is implemented, including directions for procedures, which are to be used for general guidance, and which are to be followed step-by-step; action to be taken if procedures conflict; and operator authority to deviate from written procedures in an emergency; (3) temporary changes to procedures are controlled; and (4) operational safety requirements are appropriately incorporated.

Concern

Operating procedures at ANL-E do not contain all elements necessary for effective conduct of operations, and there is a lack of clear guidance regarding expected conformance.

Discussion

No overall ANL-E policy or procedure exists which requires standardized preparation and use of operating procedures, including the following elements necessary for effective conduct of operations: content and preparation; review requirements; approval authority; revision practices and requirements; temporary changes; and required review and reissue frequency.

The closest approximation to such a document is contained in the "Guidelines for Conduct of Operations" (December 1991), but it does not cover all of the above elements (D-I-1'). There is a very wide variation in the use of operating procedures at ANL-E. For example, some organizations are using Chapter 16 of DOE 5480.19, "Conduct of Operations," for guidance on procedures, and others are not using any standardized system.

Of over 30 sets of operating procedure practices reviewed, only two (i.e., those for the Waste Management Operations and Project Management organizations) contained all six of the above elements (D-I-23 and D-I-24).

The element most frequently missing from ANL-E operating procedure systems is a requirement for periodic review and reissue. This is vital to good conduct of operations for several reasons. First, even if the operation itself has not changed; the world, society, and technology are continually changing and better methods for performance may be available. In nearly every instance, a procedure can be improved at least slightly over one written 3 to 5 years earlier. Second, the operating procedures will bear the approval signature of someone workers recognize as having the requisite knowledge and authority, rather than

someone they may not know. Finally, a worker's willingness to adhere to procedures is enhanced in subtle ways if he believes the content is current.

Perhaps the most significant defect in the current situation is the failure to clearly distinguish between "operating procedures" for which verbatim compliance is expected because of ES&H or operational effectiveness reasons, and "guidelines" in which deviations are allowed or may be necessary to effectively incorporate changing conditions. Several sets of procedures reviewed consisted of both operating procedures and guidelines contained in the same manual with the same title and format. Many employees interviewed were unclear about what was expected of them with respect to the procedures they were using. This violates one of the most important principles of conduct of operations, namely clearly identifying workers' responsibilities and management's expectations of them (see also Concern M/C-2, ANL Directives, Policies, and Procedures).

Assessment Concern Number: S/C-2

Assessment Concern Title: ES&H Manual

Performance Objectives

ES&H Performance Objectives and Criteria for Technical Safety Appraisals (Progress Assessment Manual, Appendix B-4, December 1992), Performance Objectives OS.2 and PP.2, state that "procedures and documentation should provide appropriate direction, record generation, and support" for the occupational safety program and personnel protection programs.

Concern

Development and revision of the ANL-E ES&H Manual and safety programs have not kept pace with ANL-E programmatic ES&H requirements.

Discussion

The 1990 AIS Tiger Team Assessment identified deficiencies in the ANL-E ES&H Manual. Specific portions of the manual did not reflect current DOE or OSHA requirements, and other topics were absent from the manual altogether. The manual was not a controlled document, and ANL could not ensure that changes and revisions were incorporated into all copies.

Before the Tiger Team Assessment, ANL initiated an effort to upgrade the ANL-E ES&H Manual. A consulting firm was placed under contract to revise the manual. This effort did not meet ANL-E's expectations and a second effort was initiated after the Tiger Team Assessment using ANL-E staff as authors (I-J-11). There were 63 chapters in the ANL-E ES&H Manual at the time of the Tiger Team Assessment. At the time of this Progress Assessment, there were 85 chapters completed with approximately 25 chapters being revised or under development (I-J-15).

The Progress Assessment Team reviewed the revised ANL-E ES&H Manual and made the following observations:

- Several of the chapters in the manual predate the original Tiger Team Assessment by several years (D-J-35).
- Relevant topics are not always addressed in the manual. For example, there is not a chapter on energetic materials safety even though the laboratory performs experiments using high explosives and stores up to 2 kilograms of high explosives (D-J-35; I-J-5).
- Some chapters necessary for the industrial hygiene program are not in the manual. The Biosafety and Chemical Monitoring chapters have remained in draft form for over a year. The Lighting and Ergonomics chapters have yet to be drafted. Cryogenics Safety is still in draft form (see Section 2.4.3, Industrial Hygiene/Health Physics Programs).

- Chapter 10-1 was rendered obsolete by a reorganization, and the revised chapter is not expected to be completed until early next year. This is the primary document that assigns organizational and individual responsibilities for Environmental Program implementation (see Section 2.2.5, Organization, and Section 2.4.1, Conduct of Operations Program).
- The relationship between the ANL-E ES&H Manual and other elements within ANL-E's directive system is not well defined, and implementing procedures are infrequently prepared (see Section 2.2.4, Directives).

Assessment Strength Number:

S/S-1

Assessment Strength Title:

Implementation of Conduct of Operations by a Graded Approach at ANL-E

Strength

A unique and effective methodology was employed for application of conduct of operations by a graded approach at ANL-E.

Discussion

ANL-E is a complex organization employing a diverse number of activities with highly varying hazard levels and risk potentials. Creating a system for uniformly and effectively applying a graded approach to implementing conduct of operations presented a real challenge, and ANL-E met this challenge very effectively (D-I-1 and D-I-2).

Conduct of operations is basically administered at the division level, but each division was divided into subunits conducting different types of activities. There were a total of 150 subunits defined. Each subunit was required to complete a standard assessment questionnaire that assigned varying points for varying elements of their activities. The questionnaire scoring system was deliberately weighted so that facilities with either high hazards (e.g., Argonne Tandem Linear Accelerator System and Alpha-Gamma Hot Cell Facility) or high programmatic importance (e.g., Boiler House, Telecommunications, and Fire Department) would be considered high risk potential or Level I facilities. Ten Level I facilities were identified, and these were required to implement all conduct of operations guidelines. The remaining 140 organizational subunits were equally divided between Level II (moderate risk potential) and Level III (low risk potential) requiring successively less stringent application of conduct of operations.

Each of the organizational subunits was then required to complete a standardized applicability assessment showing which conduct of operations guidelines or aspects were applicable and providing documented statements as to why the others were not.

Finally, each of the subunits prepared a documented list of deficiencies that needed to be corrected to apply the graded implementation of conduct of operations to their activities and to prepare an action plan for doing so. In all, over 1,000 required upgrades were identified and action plans were created for their implementation.

This methodology was vital to getting implementation of conduct of operations at ANL-E off to a good start with uniform implementation of the graded approach across the 150 organizational subunits.

Assessment Strength Number: S/S-2

Assessment Strength Title: ANL-E Construction Safety Program

Strength

CH-AAO and ANL-E have developed and implemented an effective construction safety program.

Discussion

Following the 1990 AIS Tiger Team Assessment, ANL-E developed the Plan for Restart of Construction at the ANL-Illinois Site to incorporate improvements in the management of its construction activities (D-J-37). The Plan for Restart Construction at the ANL-Illinois Site was far more than a conventional construction safety plan or program. It embodied a radical change in philosophy of how construction projects are managed at ANL-E. Safety is totally integrated into the construction process from conceptual design through completion of the project.

The ANL-E construction safety process now includes the following features (D-J-2):

- Safety disciplines participate in the design process, beginning with the conceptual design and continuing through Title II.
- Safety responsibilities for the ANL-E Plant Facilities and Services Project Manager have been strengthened and documented.
- A baseline safety review is prepared as a part of the planning and budgeting process.
- A safety review is performed prior to release of procurement packages to ensure that safety-related issues are covered. There is active participation by Safety Engineering in the procurement process.
- Potential construction subcontractors must provide evidence of their safety performance in addition to providing a safety plan. This information is validated and considered a part of the contract award process. Subcontractors who have bad safety records and who cannot demonstrate improvement do not get contracts.
- Safety performance on the job is heavily monitored by the ANL-E Plant Facilities and Services Division (PFS); ESH Division; and CH-AAO. The Plant Facilities and Services Construction Facilities Representatives visit construction sites daily, Safety Engineering visits construction sites twice daily, and CH-AAO inspects construction sites at least weekly.
- Subcontractors employees are required to attend an ANL-E safety training class. Daily rosters of subcontractor employees working onsite are maintained and checked against training records.

- Subcontractors are required to have an OSHA-trained safety representative on the job at all times. ANL-E makes this 10-hour OSHA training available to subcontractors at no charge.
- Construction equipment such as cranes and forklifts is inspected upon arrival and before use at ANL-E. If the equipment does not meet OSHA requirements, it is not allowed on site.
- Subcontractors who are unable or unwilling to work safely and in accordance with ANL-E ES&H requirements are removed from the job site.
- Safety performance of individual subcontractors is tracked in a database which is used in determining awards for future work in addition to monitoring and documenting current safety performance.
- CH-AAO holds monthly meetings with PFS, ESH Division, and Environmental Waste Management (EWM) to discuss construction safety issues.

ANL-E has recently converted the program established in the Plan for Restart Construction at the ANL-Illinois Site into a construction safety manual consistent with AIS's revised directive system (I-J-2). Because this program incorporated the system and controls established in the restart plan, the program is fully implemented.

As a result of implementation of the construction safety program, subcontractors at ANL-E have become more safety conscious and their accident rates have dropped by approximately 50 percent compared to where they were at the time of the Tiger Team Assessment (I-J-5). In addition to fewer occupational injuries and illnesses, subcontractors have benefitted through lowered insurance rates and a knowledge base that is transferrable to other subcontracting opportunities. Subcontractors who have been successful at ANL-E have been able to use their knowledge base to secure subcontracts for other projects where safety is emphasized (I-J-2 and I-J-4).

Assessment Strength Number:

S/S-3

Assessment Strength Title:

**CH-AAO Facility Representative Program for
Safety and Health Oversight**

Strength

CH-AAO has developed a Facilities Representative Program (FR) that provides for the effective oversight and surveillance of ANL-E's industrial hygiene, occupational safety, and health physics programs.

Discussion

The CH-AAO FR Program is currently in its fifth quarter of operation, and there are 13 FRs. The program is structured so that FRs are assigned to buildings, rather than to individual ANL-E divisions. These assignments are based, as much as possible, on the individual FR's area of expertise. For example, a CH-AAO health physicist would be assigned to buildings where there are significant sources of ionizing radiation. FRs have also relied on each others capabilities when reviewing items outside of their areas of expertise by performing joint inspections. The frequency of inspections depends on the risk associated with the building; generally, those with significant occupational hazards are inspected monthly, others quarterly. To become an FR, a significant amount of training is required in conduct of operations, OSHA compliance, industrial hygiene, and other specialized areas. The CH-AAO FR Inspection Tracking System provides a comprehensive, consistent, and easy to use method for scheduling, tracking, and recording the results of building inspections (D-K-22; I-K-18, 28, and 30).

The FR Program is maturing, and is strongly supported by the CH-AAO Area Manager. While there have been problems meeting the aggressive monthly inspection schedules, adherence to them has been made part of the performance evaluations of both FRs and their supervisors. Plans are in place to hire an additional health protection specialist. The FR Program's goal of getting CH-AAO industrial hygienists, safety engineers, and health physicists into contractor facilities on a scheduled basis is an excellent one that will contribute to enhanced ANL-E compliance to ES&H requirements.

Appendix C

Biographical Sketches of Team Members

NAME: George E. Detsis

AREA OF RESP: Team Leader

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 16 Years

- U.S. Department of Energy, Office of Special Projects (EH-5), Washington, DC
 - Office of Special Projects. Team Leader for the Argonne National Laboratory and Pantex Plant Progress Assessments. Team member of the Lawrence Livermore National Laboratory Progress Assessment. Tiger Team Management Subteam Leader for the National Renewable Energy Laboratory and Assessment Coordinator for Lawrence Berkeley Laboratory (LBL), Energy Technology Engineering Center (ETEC), Stanford Linear Accelerator Center (SLAC), Hanford Site, and Rocky Flats Plant. Lead Corrective Action Plan workshop training sessions.
 - Environmental Compliance Officer for Defense Programs, Office of Military Application, Environmental Programs Division. Environmental program leader for budgeting, environmental permitting, National Environmental Policy Act (NEPA) compliance, and Tiger Team liaison for DOE Defense Program sites.
 - Assistant Team Leader for the Environmental Surveys. Planned activities in preparation for the onsite surveys, team management, report preparation, sampling and analysis, and Environmental Survey Prioritization of findings.
- U.S. Department of the Interior, Bureau of Land Management, Portland, OR; Denver, CO; Riverside, CA
 - Policy Analyst and Special Assistant to the Oregon/Washington State Director. Planned, programmed, and budgeted forest resource allocations, and land use management.
 - Project Manager for multi-state energy-related EISs. Conducted public scoping meetings and directed interdisciplinary teams in preparing draft and final EISs.
 - Outdoor Recreation Planner. Responsible for recreation and wilderness programs in the California Desert Conservation Area.
- U.S. Congress, Washington, DC
 - Legislative Assistant for Energy/Environmental to Congressman Lloyd Meeds.

EDUCATION: M.S., Forest Resource Management, University of Washington
B.S., Outdoor Recreation Management, University of Maryland

NAME: Yvonne M. Garbe
AREA OF RESP: Associate Team Leader
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 20 Years

- U.S. Department of Energy, Office of Special Projects, Washington, DC
 - Progress Assessment Team Leader for the Morgantown Energy Technology Center in Morgantown, WV. Progress Assessment Team member for the Savannah River Site in Aiken, SC. Progress Assessment Coordinator for the Brookhaven National Laboratory in Upton, NY.
 - Management Subteam Leader for the Strategic Petroleum Reserves Tiger Team Assessment in New Orleans, LA. Assistant Management Subteam Leader, Assistant Environmental Subteam Leader, or EH-5 Coordinator for Tiger Teams conducted at the Feed Materials Production Center, Fernald, OH; Pantex Plant, Amarillo, TX; Portsmouth Gaseous Diffusion Plant, Piketon, OH; Lawrence Livermore National Laboratory, Livermore, CA; Argonne National Laboratory, Argonne, IL; Hanford Site, Richland, WA; Lawrence Berkeley Laboratory, Berkeley, CA; Sandia National Laboratories, Albuquerque, NM; National Renewable Energy Laboratory (formerly SERI) Golden, CO; and the Los Alamos National Laboratory, Los Alamos, NM.
 - Environmental Compliance Coordinator of environmental compliance and oversight issues applicable to Federal, state, and local environmental regulations for DOE Headquarters and the San Francisco Operations Office and field operations.
- U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC
 - Project Manager of programs established to identify and characterize hazardous waste and constituents for potential listing under the Resource Conservation and Recovery Act (RCRA). Specialized in industrial manufacturing wastes, mixed wastes, and synfuels.
- Monsanto Research Corporation, Mound Laboratory, Miamisburg, OH
 - Waste Management Office. Responsible for management of nonradioactive waste.

EDUCATION: M.S., Environmental Engineering, University of Cincinnati
B.S., Biology, Wayne State University

NAME: Ronald E. Alexander (Onsite Assessment)

AREA OF RESP: OSHA and Construction Safety

ASSOCIATION: Environmental Management Associates

EXPERIENCE: 23 Years

- Environmental Management Associates, Safety and Environmental Management Consultant
 - Safety and Industrial Hygiene Consultant. Draft safety and industrial hygiene program description documents for DOE prime contractors. Participant in Tiger Team Assessments, Oversight Assessments, and Progress Assessments. Provide OSHA compliance assistance and training.
 - Environmental and Waste Management Consultant. Perform Environmental Liability Assessments. Involved in air, water, solid and hazardous waste permitting and chemical spill response and environmental remediation and waste management program description documents for DOE prime contractors.
 - Provided assistance and training related to OSHA Compliance.
 - Conducted environmental liability assessments, environmental and hazardous waste permitting, and environmental remediation.
- Mason & Hanger-Silas Mason Company, Inc.
 - Departmental Scientist. Managed health physics, industrial hygiene, environmental protection, and waste management programs.
 - Senior Industrial Hygienist/Health Physicist. Responsible for issues related to health physics and industrial hygiene.
 - Industrial Hygienist/Health Physicist. Responsible for field-level activities involving health physics and industrial hygiene.
 - Area Safety Engineer. Responsible for field-level occupational and explosives safety issues in designated plant areas.

EDUCATION: B.S., Physics, Texas Tech University

NAME: Sheryl J. Boutté
AREA OF RESP: Corrective Action Program
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 20 Years

- U.S. Department of Energy, San Francisco Operations Office (SF), Oakland, CA
 - Special Assistant, Office of the Assistant Manager for Energy Programs. Responsible for providing management oversight and coordination of programmatic and administrative activities for the four offices reporting to the Assistant Manager for Energy Programs. The offices are the (1) Berkeley Site Office, located at the Lawrence Berkeley Laboratory (LBL); (2) Stanford Site Office, Stanford, CA; (3) Energy Technology Engineering Center, Canoga Park, CA; and (4) Nuclear Energy Programs Division, Oakland, CA. While on detail assignment to the DOE Headquarters Office of Energy Research (ER) in 1993, designed and issued guidance for the ER ES&H Progress Review of the Lawrence Berkeley Laboratory.
- U.S. Department of Energy, Berkeley Site Office, Berkeley, CA
 - Site Manager, Berkeley Site Office. Responsible for all activities between SF and LBL and execution of line management functions for environment, safety, health, quality assurance, and emergency preparedness. Led the completion of the 1990 Tiger Team Assessment of LBL including the development of the Corrective Action Plan, and design and implementation of the Corrective Action Plan tracking and monitoring systems used by the Berkeley Site Office.
 - Contracting Officer, Stanford University Contract. Responsible for the planning, negotiation, and administration of the DOE management and operating contract with Stanford University.
 - Program Manager, Solar in Federal Buildings Program. Supervised the activities of 23 Rockwell International engineers who provided support in the areas of design review, construction, operation, and acceptance testing for 725 nationally located solar demonstration projects.

EDUCATION: B.A., English, Mills College, Oakland, CA

OTHER: DOE Tiger Team Training
DOE Fundamentals of Operations Training

NAME: James A. Buckham
AREA OF RESP: Conduct of Operations
ASSOCIATION: Private Consultant
EXPERIENCE: 40 Years

- JAB, Inc.
 - Private Consultant. Team member on Technical Safety Appraisals at the Feed Materials Production Center, Y-12 Plant, Rocky Flats Plant, West Valley Demonstration Project, Portsmouth Gaseous Diffusion Plant, Savannah River Laboratory, Brookhaven National Laboratory, Paducah Gaseous Diffusion Plant, Oak Ridge National Laboratory, Idaho National Engineering Laboratory, Stanford Linear Accelerator Center, and Fermi National Accelerator Laboratory (Fermilab). Progress Assessment Team Member, Lawrence Livermore National Laboratory.
 - Oversight Team Leader to assure safe, effective restart of the Sequoyah Facility.
- Allied-General Nuclear Services
 - Executive Vice President and President with overall responsibilities for the Barnwell Nuclear Fuels Plant.
- Idaho National Engineering Laboratory
 - Research and development, operations, and management at the Idaho Chemical Processing Plant.

EDUCATION: Ph.D., Chemical Engineering, University of Washington
M.S., Chemical Engineering, University of Washington
B.S., Chemical Engineering, University of Washington

OTHER: Fellow Member, American Institute of Chemical Engineers
Member, Tau Beta Pi
Member, Sigma Xi
Member, American Nuclear Society
Member, American Chemical Society
Instructor, University of Washington
Adjunct Professor, University of Idaho

NAME: Richard D'Ermilio (CHMM)

AREA OF RESP: Hazardous/Mixed Waste Generation Practices and Waste Minimization Program

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 8 Years

- Arthur D. Little Inc.
 - Participated in Tiger Team Assessments of the Pittsburgh Energy Technology Center, National Renewable Energy Laboratory (formerly SERI), Los Alamos National Laboratory, Oak Ridge K-25 Site, and the Fermi National Accelerator Laboratory as a waste management specialist for the Environmental Subteams, and as a team member on the Progress Assessment of the Oak Ridge Y-12 Site. Also participated as the toxic and chemical materials specialist at the Naval Petroleum and Oil Shale Reserves, and evaluated the effectiveness of waste management programs for the Super Conducting Supercollider project.
- A.W. Chesterton Company
 - Responsible for the corporate hazardous and special waste management program, including identifying and characterizing hazardous wastes, formulating and implementing a waste tracking program, interacting with waste disposal/treatment vendors, and managing empty containers.
 - Developed and implemented facility-specific emergency contingency planning procedures.
 - Trained facility employees in proper accumulation and management of hazardous and special waste.
 - Developed a corporate underground storage tank (UST) management program.
- Chemical Waste Management
 - Managed a waste disposal contract for the Federal Government Defense Reutilization and Marketing Office (DRMO) that involved identifying, characterizing, packaging, and removing surplus hazardous materials located at Federal Government facilities throughout New England.
- S.E.T. Environmental
 - Managed a project for Commonwealth Edison of Illinois that involved the removal of soils and decontamination of sites contaminated with polychlorinated biphenyls (PCBs).

EDUCATION: B.A., Environmental Science, State University of New York College at Purchase

OTHER: Certified Hazardous Materials Manager

NAME: Jessica L. Johnston
AREA OF RESP: Quality Assurance
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 8 Years

- U.S. Department of Energy, Pittsburgh Energy Technology Center (PETC), Pittsburgh, PA
 - Quality Assurance Officer. Develops, maintains, and coordinates implementation of PETC's Quality Assurance Program. Team Leader for assessments, including management appraisals performed as part of PETC's self-assessment efforts. Representative on Pittsburgh Federal Executive Board Quality Council. Fossil Energy Quality Improvement Team participant.
 - In-House Energy Manager, Quality Assurance Coordinator. Responsible for managing PETC's In-House Energy Management Program, including developing energy-conserving retrofit project proposals, performing life-cycle cost analyses, preparing requests for proposal, monitoring construction/renovation projects, and providing for energy conservation awareness throughout PETC. Provided quality assurance input to PETC's Environment, Health, and Safety (EH&S) Program, including development of computer-based EH&S information management systems and development of program quality assurance and self-assessment documents.
- U.S. Department of Defense, Navy, Orlando, FL; Colts Neck, NJ; Corona, CA
 - Naval Training Systems Center, Engineering Support Division. Participated as reliability, maintainability, and quality assurance team member on acquisition of training systems. Developed Statement of Work and technical specification inputs, supported Source Evaluation Boards, conducted pre-award surveys, and post-award conferences, lead reliability and maintainability demonstrations, and performed Failure Mode Effects and Criticality Analyses and Maintainability Analyses.
 - Naval Weapons Handling Center, Product Assurance Group. Quality assurance responsibilities for weapons packaging, handling, storage, and transportation equipment, design, fabrication, inspection, and acceptance testing.
 - Department of the Navy, Civilian Logistics Intern Program, Reliability, Maintainability, and Quality Assurance Engineering Intern. Six months of classroom training in curriculum ranging from statistics to major systems acquisition.

EDUCATION: B.S., Management Engineering, Grove City College

OTHER: Member, American Society for Quality Control

NAME: John R. Kirby

AREA OF RESP: Oversight
Directives

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 16 Years

- Pinellas Area Office, Administrative Officer/Administrative Branch Chief, Largo, FL
 - Serves as principal advisor to the Area Manager on administrative and technical matters. Duties include planning, directing, and executing DOE programs in the following areas: contracts, security, industrial relations, management directives, budget, public affairs, and DOE oversight and ensuring that contractor's have appropriate policies/procedures in place to meet DOE Orders, regulations, laws, and other requirements.
- Amarillo Area Office, Pantex Plant, Amarillo, TX
 - Detailed to the Amarillo Area Office as the Assistant Area Manager for Operations. Responsible for the production, disassembly, and quality assurance of nuclear weapons for the DOE Pantex Plant.
- Pinellas Area Office, Chief Program Management Branch, Largo, FL
 - Oversight of contractor in facility/maintenance/utility operations and management, construction activities, classification, development/production/weapon programs, reimbursable programs, computer integration and support, technical information and patents, site planning, nuclear materials management, real property, and emergency preparedness.
- Pinellas Area Office, Chief, Programs and Operational Surety Branch, Largo, FL
 - Developed and implemented operational surety program, including surveys, data bases, trending, project management, and risk assessment/safety analysis, and developed safety analysis report.

EDUCATION: B.S., Mechanical Engineering, University of Texas, El Paso

NAME: Othalene J. Lawrence
AREA OF RESP: Self-Assessment
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 13 Years

- U.S. Department of Energy, Office of Management and Resources, Washington, DC
 - Facility Systems and Coordination Division. Environmental Program Manager for Energy Efficiency and Renewable Energy (EE). Coordinated and implemented a series of training sessions entitled "Environmental Laws and Regulations" for senior and mid-level managers. Provide day-to-day guidance on environmental issues to line organization and establish policies specific to EE programs/projects. Subsequently, developed draft Environmental Requirements document for EE's line organization.
 - Principle Self-Assessment Working Group member responsible for developing the DOE June 1992 Self-Assessment Guidance Document.
 - Observer during the Southwestern Power Administration (SWPA) Environmental Management Assessment. Assisted in the development, review, and concurrence of the SWPA and Alaska Power Administration Corrective Action Plans.
 - National Environmental Policy Act Compliance Officer (NCO). Provide day-to-day guidance to EE. Subsequently developed EE Headquarters draft National Environmental Policy Act Requirements Document. Panelist during the Denver, CO, NCO Conference.
- U.S. Federal Aviation Administration, Washington, DC
 - Environmental Program Manager for Headquarters and field underground storage tank, PCB, and Superfund Clean-Up programs. Environmental Workshop Coordinator for Headquarter and field meetings.
- U.S. Environmental Protection Agency, Washington, DC
 - Office of Solid Waste, Special Projects Division. Developed reports to Congress on Medical Waste. Developed and gave training to medical professionals and other members of the regulated community. Developed educational brochures concerning household medical waste for the general public and insulin-dependent children.
- U.S. Department of the Navy, Washington, DC
 - Managed various Environment, Safety, and Health field office and satellite facilities. Conducted routine environment and safety inspections.

EDUCATION: M.S., Environmental Science, George Washington University
B.S., Zoology, Howard University

NAME: John A. Leonowich

AREA OF RESP: Industrial Hygiene/Health Physics Programs

ASSOCIATION: Battelle, Pacific Northwest Laboratory (PNL)

EXPERIENCE: 17 Years

- Battelle, Pacific Northwest Laboratory (PNL), Richland, WA
 - Staff Scientist and Group Technical Leader, Dosimetry Research Section. Project Manager for PNL's Industrial Hygiene Projects with EH-412. Project Manager for PNL's Applied Health Physics Research Programs with DOE Headquarters.
 - Team member on the Oak Ridge National Laboratory (ORNL), Y-12, Energy Technology Engineering Center (ETEC), and Pittsburgh Energy Technology Center (PETC) Tiger Team Assessments, and the Mound Progress Assessment.
 - Actively engaged in several industrial hygiene/health physics projects for a number of other Federal/DOD agencies.
- United States Air Force, Patrick AFB, FL
 - Radiation Protection Officer/Alternate Bioenvironmental Engineer, Eastern Space and Missile Center.
- United States Air Force, Brooks AFB, TX
 - Staff health physicist responsible for USAF personnel dosimetry program and instrument calibration program. Also, provided health physics consultative services to USAF facilities worldwide.

EDUCATION: Ph.D, Engineering Science (Radiological), Rensselaer Polytechnic Institute
M.S., Nuclear Engineering, Rensselaer Polytechnic Institute
B.S., Physics, Rensselaer Polytechnic Institute

OTHER: Chairperson, General Radiation Protection Section of the Health Physics Society's Standards Committee.
Member Control Measures Group, ANSI Z136.1 Committee on Laser Safety.
Secretary, Subcommittee 2 of ANSI/IEEE SCC28 Committee on Radiofrequency/Microwave Safety.
Member of Health Physics Society, American Nuclear Society, Laser Institute of America, Bioelectromagnetics Society, American Industrial Hygiene Association, and American Conference of Governmental Industrial Hygienists.
Associate Member, American Academy of Health Physics.

NAME: Charles B. Lewis

AREA OF RESP: Environmental Monitoring Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 16 Years

- U.S. Department of Energy, Office of Environmental Audit (EH-24)
 - Environmental Engineer. Principal responsibilities include leading multi-disciplinary teams of professionals in performing Environmental Assessments and Audits of DOE facilities.
- State of Maryland, Department of Environment
 - Experience includes 9 years with the State of Maryland, Department of the Environment as Program Administrator, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) programs; Division Chief, CERCLA Pre-Remedial Division; Section Head, Hazardous Waste Enforcement Division; and Investigator with the Hazardous Waste Inspection Team.
- Private Environmental Consultant
 - Worked as a project manager, design engineer, and water/wastewater treatment plant operator for environmental consulting firms.

EDUCATION: B.T., Civil Engineering, Rochester Institute of Technology

OTHER: Certified Hazardous Materials Manager (CHMM)
DOE Certified Accident Investigator

NAME: Richard B. Lynch

AREA OF RESP: Technical Editor

ASSOCIATION: META, Inc.

EXPERIENCE: 6 Years

- META, Inc., Arlington, VA
 - Technical Editor. Provided technical writing and editing support on 13 Tiger Team Assessments, 9 Progress Assessments, and 5 Environmental Audits. Also, oversees the preparation of the camera-ready copy of final assessment and audit reports for DOE's Office of Special Projects and Office of Environmental Audit.
 - Writer/Editor. Provided technical writing and editing support to DOE's Office of New Production Reactors (NPR), including writing NPR's Correspondence Manual and a variety of technical articles for publication.
- Advanced Sciences, Inc., Arlington, VA
 - 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: Steven Masciulli

AREA OF RESP: Human Resources Management
Formality of Operations

ASSOCIATION: Vertechs Corporation

EXPERIENCE: 18 Years

- Vertechs Corporation, Syracuse, NY
 - Senior Technical Specialist. Responsible for quality assurance, health physics, dose assessments, emergency planning, audits, appraisals, and computer applications. Served on five DOE Tiger Teams and Environmental Audit Teams. Designed and performed analyses for several radioactive waste storage facilities. Performed management reviews of radiological engineering practices at five DOE sites. Participated on several Progress Assessments and in the development of the Progress Assessment Manual.
- Cygna Group, Boston, MA
 - Division Manager and Senior Technical Specialist. Responsible for managing health physics, quality assurance, emergency planning and computer application groups. Performed numerous investigations, audits, and appraisals of health physics, waste, environmental, and effluent monitoring, and control programs. Served on Nevada Test Site Tiger Team. Developed and operated database and software for analyzing offsite dose, radiological effluents, control room habitability, meteorological dispersion, and radiation shielding. Supervised environmental monitoring analytical laboratory.
- New York Power Authority, White Plains, NY
 - Senior Radiological Appraisal Specialist. Responsible for developing and implementing appraisal program for health physics, waste, effluent, and environmental monitoring programs, including management evaluations.
 - Supervisory Radiological Engineer. Supervised an engineering group responsible for developing and implementing health physics, waste, and environmental programs for two nuclear power plants.
- Consolidated Edison Company of New York, Inc., New York, NY.
 - Nuclear Environmental Monitoring Engineer.
- General Dynamics Corporation, Electric Boat Division, Groton, CT.
 - Radiological Control Engineer.

EDUCATION: M.S., Applied Science, New York University
B.S., Radiological Sciences, Lowell Technological Institute

NAME: Gary L. Pelton (Initial Site Visit)

AREA OF RESP: OSHA and Construction Safety

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 25 Years

- U.S. Department of Energy
 - Site Representative at Rocky Flats. Responsible for conducting programmatic performance of safety program implementation at DOE offices within the Rocky Flats region.
- Occupational Safety and Health Administration (OSHA)
 - Research and report writing relative to construction safety. Co-authored a 77-page OSHA report "Analysis of Construction Fatalities," the OSHA Data Base 1985-1989, and a roofing safety publication at the request of the National Roofing Contractors Association. Was a member of the OSHA Standards Committee on lead exposure for construction.
- Bureau of Reclamation
 - Managed a safety and health program for six hydroelectric powerplants and a variety of construction. Responsibilities included safety, health, industrial hygiene, medical, hearing conservation, and fleet vehicle safety.
- U.S. Army
 - Managed an installation safety and health program for civilians, military personnel, and dependents.
- Mine Safety & Health Administration
 - Conducted regulatory compliance of safety and industrial hygiene at surface and underground mining and construction activities.
- Contractor
 - Miscellaneous construction contractors in private industry. Held miscellaneous management/non-management positions in the construction mining industry, primarily in tunneling and shaft-sinking.

EDUCATION: Miscellaneous Safety and Health Training

OTHER: OSHA Certified Instructor, Surface and Underground
OSHA 500 Construction Trainer Certification
Certified Audiometric Technician
Accredited NIOSH 582 Asbestos Microscopist
Workers Compensation Specialist Certification

NAME: Louis A. Rancitelli

AREA OF RESP: Organization
Planning, Budgeting, and Resource Allocation

ASSOCIATION: Private Consultant

EXPERIENCE: 26 Years

- Private Consultant, Columbus, OH
 - Participated in the DOE ES&H Progress Assessments of the Hanford Site, Nevada Test Site, Savannah River Site, Rocky Flats Plant, and Idaho National Engineering Laboratory, supported the DOE Office of Special Projects' strategic and subordinate implementation planning initiative. Also, participated on a DOE-HQ Task Force to develop Corrective Action Program Performance Objectives and Criteria for Progress Assessments.
- Battelle, Columbus, OH
 - Senior Technical Advisor. Participated in the Tiger Team Assessments of Lawrence Livermore National Laboratory, Paducah Gaseous Diffusion Plant, Lawrence Berkeley Laboratory, Energy Technology Engineering Center, Sandia National Laboratories, Idaho National Engineering Laboratory, Pittsburgh Energy Technology Center, Stanford Linear Accelerator Center, and Naval Petroleum Reserves in California as a member of the Management Subteams. Conducted a triennial appraisal (DOE Order 5482.1B) of the Brookhaven National Laboratory.
 - Participated on DOE-HQ Task Forces to develop ES&H Management Performance Objectives and Criteria for use in Tiger Team Management and Organization assessments and Progress Assessments. Provided strategic planning support to the DOE-HQ Office of Security Evaluations.
 - Manager of Nuclear Technology. Managed the Battelle West Jefferson, Ohio Nuclear Facility; a hot cell facility, a decommissioned reactor, a plutonium facility undergoing decontamination and decommissioning, and a radio-analytical facility. Responsible for compliance with DOE, Nuclear Regulatory Commission (NRC), and other local, state, and Federal regulations related to nuclear facility operations. Areas include nuclear materials storage, handling and transportation, waste characterization and disposal, criticality safety, health physics, worker safety, and environmental protection.
 - Associate Director, Corporate Technical Development. Managed corporate-wide IR&D programs and conducted corporate-wide strategic and subordinate implementation planning.

EDUCATION: Ph.D., Nuclear Science and Engineering, Cornell University
B.S., Chemical Engineering, Drexel Institute of Technology

Senior Executive Program, The Wharton School, University of Pennsylvania
National and International Security Program, John F. Kennedy School of Government, Harvard University

NAME: Millicent L. Stokes

AREA OF RESP: Special Assistant

ASSOCIATION: Advanced Sciences, Inc.

EXPERIENCE: 7 Years

- Advanced Sciences, Inc., Arlington, VA
 - Task Leader. Manage various document preparation and production tasks (e.g., manuals, fact sheets, reports, proceedings, and brochures) for the U.S. Department of Energy's (DOE's) Office of Special Projects (OSP) at DOE Headquarters. Responsibilities include developing work plans, writing, editing, and producing graphics.
 - Technical Editor. Provided onsite administrative oversight, technical editing, and graphics support to the Environmental and Management Subteams of 12 Tiger Team Assessments. Edited the draft assessment reports and oversaw the preparation of the camera-ready copy of final assessment reports for OSP. Also, participated in the Environmental Audit of the Southwestern Power Administration for DOE's Office of Environmental Audit.
 - Writer/Editor. Researched, wrote, and edited fact sheets and information briefs on energy conservation and renewable energy for a DOE—funded energy information service. Also, managed the service's information brief system and supervised media outreach for the project.
 - Response Analyst/Media Liaison. Analyzed and researched inquiries on energy from the general public, U.S. Congress, and trade associations. Also, wrote information briefs and assisted with media outreach.
- The Rocky Mount Record, Rocky Mount, North Carolina
 - News Editor/Reporter. Edited news copy, wrote news and feature articles, and took photographs.
- Givens Performing Arts Center, Pembroke State University, Pembroke, NC
 - Theatrical Management Assistant. Wrote articles and press releases about events and performances for the Center's newsletter and media.

EDUCATION: B.A. (*cum laude*), Journalism/Communicative Arts; minor in Public Relations, Pembroke State University

OTHER: Member, Society of Technical Communication

NAME: Helen C. Walters

AREA OF RESP: Administration

ASSOCIATION: META, Inc., Arlington, VA

EXPERIENCE: 25 Years

- META, Inc., Arlington, VA
 - Administrator. Provided administrative support for the U.S. Department of Energy (DOE) on 10 Tiger Team Assessments, 5 Environmental Audits, and 4 Environmental Management Audits. Provides administrative support for final Tiger Team and Environmental Audits and Environmental Management Assessment reports.
 - Provided support for production of the Self-Assessment Training course for the Office of Special Projects (EH-5).
 - Provided support for production of the Seminar on Radiological Concepts training course for the Office of Environmental Audit (EH-24).
 - Assisted in production of the draft Administrative Support Procedures and Guidance for the Office of Environmental Audit.
- Cate & Associates, Chartered, Arlington, VA
 - Administrator. Served as Executive Assistant with administrative responsibilities for filing estate accounting in excess of \$125,000 to the Commissioner of Accounts; liaison with attorneys and the courts with regards to these accounts; and handled accounts receivable and payable.
- National Council of Farmer Cooperatives, Washington, DC
 - Administrator. Responsible for administration of financial and human resources for a staff of 13 professional and 13 support staff. Duties in the area of finance included the preparation and oversight of an annual operating budget of \$2.5 million with reporting responsibility to a committee composed of board members. Duties in the area of human resources included hiring and training of all support staff, and developing and coordinating employee benefits packages. Responsible for accommodating 65 employees in newly constructed, 17,000-square-foot office space.

EDUCATION: B.S., Business, Kent State

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Appendix D

Progress Assessment Scopes

PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

Name:	Sheryl J. Bouttè	Date:	9/5/93	Rev. #:	0
Telephone #:	510/637-1659	Fax #:	510/637-2002		
Discipline:	Management				
Area of Responsibility:	Corrective Action Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The corrective action programs review will examine the existence and use of various components of corrective action program planning, management, and execution. The review results will form the basis for an assessment of sitewide corrective action program management effectiveness. The corrective action program components to be reviewed include management knowledge of and involvement in corrective action program activities; management and staff accountabilities for corrective action program implementation; and existence and effectiveness of the corrective action process ability to (1) capture new corrective actions, as well as (2) report, track, trend, verify, close, and validate existing corrective actions. The review will also assess CH, AAO, ANL-E, ER, and EM progress in completing corrective actions in response to Tiger Team Assessment findings, as well as other ES&H reviews of the site performed after the Tiger Team Assessment. In addition, the review will assess the ability of the corrective action program process to prioritize action implementation in view of budgetary and other resource constraints within the parameters of established, uniform, sitewide criteria.

The data for this review will be derived from reviews of various documents; ES&H review results and resultant CH, AAO, ANL-E, ER, and EM implementation of corrective actions; and selected management and staff interviews. This review will be enhanced by the review findings and assessments of other Progress Assessment Team members resulting from their reviews of corrective action program implementation activities for various functional, technical, and programmatic Progress Assessment categories. The criteria to be utilized for this assessment include ES&H performance objectives and criteria for planning and management listed in Appendix B-1 of the DOE Progress Assessment Manual; DOE procedures for close-out of Tiger Team findings; and approved Corrective Action Plan management and implementation processes used by CH, AAO, ANL-E, EM, and ER.

Related Tiger Team Findings:

1. Root cause (inadequate leadership); M/BMPF-1 ANL-E Management Actions.
2. M/BMPF-2 Management Follow-up; M/BMPF-1 ANL-E management actions; Root cause (line management implementation of responsibility and accountability inadequate); and ANL Corrective Action Plan response to Root Cause No. M-4.
3. M/CF-1 ANL-E Management Reporting System

4. M/BMPF-4 Oversight of CH and ANL by ER/HQ
5. M/CF-4 Fulfilling Contractual Requirements
6. M/BMPF-8 Roles and Responsibilities
7. M/BMPF-9 Interface Responsibilities
8. M/CF-6 Line Management Responsibilities for Implementation of DOE ES & H Objectives
9. M/BMPF-13 Performance Plans for CH ESH&H Division Employees
10. M/BMPF-14 DOE Guidance for Budget Formulation

Related Tiger Team Action Plan Items:

1. AP079 - Management Follow-up
2. AP081 - Line Management Authority and Responsibility
3. AP082 - Interface Responsibilities
4. AP085 - ES&H/QA Planning and Budgeting Guidance
5. AP093 - Trend and Root Cause Analyses and Lessons Learned
6. AP096 - Corrective Action Follow-up
7. AP097 - Tracking ES&H/QA Findings
8. AP116 - Performance Plans for CH ESH Division Employees
9. AP118 - Closeout of Appraisal Findings
10. AP122 - ER Guidance
11. AP303 - ANL-E Management Reporting System

Other Bases:

1. Corrective Action Plan review findings listed in the 10/25/91 "Review of the Progress on the Corrective Action Plan of the Argonne National Laboratory" performed by ER/HQ.
2. Corrective Action Plan review findings listed in the 4/28/92 "Implementation of Environment, Safety, and Health Corrective Actions Required at Argonne National Laboratory," performed by the IG.

3. ER ES&H reviews of the Chicago Operations Office relating to Tiger Team and other review Corrective Action Plan implementation and management.

Overlapping Issues:

1. Self-assessment: The existence and implementation of a viable self-assessment program that surfaces corrective action plan management and implementation issues.
2. Organization: The ability of organizational structures and resources to effectively manage corrective action plan implementation.
3. Closeout and change control: The existence of effective processes to close-out corrective actions and assure independent approval for changes in corrective action plans.
4. Strategic (and other) planning management implementation.
5. Oversight implementation including the identification and resolution of deficiencies via the corrective action program.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

1. Corrective Action Plan processes address required corrective activities with appropriate management and staff ownership and timely implementation.
2. Demonstrated objective evidence of a sitewide process for Corrective Action Plan implementation, issues management, tracking, reporting, verification, closure, validation and follow-up.
3. Documented evidence of an ongoing system to demonstrate corrective action progress, status, and issue identification.

Description and Rationale of Approach:

The approach includes (1) interviews with cognizant and responsible EM, FM, LM, CH, AAO, and ANL-E management and staff; (2) document reviews of selected corrective actions; and (3) process reviews to examine and determine approaches, systems, and processes utilized to implement, verify implementation, capture, and continue corrective activity and to report and communicate status, issues, and resolutions. In addition, accountabilities for corrective action program implementation will be reviewed, along with systems and processes for the demonstrated application of ongoing tracking, verification, closure, and validation, including review data from other Progress Assessment Team member reviews of selected corrective actions.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. CH/ANL Corrective Action Program Implementation Procedure.
2. CH/ANL/ER Corrective Action Program Close-out Procedure.
3. Selected management and staff performance standards and position descriptions.
4. Laboratory Management Division/HQ mission and functions.
5. Laboratory Management Division/HQ guidance to CH on corrective action program management and close-out process.
6. Selected ES&H appraisal reports in which the completion of corrective actions were verified.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Roxanne Purucker		
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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

Name:	Othalene J. Lawrence	Date:	9/15/93	Rev. #:	2
Telephone #:	202/586-8596	Fax #:	202/586-8177		
Discipline:	Management Systems				
Area of Responsibility:	Self-Assessment				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The self-assessment review will examine the LM, FM, CH, AAO, and ANL-E self-assessment process to evaluate the existence of comprehensive self-assessment programs. Existing self-assessment plans will be reviewed to determine the extent to which they incorporate ER and EM self-assessment guidance. Results from this review will assist in validating the effectiveness of existing LM, FM, CH, AAO, and ANL-E self-assessment methods, procedures, and processes in correcting deficiencies; tracking and reporting systems; trending and developing lessons-learned data to support and ensure continuous ES&H improvement and how this information is communicated throughout line management. DOE and ANL-E responsiveness in addressing appraisal and other related self-assessment findings to support and ensure continuous improvement will also be examined. The results from this review will assist in evaluating the progress made by DOE and ANL-E since the 1990 AIS Tiger Team Assessment in promoting continuous improvement through a comprehensive self-assessment program.

Related Tiger Team Findings:

1. Root cause (not fully meeting self-assessment criteria); M/CF-15 (the ANL-E self-assessment program does not meet DOE requirements); and M/CF-17 (CH and AAO are not meeting the intent of the Secretarial guidance).
2. M/BMPF-27 (ANL-E is not monitoring the status of findings); M/BMPF-29 (CH does not have effective tracking methods or procedures).
3. M/CF-19 (ANL-E does not take prompt action to correct deficiencies).
4. M/BMPF-25 (Trend and Root Cause Analyses) and M/BMPF-26 (Lessons Learned).

Related Tiger Team Action Plan Items:

1. APO95 ANL-E's Self-Assessment Program; AP272 CH and AAO's Self-Assessment Program.
2. AP121 ES&H and Quality Assurance Oversight of AAO.
3. AP320 and AP096 Corrective Action Follow-up.

4. AP218 Tracking Systems for ES&H/QA Commitments and Findings.
5. AP093 Trend and Root Cause Analysis and Lessons Learned.

Other Bases:

1. AAO Self-Assessment Plan (September 4, 1992).
2. Argonne Illinois Site Self-Assessment Report, Vol. 1 of 3 (September 1990).
3. ESHD Self-Assessment Plan-Last ESHD Self-Assessment (August 18, 1992).
4. ER, EM, LM, FM, CH, and AAO policies and guidance concerning self-assessment.

Overlapping Issues:

Self-assessment overlaps with every discipline included in this Progress Assessment; therefore, information from other team members will be included in this discipline area as appropriate.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance objectives from the Headquarter's level are outlined in the Secretary's July 31, 1990, guidance and the DOE ES&H Progress Assessment Manual and its addenda.

The Secretary's July 31, 1990, guidance set in motion the development of self-assessment programs that would hold DOE line organizations responsible for identifying, reporting, and correcting their own ES&H deficiencies and would establish systems to improve performance beyond compliance, towards excellence. The Secretarial guidance identifies the basic elements of a self-assessment program that will be used as part of the assessment criteria.

Management Performance Objectives and Criteria as contained in Appendix B-1 of the ES&H Progress Assessment Manual. Performance Objectives 1.5, 2.5, and 4.5 provide areas to be covered by the self-assessment review.

Implementation, by CH, AAO, and ANL-E, of supplemental guidance/direction from the funding program offices (e.g., ER, EM, LM, and FM) in DOE HQ will be assessed.

Two self-assessment-related corrective actions (i.e., will be reviewed to determine implementation and progress).

Description and Rationale of Approach:

The approach used in this assessment includes review existing self-assessment and associated documentation (e.g., procedures, plans, and self-assessment results) and conducting interviews with cognizant DOE HQ (e.g., ER, EM, and LM) and responsible CH,

AAO, and ANL-E personnel. By performing these activities, a comprehensive and accurate assessment of the adequacy and progress by DOE and ANL-E to implement a self-assessment program in accordance with DOE requirements, guidance, and performance objectives and criteria may be conducted. In addition, the approaches and mechanisms of incorporating self-assessment to ensure continuous improvement in all aspects of ES&H performance will be reviewed.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. Self-assessment guidance, plans, procedures, and reports.
2. Management agreement between ER and CH for operations at CH and ANL-E.
3. Revised management agreement among the Director, Office of Energy Research, Assistant Secretary for Environmental Restoration and Waste Management, and Manager, DOE Chicago Field Office.
4. Trending and lessons-learned data.
5. Orders and directives related to self-assessment.
6. Management Appraisal Action Plans.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Linda Freeman		
	Telephone #:	708/252-2240	Fax #:	708/252-7947
Contractor Counterpart	Name:	Gary Winner		
	Telephone #:	708/252-5991	Fax #:	708/252-5965

PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITE

Name:	L. A. Rancitelli	Date:	10/4/93	Rev. #:	2
Telephone #:	614/451-8983	Fax #:	614/451-8983		
Discipline:	Management Systems				
Area of Responsibility:	Organization				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The organizational management systems of DOE (i.e., ER, EM, LM, FM and CH) and ANL-E will be examined to determine if they have been enhanced to correct the deficiencies identified during the 1990 AIS Tiger Team Assessment and if they create a climate for continuous ES&H improvement. Important assessment issues also include the initial organizational realignments in response to the 1990 Tiger Team Assessment; subsequent changes in organizational alignments, including the pending CH reorganization, to further strengthen and enhance ES&H performance; and the management rational and decision process for these changes.

The Tiger Team Assessment identified wide-spread deficiencies in DOE and ANL ES&H functional activities and programs. Organizational deficiencies and weaknesses threaded their way through virtually every finding and concern identified by the Tiger Team. For this reason, and because successful programmatic and ES&H performance is founded on effective organizational management systems, this Progress Assessment will not only examine the progress in correcting the organizational deficiencies identified by the Tiger Team Assessment, but will also examine the effectiveness of the AIS organization management systems in defining, establishing, and sustaining an environment of continuous performance improvement.

Organizational and individual ES&H roles, responsibilities, and authorities (RRAs) of CH, AAO, and ANL will be examined to determine if they are clearly defined, formally documented, communicated, and understood by all effected parties. Specifically, roles, responsibilities, and authorities will be assessed to (1) determine if they are clearly assigned to program line organizations as evidenced by mission and function statements, goals and objectives, and individual job descriptions; (2) define the interface and functional relationships between the various line organizations, and between program line organizations and ES&H oversight organizations; and (3) provide staff with ES&H independent oversight responsibilities with sufficient independence and authority to conduct their activities and to elevate unresolved issues to appropriate management levels. The RRAs will also be examined to determine if they place decision authorities, including the authority to shutdown work, stop work, and restart work, at the appropriate level, and if the RRAs are clearly defined, formally documented, communicated, and understood by all involved parties.

Related Tiger Team Findings:

The Tiger Team Assessment of the Argonne Illinois Site details numerous organization-related deficiencies. Two of the five probable root causes identified by the Management Subteam were directly related to organizational deficiencies: (1) CH and ANL-E Management were not adequately performing oversight responsibility of the ES&H/QA program and (2) Line managers were not adequately exercising their responsibility for implementing ES&H/QA requirements nor were they held accountable for not doing so.

The Management Subteam aggregated the 19 key findings into five areas of significant management issues and practices that adversely impacted the site's ability to achieve excellence in ES&H/QA performance. One of these five areas directly related to organizational deficiencies: Line managers were not adequately executing their line responsibilities for ES&H/QA performance; management expectations regarding ES&H/QA responsibilities were not clearly defined; and organizational, personnel, and performance evaluation systems were not effective. Similarly, two (2) of the eight (8) key concerns identified by the Safety and Health Subteam could be traced directly to organizational deficiencies: ANL-E management had not clearly defined ES&H organizational functions and safety responsibilities for the site; and ANL-E management permitted its organizational divisions to independently adopt policies and procedures.

Eight of the 51 Management Subteam findings directly addressed organization-related deficiencies. The Management Subteam characterized these deficiencies as follows:

1. M/BMPF-3 - ANL does not have an adequate organizational structure to oversee the execution of the Environmental Restoration and Waste Management Five-Year Plan;
2. M/BMPF-8 - ANL-E has not effectively defined individual line management functions, authorities, and responsibilities regarding environmental protection, safety, health, and quality assurance.
3. M/BMPF-9 - Environmental protection, safety, health and quality assurance interface requirements and responsibilities between line organizations and staff organizations at ANL-E are not clearly defined, understood or documented.
4. M/CF-6 - Position descriptions and performance plans for AAO staff members did not adequately address or reflect each line manager's responsibility for implementation of DOE ES&H/QA objectives.
5. M/BMPF-10 - CH has not adequately defined the roles and responsibilities of the parties involved in the new security force contract.
6. M/BMPF-11 - ANL-E management attention has been inadequate to implement integration of the new contract security force into site operations, particularly where safety concerns are involved.
7. M/BMPF-12 - Problems have been identified with ANL-E line organization use of Division ES&H/QA representatives.

8. M/BMPF-13 - The performance plan for most employees in the CH ES&H Division is not adequate to evaluate the incumbents' performance against their specific ES&H responsibilities. Numerous other findings of the Management, Environmental, and Safety and Health Subteams related less directly to organizational deficiencies.

Related Tiger Team Action Plan Items:

The Action Plan in response to the October, 1990 Tiger Team Assessment of the Argonne Illinois Site provides an approach for addressing, or the actions already taken to address, the deficiencies identified during the Tiger Team Assessment (TTA). Each corrective action carries the same identification number as the TTA finding or deficiency. Thus, the organization-related TTA action plan items include Management Root Causes M-1, M-3, and M-4; and Management Subteam findings M/BMPF-3, M/CF-6, M/BMPF-8, M/BMPF-10, M/BMPF-11, M/BMPF-12, and M/BMPF-13.

Other Bases:

The DOE (i.e., ER, EM, LM, FM and CH) and the ANL-E mission and function statements; individual position descriptions and performance appraisals; strategic plans, and annual assessment and multi-year program plans; and committee charters. The 1990 AIS Tiger Team Report and the related AIS Corrective Action Plan. CH subordinate ES&H implementation plans such as ES&H program plans and ES&H oversight plans. The ANL-E Institutional Plan, other strategic plans and subordinate ES&H implementation plans such as those noted above and contractor ES&H committee charters. IG, EH, and ER reports of CH and ANL-E assessments conducted since the Tiger Team Assessment.

Overlapping Issues:

Since the organizational structure and its associated organizational management systems are centrally important to effective ES&H performance, and since all aspects of ANL-E ES&H activities and programs involve organizational considerations, this assessment area will be closely coordinated with the all other areas of this Progress Assessment. For example, the review of the DOE HQ, CH, AAO, and ANL organizations and their related management systems will be coordinated with AIS Progress Assessment team members who have primary responsibility for evaluating areas such as corrective action management, self-assessment, ES&H program management, and ES&H functional area oversight activities. Specifically, team members examining these related areas should determine if individual and organizational ES&H roles, responsibilities, and authorities of the AIS organizations, including the interface and functional relationships between the various line organizations, and between the line organizations and the ES&H oversight organizations are clearly defined, formally documented, and communicated to and fully understood by all effected parties. Team members examining self-assessment, oversight, and QA should determine if staff with ES&H independent oversight responsibilities are provided with sufficient independence and authority to conduct their activities and to elevate unresolved issues to appropriate management levels.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The following specific performance objectives in the draft ES&H Management Performance Objectives and Criteria for Progress Assessments (August 1992) will be evaluated: 1.2 Organization (ER, EM, LM, and FM), 2.2 Organization (CH and AAO), and 4.2 Organization (UC and ANL-E).

Description and Rationale of Approach:

The approach of this assessment will be to examine the organization management systems of ER, EM, EH, CH, AAO LM, FM, ANL-E, and UC by reviewing mission and function statements, policies, goals and objectives, ES&H committee charters, and individual position description and performance appraisal management systems. Also horizontal cuts and vertical cuts down through these organizations will be taken to determine if organizational and individual ES&H roles, responsibilities, and authorities are effectively communicated and understood. Primary emphasis will be on DOE and ANL-E's effectiveness in defining, documenting, and communicating their ES&H roles, responsibilities, and authorities. The vertical cuts and horizontal slices of these organizations will examine the degree to which the interface and functional relationships between and among the various program line organizations, and between the line organizations and the ES&H oversight organizations are formally defined, communicated, and understood by all affected parties. Specifically, vertical cuts through CH, AAO, and ANL-E will focus on their respective program line management divisions (e.g., the ANL-E Energy, Environmental, and Biological and Advanced Photon Source Directorates), ES&H oversight organizations, and ES&H performance assurance organizations.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. ER, EM, LM, FM, CH, AAO, and ANL-E organization mission and function statements; individual position descriptions and performance appraisals; strategic plans, institutional plans, annual plans, and multi-year program plans; and transition plans.
2. CH and AAO subordinate ES&H implementation plans such as ES&H program plans, ES&H oversight plans, corrective action plans, and human resource management plans.
3. The UC and ANL-E strategic plans and subordinate ES&H implementation plans such as those noted above and UC and ANL-E ES&H committee charters.
4. Memoranda of Understanding between and among CH, EM, ER, LM and other DOE field offices, and inter-agency agreements with other government entities (e.g., Corp of Engineers).

5. Memoranda of Understanding or Memoranda of Agreement between and among ANL-E organizational units.
6. IG, EH, and ER reports of AIS assessments conducted over the past 2 years.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITE

Name:	L. A. Rancitelli	Date:	10/4/93	Rev. #:	2
Telephone #:	614/451-8983	Fax #:	614/451-8983		
Discipline:	Management Systems				
Area of Responsibility:	Planning, Budgeting, and Resource Allocation				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The planning, budgeting, and resource allocation management systems of DOE (i.e., ER, EM, LM, FM and CH) and ANL-E will be examined to determine if they have been enhanced to correct the deficiencies identified during the 1990 AIS Tiger Team Assessment. These fundamental management tools will also be examined to determine if they are used to define, guide, control, and sustain a course of action that will result in continuous ES&H performance improvement.

The planning, budgeting, and resource allocation processes of DOE and ANL-E will be examined to determine the progress made in correcting the systemic planning deficiencies identified during the Tiger Team Assessment. Important assessment issues include the degree to which the initial planning-related corrective actions in response to the Tiger Team Assessment have been implemented; the ability of AIS to plan for and implement subsequent changes in organizational realignments, including the pending CH reorganization, in a disciplined manner; and the degree to which the need to further strengthen and enhance ES&H performance enters the planning, budgeting, and resource allocation process. Specific issues include each organization's strategic and subordinate implementation planning process, those management processes by which ES&H and programmatic activities are prioritized and integrated, the processes for allocating resources to programmatic and ES&H activities, and the change control systems employed to ensure that important ES&H issues receive timely management attention. CH and AAO plans to manage their own activities, as well as those of the ANL-E, will receive emphasis in this assessment.

Related Tiger Team Findings:

The 1990 Tiger Team Assessment identified wide-spread, systemic deficiencies in the DOE and ANL-E planning, budgeting, and resource allocation processes that inhibited the site's ability to formulate and execute an effective ES&H program. Specifically, the Tiger Team found: "CH management personnel cited many instances in which inadequate staffing resources were a cause for inadequate ES&H/QA performance. While many necessary activities are not being performed, it was difficult to determine whether these shortcomings resulted from (1) inefficient practices, (2) improper allocation of available staffing resources, or indeed, (3) a CH-wide lack of staff."

One of the five probable root causes identified by the Management Subteam directly addressed planning, budgeting, and resource allocation deficiencies: "There is inadequate priority guidance and independent validation of resource requirements for ES&H/QA."

The Management Subteam aggregated the 19 key findings into five areas of significant management issues and practices that adversely impacted the site's ability to achieve excellence in ES&H/QA performance. One of these five areas directly addressed AIS planning, budgeting, and resource allocation deficiencies. CH and ANL-E lacked plans for achieving improvements in ES&H/QA performance; budgets were not based on a needs analysis; and execution assumptions and priorities did not adequately address the achievement of compliance and excellence in ES&H/QA performance. One of the five important causal factors of "Tier 1 Root Causes" that served to explain most of the Environmental Subteam's environmental findings was a deficiency related to the allocation of resources. Similarly, a key concern of the Safety and Health Subteam was: "Plans and specifications for site and facility projects and safety-related documents did not receive adequate independent review by the Environment, Safety, and Health Department." The Safety and Health Subteam further observed: "The most significant deficiency was the lack of an effective and coordinated sitewide ES&H program."

Several Management Subteam findings specifically addressed planning, budgeting, and resource allocation deficiencies. They are as follows:

1. M/BMPF-14 - DOE Headquarters and CH did not provide ANL-E adequate written guidance on funding levels, priorities, and requirements associated with ES&H/QA activities.
2. M/BMPF-15 - ANL-E's internal, written planning, budget formulation, and budget execution guidance does not contain requirements for increased emphasis on ES&H/QA requirements.
3. M/BMPF-16 - Inadequate independent validation is performed by CH to determine if mandatory ES&H/QA requirements are provided for in program plans and budget estimates.
4. M/BMPF-17 - ANL-E has not performed an adequate independent validation to assure that program plans and budget estimates provide adequate funding for ES&H/QA needs and priorities.

Related Tiger Team Action Plan Items:

The Action Plan in response to the October, 1990 Tiger Team Assessment of the Argonne Illinois Site provides an approach for addressing, or the actions already taken to address, the deficiencies identified during the Tiger Team Assessment (TTA). Each corrective action carries the same identification number as the TTA finding or concern. Thus, the planning-, budgeting-, and resource allocation-related TTA action plan items include: Management Root Cause M-5 and Management Subteam findings M/BMPF-14, M/BMPF-15, M/BMPF-16, and M/BMPF-17.

Other Bases:

ER, EM, LM, FM, CH, AAO, and ANL-E strategic plans, annual and multi-year program plans, safety and health five-year plans, site development plans, transition plans, self-assessment program plans, and corrective action program plans. The 1990 AIS Tiger Team Assessment Report and the related AIS Tiger Team Assessment Corrective Action Plan. CH subordinate ES&H implementation plans such as ES&H program plans, ES&H oversight plans, and human resource management plans. The ANL-E strategic plans and subordinate ES&H implementation plans such as those noted above. The DOE-IG, ER, and EH reports of AIS assessments conducted over the past 2 years.

Overlapping Issues:

The review of subordinate implementation planning, budgeting and resource allocation for activities such as corrective action management, human resource management, self-assessment, ES&H programs, and oversight of ES&H functional area activities will be coordinated with AIS Progress Assessment team members who have primary responsibility for evaluating these areas.

ASSESSMENT APPROACH:**Performance Objectives to be Evaluated:**

DOE policy with respect to planning such as SEN-25A-91 and EP-60 strategic planning guidance. Specific performance objectives in the August 15, 1991 Management Performance Objectives and Criteria which will be evaluated include the following 1.1 Planning (DOE HQ), 1.3.1 Human Resource Planning (DOE HQ), 1.5.1 Program-Wide Self-Assessment Program plans (PSO), 2.1 Planning (CH), 2.3.1 Human Resource Planning (CH), 2.5 Field Office-wide Self-Assessment Program Planning (CH), 3.0 Corporate Parent (UC), 4.1 Planning (ANL-E), 4.3.1 Human Resource Planning (ANL-E), and 4.5 Site-wide Self-Assessment Program Plans (ANL-E).

Description and Rationale of Approach:

The 1990 AIS Tiger Team Assessment was conducted when DOE's emphasis on Department-wide strategic and subordinate implementation planning had not yet been completely formulated, fully defined, communicated, and implemented. As a result, the AIS Tiger Team Assessment did not place the emphasis on the planning processes throughout DOE and ANL-E that were placed on sites during latter Tiger Team Assessments. However, notwithstanding these facts, the AIS Tiger Team Assessment report is replete with deficiencies that can be directly related to the lack of a comprehensive sitewide planning, budgeting, and resource allocation process. Because of the wide-spread AIS planning, budgeting, and resource allocation deficiencies, and because these management systems are centrally important to effective ES&H performance, DOE and ANL-E planning-related management systems will be examined to determine if they are capable of providing management with the ability to define, establish, and sustain an environment of continuous performance improvement.

The approach of this assessment will be to review planning documents and examine the planning, budgeting, and resource allocation processes of DOE and ANL-E by taking

vertical cuts down through these organizations. Primary emphasis will be on DOE's effectiveness in formally articulating its vision of the present and future AIS mission, communicating its vision to ANL-E, and CH's ability to hold ANL-E management accountable for defining and executing their missions in a planned and disciplined fashion, on the basis of sitewide risks and vulnerabilities. AIS-related strategic and subordinate implementation planning process will be examined to evaluate the effectiveness of DOE's and ANL-E planning, budgeting, and resource allocation process. In addition to the vertical cuts through these organizations, a horizontal slice across these organizations will be taken to examine the degree to which various interrelated subordinate implementation planning processes are coordinated and integrated on a site-wide basis. Specifically, vertical cuts through DOE-CH and ANL-E will focus on their respective program line management divisions (e.g., the ANL-E Energy, Environmental, and Biological and Advanced Photon Source Directorates), ES&H oversight organizations, and the ES&H performance assurance organizations.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. ER and CH strategic plans, five-year plans, self-assessment program plans, and ER budget calls to CH (budget guidance to CH and AAO).
2. Other AIS plans related to present and future activities (e.g., transition plans, site development plans, safety and health five-year plans).
3. CH and AAO implementation plans (e.g., ES&H program plans, including ES&H oversight plans, ES&H human resource management plans including training, certification and accreditation plans, and corrective action management plans).
4. CH budget guidance to the ANL-E.
5. University of Chicago Board of Trustees and ANL-E strategic and subordinate implementation plans (e.g. ES&H program plans, ES&H human resource management plans including training, certification and accreditation plans, and corrective action management plans).
6. Memoranda of Understanding between or among ER, EM, LM, FM, and other DOE field offices, and inter-agency agreements with other government agencies.
7. IG, ER, and EH reports related to ES&H-related assessments of AIS conducted over the past 3 years.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Telephone #:	508/528-6457	Fax #:	508/528-6457		
Discipline:	Management Systems				
Area of Responsibility:	Formality of Operations				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Formality of operations will be reviewed to determine whether DOE and contractor activities are conducted with the rigor and formality necessary to implement a fully effective ES&H program. Since the 1990 AIS Tiger Team Assessment, DOE's approach to formality of operation has matured; DOE 5480.19, 5700.6C, and other guidance documents have been issued that relate to formality of operations.

CH, AAO, and ANL-E operations, documentation, and controls will be reviewed to determine whether formality of operations is implemented, utilizing a graded approach, through a well-defined management system. The management system should establish a hierarchical set of responsibilities, authorities, and associated documents that proceed downwards through an organization starting with requirements and directives, which are translated into site specific policies, plans, and procedures. This review of CH, AAO, and ANL-E operations, documentation, and controls will also determine whether workers understand what is required, how work is to be performed, and if documentation of activities reflects a well-defined and effectively administered ES&H program. In addition to reactor or hardware-related work activities, formality of operations also applies in a graded manner to laboratory, ES&H, engineering, training, and administrative activities. Formality of operations involves many elements, including standards and procedures monitoring performance, communications, training, design control and configuration management, control of work activities, and quality assurance.

Related Tiger Team Findings:

Several Management Subteam key findings identified the following: management philosophy has not established minimum laboratory-wide requirements; management is not cognizant of the status of ES&H/QA performance; and that line managers were not adequately executing their line responsibility for ES&H/QA performance. The root causes included inadequate CH and ANL-E oversight, and policy and procedures for ES&H/QA.

The four Environmental Subteam key findings in the AIS Tiger Team Assessment Report were inadequate programs for the management of waste, management of inactive waste sites, control of liquid discharges, and inadequate quality assurance. Among the first tier root causes were informal training practices, a general lack of procedures, and ineffective communication. The applicable second tier root cause was that ANL-E has not developed

formal, comprehensive plans and programs that define and control key elements of environmental protection.

Two of the Safety and Health Subteam key concerns identified the following: (1) Operations at many ANL-E facilities are not being conducted in a manner that achieves safe and reliable operations; and (2) ANL-E management has not clearly defined ES&H organizational functions and safety responsibilities. One of the second tier root causes is that there is a lack of understanding and involvement by top management in assuring safety is truly integrated into site operations.

Related Tiger Team Action Plan Items:

The following action plan items related to formality of operation issues identified by the Tiger Team: AP074, AP081, AP082, AP084, AP100, AP101, AP119, AP122, AP130, AP151, AP252, AP289, AP303, and AP327 are related to formality of operation issues identified by the Tiger Team.

Other Bases:

The stated planned actions identified in the narrative of Sections 3.2.2, 3.3.2, and 3.4.2 of the ANL-E Corrective Action Plan, especially those related to root causes M-1, M-2, and M-4. Audits, assessments, and appraisals performed by DOE HQ, CH, AAO, and ANL-E, and external organizations.

Overlapping Issues:

The review will include input from the quality assurance team member describing sitewide quality assurance policy, programs, standards, and procedures, including evidence that requirements are adhered to and quality assurance is implemented with rigor, formality, and consistency between various organizational elements. Input from the directives, policies, and procedures team member describing the directives, policy, and procedure hierarchy, when procedures are required, the policy for procedure adherence, and document control systems. Need input from the human resources team member providing evidence that conduct of operations training and worker training and certification programs are being implemented. Need input from the conduct of operations team member describing implementation of conduct of operations vertically within organizational units, especially regarding compliance with site-wide conduct of operations requirements and standards.

Information from other team members performing horizontal and vertical reviews providing evidence that activities being reviewed are performed under formal policies, programs, and procedures, that these activities are conducted with rigor and formality, that supervisors and workers understand requirements, and that based on observation of work activities, adherence to procedures and requirements is a standard practice.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Management Performance Objectives and Criteria as contained in Appendix B-1 of the ES&H Progress Assessment Manual: Performance Objective 1.4, Oversight; and Performance Criteria 2.4.2 and 4.4.2, Assessment and Review.

Description and Rationale of Approach:

This review will assess the existence and effectiveness of formal policies and procedures that use the graded approach to define requirements for formality in the development and implementation of ES&H/QA policies, programs, and procedures; requirements for the administration of, and compliance with, formality of operation requirements; methods for periodically monitoring and assessing implementation of these requirements; and policies related to procedure use and adherence. The assessment of these areas will be conducted in a horizontal manner for LM, ER, CH, AAO, and contractor organizations. In addition, the downward flow of formality of operation requirements, standards, and guidance from ER, to CH and AAO, to senior contractor management will be assessed. This vertical evaluation will include an assessment of the consistency and interrelationships of these areas among the various organizations.

The assessment will be conducted by reviewing implementation plans and documents, reviewing processes and associated data that are used to measure implementation, interviewing personnel, and testing personnel knowledge and implementation of formality of operation for ER, CH, AAO, and ANL-E laboratory-wide for senior management in selected directorates, departments, and divisions. Formality of operations is implemented using a graded approach so reviews at the director level will concentrate on organizations that operate nuclear reactors, nuclear facilities, and other moderate and high-hazard facilities.

A review of internal and external audits/assessments/appraisals, self-assessments, occurrence reports, performance indicators, and trend analysis reports to determine if formality of operations is a probable root cause will be conducted. Using this information, the results of formality of operation horizontal and vertical reviews, and the information provided by other team members, as described in the overlapping issues section of this scope, this review will evaluate the effectiveness of management systems used to implement of formality operations.

This review will also evaluate site corrective actions for selected Tiger Team Action Plan items (see above listing for potential samples) which focus on whether the action plan has been implemented and if it corrected the root cause.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. Guidance, procedures, and other documents on implementing the graded approach of formality of operations.
2. Formality of operation program implementation plans.
3. Audits, assessments, appraisals, and occurrence reports conducted by DOE, the contractor, and external organizations.
4. Sitewide policies and procedures regarding implementation of formality of operations.
5. Descriptions of methods used to measure formality of operations implementation and the results of such measurements.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Telephone #:	508/528-6457	Fax #:	508/528-6457		
Discipline:	Management Systems				
Area of Responsibility:	Human Resources Management				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Management systems associated with the staffing, training, and performance evaluation aspects of human resources will be evaluated during the Progress Assessment to determine the following:

- Whether DOE and its contractors have identified and prioritized the necessary human resource requirements for implementation of ES&H programs and if existing human resources are assigned on the basis of priority; whether human resource plans exist that identify short-term and long-term staff needs and associated staff acquisition plans are developed; and whether vacancies are filled with qualified ES&H personnel in a timely manner using an aggressive staff recruitment program that includes a formal process for evaluating its effectiveness.
- Whether DOE and its contractors have developed and implemented formal programs for staff development, training, and certification which ensure that only qualified personnel are assigned to ES&H/QA programs, workers receive necessary ES&H/QA training, and personnel performing work are capable of performing their assigned tasks; whether staff development programs provide personnel with the opportunity for ES&H career development using training requirements as an integral component; whether training and certification programs include a formal process that evaluates their effectiveness and that evaluation results are used to improve the programs; and whether training programs are implemented through formal procedures that specify requirements for identifying training needs; developing and maintaining training courses and associated material; retraining; certifying trainers; and maintaining records.
- Whether personnel performance evaluation programs at DOE and its contractors include a formal method to define specific measurable ES&H performance expectations and if performance in this area is used in the determination of awards, promotions, and salary actions; whether ES&H performance expectations are developed and documented, including weighing factors, in accordance with formal procedures that provide guidance on appropriate performance standards for employees working at different organizational levels; and whether DOE reviews salary packages for

contractor upper level managers to ensure that ES&H performance has been evaluated as part of the package.

Related Tiger Team Findings:

A Management Subteam key concern identified that budget and execution assumptions and priorities were not adequate to achieve excellence in ES&H/QA performance. A root cause further identified a general lack of guidance to emphasize that high priority be placed on ES&H/QA in budget formulation and that neither CH nor ANL-E perform an adequate budget validation to ensure the adequacy of ES&H/QA needs and priorities.

An Environmental Subteam first tier root cause identified that environment-related training at ANL-E is too informal to ensure that personnel understand their roles and responsibilities in protecting the environment. It further identified that there is no sitewide program to identify all environmental training needs. Two of the third tier root causes identified that ANL-E does not have the knowledge or experience needed to implement environmental policies; that many managers do not have a sufficient understanding of environmental principles; and that it was not apparent that ANL-E had the environmental professionals necessary to design and direct effective environmental activities.

A Safety and Health Subteam key concern identified that ANL-E top management has not established a mechanism to ensure that the training and qualification requirements of DOE Orders and Federal, state, and local regulations are met or enforced.

Related Tiger Team Action Plan Items:

The following action plan items are related to human resource issues identified by the Tiger Team: AP060, AP084, AP085, AP086, AP087, AP115, AP116, AP209, AP217, AP244, AP262, AP269, AP286, AP288, AP330, AP349, and AP352.

Other Bases:

The stated planned actions identified in the narrative of Sections 3.2.2, 3.3.2, and 3.4.2 of the ANL-E Action Plan. Audits, assessments, and appraisals performed by HQ, CH, AAO, ANL-E, and external organizations.

Overlapping Issues:

This review will include information from other team members performing horizontal and vertical reviews providing evidence that necessary ES&H/QA human resources have been identified, prioritized, allocated and secured, and that vacancies are filled in a timely manner; that formal job descriptions exist for ES&H/QA professionals defining minimum education, training, and experience requirements, and that incumbent ES&H professionals are qualified and trained; and that workers have received all necessary ES&H training in areas being reviewed and are capable of performing assigned tasks. The formality and conduct of operations assessments will provide information indicating whether personnel are trained in the content and use of procedures. Evidence will be provided to other team members on how human resource activities are being conducted regarding their review area. Employee concern programs will be reviewed as part of the OSHA assessment.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Management Performance Objectives and Criteria as contained in Appendix B-1 of the ES&H Progress Assessment Manual: Performance Criteria 1.3.1, 2.3.1, 4.3.1, Human Resource Planning; 1.3.2, 2.3.2, 4.3.2, Staff Development and Training; 2.3.3, 4.3.3, Staff Recruitment; and 2.3.4, 4.3.4, Employee Relation.

Description and Rationale of Approach:

This approach will assess whether policies and integrated planning of ER, CH, AAO, and ANL-E identify, prioritize, and allocate needed ES&H/QA human resources, especially how they respond to new regulations, directives, and policies; formal methods, plans, and procedures to develop position descriptions, establish required qualifications, and recruit qualified ES&H/QA professionals in a timely manner; and personnel performance evaluation programs and procedures to include measurable ES&H performance specifications that are used in the determination of performance incentives.

The assessment will be conducted by reviewing documents, interviewing personnel, and testing personnel knowledge, and implementation, of human resource processes for CH, AAO, and ANL-E. Total approved and vacant ES&H/QA professional positions and increases since the Tiger Team will be determined. Performance plans for selected contractor senior management will be reviewed including the method whereby DOE reviews and approves associated salary packages.

The assessment will be conducted by reviewing documents, interviewing personnel, and testing personnel knowledge of and actual implementation of training processes for CH, AAO, and ANL-E. Implementation of the training requirements of DOE 5480.20 will be reviewed. The success of the training program will be tested by reviewing selected ES&H/QA training at AAO and ANL-E such as facility representative training at AAO, and ES&H/QA representatives at ANL-E.

This review will examine internal and external audits/assessments/appraisals, self-assessments, occurrence reports, performance indicators, and trend analysis reports to determine if human resources or training are root causes. Using this information, the results of human resources horizontal and vertical reviews, and the information provided by other team members, as described in the overlapping issues section of this scope, the effectiveness of implementation of human resource and training programs will be evaluated.

Site corrective actions for selected Tiger Team Action Plan items (see above listing for potential samples) which focus on whether the action plan has been implemented and if it corrected the root cause will also be reviewed.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. Audits, assessments, appraisals, and occurrence reports conducted by DOE, the contractor, and external organizations.
2. Training program implementation plans and associated procedures and documents.
3. Lists of training courses and the training materials and records from selected training courses.
4. DOE 5480.20 program implementation plan.
5. Staffing plans and selected position descriptions and personnel qualifications.
6. Personnel performance evaluation plans, procedures, and guidance especially regarding evaluation of ES&H performance. Selected personnel evaluations.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Management Systems				
Area of Responsibility:	Quality Assurance				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The inclusion of quality assurance (QA) within the scope of this assessment is based on the large number of findings associated with QA during the 1990 AIS Tiger Team Assessment. Other contributing factors are based on the revision of DOE Order 5700.6B and DOE 5700.6C, which represented a shift in the Department's QA policy; the need for periodic reviews of departmental organizations to verify that management systems are structured in a manner that will facilitate implementation of the new policy; and the need for additional attention to QA as an element of quality management since the new Secretary endorses a philosophy of quality management.

QA will be addressed at organizational levels within CH, AAO, and ANL-E to accomplish the following:

- Identify that each organization has developed, implemented, and maintains a documented QA program. The QA program describes the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing adequacy of work.
- Determine whether each QA program describes the QA management system, including planning, scheduling, and cost control considerations.
- Determine the interrelationships between CH, AAO, and ANL-E organizations and how these relationships are reflected in implementation of separate QA programs.

Related Tiger Team Findings:

The 1990 AIS Tiger Team Assessment Report identified QA as a key finding for both the Environmental and Management Subteams. The Tiger Team Assessment Report identified 6 Environmental Subteam compliance findings, 17 Safety and Health Subteam quality verification findings, and 5 Management Subteam findings relating to QA. A key Environmental Subteam finding identified that QA at ANL-E was not adequate to assure the effectiveness of environmental programs. Several key findings were identified by the Management Subteam related to QA. In summary, those management findings indicated that "ANL-E management is not sufficiently cognizant of the actual status of ES&H/QA

performance. Internal programs should be established to provide top management with accurate information. Likewise, CH needs to increase the effectiveness of its programs that assess ANL-E ES&H/QA performance." In addition to the key findings identified in the management and environmental areas, the following individual findings relating to QA were identified: Environmental Subteam findings QA/CF-1, QA/CF-2, QA/CF-3, QA/CF-4, QA/CF-S, QA/CF-6; Management Subteam findings M/CF-7, M/BMPF-20, M/CF-8, M/BMPF-21, M/BMPF-22; and Safety and Health Subteam findings QV.1-1, QV.1-2, QV.1-3, QV.1-4, QV.1-5, QV.1-6, QV.1-7, QV.1-8, QV.1-9, QV.2-1, QV.2.2, QV.3-1, QV.4-1, QV.4-2, QV.5-1, QV.6-1, and QV.6-2.

Related Tiger Team Action Plan Items:

The following action plans items were developed to address the findings listed above: AP113, AP090, AP347, AP136, AP243, AP252, AP253, AP318, AP346, AP146, AP172, AP244, AP245, AP246, AP247, AP267, AP208, AP119, AP209, AP298, AP297, AP204, AP299, AP213, AP270, and AP088.

Other Bases:

From May 10, 1993 to June 15, 1993, the team led by the Senior EH Site Representative conducted a performance assessment to evaluate the effectiveness of the management and oversight of QA programs by CH. The concerns noted in the July 9, 1993, report resulting from that assessment will be used to further frame the scope of this assessment. Specifically, the report will be used to provide background information so that redundancy can be kept to a minimum. Weaknesses cited by the Senior EH Site Representative's team only a few months ago will not be recounted. However, actions taken to address the reported concerns will be reviewed to determine if CH is placing appropriate emphasis on the issues raised and is moving forward to correct those issues.

Overlapping Issues:

The potential for overlap exists in some respect with the majority of other subject areas being covered during the assessment. Information from team members conducting vertical cut programmatic reviews of those areas (e.g., general OSHA, waste management, environmental monitoring, etc.) will be used to provide evidence that the QA program is being implemented. Specific examples of overlap include the following criteria stated in DOE Order 5700.6C. Criterion 1, Management, overlaps with the areas of planning, budgeting, and resource allocation; and 2, organization, in that appropriate planning, budgeting, resource allocation, and definition of organizational roles are essential to the success of a QA Program. Criterion 2, Personnel Training and Qualification, overlaps with human resources, specifically with respect to personnel training and qualification. Criterion 3, Quality Improvement, overlaps with both corrective action program implementation and self-assessment as a common goal of those efforts is to facilitate improvement. Criterion 4, Documents and Records, overlaps with conduct of operations which also addresses document control procedures and records maintenance. Criterion 5, Work Processes, overlaps with formality of operations, and conduct of operations, with respect to the development of standard operating procedures. Criterion 6, Design, overlaps with OSHA, in that OSHA requirements as well as other ES&H considerations must be accounted for in the design process. Criterion 7, Procurement, overlaps with environmental monitoring programs, waste management, and OSHA, specifically with

respect to approval of vendors providing environmental, waste management, or construction services. Finally, Criteria 9 and 10, Management Assessment and Independent Assessment, overlap with self-assessment and corrective action program implementation.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Several sources will serve as performance objectives and criteria for the QA review. Performance Objectives and Criteria 2.4.2, Assessment and Review, and 4.4.2, Assessment and Review, included in Appendix B-1 of the ES&H Progress Assessment Manual will be used specifically as they apply to QA management and internal assessments. DOE Order 5700.6C and the 10 criteria described therein will also provide performance objectives used during this assessment. Additionally, the performance objectives in Appendix B-4 of the manual, including QA.1, Quality Assurance Program; QA.2, Audits/Appraisals/Surveillance; QA.3, Procedures; QA.4, Laboratory and Field Quality Assurance; QV.1, Quality Programs; QV.2, Procurement and Supplier Control; QV.3, Receiving and Pre-installation Inspections; QV.4, Calibration Program; QV.5, Identification and Control of Hardware/Materials; QV.6, Inspections; and QV.7, Control of Special Processes, will be evaluated.

Description and Rationale of Approach:

The majority of the assessment effort will be spent reviewing ANL-E and AAO; less focus will be placed on CH since the recent EH Site Representative QA Assessment focused on CH. However, insofar as the DOE operations and area offices act as a conduit for providing direction and guidance to the contractor, CH QA will be included in the assessment scope. It is expected that the majority of the assessment will be conducted through interviews of key QA personnel at the CH, AAO, and ANL-E levels, and document reviews. The review will focus on three major areas as they apply to each of the organizational levels, those areas are best described by the DOE Order 5700.6C, Criterion 1, Management; Criterion 2, Training and Qualification; and Criterion 4, Documents and Records. The review of Criterion 1 will include QA policy, program, and plan documents, performance standards, functional statements, performance appraisal criteria, and other documents to identify the QA organization and functional relationships that exist inter- and intra- organization. The reviews of the other two criterion will be accomplished by selected reviews at each of the organizations to determine effectiveness of overall program implementation. In addition to these reviews, two corrective actions developed in response to Tiger Team findings regarding QA will be evaluated to determine progress, and this information will be provided to the team member reviewing Corrective Action Plan implementation.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. Position descriptions, performance standards, and training records for the manager of QA, the ANL-E ES&H/QA oversight, a Laboratory QA report, an ANL-E Division QA Coordinator, the Quality Management lead, AAO Facility Representative, and a CH QA Engineer or specialist.
2. Listing of controlled ANL-E documents.
3. ES&H/QA Planning and Coordinating Committee Charter.
4. ES&H/QA representatives's meeting minutes or records.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Management Systems				
Area of Responsibility:	Oversight				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

This review will assess the effectiveness and formality of DOE HQ/CH/AAO oversight management system(s) related to ES&H activities and the level of staff's (DOE HQ/CH/AAO) involvement in oversight of ES&H activities of CH/AAO and the site contractor. As part of this review, the oversight relationships of organizations and the formality that documents whether DOE HQ/CH/AAO line organizations and independent ES&H oversight organizations are conducting regularly scheduled appraisals/assessments will be examined. The management information systems in place to track, trend, determine root causes, provide lessons learned, and furnish management with the current status of ES&H compliance will also be reviewed. In addition, the following other issues are included in this review: the DOE systems that provide management with line oversight information (e.g., walkthroughs, surveillances, and inspections); internal independent oversight (e.g., audits, appraisals, and safety document); self-assessment; and external oversight of all ES&H activities.

Assess the effectiveness and formality related to oversight of ANL-E by the University of Chicago Board of Governors Safety and Environmental Committee (SEC). A review of the contractor's management systems to determine how they perform not just the oversight but also the feedback on recommendations/corrective actions/successes internally, as well as to DOE (DOE HQ/CH/AAO) will also be performed.

Related Tiger Team Findings:

The 1990 AIS Tiger Team Assessment identified several findings related to oversight. They include the following:

1. M-3 - ANL-E and CH management had not monitored performance adequately enough to determine that systems were not working and to implement corrective actions.
2. M/CF-3 - ANL-E policy and guidance manuals do not reflect the University of Chicago's Board of Governors' or policies or requirements relating to ES&H/QA.
3. M/BMPF-4, M-3, M/CF-3 and M/BMPF-4 - The DOE program element had not provided adequate ES&H/QA guidance to ANL-E.

Related Tiger Team Action Plan Items:

The following action plan items are related to oversight: APO98, APO99, AP100, AP120, and AP122.

Other Bases:

The results of the management assessment performed by CH of AAO, ANL-E oversight reviews, etc. will be reviewed.

Overlapping Issues:

This review will overlap with those of human resources and organization relative to their review of surveillances, audits and/or appraisals, but this scope of work is how well HQ/CH/AAO/ANL-E/SEC management performs oversight of ES&H issues.

ASSESSMENT APPROACH:**Performance Objectives to be Evaluated:**

Specific performance objectives in the Management Performance Objectives and Criteria as contained in Appendix B-1 of the ES&H Progress Assessment Manual will be evaluated. These include DOE HQ; Performance Criteria 2.4.1, Directive System (CH and AAO); and 4.4.1, Directive System (ANL-E).

Description and Rationale of Approach:

The approach of this assessment will be to assess the management systems related to oversight activities of DOE HQ, CH, AAO, and ANL-E by examining the formulation and communication of these systems within and among these organizations. Primary emphasis will be on the formality and degree of comprehensiveness of DOE's management oversight systems and the effectiveness of those systems to formally communicate DOE's requirements to its subordinate organizations and to its contractors.

This approach entails reviewing existing documentation and conducting interviews with cognizant and responsible parties to support a comprehensive and accurate assessment of the adequacy and progress by DOE and ANL-E.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:**CH**

1. Memoranda of Understanding between and among DOE HQ program elements (e.g., ER, CH, and CH/AAO).
2. CH ES&H appraisal schedules.

AAQ

1. ES&H audits/appraisals.
2. Facility Representative (FR) Policy/Procedures Manual.
3. Tracking and trending system for all ES&H/FR reviews.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Management Systems				
Area of Responsibility:	Directives				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The policy, procedure, and directive systems of DOE HQ, CH, and ANL-E will be examined to determine the progress made in correcting the root causes in these management systems identified during the 1990 AIS Tiger Team Assessment. Specific issues include the quality and effectiveness of ES&H guidance, requirements, and expectations provided by the Cognizant Secretarial Officer to CH, and by CH to AAO and ANL-E. The directive systems will be examined to determine if they are comprehensive; ensure a common understanding among all parties; require ANL-E to advise DOE of the impact of requirements; and require ANL-E to prepare implementation plans to meet new or revised ES&H requirements. ANL-E management systems for converting DOE requirements into policies, procedures, and practices will be examined to determine if these management systems are timely and meet organizational needs.

Related Tiger Team Findings:

As reported in the Corrective Action Plan, CH had no assurances that they had determined applicability for all DOE Orders, notices, etc., and transmitted appropriate direction to ANL-E. There was inadequate assurance that DOE Orders and other directives are reflected in ANL-E policies and procedures (M-2). ANL-E and CH management had not monitored performances adequately to determine the systems are not working and implement correction actions (M-3). CH and AAO were not following CH 1321.1B, which would provide for the timely determination of applicability and distribution of DOE and CH directives to ANL-E (M/CF-2). ANL-E policy and guidance manuals do not reflect the University of Chicago's Board of Governors' or policies or requirements relating to ES&H/QA (M/CF-3). ANL-E did not have a procedure to assure the timely implementation of DOE Orders and Secretary of Energy Notices transmitted by AAO (e.g., M/BMPF-5, M-2, M-3, M/CF-2, M/CF-3, and M/BMPF-5).

Related Tiger Team Action Plan Items:

The following action plan items are related to directive systems: AP098, AP099, AP100, AP120, and AP122.

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Other Bases:**Overlapping Issues:**

Overlapping of issues occurs in the areas of human resources and organization related to their review of the directive, policies, and procedures, but this scope of work is to assess how HQ/CH/AAO/ANL-E/SEC manages systems which fulfills contractual and directive requirements.

ASSESSMENT APPROACH:**Performance Objectives to be Evaluated:**

Specific performance objectives in the Management Performance Objectives and Criteria as contained in Appendix B-1 of the ES&H Progress Assessment Manual will be evaluated. These include DOE HQ Performance Criteria; 2.4.1, Directive System (DOE/CH and AAO); and 4.4.1, Directive System (ANL-E).

Description and Rationale of Approach:

These management systems will be evaluated because they are fundamentally important to effective ES&H performance, and because the 1990 AIS Tiger Team Assessment Report described wide-spread deficiencies in the AIS policy, procedure, and directive systems as they related to virtually every ES&H functional area that the Tiger Team assessed.

The approach of this assessment will be to assess the policy, procedure, and directive systems of DOE HQ, CH, AAO, and ANL-E by examining the formulation and communication of these documents within and among these organizations. Primary emphasis will be on the formality and degree of comprehensiveness of DOE's directive systems and their effectiveness in formally communicating DOE's requirements to its subordinate organizations and to its contractors.

This approach includes reviewing existing documentation and conducting interviews with cognizant and responsible parties to support a comprehensive and accurate assessment of the adequacy and progress by DOE and ANL-E.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:**CH**

1. CH 1321.1B
2. ANL-E contract section-related directives.
3. Memoranda of Understanding between and among DOE HQ program elements.

AAO

1. Directive system policy/procedure and report.
2. Tracking and trending system for all directives.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Environment				
Area of Responsibility:	Environmental Monitoring Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Environmental protection program elements associated with ER, LM, EM, CH, AAO, and ANL-E management, implementation, and oversight of environmental monitoring program activities will be evaluated to determine if systems are in place such that data are (1) appropriate for their intended use; (2) defensible in that context; (3) generated and utilized to promote cost-effective use of resources; and (4) integrated into the accomplishment of the program mission. Policies, guidance, programs, and plans that define organizational structure, roles and responsibilities, authority, and interfaces to implement a sitewide multimedia environmental monitoring program will be reviewed. The following issues will be addressed:

- Evaluation of progress made since the 1990 AIS Tiger Team Assessment in the development, update, and/or revision to coordinate implementation and oversight of the ANL-E Environmental Protection Implementation Plan and the Environmental Monitoring Plan.
- Evaluation and implementation of the Groundwater Protection Management Program Plan and the Groundwater Monitoring Plan with respect to sitewide integration of environmental protection programs and plans; assignment of authorities and responsibilities; management knowledge of implementation strategies; management technical expertise; and communications of environmental protection policy.

Related Tiger Team Findings:

The AIS Tiger Team Assessment reported a "widespread lack of recognition and acceptance of the concepts of environmental protection and the importance of environmental compliance." Environmental monitoring activities key to verifying regulatory compliance and to quantifying releases to the environment and dose to the public where identified in several of the Environmental Subteam findings (e.g., A/CF-1; A/CF-2; A/CF-3; SW/CF-6; SW/CF-7; SW/CF-11; SW/CF-18; GW/CF-1; GW/BMPF-1; GW/BMPF-2; QA/CF-1; QA/CF-3; RAD/CF-3; RAD/CF-8; EM/CF-1). Environmental Subteam Root Cause No. E-2, absence of formal, integrated programs and plans; No. L-3.a, unclear assignments of authorities and responsibilities; No. E-3.b, lack of knowledge of implementation strategies; and No. E-3.c, lack of technical expertise, attributed to both DOE and ANL, where identified with respect to environmental protection programs.

Related Tiger Team Action Plan Items:

Corrective Action Plans associated with the findings listed above. AP319 Environmental Protection Program, addresses the program and management system elements in some detail.

Other Bases:

1. CH Environmental Protection Appraisal, 1992 and 1993.
2. ANL ESH/QA oversight and EWM appraisals of environmental monitoring activities.
3. EWD self-assessment reviews.

Overlapping Issues:

Corrective Action: A sampling of Tiger Team Assessment Action Plan evidence files with respect to several environmental findings will be conducted.

Training: Assessment will include a sampling of training for managers and staff in programs and plans related to environmental protection program requirements.

Self-Assessment: general inquiries at various organizational levels with respect to knowledge of program and identified issues.

ASSESSMENT APPROACH:**Performance Objectives to be Evaluated:**

The following ES&H Management Performance Objectives and Criteria in Appendix B-1 of the Progress Assessments Manual:

DOE ER and EM: Planning 1.1.1; Organization 1.2.4

CH: Planning 2.1.1; Organization 2.2; Directive System 2.4.1; Assessment and Review 2.4.2; Regulatory 2.6.2

ANL-E: Planning 4.1.1; Organization 4.2; Employee Relations 4.3.4; Directive System 4.4.1; Assessment and Review 4.4.2; Regulatory 4.6.2

The following Performance Objectives and Criteria for Conducting Environmental Audits: all media-specific and radiological monitoring and surveillance criteria, EM.3 Environmental Protection Programs, and QA.1 Quality Assurance with respect to environmental monitoring and surveillance.

Description and Rationale of Approach:

This review will evaluate progress made with respect to integration, implementation, and oversight of an effective environmental protection program. The assessment will concentrate on CH and AAO oversight of ANL Environmental Protection Implementation

Plan (EPIP) and Environmental Monitoring Plan implementation on a sitewide basis. The assessment will evaluate policy, program plans, that include functional responsibilities, program interfaces, and oversight authorities associated with these programs and plans within ANL-E. A more detailed review will address the implementation of the Groundwater Protection Management Program Plan and the Groundwater Monitoring Plan with respect to a EM project, the design review and approval process of a ER project, and integration on a sitewide basis.

Review of the current Environmental Protection Implementation Plan (EPIP) and Environmental Monitoring Plan with respect to addressing the concerns expressed in the Tiger Team Assessment related to several of the media-specific environmental monitoring concerns. For example, Finding A/CF-3, Ambient Air Quality Surveillance Network, details several specific observations which should now be addressed in the Environmental Monitoring Plan, or in subordinate procedures, per the Corrective Action Plan. Review Groundwater Protection Program and Monitoring Plans will be reviewed with respect to ER/LM/EM/CH/AAO/ANL-E organizational roles and responsibilities, authorities, and interfaces regarding implementation and oversight. A review of EM project activities interface with sitewide groundwater protection and compliance monitoring program and activities will be conducted.

This review will include interviews with CH, AAO, and ANL-E management with respect to their knowledge of progress made in environmental monitoring programs. Interviews with management and staff with respect to roles and responsibilities for implementation and oversight of groundwater protection and monitoring will be conducted at various organizational levels. Interviews with management and staff regarding training which may have been provided related to environmental protection policy and the importance of compliance will be conducted. A review of documentation related to an ER-funded project the regarding design review and approval process with respect to environmental protection considerations will be conducted.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. ANL-E Environmental Protection Program and Implementation Plan
2. ANL-E Environmental Monitoring Plan
3. ANL-E Groundwater Protection Management Plan
4. ANL-E Groundwater Monitoring Plan
5. Site Development Plan
6. 1992 Annual Site Environmental Report
7. Tiger Team Corrective Action evidence packages

8. Task Group Charter: Sitewide Water Balance Project
9. Recent audits and appraisals

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Environment				
Area of Responsibility:	Hazardous/Mixed Waste Generation Practices and Waste Minimization Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The hazardous/mixed waste generation practices and waste minimization program review will determine whether effective sitewide programs for managing hazardous/mixed waste generation activities have been developed and implemented and whether sitewide waste minimization practices for hazardous and mixed wastes have been integrated into laboratory research activities that generate waste. Several aspects of the Laboratory's waste generation practices will be evaluated. They are discussed below.

- The review will determine if DOE (i.e., CH and AAO) and its contractor (i.e., University of Chicago) are providing policies/procedures and guidance to waste generators on a sitewide basis to ensure that waste generation practices are conducted in a manner consistent with applicable environmental regulatory and DOE requirements. The formality of existing procedures will be reviewed and a determination will be made as to the extent of their implementation.
- The review will determine whether employee training programs have been established and implemented in the areas of waste generation and handling practices and that these programs include training of all full-time and visiting researchers as well as maintenance and support staff with the potential to generate hazardous and or mixed waste.
- Responsibility for waste generator oversight will be evaluated to determine what mechanisms are in place to routinely review and monitor waste generation activities and determine whether the responsibilities for oversight are formally documented and clearly understood among CH, AAO, and line management organizations within the contractor's research and support services divisions.
- The development of a sitewide waste minimization program will be evaluated and the review of waste generator activities will include an assessment of how well waste minimization practices have been accepted. The presence of policies and procedures to implement waste minimization activities sitewide will also be assessed.

- The Laboratory's process for identifying waste generators will be evaluated to determine whether all waste generators are efficiently and accurately identified. This portion of the review will determine if any waste generators are generating wastes for significant periods of time before receiving appropriate guidance for conducting such activity.

Related Tiger Team Findings:

The following Environmental Subteam findings from the 1990 AIS Tiger Team Assessment addressed overall waste management programs, management of wastes in accumulation areas and training of hazardous waste generators and handlers: WM/CF-2, WM/CF-6, and WM/CF-7. In addition, a key finding of the Environmental Subteam identified inadequacies in the Laboratory's program for managing wastes.

Management Subteam findings relating to CH, AAO, and ANL environmental programs, definition and formality of roles and responsibilities, policies/procedures and oversight of sitewide environmental activities (ES&H/QA) included the following: M/BMPF-8, M/CF-6, M/BMPF-12, M/BMPF-13, M/CF-7, M/BMPF-20, M/CF-8, M/BMPF-24, M/BMPF-4, M/BMPF-3, M/BMPF-6, M/BMPF-7, and M/BMPF-22.

Related Tiger Team Action Plan Items:

The following ANL Corrective Action Plan items address the Tiger Team findings listed above: AP329, AP353, and AP352. These corrective actions include revising the existing Waste Management Department's Waste Handling Procedures Manual, and development of sitewide training programs for waste generation and environmental awareness. Corrective action plans AP130, AP101, AP119, and AP117 are among those developed to address several of the management subteam findings in the areas of AAO oversight, conduct of operations, and line management responsibility for ES&H/QA.

Other Bases:

1. EPA and State of Illinois regulatory inspection reports relevant to RCRA waste generation.
2. ANL and CH internal audit and appraisal reports, and AAO walkthrough results, and associated corrective action plans.
3. ANL waste minimization reports.
4. Monthly EWM reports submitted to EM-30 and AAO.

Overlapping Issues:

Issues addressed during the waste management/waste generation portion of the Progress Assessment that will overlap with other assessment areas include follow-up and corrective actions for Tiger Team and internal self-assessment findings, adequacy of training programs relating to waste generators, adequacy of the directives system and implementation of policies and procedures for meeting conduct of operations requirements, and quality assurance and oversight by DOE over contractor activities.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance Objectives and Criteria for Conducting DOE Environmental Audits, which are contained in Appendix B-3 of the ES&H Progress Assessment Manual, are listed below:

1. POC WM.3 - Accumulation, Transfer, and Storage
2. POC WM.6 - Recordkeeping and Tracking
3. POC WM.7 - Minimization and Reduction
4. POC QA.1 - Quality Assurance Program
5. POC QA.2 - Audits/ Appraisals/ Surveillance
6. POC QA.3 - Procedures
7. POC QA.4 - Laboratory and Field Quality Assurance
8. POC EM.1 - Organizational Structure
9. POC EM.2 - Culture and Attitude
10. POC EM.7 - Staff Development and Training
11. POC EM.4 - Formality of Environmental Programs
12. ANL-E waste handling procedures
13. DOE 5400.3, DOE 5820.2A, and DOE 5400.1

Description and Rationale of Approach:

The rationale for assessing progress made by ANL and DOE since the 1990 AIS Tiger Team Assessment in the area of waste generation activities will be as follows:

- A vertical slice will be taken in the area of waste generator activities throughout the Laboratory, whereby the initial steps in the evaluation process will involve physical observation of individuals generating waste. Additionally, the assessment will include interviews with ANL-E line management and upper management staff and AAO and CH staff to determine the process by which waste generators are initially identified and level of oversight of waste generation and minimization activities. Policies and procedures will be reviewed (document reviews) as they relate to laboratory waste generation and handling activities and development and implementation of training programs for waste generators will be assessed to ensure that they address waste generation and minimization appropriately.

- Corrective action programs for addressing findings identified during Tiger Team Assessments and internal self-assessments will be evaluated by choosing two Environmental Subteam findings from the 1990 Tiger Team Assessment and evaluating ANL-E, AAO, and CH's process for validating the appropriateness of closure of each finding.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. ANL-E ES&H Safety and Health Manual.
2. ANL-E Waste Handling and Procedures Manual.
3. ANL-E Five-Year Plan.
4. ANL-E divisional line management policies and procedures.
5. Internal quality assurance review reports.
6. Internal self-assessment reports.
7. Waste generator training program documentation.
8. Routine line management/contractor reports submitted to AAO and relating to waste generator and waste minimization activities.
9. Waste Minimization Program Plan.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Safety and Health				
Area of Responsibility:	Conduct of Operations				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

This review will examine the methodology used to implement conduct of operations vertically in four typical ANL-E organizations to determine if they support effective ES&H performance. It will examine the uniformity of the graded approach being applied in implementation of conduct of operations. In addition, this review will determine if effective systems are in place to issue, review, and revise operating procedures that support effective ES&H performance and to ensure their effective distribution and use in four typical ANL-E facilities. The effectiveness of logkeeping/recordkeeping practices in four typical ANL-E organizations will be examined as well.

Related Tiger Team Findings:

The conduct of operations order, DOE 5480.19, had just been issued at the time of the 1990 AIS Tiger Team Assessment and, hence, this topic was not pointedly assessed at that time. However, Management Subteam findings M/CF-1, M/CF-3, M/BMPF-6, and M/BMPF-7 would not have existed if conduct of operations had been effectively implemented. This is also true for Safety and Health Subteam concerns OP.1-1, OP.2-1, OP.2-2, OP.2-3, OP.6-1, and OP.6-2.

Related Tiger Team Action Plan Items:

The following action plan items are related to conduct of operations: AP327, AP099, AP130, AP101, AP191, AP151, AP106, AP311, AP348, AP308, and AP074.

Other Bases:

This review will also look at guidelines associated with a graded approach implementation of DOE 5480.19, "Conduct of Operations."

Overlapping Issues:

Training effectiveness is a fundamental requirement for effective implementation of conduct of operations and will be reviewed as part of this assessment. In addition, oversight of conduct of operations is a part of the overall oversight assessment, as is applicable corrective action progress in the conduct of operations area.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The following Management Performance Objectives and Criteria in Appendix B-1 of the ES&H Progress Assessment Manual will be evaluated: 4.4.2, Assessment and Review, 4.4.3, ES&H Management Information System, 4.4.1, Directive System.

Technical Safety Appraisal Performance Objective and Criteria in Appendix B-1 of the ES&H Progress Assessment Manual included in this assessment are as follows: OP.1, Operations Organization and Administration, OP.2, Conduct of Operations, OP.3, Operations Procedures, OP.4, Facility Status Controls, OP.6, Operators Knowledge and Performance.

Description and Rationale of Approach:

The approach of this assessment is to discuss and review conduct of operations implementation strategy with several members of ANL-E management and staff.

Four ANL-E facilities were selected for a vertical cut assessment of the implementation of conduct of operations. These facilities were selected because they include some with high-risk factors and have a diversity of management. These facilities are ATLAS, Chemical Technology Facilities, AGHCF, and the Boiler House. Assessing these facilities will include the following:

- facility tour,
- review of conduct of operations implementation plans and status,
- discussions with managers,
- discussions with supervisors,
- discussions with operators/technicians,
- review operating procedure system and its implementation,
- review logkeeping/recordkeeping system,
- review status of any related Tiger Team Corrective Action Plans, and
- review CH/AAO oversight related to conduct of operations.

Review of about 20 other conduct of operations implementation documents will also be part of the approach.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS TO BE REVIEWED:

1. Correspondence on conduct of operations between AAO and ANL.
2. ANL conduct of operations plans and policies.
3. ANL conduct of operations implementation documentation.
4. Several ANL systems for preparing and using operating procedures.

5. Several ANL systems for logkeeping and recordkeeping.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITE

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Discipline:	Safety and Health				
Area of Responsibility:	OSHA and Construction Safety				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

CH, AAO, and ANL-E programs, policies, and procedures that implement occupational safety and health requirements in DOE 5483.1A, DOE 5480.9, and DOE 3790.1A will be the primary focus of this portion of the Progress Assessment. Management system elements relating to these requirements, including planning, organization (understanding roles, responsibilities, and authorities), staffing, oversight, and procedure and policy adherence will be reviewed. Corrective actions for at least two concerns from the Worker Safety Section of the 1990 AIS Tiger Team Assessment will be verified to validate that corrective actions were effective in addressing the associated root causes

Related Tiger Team Findings:

1. This review includes the Safety and Health Tier 1 Root Cause: Lack of accountability for, and insufficient independent oversight of, safety and health.
2. The following Safety and Health findings are included in this review: Organization and Administration (OA) 1-1, 1-2, 1-3, 5-1; Technical Support (TS) 2-1, 2-2; Personnel Protection (PP) 1-1, 2-1, 2-2, 2-3, 3-1, 3-2, 4-1, 4-2, 5-1; Worker Safety and Health (OSHA) Compliance (WS), all.

Related Tiger Team Action Plan Items:

The following Tiger Team action items address the findings listed above: Organization and Administration (OA): AP338, OSHA report of ANL-E; AP066, safety meetings not regularly scheduled; AP161, succession of authority not clearly defined; AP081, no defined organizational functions and safety responsibilities; AP082, ANL ES&H potential conflict of interest; and AP286/AP087, no ANL-E mechanism to ensure enforcement of orders/regulations.

Technical Support (TS): AP070, not all facilities have a current Safety Analysis Report.

Personnel Protection (PP): AP082, no established ES&H for Quality Assurance, Environment, and Safety Office; AP099, management allowed divisions to adopt policy and procedures; AP066/AP084, responsibility of Division Safety Coordinators and Committee not defined; AP099/AP168, ES&H not maintaining Health and Safety Manual; AP314, PFS not applying effective system to enforce safety; AP067/AP362, line

management does not apply effective system to identify hazards; AP343, accidents, injuries, illnesses not reported, logged, tracked; AP067/AP362, ES&H, QA, Environment and Safety Office not applying evaluations; and AP060/AP282/AP286, noncompliance of Hazard Communication Program.

Worker Safety and Health (OSHA) Compliance (WS), All.

OTHER BASES:

The following documents will be reviewed:

- Argonne-Illinois Site Self-Assessment Report, September 1990;
- Progress on the Corrective Action Plan of the Argonne National Laboratory by the Office of Basic Energy Sciences, October 21-5, 1991;
- AAO Self-Assessment Plan, September 4, 1992;
- Environment, Safety and Health Division (ESHD) FY 1992 Self-Assessment Plan;
- EH30.3 Site Representatives' Assessment of DOE Chicago Operations Office

Overlapping Issues:

Self-assessment/oversight, responsibilities, safety culture/awareness, conduct of operations, and industrial hygiene/radiation protection are related to the OSHA area.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The Performance Objectives and Criteria for Technical Safety Appraisals, which are contained in Appendix B-4 of the ES&H Progress Assessment Manual provide the basis for this evaluation. Specifically, the following topics under the areas of organization and administration, personnel protection, and worker safety and health (OSHA) compliance will be reviewed:

- **Organization and Administration.** OA.1, Site/Facility Organization; OA.2, Administration; OA.5, Management Assessment; OA.6, Personnel Planning and Qualification; and OA.7, Document Control.
- **Personnel Protection.** PP.1, Organization and Administration; PP.2, Procedures and Documentation; PP.3, Management of Health and Safety Concerns; PP.4, Surveillance of Health and Safety Concerns; and PP.5, Personnel Communication Programs.
- **Worker Safety and Health (OSHA) Compliance.** WS.1, Management of Health and Safety Concerns; WS.2, Surveillance of Health and Safety Concerns; WS.3, Compliance with Occupational Health Standards for

General Industry; WS.4, Compliance with Occupational Safety Standards for General Industry; WS.5, Compliance with Occupational Safety and Health Standards for Construction; and WS.6, Personnel Communication Program.

Description and Rationale of Approach:

The approach will consist of a vertical review of the programs, policies, and procedures which implement general industry and construction safety and health requirements at CH, AAO, and ANL-E. Additional vertical reviews will address OSHA compliance, and safety and health concerns. The approach will incorporate reviews of programs and procedures, interviews with all levels of staff, onsite observations and verifications, and document review.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:

1. Documentation on organization and responsibilities.
2. Safety and health manuals (general industry and construction).
3. Safety and health standard operating procedures.
4. Audit (line and independent) self-assessments reports and schedules.

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PROGRESS ASSESSMENT SCOPE

ARGONNE ILLINOIS SITES

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Discipline:	Safety and Health				
Area of Responsibility:	Industrial Hygiene/Health Physics Programs				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

The industrial hygiene/health physics review will focus on the industrial hygiene program administered by ANL-E, as well as the oversight of this program provided by CH and AAO. The contractor oversight provided by CH and AAO will be examined to see if it measures the effectiveness of the ANL-E industrial program. A review of ANL-E management efforts will focus on a "top down" approach to implementing the industrial hygiene program. The formality of the industrial hygiene program structure will be determined by the identification of and review of applicable policies and procedures. The ANL-E self-assessment program will be reviewed to see if it is used as a tool to identify and correct programmatic industrial hygiene deficiencies. The allocation of resources to ensure programmatic goals are achieved and training provided to employees in general hazards recognition as well as specialized industrial hygiene training will also be examined. Selected technical issues from the 1990 AIS Tiger Team will be reviewed to examine the progress made to bring them into compliance with applicable DOE, OSHA, and DOE-mandated industrial hygiene orders and standards.

This assessment is primarily involved with industrial hygiene; however, health physics will also be reviewed. This portion of the review will concentrate on the ANL-E progress towards implementing the DOE RADCON Manual.

Related Tiger Team Findings:

Industrial Hygiene: IH. 5-2 (laser safety), IH. 5-3 (handling, storage, and labelling of chemicals, compressed gases, and wastes), PP. 1-1 (implementation of personnel protection program), PP. 2-1 (verification of health and safety programs), PP. 2-2 (responsibility and authority of safety coordinators), PP. 2-3 (Health and Safety Manual), PP. 2-4 (exposure assessment data), PP. 3-2 (identification, evaluation, and control of health hazards), PP. 4-2 (walkthroughs and hazard evaluations), PP. 5-1 (hazard communication), and TC. 4-4 (safety training).

Health Physics: None explicitly. The RADCON Manual was published in June 1992.

Related Tiger Team Action Plan Items:

The following action plan items are related to industrial hygiene: AP056 (laser safety), AP057 (chemicals, compressed gases, wastes), AP286 (safety training), AP082 (interface

responsibilities), AP099 (policy and guidance manuals), AP066 (safety program implementation), AP289 (documentation and record keeping), AP067 (hazard evaluation and site inspections), AP362 (hazard awareness program), and AP060 (hazard communication).

Other Bases:

Other bases pertaining to industrial hygiene are as follows: DOE 5480.4, DOE 5480.10, OSHA regulation 29 CFR 1910, 29 CFR 1926, ANSI Standard Z136.1, and other accepted industry standards and practices.

Overlapping Issues:

This review will also examine the conduct of the site worker safety (OSHA) program. It will be conducted in close cooperation with the worker safety representative.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The following industrial hygiene Performance Objectives and Criteria for Technical Safety Appraisals which are contained in Appendix B-4 of the Progress Assessment Manual will be reviewed: Performance Objectives IH.1, IH.2, IH.3, IH.4, IH.5, and IH.6.

Description and Rationale of Approach:

Industrial Hygiene: The approach used in the industrial hygiene review will include interviews with CH/AAO and ANL-E industrial hygiene personnel, ES&H management, and operational personnel. A number of industrial hygiene procedures will be reviewed. Tours of selected site facilities will be performed to assess the effectiveness of the upgrades to the industrial hygiene programs identified in the action plan. Vertical slice audits of the laser safety and chemical hygiene/tracking programs will be performed. This assessment will also examine the effectiveness of line management to implement industrial hygiene programmatic goals, resolve identified deficiencies, as well as to conduct self-assessments and evaluations. In particular, the following areas will be examined:

1. Management commitment towards employee involvement and awareness of industrial hygiene issues.
2. The level of industrial hygiene involvement in worksite coverage.
3. Hazard recognition, control corrective action and prevention, including training.
4. Assignment of adequate resources.

Health Physics: Site progress towards the implementation of the DOE KADCON Manual will be assessed by reviewing the existing closeout documentation for each section of the Manual.

Planned Interviews:

See Schedule of Onsite Interviews.

KEY DOCUMENTS REQUIRED:**Industrial Hygiene:**

1. ANL-E Environmental, Safety, and Health Manual
2. ANL-E self-assessments of Industrial Hygiene Program
3. AAO industrial hygiene checklists
4. CH-ESD appraisals of ANL-E Industrial Hygiene Program
5. Correspondence regarding CH-ESHD appraisals of ANL-E Industrial Hygiene Program
6. ANL-E internal operating procedures in industrial hygiene

Health Physics:

1. Correspondence related to implementation of DOE RADCON Manual.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Eric Dallman (Industrial Hygiene) Gladys Fowler (Health Physics)		
	Telephone #:	708/252-2434 708/252-8632	Fax #:	708/252-2361 708/252-2361
Contractor Counterpart	Name:	Jim Woodring (Industrial Hygiene) Bob Wynveen (Health Physics)		
	Telephone #:	708/252-5641 708/252-3325	Fax #:	708/252-7608 708/252-5778

Appendix E

Schedule of Onsite Activities

SCHEDULE OF ONSITE ACTIVITIES

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
S.J. Boutté Corrective Action Program	am • Travel Day	<ul style="list-style-type: none"> • Interviews: - J. Zamirowski, CH, ESHD - C. Langenfeld, CH, Manager • Group Interview - G. Giarrante, CH, Office of Assistant Manager for Financial Management; - M. Samber, CH, Assistant Manager for Legal Support - R. Papesh, CH, Financial Review and Analysis; - S. Dow, CH, Finance and Accounting; - W. Lott, CH, Budget Division 	<ul style="list-style-type: none"> • Interviews: - A. Taboas, CH-AAO - R. Purucker, CH-AAO, Safety and Health Programs Branch - A. Harvey, CH-AAO, Safety and Health Programs Branch 	<ul style="list-style-type: none"> • Group Interview: - R. Teunis, ANL-E, OPS; - D. Parzyck, ANL-E, EQO-IND 	<ul style="list-style-type: none"> • Group Interviews: - J. Battles, ANL-E, CMT; - R. Wolson, ANL-E, CMT; - B. Lesht, ANL-E, ER; - C. Reilly, ANL-E, ER - Eight representatives from the University of Chicago Board of Governors for Argonne National Laboratory 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	<ul style="list-style-type: none"> • Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
	pm • Team Meeting	<ul style="list-style-type: none"> • Group Interview: - M. Flannigan, CH, ESHD; - J. Kennedy, CH, Office of Assistant Manager for Safety and Security; - C. Zook, CH-AAO, Program Management Division; - D. Yuzetis, CH, Strategic Planning 	<ul style="list-style-type: none"> • Group Interview: - A. Schriesheim, ANL-E, OTD; - L. Novotny, ANL-E, OTD; - A. Goldman, ANL-E, OTD; - J. Asbury, ANL-E, OTD; - D. Parzyck, ANL-E, EQO-IND; - L. Chipman, ANL-E, EQO • Interview: - A. Taboas, CH-AAO 	<ul style="list-style-type: none"> • Group Interviews: - R. Schlenker, ANL-E, ESH-HP; - D. Miller, ANL, EQO-IND - Thomas, University of Chicago, Board of Governors, Safety and Environment Committee; - J. Lafavers, University of Chicago, Executive Director for Argonne 	<ul style="list-style-type: none"> • Interviews: - D. Haugen, ANL-E, EST; - W. Hannum, ANL-E, OTD-ERA; - S. Moss, ANL-E, PRA; - B. Marzec, ANL-E, PNS; - A. Wright, ANL-E, RE 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
O.J. Lawrence Self-Assessment	am • Travel Day	• Group Interview: - M. Flannigan, CH, ESHD; - J. Kennedy, CH, Office of Assistant Manager for Safety and Security; - C. Zook, CH-AAO, Program Management Division; - D. Yuzeitis, CH, Strategic Planning	• Group Interview: - A. Schriesheim, ANL-E, OTD; - L. Novotny, ANL-E, OTD; - A. Goldman, ANL-E, OTD; - J. Asbury, ANL-E, OTD; - D. Parzyck, ANL-E, EQO-IND; - L. Chipman, ANL-E, EQO • Interview: - A. Taboas, CH-AAO	• Group Interviews: - B. Schlenker, ANL-E, ESH-HP; - D. Miller, ANL, EQO-IND - Thomas, University of Chicago, Board of Governors, Safety and Environment Committee; - J. Lafavers, University of Chicago, Executive Director for Argonne	• Interviews: - D. Haugen, ANL-E, EST; - W. Hannum, ANL-E, OTD-ERA; - S. Morse, ANL-E, PRA; - B. Marzec, ANL-E, PNS; - A. Wright, ANL-E, RE	• Prepare overview, concerns, weaknesses, and strengths for draft report	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
	pm • Team Meeting	• Group Interview: - M. Flannigan, CH, ESHD; - J. Zamirowski, CH, ESHD; - J. Kennedy, CH, Office of Assistant Manager for Safety and Security; • Interviews: - D. Dashevesky, CH, Office of Assistant Manager for Environmental Management and Energy Projects - D. Yuzeitis, CH, Strategic Planning	• Group Interview: - A. Schriesheim, ANL-E, OTD; - J. Asbury, ANL-E, OTD; - L. Novotny, ANL-E, OTD; - A. Goldman, ANL-E, OTD; - G. Winner, ANL-E, EQO-IND; - D. Parzyck, ANL-E, EQO-IND; - L. Chipman, ANL-E, EQO	• Group Interviews: - R. Schlenker, ANL-E, ESH-HP; - D. Miller, ANL-E, EQO-IND; - B. Thomas, University of Chicago, Board of Governors, Safety and Environment Committee; - J. Lafavers, University of Chicago, Executive Director for Argonne	• Interviews: - D. Haugen, ANL-E, EST; - W. Hannum, ANL-E, OTD-ERA; - S. Morse, ANL-E, PRA; - B. Marzec, ANL-E, PNS; - A. Wright, ANL-E, RE Eight representatives from the University of Chicago Board of Governors for Argonne National Laboratory	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thur. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
J.R. Kirby Oversight Directives	am • Travel Day	<ul style="list-style-type: none"> • Interviews: - J. Bucher, AAO, Administration Division - C. Langenfeld, CH, Office of Manager - A. Harvey, CH-AAO, Safety and Health Programs Branch 	<ul style="list-style-type: none"> • Interviews: - R. Wunderlich, CH-AAO, APS; - F. Gorup, CH-AAO, Programs and Projects Branch • Group Interview: - M. Flannigan, CH, ESHD; - J. Zamirowski, CH, Environmental Safety, and Health • Interview: - D. Green, CH-AAO, Environmental Program Branch 	<ul style="list-style-type: none"> • Group Interview: - R. Teunis, ANL-E, OPS; - D. Parzyck, ANL-E, EQO-IND • Interview: - D. Parzyck, ANL-E, EQO-IND 	<ul style="list-style-type: none"> • Group Interview: University of Chicago Board of Governors Safety and Environment Committee 	<ul style="list-style-type: none"> • Interviews: - D. Parzyck, ANL-E, EQO-IND • Prepare overview, concerns, weaknesses, and strengths for draft report 	<ul style="list-style-type: none"> • Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
	pm • Team Meeting	<ul style="list-style-type: none"> • Interviews: - D. Dashevsky, Acting Assistant General Manager, Environmental Management 	<ul style="list-style-type: none"> • Group Interview: - H. Drucker, ANL-E, EST; - C. Till, ANL-E, OTD-ERA 	<ul style="list-style-type: none"> • Group Interviews: - A. Schriesheim, ANL-E, OTD; - R. Teunis, ANL-E, OPS; - D. Karras, ANL-E, OPS; - A. Goldman, ANL-E, OTD; - B. Thomas, University of Chicago, Board of Governors Safety and Environment Committee; - J. Lafavers, University of Chicago, Executive Director for Argonne 	<ul style="list-style-type: none"> • Review Documents 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
L.A. Rancitelli arn Organization Planning, Budgeting, and Resource Allocation	• Travel Day	<ul style="list-style-type: none"> • Group Interviews: <ul style="list-style-type: none"> - T. Crawford, CH, Office of Assistant Manager for Administration; - G. Giarrante, CH, Office of Assistant Manager for Financial Management and CFO • Interview: <ul style="list-style-type: none"> - C. Langenfeld, CH, Office of Manager • Group Interviews: <ul style="list-style-type: none"> - D. Dashevsky, CH, Office of Assistant Manager for Environmental Management; - J. Kennedy, CH, Office of Assistant Manager for Safety and Security; - M. Samber, CH, Assistant Manager for Legal Support - M. Saar, CH, Industrial Safety and Fire Protection; - J. Adachi, CH, Quality Assurance Branch; - R. McCullum, CH, Nuclear Safety Branch 	<ul style="list-style-type: none"> • Interview: <ul style="list-style-type: none"> - D. Yuzeitis, CH, Strategic Planning • Group Interviews: <ul style="list-style-type: none"> - M. Flannigan, CH, ESHD; - J. Zamirowski, CH, ESHD - D. Yuzeitis, CH, Strategic Planning; - A. Taboas, CH-AAO; - C. Zook, CH-AAO, Program Management Division; - R. Wunderlich, CH-AAO, APS 	<ul style="list-style-type: none"> • Group Interviews: <ul style="list-style-type: none"> - R. Teunis, ANL-E, OPS; - D. Parzyck, ANL-E, EQO-IND - C. Till, ANL-E, OTD-ERA - F. Fradin, ANL-E, PRA; - D. Moncton, ANL-E, OTD-APS 	<ul style="list-style-type: none"> • Group Interview: <ul style="list-style-type: none"> - F. Collart, ANL-E, Assistant Biochemist; - J. Libere, ANL-E, Assistant Mechanical Engineer; - C. Giometti, ANL-E, Biochemist; - R. Erck, ANL-E, Materials Engineer; - J. Harkness, ANL-E, Chemical Engineer; - R. Niemann, ANL-E, Senior Mechanical Engineer; - J. Dehmer, ANL-E, Senior Physicist; - J. Butler, ANL-E, Environmental Engineer; - D. Sisterton, ANL-E, Meteorologist; - Interview. - D. Parzyck, ANL-E, EQO-IND 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	<ul style="list-style-type: none"> • Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thur. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
L.A. Rancitelli pm Organization Planning, Budgeting, and Resource Allocation	Team Meeting	<ul style="list-style-type: none"> • Interview: - A. Taboas, CH-AAO • Group Interview: - J. Haugen, CH-AAO, Waste Management and Technology Development; - M. Bollinger, CH-AAO, Waste Management and Technology Development 	<ul style="list-style-type: none"> • Group Interviews: - C. Zook, CH-AAO, Program Management Division; - F. Gorup, CH-AAO, Programs and Projects Branch; - D. Green, CH-AAO, Environmental Programs Branch; - A. Harvey, CH-AAO, Safety and Health Programs Branch - J. Asbury, ANL-E, OTD; - A. Goldman, ANL-E, OTD 	<ul style="list-style-type: none"> • Group Interviews: - R. Wynveen, ANL-E, ESH-HP; - J. Bohren, ANL-E, HR - B. Thomas, University of Chicago, Chairman, Safety and Environment Committee, Board of Governors; - J. Lafeyers, University of Chicago, Executive Secretary for ANL - J. Battles, ANL-E, CTM; - W. Hannum, ANL-E, OTD-ERA • Interview: - N. Golchert, ANL-E, EWM 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
<p>S. Masciulli am</p> <p>Human Resources Management</p> <p>Formality of Operations</p>	<p>• Travel Day</p>	<p>• Interviews:</p> <ul style="list-style-type: none"> - B. Thomas, CH, Human Resources Administration - C. Langenfeld, CH, Office of Manager - L. Freeman, CH, Operational Surety Branch - A. Schriesheim, ANL-E, OTD; - D. Parzyck, ANL-E, EQO-IND 	<p>• Interviews:</p> <ul style="list-style-type: none"> - J. Haugen, CH-AAO, WMD - W. Hannum, ANL-E, OTD-ERA - R. Hielop, CH-AAO, APS 	<p>• Interviews:</p> <ul style="list-style-type: none"> - R. McCullum, CH-AAO, Nuclear Safety Branch - R. Bouie, ANL-E, PFS-PMO - D. Larson, ANL-E, ESH 	<p>• Interviews:</p> <ul style="list-style-type: none"> - L. Chipman, ANL-E, EQO <p>• Interviews:</p> <ul style="list-style-type: none"> - B. Darragh, ANL-E, HR - D. Howe, ANL-E, HR - J. Michie, ANL-E, HR 	<p>• Interviews:</p> <ul style="list-style-type: none"> - M. Flannigan, CH-AAO, ESHD - T. Barkalow, ANL-E, ESH - D. Larson, ANL-E, ESH - R. Bottino, ANL-E, HR 	<p>• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths</p>
<p>pm</p>	<p>• Team Meeting</p>	<p>• Interviews:</p> <ul style="list-style-type: none"> - A. Taboas, CH-AAO - C. Zook, CH-AAO, Program Management Division 	<p>• Interviews:</p> <ul style="list-style-type: none"> - S. Morse, ANL-E, PRA - H. Drucker, ANL-E, EBA - C. Till, ANL-E, OTD-ERA 	<p>• Group Interview:</p> <ul style="list-style-type: none"> - J. Benkert, ANL-E, PFS-PMO; - K. Kroszcek, ANL-E, ESH-HP; - J. Riley, ANL-E, PFS; - D. Hennebry, ANL-E, PFS-PMO <p>• Interview:</p> <ul style="list-style-type: none"> - G. Winner, ANL-E, EQO-IND 	<p>• Group Interviews:</p> <ul style="list-style-type: none"> - A. Smith, ANL-E, ET; - J. McCreary, ANL-E, CHM; - T. Mullen, ANL-E, PHY; - M. Esseling, ANL-E, CMB - T. Mullen, ANL-E, PHY; - A. Bernstein, ANL-E, PHY; - J. Oras, ANL-E, ET; - I. Bresof, ANL-E, PNS; - M. Skonicki, ANL-E, ASD 	<p>• Prepare overview, concerns, weaknesses, and strengths for draft report</p>	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
J. Johnston Quality Assurance	am • Travel Day	• Interviews: - A. Harvey, CH-AAO, Safety and Health Programs Branch - J. Nuchoff, CH-AAO, Nuclear Engineer, Safety and Health Programs Branch - L. Freeman, CH-AAO, Operational Surety Branch	• Interviews: - R. Purucker, CH-AAO, Safety and Health Programs Branch - D. Green, CH-AAO, Environmental Programs Branch	• Group Interview: - V. Potent, ANL-E, APO; - Y. Amer, ANL-E, APO; - L. Pruitt, ANL-E, APO • Interview: - T. Busse, ANL-E, SSH-IN	• Group Interview: - W. Hannum, ANL-E, OTA-ERA; - R. Malecha, ANL-E, CMT; - J. Trent, ANL-E, WM; - T. Torres, ANL-E, EWM-WMO • Interview: - J. Daum, ANL-E, PFS-FPE	• Group Interview: - D. Haugen, ANL-E, EBA; - L. Chipman, ANL-E, EQO	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
	pm • Team Meeting	• Group Interviews: - J. Adachi, CH-AAO, Quality Assurance Branch; - M. Flannigan, CH-AAO, ESHD • Interview: - B. Zigler, CH-AAO, QA Support Program	• Group Interviews: - A. Schriesheim, ANL-E, OTD; - A. Goldman, ANL-E, OTD; - J. Asbury, ANL-E, OTD; - L. Novotny, ANL-E, OTD - S. Morse, ANL-E, PRA; - G. Pieper, CH-AAP Quality Assurance	• Group Interviews: - C. Riemer, ANL-E; - B. Verhaaren, ANL-E; - J. Peerenboom, ANL-E; - G. Ramsey, ANL-E - A. Schriesheim, ANL-E, OTD; - A. Goldman, ANL-E, OTD; - R. Teunis, ANL-E, OPS	• Group Interview: - W. Bird, ANL-E, ESH - G. Griffin, ANL-E, ESH	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thurs. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
C.B. Lewis Environmental Monitoring Program	am • Travel Day	• Interviews: - D. Green, CH-AAO, Environmental Programs Branch - T. Dexter, CH- AAO Environmental Restoration	• Interviews: - A. Gabel, CH-AAO, Environmental Programs Branch - Y. Collazo, CH-AAO, Environmental Programs Branch	• Group Interview: - J. Mathiesen, ANL-E, EQO-IND; - N. Golchert, ANL-E, EWM • Interview: - N. Golchert, ANL-E, EWM	• Group Interview: - N. Golchert, ANL-E, EWM; - G. Wittman, ANL-E, EWM; - M. Kamiya, ANL-E, EWM; - R. Swale, ANL-E, EWM; - J. Trent, ANL-E, EWM; - A. Gabel, CH-AAO, Environmental Restoration; - D. Green, CH-AAO, Environmental Program Branch	• Group Interviews: - R. Lendley, ANL-E, SPO; - N. Golchert, ANL-E, EWM - A. Taboss, CH-AAO; - C. Zook, CH-AAO, Program Management Division; - D. Green, CH-AAO, Environmental Programs Branch; - F. Gorup, CH-AAO, Programs and Project Branch	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
	pm • Team Meeting	• Group Interview: - R. Kolzow, ANL-E, EWM; - M. Kamiya, ANL-E, EWM; - R. Ghilardi, ANL-E, EWM	• Interviews: - P. Neeson, CH-AAO Environmental Protection Branch - R. Kolzow, ANL-E, EWM	• Interviews: - M. Schletter, ANL-E, EWM - D. Parzyck, ANL-E, EQO-IND	• Interview: - M. Flannigan, CH-AAO, ESHD • Group Interviews: - D. Dietzel, CH-AAO, Environmental Protection Branch; - K. Joshi, CH-AAO, Environmental Protection Branch - C. Zook, CH-AAO, Program Management Division; - D. Green, CH-AAO, Environmental Programs Branch	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
R.M. D'Emilio Hazardous/Mixed Waste Generation and Waste Minimization Programs	am • Travel Day	• Interviews: - F. Collart, ANL-E, CMB - C. Chubb, ANL-E, CMB - D. Tonetti, CMB - W. Epperly, ANL-E, CMB - E. Powell, ANL-E, PFS-VM; - D. Melvin, ANL-E, PFS-VM; - R. Pagel, ANL-E, PFS-VM	• Group Interview: - J. Muller, ANL-E CMT; - M. Slawicki, ANL-E, CTM; - R. Brian, ANL-E, CTM • Interviews: - D. Tolle, ANL-E, ES&H - J. McCreary, ANL-E, CHM - S. Morse, ANL-E, PRA - M. Essling, ANL-E, CMB	• Group Interview: - F. Fradin, ANL-E, PRA; - D. Moncton, ANL-E, OTD-APS; - H. Drucker, ANL-E, EBA; - C. Till, ANL-E, OTD-ERA • Interviews: - J. Adachi, CH-AAO, Quality Assurance Branch - B. Zigler, CH-AAO, QA Program Support	• Interviews: - R. Purucker, CH-AAO, Safety and Health Programs Branch - Y. Collazo, CH-AAO, Environmental Programs Branch - E. Vera, CH-AAO, Environmental Programs Branch - M. Bollinger, ANL-E, STA	• Interviews: - J. Thuot, ANL-E, EWM - A. Taboas, CH-AAO - K. Joshi, CH-AAO, Environmental Protection Branch - S. Goal, DOE HQ, ER-10	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
pm	• Team Meeting	• Group Interviews: - D. Patterson, ANL-E, ASD - R. Kumar, ANL-E, CMT; - I. Bloom, ANL-E, CMT; - A. Tenkate, ANL-E, CMT; - D. Bowers, ANL-E, CMT - W. Svec, ANL-E, CHM; - R. Winans, ANL-E, CHM; - J. McCreary, ANL-E, CHM; - R. Cau, ANL-E, Visiting Scientist; - J. Beitz, ANL-E, CHM - L. Stock, ANL-E, CHM; - A. Kini, ANL-E, CHM; - R. Bouie, ANL-E, PFS-PMO	• Interviews: - C. Grandy, ANL-E, EWM - E. Beavers, ANL-E, EWM - D. McNamee, ANL-E, EWM - J. Johnson, ANL-E, EWM - K. Chiu, ANL-E, EWM - A. Torres, ANL-E, EWM	• Interview: - D. Larson, ANL-E, ESH • Group Interview: - R. Teunie, ANL-E, OPS; - D. Parzyck, ANL-E, EQO-IND	• Interviews: - K. Loving, ADL, Consultant - M. Flannigan, CH-AAO, ESHD - T. Bindokas, CH-AAO, WMTD	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
J.A. Buckham Conduct of Operations	am • Travel Day	• Interviews: - W. Henning, ANL-E, Physical Research - J. Nolen, Director, ATLAS - R. Pardo, Operations Manager, ATLAS - G. Zinkann, Operations Supervisor, ATLAS - K. Nakagawa, Chief Shift Operator, ATLAS - B. Glogola, Program Administrator, ATLAS - E. Rehm, Heavy Ion Chief, ATLAS	• Interviews: - L. Niemark, Facility Manager, AGHCF - D. Donahue, Facility Supervisor, AGHCF - B. Ketteman, Chief Technician, AGHCF • Tour: - AGHCF	• Interviews: - J. Battles, ANL-E, CTM - R. Wolson, ANL-E, CTM • Tour: - CTM	• Document review	Follow-up interviews and document review	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
pm	• Team Meeting	• Interview: - A. Wvoosaa, Research Scientist, ATLAS • Tour: - ATLAS Facility	• Interviews: - H. Drucker, ANL-E, EST - C. Till, ANL-E, OTD-ERA	• Interviews: - J. Basco, ANL-E, CMT - K. Byrne, ANL-E, CMT - S. Ahmed, ANL-E, CMT - D. Chamberlain, ANL-E, CMT - R. Blomquist, ANL-E, CMT - J. Heiberger, ANL-E, CMT Supervisor - C. Webster, ANL-E, CMT - D. Dees, ANL-E, CMT • Tour: - CMT	• Interviews: - W. Hannum, ANL-E, OTD-ERA - D. Haugen, ANL-E, EBA - S. Moss, ANL-E, PRA	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
R.E. Alexander OSHA Construction Safety	am • Travel Day	<ul style="list-style-type: none"> • Group Interviews: - R. Wynveen, ANL-E, ESH-HP; - M. Sarr, CH-AAO, Industrial Safety and Fire Protection; - C. Moro, CH-AAO, US/Fire Protection Branch - A. Harvey, CH-AAO, Safety and Health Programs Branch; - R. Purucker, CH-AAO, Safety and Health Programs Branch • Tour: - Chemistry Bldg. 200, D. Wing 	<ul style="list-style-type: none"> • Group Interviews: - G. Veerman, ANL, ESH Division; - R. Pagel, ANL, Manager, PFS Site Services; - J. Brocker, ANL, Inspector 	<ul style="list-style-type: none"> • Interviews: - R. Jennings, ANL-E, Inspector - M. Mooha, ANL-E, ES&H Documentation Manager 	<ul style="list-style-type: none"> • Tour: - Bldg. 306, Waste Management • Interviews: - J. Benkert, ANL-E, PFS PMO - H. Chung, ANL-E, ET 	<ul style="list-style-type: none"> • Interview: - J. Drago, ANL-E, EQO-IND 	<ul style="list-style-type: none"> • Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
pm	• Team Meeting	<ul style="list-style-type: none"> • Interviews: - D. Parzyck, ANL-E, EQO-IND • Tour: - Central Shops, Sleeth Bldg. 363 B 	<ul style="list-style-type: none"> • Tour: - Boiler House, Bldg. 108 	<ul style="list-style-type: none"> • Tour: - Vehicle Maintenance - Transportation Bldg. 46 - Bldg. 201 Roof Project 	<ul style="list-style-type: none"> • Tour: - APS, Bldg. 330 - CMT, Bldg. 205 	<ul style="list-style-type: none"> • Prepare overview, concerns, weaknesses, and strengths for draft report 	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 1	Sun. 10/24/93	Mon. 10/25/93	Tue. 10/26/93	Wed. 10/27/93	Thu. 10/28/93	Fri. 10/29/93	Sat. 10/30/93
J.A. Leonowich Industrial Hygiene/ Health Physics Programs	am • Travel Day	• Interview: - J. Woodring, ANL-E, ESH Division	• Interviews: - L. Young, ANL-E, Research Scientist - R. Purucker, CH-AAO, Safety and Health Programs Branch	• Interviews: - R. Wynveen, ANL-E, ESH-HP - M. Robinet, ANL-E, ESH Division - R. Cooke, ANL-E, Technical Training Manager - R. Veluri, ANL-E, Health Physicist - S. Butala, ANL-E, Health Physics Trainer - E. Dolecek, ANL-E, External Dosimetry - D. Holtzman, ANL-E, Internal Dosimetry	• Interviews: - L. Stamoudis, CH-AAO, Industrial Hygienist - A. Harvey, CH-AAO, Safety and Health Program Branch	• Tour: - Bldgs. 202, 200 and APS Facilities	• Continue preparing preliminary draft overview sections and individual concerns, weaknesses, and strengths
pm	• Team Meeting	• Interviews: - B. Stockmeier, ANL-E, ESH Coordinator, Experimental Facilities Division, APS - J. Hanebuth, ANL-E, ESH Coordinator, IPNS - W. Ruzicka, ANL-E, Operations Manager, INPS	• Interview: - C. Giles, ANL-E, Industrial Hygienist • Observe Training: - Physical Agent 212, A157	• Interviews: - J. Patterson, CH-AAO, Operational Surety Branch - G. Fowler, CH-AAO, Safety and Health Programs Branch	• Review Documents	• Prepare overview, concerns, weaknesses, and strengths for draft report	

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 2		Sun. 10/31/93	Mon. 11/1/93	Tue. 11/2/93	Wed. 11/3/93	Thu. 11/4/93	Fri. 11/5/93	Sat. 11/6/93
Team Schedule	am	Continue reviewing and commenting on draft overviews and concerns, weaknesses, and strengths	Review revised overviews, concerns, weaknesses, and strengths	Continue to revise draft overviews and findings Share report on an informal basis with counterparts	Continue to revise draft overviews, concerns, weaknesses, and strengths Team meeting to discuss and develop key accomplishments, key concerns, probable root causes, and strengths	Turn in various Executive Summary components, i.e., Progress in ES&H Performance, key accomplishments, key concerns, root cause, and strengths Team meeting to discuss draft Executive Summary Team meeting with senior managers from CH and ANL-E to discuss and mark up Executive Summary	All final diskettes due Team members prepare viewgraph bullets and one page of talking points Team members prepare detailed participant critiques Team Leader meeting with Laboratory Director, and DOE Manager for CH and AAO to receive comments on the Executive Summary Team Leader meeting with team to convey suggested revisions to the Executive Summary	Continue Team Leader meetings with team members to discuss viewgraph bullets Participant critique forms due Technical editing of report
	pm	Round 1 Internal Peer Review for overviews, concerns, weaknesses, and strengths Revise overviews and findings based on Round 1 Internal Peer Review comments Turn in revisions	Round 2 Internal Peer Review Begin revising overviews, concerns, weaknesses, and strengths based on Round 2 Internal Peer Review comments	Submit overviews and findings on diskette Team meeting	Team meeting to develop key accomplishments, key concerns, and probable root causes with participation from senior CH and ANL-E managers Assignments for developing Sections 2.1, 2.2, 2.3, and 2.4 Team members meet with counterparts to receive and discuss factual accuracy review comments Revise overviews and findings Submit revisions on diskette	Revise Executive Summary and prepare Sections 2.1, 2.2, 2.3, and 2.4 Final Executive Summary and Sections 2.1, 2.2, 2.3, and 2.4 due Submit Executive Summary to DOE Manager CH/AAO; Laboratory Director Work on closeout briefing presentation	Team Leader meetings with team members to discuss viewgraph bullets Work on closeout briefing presentation Technical editing of report	Select team members to review report; perform QA check on report Finalize closeout briefing presentation and run overhead slides Incorporate comments from QA check

SCHEDULE OF ONSITE ACTIVITIES (continued)

WEEK 3	Sun. 11/7/93	Mon. 11/8/93	Tue. 11/9/93	Wed. 11/10/93	Thu. 11/11/93	Fri. 11/12/93	Sat. 11/13/93
Team Schedule	am	Finalize report	Team meeting to discuss followup support and assist recommendations to be made by the Team Leader to EH-1 Box up materials to be sent home	Team photograph Closeout Briefing presentation Travel	Offsite	Offsite	Offsite
	pm	Finalize report	Dry run of Closeout Briefing presentation Team Leader revise Closeout Briefing presentation based on team member comments Team Dinner	Travel	Offsite	Offsite	Offsite

Appendix F

List of Contacts and Interviews Conducted by the Progress Assessment Team

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Date	Organization	Topic
Corrective Action Program - Sheryl J. Boutté			
I-A-1	9/15/93	CH	Corrective action program implementation and management
I-A-2	9/15/93	ANL-E	Corrective action program implementation and management
I-A-3	9/15/93	CH	Corrective action program verification sampling program
I-A-4	9/16/93	CH	EHSD Appraisals and their use in the verification process and corrective action planning management process
I-A-5	10/13/93	DOE HQ, FM-1	Corrective action program oversight
I-A-6	10/13/93	DOE HQ, LM	Corrective action program oversight
I-A-7	10/13/93	CH-Detailed to FM	Corrective action program oversight
I-A-8	10/13/93	DOE HQ, ER-10 and DOE HQ, ER-14	Corrective action program oversight
I-A-9	10/13/93	DOE HQ, ER-13 and DOE HQ, ER-14	Corrective action program oversight
I-A-10	10/13/93	DOE HQ, ER-14 and DOE HQ, ER-13	Corrective action program oversight
I-A-11	10/13/93	DOE HQ, ER-8.2	Corrective action program oversight
I-A-12	10/14/93	DOE HQ, EM-32	Corrective action program oversight
I-A-13	10/14/93	DOE HQ, EM-44.1	Corrective action program oversight
I-A-14	10/14/93	DOE HQ, EM-20	Corrective action program oversight
I-A-15	10/15/93	DOE HQ, ER-8 and DOE HQ, ER-8.1	Corrective action program oversight
I-A-16	10/25/93	CH	Corrective action program implementation awareness and utility of databases for management information
I-A-17	10/25/93	CH	Corrective action budgeting, priority, and funding; Corrective action program implementation, management, awareness; Corrective action implementation relationship to vulnerability assessments
I-A-18	10/25/93	CH	Corrective action verification, planning, management, appraisal process, closure
I-A-19	10/25/93	CH	Corrective action program implementation awareness, implementation, accountability, utility of databases for management information
I-A-20	10/25/93	CH	Corrective action program implementation, database management, closure, verification, capture

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-A-21	10/25/93	CH	Linkage of self-assessment corrective actions with those from other assessments and appraisals
I-A-22	10/26/93	CH	Corrective action program implementation, closure, verification, database management and utility
I-A-23	10/26/93	CH	Corrective action program implementation, closure, tracking, trending, verification, database management and utility
I-A-24	10/26/93	CH	Corrective action program implementation, tracking, trending, database utility
I-A-25	10/26/93	ANL-E	Corrective action program implementation, knowledge of ES&H progress, utility of management systems; Internal audit connection to corrective action implementation; Quality management connection to corrective action implementation; Connection of strategic planning to corrective action program implementation; Corrective action implementation, oversight, criteria for review of completed actions, review hierarchy, utility and connection of databases
I-A-26	10/27/93	ANL-E	Corrective action program implementation involvement; Corrective action program oversight, internal verification process
I-A-27	10/27/93	ANL-E	Corrective action program, implementation, internal verification process, assessment of progress; Tracking, capture, data base content, internal verification activities
I-A-28	10/27/93	University of Chicago, Board of Governors	University of Chicago involvement in corrective action program implementation
I-A-29	10/28/93	ANL-E	Internal review of completed corrective actions, corrective action implementation processes, and any differences in internal processes for EM actions
I-A-30	10/28/93	University of Chicago Board of Governors, Safety and Environment Committee	Board involvement in ANL-E corrective action program implementation
I-A-31	10/28/93	ANL-E	Internal review of completed corrective actions, correction action implementation process
Self-Assessment - Othelene J. Lawrence			
I-B-1	9/14/93	CH	Self-assessment
I-B-2	9/14/93	ANL-E	Self-assessment
I-B-3	9/15/93	CH	Self-assessment

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-B-4	9/16/93	CH	Self-assessment
I-B-5	10/25/93	CH	Self-assessment
I-B-6	10/25/93	CH	Self-assessment
I-B-7	10/25/93	CH	Self-assessment
I-B-8	10/25/93	CH	Self-assessment
I-B-9	10/25/93	CH	Self-assessment
I-B-10	10/25/93	CH	Self-assessment
I-B-11	10/26/93	CH	Self-assessment
I-B-12	10/26/93	CH	Self-assessment
I-B-13	10/26/93	CH	Self-assessment
I-B-14	10/26/93	ANL-E	Self-assessment
I-B-15	10/26/93	CH	Self-assessment
I-B-16	10/27/93	ANL-E	Self-assessment
I-B-17	10/27/93	ANL-E	Self-assessment
I-B-18	10/27/93	University of Chicago, Board of Governors	University of Chicago involvement in self-assessment program implementation
I-B-19	10/28/93	University of Chicago Board of Governors, Safety and Environment Committee	Board involvement in ANL-E self-assessment program implementation
Oversight/Directives - John R. Kirby			
I-C-1	9/15/93	CH	Directives, oversight
I-C-2	9/15/93	Ralph Moore Associates	Directives
I-C-3	9/15/93	CH	Directives, oversight
I-C-4	9/15/93	CH	Directives, oversight
I-C-5	9/15/93	CH	Directives
I-C-6	9/15/93	CH	Directives, oversight
I-C-7	9/15/93	Ralph Moore Associates	Directives
I-C-8	9/15/93	CH	Directives, oversight
I-C-9	9/16/93	CH	Directives, oversight
I-C-10	9/16/93	ANL-E	Directives, oversight
I-C-11	9/16/93	ANL-E	Directives, oversight

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-C-12	9/16/93	ANL-E	Directives, oversight
I-C-13	9/16/93	CH	Directives, oversight
I-C-14	9/16/93	ANL-E	Directives, oversight
I-C-15	9/17/93	ANL-E	Directives
I-C-16	10/13/93	DOE HQ, FM-1	Directives, oversight
I-C-17	10/13/93	DOE HQ, LM	Directives, oversight
I-C-18	10/13/93	CH-Detailed to FM	Directives, oversight
I-C-19	10/13/93	DOE HQ, ER-10 and ER-14	Directives, oversight
I-C-20	10/13/93	DOE HQ, ER-13 and ER-14	Directives, oversight
I-C-21	10/13/93	DOE HQ, ER-13 and ER-14	Directives, oversight
I-C-22	10/13/93	DOE HQ, ER-8.2 and ER-32	Directives, oversight
I-C-23	10/14/93	DOF HQ, EM-32	Directives, oversight
I-C-24	10/14/93	DOE HQ, EM-44.1	Directives, oversight
I-C-25	10/14/93	DOE HQ, EM-20	Directives, oversight
I-C-26	10/15/93	DOE HQ, ER-8 and ER-8.1	Directives, oversight
I-C-27	10/14/93	DOE HQ, AD-13	Oversight
I-C-28	10/25/93	CH	Directives, oversight
I-C-29	10/25/93	CH	Directives, oversight
I-C-30	10/25/93	CH	Directives, oversight
I-C-31	10/25/93	CH	Directives, oversight
I-C-32	10/26/93	CH	Directives, oversight
I-C-33	10/26/93	CH	Directives, oversight
I-C-34	10/26/93	CH	Directives, oversight
I-C-35	10/26/93	CH	Directives, oversight
I-C-36	10/26/93	ANL-E	Directives, oversight
I-C-37	10/27/93	ANL-E	Directives, oversight
I-C-38	10/27/93	ANL-E	Directives, oversight
I-C-39	10/27/93	University of Chicago Board of Governors/Safety and Environment Committee; University of Chicago	Oversight

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-C-40	10/27/93	ANL-E	Directives, oversight
I-C-41	10/28/93	University of Chicago Board of Governors	Oversight
I-C-42	10/29/93	ANL-E	Directives, oversight
Organization/Planning, Budgeting, and Resource Allocation - Louis A. Rancitelli			
I-D-1	9/14/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-2	9/15/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-3	9/15/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-4	9/15/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-5	9/15/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-6	9/15/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-7	9/16/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-8	9/16/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-9	9/16/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-10	9/16/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-11	10/13/93	DOE HQ, FM-1	Planning, budgeting, and resource allocation; and organization
I-D-12	10/13/93	DOE HQ, LM-1	Planning, budgeting, and resource allocation; and organization
I-D-13	10/13/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-14	10/13/93	DOE HQ, ER-14	Planning, budgeting, and resource allocation; and organization
I-D-15	10/13/93	DOE HQ, ER-13	Planning, budgeting, and resource allocation; and organization

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-D-16	10/13/93	DOE HQ, ER-14	Planning, budgeting, and resource allocation; and organization
I-D-17	10/13/93	DOE HQ, ER-8.2	Planning, budgeting, and resource allocation; and organization
I-D-18	10/14/93	DOE HQ, EM-32	Planning, budgeting, and resource allocation; and organization
I-D-19	10/14/93	DOE HQ, EM-44	Planning, budgeting, and resource allocation; and organization
I-D-20	10/14/93	DOE HQ, EM-20	Planning, budgeting, and resource allocation; and organization
I-D-21	10/18/93	DOE HQ, ER-8	Planning, budgeting, and resource allocation; and organization
I-D-22	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-23	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-24	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-25	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-26	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-27	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-28	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-29	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-30	10/25/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-31	10/26/93	CH	Planning, budgeting, and resource allocation; and organization
I-D-32	10/26/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-33	10/27/93	ANL-E	Planning, budgeting, and resource allocation; and organization

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-D-34	10/27/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-35	10/27/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-36	10/27/93	University of Chicago	Planning, budgeting, and resource allocation; and organization
I-D-37	10/27/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-38	10/27/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-39	10/28/93	ANL-E	Planning, budgeting, and resource allocation; and organization
I-D-40	10/28/93	ANL-E	Planning, budgeting, and resource allocation; and organization
Human Resources Management/Formality of Operations - Steven Masculli			
I-E-1	09/14/93	CH	ES&H required training, TRADE training organization, training management system
I-E-2	09/14/93	CH	Facility representative program, technical training program, conduct of operations
I-E-3	09/14/93	ANL-E	Sitewide implementation of conduct of operations
I-E-4	09/15/93	CH	Conduct of operations, facility representative program, training
I-E-5	09/15/93	CH	Technical training program, management and functional appraisals,
I-E-6	09/15/93	CH	Conduct of operations, interface with CH regarding EM funding and responsibilities
I-E-7	09/15/93	ANL-E	Conduct of operations oversight, various ES&H and QA representatives, ESH/QA planning and coordination committee
I-E-8	09/15/93	ANL-E	Conduct of operations, training programs administered by three different divisions
I-E-9	09/15/93	CH	Staffing and training, reorganization
I-E-10	09/15/93	CH	Staffing and training, reorganization
I-E-11	09/15/93	ANL-E	Conduct of operations implementation, self assessment, training

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-E-12	09/15/93	ANL-E	Conduct of operations implementation, self-assessment, training
I-E-13	09/16/93	CH	Technical training program, staff development training
I-E-14	09/16/93	ANL-E	Conduct of operations implementation, staff training, procedures and document control
I-E-15	09/16/93	ANL-E	Conduct of operations, staffing and training, ES&H representative program.
I-E-16	09/16/93	ANL-E	Conduct of operations, training conducted by PFS, lockout/tagout, hoisting and rigging
I-E-17	09/16/93	ANL-E	Training, staff development, performance evaluations, training management system
I-E-18	09/16/93	CH	Conduct of operations, technical training, management plans, oversight of ANL-E
I-E-19	09/15/93	CH	CH staffing levels, review of ANL-E salary packages
I-E-20	09/15/93	CH	Conduct of operations, procedures, DOE 5480.20 training requirements
I-E-21	10/07/93	CH	Facility representative tracking program and CH position descriptions
I-E-22	10/07/93	CH	Contractor performance evaluations and CH approved staff positions
I-E-23	10/08/93	CH	Headquarters federal employee training efforts
I-E-24	10/08/93	ANL-E	ES&H training, sitewide training and training standards
I-E-25	10/12/93	ANL-E	Conduct of operations, ES&H Manual
I-E-26	10/13/93	DOE HQ, FM-1	Landlord roles, responsibilities, and authorities
I-E-27	10/13/93	DOE HQ, LM	Landlord roles, responsibilities, and authorities
I-E-28	10/13/93	CH	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H
I-E-29	10/13/93	DOE HQ, ER-14	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H
I-E-30	10/13/93	DOE HQ, ER-10	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H
I-E-31	10/13/93	DOE HQ, ER-13	ES&H oversight and support to CH and ANL-E
I-E-32	10/13/93	DOE HQ, ER-14	ES&H oversight and support to CH and ANL-E
I-E-33	10/13/93	DOE HQ, ER-13	ES&H oversight and support to CH and ANL-E

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-E-34	10/13/93	DOE HQ, ER-14	ES&H oversight and support to CH and ANL-E
I-E-35	10/13/	DOE HQ, ER-8.2	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H
I-E-36	10/14/93	DOE HQ, EM-32	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H and implementation guidance.
I-E-37	10/14/93	DOE HQ, EM-44.1	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H and implementation guidance.
I-E-38	10/14/93	DOE HQ, EM-20	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H and implementation guidance.
I-E-39	10/15/93	CH	Nuclear Facilities, Accelerators, and training
I-E-40	10/15/93	ANL-E	ES&H training program and sitewide training
I-E-41	10/15/93	ANL-E	Accelerator training order
I-E-42	10/15/93	ER	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H and implementation guidance
I-E-43	10/15/93	ER	Landlord roles, responsibilities, and authorities; responsibility for sitewide ES&H and implementation guidance
I-E-44	10/22/93	ANL-E	Sitewide training policy, documents and procedures; performance evaluations, salary ranges and position descriptions
I-E-45	10/25/93	CH	Performance evaluations, staffing levels, hiring limitations
I-E-46	10/25/93	CH	Conduct of operations, quality assurance, technical training
I-E-47	10/25/93	CH	Multiprogram energy laboratory annual assessment, implementation of facility representative program, quality assurance
I-E-48	10/25/93	ANL-E	Conduct of operations, order implementation, training, resource allocation
I-E-49	10/25/93	ANL-E	Conduct of operations, order implementation, training, resource allocation
I-E-50	10/25/93	CH	Conduct of operations, training, facility representative programs

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-E-51	10/25/93	CH	Conduct of operations, training, facility representative programs
I-E-52	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-53	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-54	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-55	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-56	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-57	10/26/93	ANL-E	Oversight of conduct of operations implementation, qualification and certification training.
I-E-58	10/27/93	CH	Nuclear facility determination and associated training requirements
I-E-59	10/27/93	ANL-E	Building Managers
I-E-60	10/27/93	ANL-E	ES&H training and training requirements
I-E-61	10/27/93	ANL-E	Plant Facility Services Training
I-E-62	10/27/93	ANL-E	Internal appraisals of conduct of operations and training
I-E-63	10/28/93	ANL-E	Quality assurance training
I-E-64	10/28/93	ANL-E	Training and individual performance evaluations
I-E-65	10/28/93	ANL-E	Employee complaints program
I-E-66	10/28/93	ANL-E	Employee position description, qualification requirements, and salary ranges
I-E-67	10/28/93	ANL-E	Their training and their responsibilities for training and conduct of operations within their Divisions
I-E-68	10/28/93	ANL-E	Their training and their responsibilities for training and conduct of operations within their Divisions
I-E-69	10/29/93	CH	Staffing and recruitment
I-E-70	10/29/93	ANL-E	Nuclear Facilities
I-E-71	10/29/93	ANL-E	Training of ESH representatives
I-E-72	10/29/93	ANL-E	Staffing and recruitment

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
Quality Assurance - Jessica L. Johnston			
I-F-1	09/15/93	ANL-E	Verbal resume, who should be interviewed, general picture of quality assurance program structure
I-F-2	09/15/93	CH	Relationship of quality assurance to quality initiative and self-assessment
I-F-3	09/15/93	CH	CH quality assurance, who to interview.
I-F-4	09/16/93	ANL-E	Background on ANL-E quality assurance program development
I-F-5	09/16/93	CH	Quality assurance responsibilities, who should be interviewed
I-F-6	10/25/93	CH	Quality assurance responsibilities (internal to Area Office and oversight of the contractor's program)
I-F-7	10/25/93	CH	Quality assurance responsibilities (internal to Area Office and oversight of the contractor's program)
I-F-8	10/25/93	CH	Quality assurance (internal CH quality assurance program, EM/ER differentiating quality assurance requirements)
I-F-9	10/25/93	CH	Quality assurance (AP119, CH Supplemental Order 5700.8C, EM interface)
I-F-10	10/25/93	CH	Quality assurance (EM specific requirements)
I-F-11	10/26/93	CH	Facility representative program, corrective action plan AP119, corrective action plan revision process
I-F-12	10/26/93	CH	Quality assurance
I-F-13	10/26/93	ANL-E	Quality assurance
I-F-14	10/26/93	ANL-E	Quality assurance
I-F-15	10/27/93	ANL-E	Quality assurance
I-F-16	10/27/93	ANL-E	Quality assurance
I-F-17	10/27/93	ANL-E	Quality assurance
I-F-18	10/27/93	ANL-E	Quality assurance
I-F-19	10/28/93	ANL-E	Quality assurance
I-F-20	10/28/93	ANL-E	Quality assurance
I-F-21	10/28/93	ANL-E	Quality assurance

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-F-22	10/28/93	ANL-E	Quality assurance
I-F-23	10/29/93	ANL-E	Quality assurance
Environmental Monitoring Program - Charles B. Lewis			
I-G-1	9/15/93	CH	Environmental program oversight
I-G-2	9/15/93	ANL-E	Environmental monitoring program
I-G-3	9/15/93	EM-40	Environmental monitoring program
I-G-4	9/16/93	ANL-E	Environmental monitoring program
I-G-5	9/16/93	CH	Environmental monitoring program
I-G-6	9/16/93	CH	Environmental monitoring program
I-G-7	9/17/93	CH	Sitewide projects
I-G-8	9/22/93	ANL-E	Water task force
I-G-9	10/12/93	EPA-Region 5	ANL-E cooperation
I-G-10	10/14/93	DOE HQ, EH-222	CH site Environmental report
I-G-11	10/25/93	CH	Environmental program oversight
I-G-12	10/25/93	CH	EM/environmental protection interface
I-G-13	10/25/93	ANL-E	Transportation building and production well monitoring
I-G-14	10/26/93	CH	Coordination of sitewide monitoring and environmental restoration monitoring
I-G-15	10/26/93	CH	EMP/SER review, NEPA
I-G-16	10/26/93	CH	Review of program plans
I-G-17	10/26/93	ANL-E	Procedures and training
I-G-18	10/27/93	ANL-E	Oversight program, regulatory relationships
I-G-19	10/27/93	ANL-E	Environmental monitoring program
I-G-20	10/27/93	ANL-E	Environmental restoration program
I-G-21	10/27/93	ANL-E	Independent oversight
I-G-22	10/27/93	ANL-E	Environmental monitoring and compliance program
I-G-23	10/28/93	CH	Oversight of program overlaps in project funding
I-G-24	10/28/93	CH	Review and approval process
I-G-25	10/28/93	CH	Restoration and environment program oversight
I-G-26	10/29/93	ANL-E	Water task force

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-G-27	10/29/93	CH	Offsite groundwater monitoring
Hazardous/Mixed Waste Generation Practices and Waste Minimization Program - Richard M. D'Ernilio			
I-H-1	9/15/93	Contractor	Waste management program scope
I-H-2	9/15/93	CH	Waste management program scope
I-H-3	9/15/93	CH	CH organization
I-H-4	9/16/93	CH	Scope
I-H-5	9/17/93	CH	Waste minimization budget
I-H-6	10/21/93	ANL-E	Oversight roles of ESH/QA representatives
I-H-7	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-8	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-9	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-10	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-11	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-12	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-13	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-14	10/25/93	ANL-E	Waste accumulation practices - generator training
I-H-15	10/25/93	ANL-E	Oversight of generators and training
I-H-16	10/26/93	ANL-E	Waste generator oversight and training; Waste generator/ECR training
I-H-17	10/26/93	ANL-E	Training course - waste generation
I-H-18	10/26/93	ANL-E	ECR roles and responsibility, oversight, and training; Roles, responsibilities, oversight, and training
I-H-19	10/26/93	ANL-E	Roles, responsibilities, oversight and training
I-H-20	10/26/93	ANL-E	Support/interaction with generators
I-H-21	10/26/93	ANL-E	Support/interaction with generators
I-H-22	10/26/93	ANL-E	Support/interaction with generators
I-H-23	10/26/93	ANL-E	Support/interaction with generators
I-H-24	10/26/93	ANL-E	Support/interaction with generators
I-H-25	10/26/93	ANL-E	Support/interaction with generators, oversight generators
I-H-26	10/26/93	ANL-E	Waste minimization

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-H-27	10/27/93	CH	Oversight of waste generation activities
I-H-28	10/27/93	CH	Oversight of waste minimization activities
I-H-29	10/27/93	ANL-E	Waste generator, student, ECR, ESH/QA training programs
I-H-30	10/27/93	ANL-E	Waste minimization, building manager program, ANL-E policies, ESH/QA job descriptions; Waste minimization and oversight of waste generator activity
I-H-31	10/28/93	CH	Tiger Team corrective actions
I-H-32	10/28/93	CH	Tiger Team corrective actions waste minimization finding
I-H-33	10/28/93	CH	Tiger Team corrective actions waste management findings
I-H-34	10/28/93	CH	Waste minimization program funding
I-H-35	10/28/93	ADL	Headquarters waste minimization initiatives
I-H-36	10/28/93	CH	Waste minimization program funding
I-H-37	10/28/93	CH	Waste minimization program funding
I-H-38	10/29/93	ANL-E	Waste minimization programs, planning, and funding
I-H-39	10/29/93	CH	Waste minimization funding
I-H-40	10/29/93	CH	Waste minimization
I-H-41	10/29/93	DOE HQ, ER-10	Waste minimization funding
Conduct of Operations Program - James A. Buckham			
I-I-1	9/15/93	Office of Chief Operation Officer	Status of conduct of operations implementation
I-I-2	9/15/93	Electronics Division	Conduct of operations background
I-I-3	9/15/93	Laboratory Directorate	Management of conduct of operations implementation
I-I-4	9/16/93	Plant Facilities and Service Division	Conduct of operations implementation
I-I-5	9/16/93	Utilities Systems Department	Conduct of operations implementation
I-I-6	9/16/93	Boiler House	Conduct of operations implementation
I-I-7	9/16/93	Boiler House	Receptivity use of conduct of operations
I-I-8	9/16/93	Boiler House	Receptivity/use of conduct of operations
I-I-9	10/25/93	Physics Division	Conduct of operations
I-I-10	10/25/93	ATLAS	Conduct of operations
I-I-11	10/25/93	ATLAS	Standard operating procedures
I-I-12	10/25/93	ATLAS	Conduct of operations

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-I-13	10/25/93	ATLAS	Conduct of operations
I-I-14	10/25/93	ATLAS	Conduct of operations
I-I-15	10/25/93	ATLAS	Conduct of operations
I-I-16	10/25/93	ATLAS	Conduct of operations
I-I-17	10/26/93	AGHCF	Conduct of operations
I-I-18	10/26/93	AGHCF	Conduct of operations
I-I-19	10/26/93	AGHCF	Conduct of operations
I-I-20	10/26/93	ANL-E	Conduct of operations
I-I-21	10/26/93	ANL-E	Conduct of operations
I-I-22	10/27/93	ANL-E	Conduct of operations
I-I-23	10/27/93	ANL-E	Conduct of operations
I-I-24	10/27/93	ANL-E	Conduct of operations
I-I-25	10/27/93	ANL-E	Conduct of operations
I-I-26	10/27/93	ANL-E	Conduct of operations
I-I-27	10/27/93	ANL-E	Conduct of operations
I-I-28	10/27/93	ANL-E	Conduct of operations
I-I-29	10/27/93	ANL-E	Conduct of operations
I-I-30	10/27/93	ANL-E	Conduct of operations
I-I-31	10/27/93	ANL-E	Conduct of operations
I-I-32	10/28/93	ANL-E	Conduct of operations
I-I-33	10/28/93	ANL-E	Conduct of operations
I-I-34	10/28/93	ANL-E	Conduct of operations
OSHA and Construction Safety - Ronald E. Alexander			
I-J-1	10/21/93	Plant Facilities	ANL-E construction safety program
I-J-2	10/22/93	DOE CH	Construction safety at ANL-E
I-J-3	10/22/93	DOE CH	ANL-E safety program
I-J-4	10/22/93	Private Consultant	Construction safety
I-J-5	10/22/93	ANL-E	OSHA and industrial safety programs
I-J-6	10/22/93	Training	Construction safety orientation

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-J-7	10/25/93	ES&H	ES&H Manual
I-J-8	10/25/93	CH	CH Oversight functions
I-J-9	10/25/93	CH	Industrial safety program oversight
I-J-10	10/25/93	ANL-E	Oversight
I-J-11	10/26/93	ANL-E	Hazmat team training
I-J-12	10/26/93	ANL-E	Powered industrial trucks
I-J-13	10/26/93	ANL-E	OSHA 200 log
I-J-14	10/27/93	ANL-E	Pressure vessel inspection program
I-J-15	10/27/93	ANL-E	ES&H Manual
I-J-16	10/28/93	ANL-E	Hoisting and rigging
I-J-17	10/28/93	ANL-E	Pressure safety
I-J-18	10/29/93	ANL-E	ES&H oversight
Industrial Hygiene/Health Physics Programs - John A. Leonowich			
I-K-1	9/14/93	ANL-E	General overview of ANL-E industrial hygiene program
I-K-2	9/14/93	CH	General overview of ANL-E industrial hygiene program
I-K-3	9/14/93	ANL-E	General overview of ANL-E worker safety program
I-K-4	9/15/93	ANL-E	Laser Safety and non-ionizing radiation safety programs at ANL-E
I-K-5	9/15/93	CH	RADCON implementation at ANL-E
I-K-6	9/16/93	CH	Industrial hygiene oversight role
I-K-7	9/16/93	CH	Interactions with industrial hygiene role
I-K-8	9/16/93	CH	Oversight of CH and ANL-E industrial hygiene programs
I-K-9	9/16/93	CH	Oversight of CH and ANL-E industrial hygiene programs
I-K-10	9/17/93	ANL-E	General discussions on the ANL-E health physics program
I-K-11	9/20/93	CH	Clarification of request for program documents
I-K-12	10/6/93	ANL-E	General discussion and clarifications
I-K-13	10/25/93	ANL-E	Self-assessments of ANL-E industrial hygiene programs
I-K-14	10/25/93	ANL-E	Division industrial hygiene roles and responsibilities
I-K-15	10/25/93	ANL-E	Division industrial hygiene roles and responsibilities
I-K-16	10/25/93	ANL-E	Roles and responsibilities of the ESH coordinator

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-K-17	10/26	ANL-E	Laser safety program
I-K-18	10/26	CH	CH facilities representative program
I-K-19	10/26	ANL-E	ANL-E industrial hygiene programmatic elements.
I-K-20	10/27	ANL-E	RADCON manual implementation
I-K-21	10/27	ANL-E	RADCON manual implementation
I-K-22	10/27	ANL-E	RADCON manual implementation
I-K-23	10/27	ANL-E	RADCON manual implementation
I-K-24	10/27	ANL-E	RADCON manual implementation
I-K-25	10/27	ANL-E	RADCON manual implementation
I-K-26	10/27	ANL-E	RADCON manual implementation
I-K-27	10/27	CH	RADCON manual implementation
I-K-28	10/27	ANL-E	RADCON manual implementation
I-K-29	10/28	CH	CH appraisals of ANL-E industrial hygiene programs
I-K-30	10/28	CH	Facility representative program at CH

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***List of Site Documents Reviewed
by the Progress Assessment Team***

Appendix G

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
Corrective Action Program - Sheryl J. Boutté				
D-A-1	CH Order 1100.B	DOE-CH Mission and Functions	CH	4/12/89
D-A-2	None indicated	CH-AAO Mission and Functions	CH	4/12/89
D-A-3	None indicated	CH-AAO Management Plan	CH	9/10/93
D-A-4	None indicated	CH-AAO Self-Assessment Program Plan and Report	CH	7/27/93
D-A-5	None indicated	Tiger Team Action Plan Progress Reports	AAO	Various
D-A-6	AAO-SOP-11	Document Control and Procedure Revisions	AAO	6/4/93
D-A-7	AAO-SOP-12	ES&H Appraisal	AAO	Deleted
D-A-8	AAO-SOP-13	AAO Activities In Response To Argonne Tiger Team Findings	AAO	9/9/93
D-A-9	None indicated	ANL Corrective Action Plan Implementation Documents (Various)	ANL-E	Various
D-A-10	None indicated	LM/HQ Mission Statement	LM/HQ	12/92
D-A-11	ST-30	LM/HQ Guidance Memorandum on ES&H Progress Assessments and Corrective Action Management	ST-30/HQ (Now LM/HQ)	7/2/93
D-A-12	Nos. 081, 082, 085, 096, 097	ANL-E Completion Files For Corrective Action	ANL-E	Various
D-A-13	None indicated	AAO Close-Out Files (Various)	AAO	Various
D-A-14	None indicated	AAO Primary Association Reports (Various)	AAO	Various
D-A-15	None indicated	ANL-E/AAO/CH Positions Descriptions (Various)	ANL-E/AAO/CH	Various
D-A-16	None indicated	Review of the Progress on the Corrective Action Plan of the Argonne National Laboratory, October 21-25, 1991	BES/HQ	11/91
D-A-17	None indicated	Outline for Verification of CH/AAO/ER/ANL Action	A. Purucker/AAO	9/20/93
D-A-18	None indicated	Memorandum re: Options for Tiger Team and Environmental Restoration and Waste Management (EM) Action Plan Reporting	A. Taboas/AAO	9/7/93
D-A-19	AP046, AP064, AP311	AAO Rejection Reports	AAO	Various

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-A-20	ANL-E-EP-89	Quarterly Appraisal Status Report	CH/EHSD	9/22/93
D-A-21	None indicated	Tiger Team Action Plan Milestones Status Report	AAO	9/22/93
D-A-22	None indicated	Position Descriptions: A. Schriesheim, D. Parzyck, and D. Miller	ANL-E	Various
D-A-23	None indicated	Position Descriptions: J. Kennedy, A. Taboas, A. Harvey, and R. Purucker	CH/AAO	Various
D-A-24	None indicated	Performance Plans: R. Purucker, A. Harvey, J. Kennedy, C. Zook, and A. Taboas	CH/AAO	Various
D-A-25	AP093, AP116, AP122, AP303	Tiger Team Action Plan Status Reports	AAO	Various
D-A-26	None indicated	Action Plan Statistical Summary Report for ANL-E as of September 9, 1993	AAO	9/12/93
D-A-27	None indicated	Appraisal Action Status Reports/ANL-E	ANL-E	9/21/93
D-A-28	AP303 and AP093	ANL-E Status Reports	ANL-E	Various
D-A-29	None indicated	Inspector General Review of the ANL Tiger Team Tracking Systems	DOE/IG	4/28/92
D-A-30	None indicated	AAO Status of Findings	AAO	9/7/93
D-A-31	None indicated	AAO Report of Complete and Incomplete Milestones Due Between August 1, 1990 and September 30, 1993	AAO	9/17/93
D-A-32	None indicated	Action Plans Verified by AAO	AAO	9/10/93
D-A-33	CH-SOP-8	ES&H/QA Tracking System	CH/EHSD	7/1/93
D-A-34	None indicated	Progress Assessment Report for Brookhaven National Laboratory	EH/HQ	2/93
D-A-35	None indicated	Review of ANL-E Progress on the Tiger Team Corrective Action Plan	BES/ER/HQ	10/91
D-A-36	None indicated	ES&H Management Appraisal of the Argonne Area Office	CH	10/5/93
D-A-37	None indicated	Proposed Reorganization of the Chicago Operations Office	CH	8/26/93
D-A-38	CH/EHSD SOP-4	Conduct of Multiprogram Functional Appraisals	CH	4/24/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-A-39	None indicated	Decision on Landlord Management of ER Multiprogram Laboratories	ER/HQ	7/2/92
D-A-40	None indicated	Request for Quarterly Summary of ES&H Corrective Action Implementation Status for ER Multiprogram Laboratories	ST-30/Now LM	3/17/93
D-A-41	None indicated	Guidance on Management of Corrective Action Plans at ER Multiprogram Laboratories	ST-30/Now LM	12/17/92
D-A-42	None indicated	Implementation of Departmental Realignment	AD-13/HQ	6/10/93
D-A-43	None indicated	Procedures for Corrective Action Plan Milestone Status Report Forms	ANL-E	1/16/92
D-A-44	None indicated	ER-13/14 Position Descriptions M. Terensenski, T. Tomczak, S. Goel, A. Evans	ER-13,ER-14/HQ	Various
D-A-45	CH Order 5482.A	Department of Energy Chicago Field Office ESH&QA Tracking System	CH	3/17/93
D-A-46	None indicated	Status Summary for Corrective Action Program Implementation	ANL-E and AAO	10/15/93
D-A-47	None indicated	Descriptions of Various CH/AAO/ANL-E Databases Utilized to Capture Corrective Actions from Various Sources	CH/AAO	10/28/93
D-A-48	None indicated	Memorandum from Manager, CH Requesting Review of Various CH Performance Indicators	CH/C. Langenfeld	9/7/93
Self-Assessment - Othalene J. Lawrence				
D-B-1	DOE/EH-0147P	Tiger Team Assessment of the Argonne Illinois Site	EH	10/19/90
D-B-2	DOE/CH-9101	Action Plan in response to the October 1990 Tiger Team Assessment of the Argonne Illinois Site	None indicated	Rev. 1 4/24/91
D-B-3	None indicated	CH, Office of the Manager Mission and Function Statement	CH	8/24/93
D-B-4	None indicated	ANL Institutional Plan	ANL	8/92
D-B-5	None indicated	CH-AAO Mission and Function Statements	AAO	8/24/93
D-B-6	CH 1100.b	DOE-CH Mission and Function Statements	CH	4/12/89
D-B-7	None indicated	CH-AAO Self-Assessment Program Plan	CH	9/8/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-8	CH 5110.a	DOE CH Field Office Self-Assessment Program	CH	5/19/92
D-B-9	CH 5110.a	CH Self-Assessment Program	D. Yuzeitis/CH	None indicated
D-B-10	None indicated	Chicago Operations Office All Employee Briefing Our Next Steps	CH	8/93
D-B-11	None indicated	CH Quality Initiative Completed Milestones	CH	3/22/93
D-B-12	None indicated	Briefing to All Employees Results of DOE Planning Sessions Motorola University	C. Langenfeld/CH	8/26/93
D-B-13	None indicated	Charts From Secretary O'Leary's May 13, 1993 Quality Vision Video	None indicated	5/13/93
D-B-14	None indicated	CH Quality Initiative Resource Book	CH	5/93
D-B-15	None indicated	Chicago Field Office Quality Initiative Overview	CH	3/93
D-B-16	None indicated	CH and CH-AAO Organizational Charts	CH/AAO	5/25/92
D-B-17	None indicated	Memorandum to AAO Staff re: AAO Retreat	J. Hooper/AAO	7/27/93
D-B-18	None indicated	AAO Self-Assessment Plan	AAO	9/4/93
D-B-19	None indicated	Argonne Area Office Management Self-Assessment	AAO	2/5-7/92
D-B-20	None indicated	Memorandum re: Argonne Area Office Self-Assessment Status Report	A. Taboas/AAO	1/14/93
D-B-21	None indicated	Argonne Area Office 1992 Management Self-Assessment Status Report	None indicated	1/13/93
D-B-22	None indicated	Review of Progress on the Corrective Action Plan of the Argonne National Laboratory	Basic Energy Sciences	10/21-25/91
D-B-23	None indicated	Memorandum re: FY 1992 FMFIA Assurance	D. Yuzeitis/CH	10/13/92
D-B-24	None indicated	Report on Self-Assessment Activities	None indicated	None indicated
D-B-25	Attachment D	DOE Chicago Field Office Report on ES&H and Safeguards and Security Self-Assessment Activities for FY 1992	G. Giarrante	1992
D-B-26	None indicated	Memorandum re: DOE Field Office-Chicago Self-Assessment	D. Goldman	11/4/91
D-B-27	None indicated	DOE Field Office, Chicago Self-Assessment Report	CH	9/91
D-B-28	None indicated	CH-ESHD Self-Assessment Plan	CH-ESHD	8/18/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-29	None indicated	ESHD Division Self-Assessment Report	CH-ESHD	1/6/93
D-B-30	None indicated	Self-Assessment of ESHD	CH	5/91
D-B-31	None indicated	Memorandum re: ESHD Self-Assessment Health Protection Branch	Jascewsky/Health Protection Branch Chief	5/6/91
D-B-32	None indicated	ESHD Self-Assessment Health Protection Branch Report	ESHD	5/6/91
D-B-33	None indicated	Memorandum re: ESHD Self-Assessment	ESHD	5/15/91
D-B-34	None indicated	ESHD Self-Assessment Report	ESHD	5/91
D-B-35	None indicated	Memorandum re: Nuclear Safety Branch Self-Assessment	S. Ludwig/Branch Chief Nuclear Safety Branch	5/15/91
D-B-36	None indicated	Nuclear Safety Branch Self-Assessment Report	S. Ludwig/Branch Chief Nuclear Safety Branch	5/91
D-B-37	None indicated	Quality Assurance Branch Self-Assessment Report	Quality Assurance Principle Staff	5/10/91
D-B-38	None indicated	Memorandum re: Self-Assessment Environmental Protection Branch (EPB) ESHD	B. Fritz/Branch Chief EPB	5/15/91
D-B-39	None indicated	Self-Assessment Environmental Protection Branch (EPB) ESHD Report	B. Fritz/Branch Chief EPB	5/91
D-B-40	None indicated	Memorandum re: Self-Assessment	J. Nelson, PhD/NCO	5/15/91
D-B-41	None indicated	Memorandum re: 1993 Argonne National Laboratory Self-Assessment	A. Schriesheim/ANL-E	9/3/93
D-B-42	None indicated	Argonne National Laboratory Guidelines Self-Assessment of EHS/QA Performance	ANL	9/93
D-B-43	ANL/TTTF-90/1	Argonne-Illinois Site Self-Assessment Report, Volume 1 of 2; ANL-E Tiger Team Task Force	ANL	9/90
D-B-44	None indicated	Memorandum re: Organization Environmental Waste Management	R. Teunis/ANL-E	9/10/93
D-B-45	None indicated	Argonne Area Office Self-Assessment Retreat Agenda	C. Zook/CH	5/93
D-B-46	FAIR-93-02	Memorandum re: Office of ES&H (EH) Site Representative Report FAIR-93-02, Evaluation of Construction Safety Programs at the Chicago Operations Office	None indicated	6/30/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-47	None indicated	Memorandum re: Office of Environmental Safety and Health (EH) Site Representative Performance Assessment Report	None indicated	6/1/93
D-B-48	FAIR-93-02	Office of Environmental Safety and Health Site Representative Program Savannah River Regional Office	Robert W. Fur/Senior EH Site Representative	5/17/93
D-B-49	FAIR-93-03	Memorandum re: Office of Environmental Safety and Health Site Representative Performance Assessment Report FAIR-93-03	Hillman/EH-30.3	None indicated
D-B-50	None indicated	Memorandum re: Chicago Operations Office (CH) Comment on the Progress Assessment Revision (PAR)	C. Langenfeld/CH	None indicated
D-B-51	None indicated	Memorandum re: Argonne, Illinois Site Progress Assessment Meeting	Y. Garbe/EH-5	8/3/93
D-B-52	None indicated	Notice re: Environmental Safety and Health Policy for the Department of Energy Complex	Secretary Hazel R. O'Leary	7/20/93
D-B-53	None indicated	Mission and Function Statement Laboratory Management Support Division	CH	Rev. 5 11 8/93
D-B-54	None indicated	Mission and Function Statement Institutional Management Branch	CH	8/11/93
D-B-55	None indicated	Mission and Function Statement Operational Security Branch	CH	8/11/93
D-B-56	None indicated	Memorandum re: Decision on Landlord Management of ER Multi-program Laboratories	W. Harper/ER	7/2/92
D-B-57	None indicated	Mission and Function Statement for Office of Laboratory Management	CH	8/1/93
D-B-58	None indicated	Office of Energy Research Self-Assessment Program Plan	ER	Rev. 0 7/11/91
D-B-59	None indicated	Office of Energy Research Self-Assessment Program Charter	ER	None indicated
D-B-60	None indicated	Attachment 1: Office of Energy Research Self-Assessment Program Plan Implementing Guidelines	ER	None indicated
D-B-61	None indicated	Argonne Illinois Site Self-Assessment, Volumes I, II, and III	AIS	9/90

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-62	None indicated	Plant Facilities and Services (PFS) Self-Assessment 1991	PFS	9/15/91
D-B-63	None indicated	Chemical Technology (CMT) Self-Assessment 1991	CMT	9/91
D-B-64	None indicated	Reactor Analysis (RA) Self-Assessment, Volumes I and II	RA	8/91
D-B-65	None indicated	Special Projects Office (SPO) Self-Assessment	SPO	8/30/91
D-B-66	None indicated	SPO Self-Assessment Checklists	SPO	Rev. 9/30/91
D-B-67	None indicated	Reactor Engineering (RE) Self-Assessment	RE	1991
D-B-68	None indicated	Material Components and Technology (MCT) Self-Assessment	MCT	8/91
D-B-69	None indicated	Energy Systems (ES) Self-Assessment	ES	8/91
D-B-70	None indicated	Engineering Physics Self-Assessment	EP	9/91
D-B-71	None indicated	Technical Transfer Center (TTC) Self-Assessment 1991	TTC	8/23/91
D-B-72	This line intentionally omitted			
D-B-73	None indicated	Support Services (SSD) FY 1991 Self-Assessment	SSD	9/12/91
D-B-74	None indicated	Environment, Safety & Health (ESH) Self-Assessment	ESH	10/18/91
D-B-75	None indicated	Human Resources (HR) Self-Assessment	HR	7/9/91
D-B-76	None indicated	Office of Chief Financial Officer (OCF)	OCF	9/16/91
D-B-77	None indicated	Physical Research (PR) Summary Self-Assessment	PR	9/16/91
D-B-78	None indicated	Materials Science (MSD) 1991 Self-Assessment	MDS	9/16/91
D-B-79	None indicated	Physics (PHY) Division 1991 Self-Assessment	PHY	9/3/91
D-B-80	None indicated	Intense Pulsed Neutron Source (IPNS) Self-Assessment	IPNS	9/91
D-B-81	None indicated	Computing and Telecommunications (CTD) 1991 Self-Assessment	CTD	9/16/91

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-82	None indicated	Division of Educational Programs (DEP) 1991 Self-Assessment	DEP	9/16/91
D-B-83	None indicated	Mathematics and Computer Science (MCS) 1991 Self-Assessment	MCS	9/16/91
D-B-84	None indicated	Chemistry (CHM) 1991 Self-Assessment	CHM	9/16/91
D-B-85	None indicated	High Energy Physics (HEP) 1991 Self-Assessment	HEP	9/16/91
D-B-86	None indicated	Advanced Photon Source Self-Assessments	APS	9/24/91
D-B-87	None indicated	Plant Facilities and Services (PFS) Self-Assessment	PFS	8/92
D-B-88	None indicated	Environmental Research (ER) ES&H Self-Assessment	ER	11/92
D-B-89	None indicated	Chemical Technology (CMT) Self-Assessment 1992	CMT	12/8/92
D-B-90	None indicated	Physical Research (PR) Self-Assessment 1992	PR	1/14/93
D-B-91	None indicated	Energy, Environmental and Biological Research (EEBR) Self-Assessment	D. Haugen, ANL-E	12/92
D-B-92	None indicated	Advanced Photon Source (APS) 1992 Self-Assessment (includes APS Summary, APR Project Office Quality Assurance, Accelerator Systems, Conventional Facilities, and Experimental Facilities)	APS	12/18/92
D-B-93	None indicated	Engineering Research (ER) Self-Assessment, FY 1992	ER	1992
D-B-94	None indicated	OPS 1991 Summary	OPS	1991
D-B-95	None indicated	Guideline For Performing Root Cause Analysis and Developing Corrective Actions	D. Johnson/Sandia National Laboratories	9/93
D-B-96	None indicated	ES&H Manual	ANL-E	Rev. 17 10/15/93
D-B-97	PSD.930426.0201	Memorandum re: CH EM FY 1992 Self-Assessment Program Implementation Plans and Resulting Reports	D. Dashevsky/Environmental Management and Energy	4/25/93
D-B-98	None indicated	Memorandum re: Approval of Program Support Division's Self-Assessment Program Plan	D. Yuzeitis/SAO	9/22/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-99	None indicated	Chicago Operations Office Argonne Area Office Management Plan (DRAFT)	AAO	9/10/93
D-B-100	None indicated	Memorandum re: Updated 1992 Self-Assessment Program Plan for the Program Support Division (PSD)	J. Roberts/PSD	8/28/93
D-B-101	None indicated	Memorandum re: Program Support Division - Submission of 1992 Self-Assessment	J. Roberts/PSD	2/12/93
D-B-102	PSD.930112.0202	Program Support Division 1992 Self-Assessment Report	PSD	1/93
D-B-103	PSD.930128.0004	Memorandum re: Implementation of the Office of Environmental Restoration and Waste Management Self-Assessment Management Plan	EM-20	1/25/93
D-B-104	None indicated	Memorandum re: Self-Assessment Guidance Document, December 1992	A. Taboas/AAO	2/22/93
D-B-105	FEAR	Chicago Field Office's Assessable Units Only FY 1993 Self-Assessment Milestone Due Dates and Activity Log	CH	1993
D-B-106	None indicated	Environmental Safety, and Health Management Appraisal AAO	CH-ES&HD	6/93
D-B-107	PSD.930128.004	Memorandum re: Implementation of the Office of Environmental Restoration and Waste Management Self-Assessment Management Plan	EM-20	1/25/93
D-B-108	PSD.930128.004	Office of Environmental Restoration and EM Waste Management Self-Assessment Management Plan	EM	Rev. 0 11/92
Oversight/Directives - John R. Kirby				
D-C-1	CH-1100.B	DOE-CH, Mission and Function Statements	CH	4/12/89
D-C-2	None indicated	CH, Office of Manager, Mission and Function Statement	CH	8/24/93
D-C-3	None indicated	AAO-Mission and Function Statements	CH-AAO	8/24/93
D-C-4	None indicated	CH and CH-AAO Organizational Charts	CH	Various
D-C-5	None indicated	CH-AAO Management Plan	CH-AAO	9/10/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-6	None indicated	Tiger Team Action Plan Progress Reports	ANL	Various
D-C-7	None indicated	CH-AAO Standard Operating Procedures	CH-AAO	Various
D-C-8	None indicated	CH-ESHD FY 1992 Appraisal Schedule	CH-ESHD	3/2/93
D-C-9	None indicated	CH-ESHD FY 1993 Appraisal Schedule	CH-ESHD	Undated
D-C-10	CH1321.1	DOE-CH Directives	CH	7/20/93
D-C-11	None indicated	CH-ESHD Appraisals of ANL (last 3 years)	CH-ESHD	10/93
D-C-12	None indicated	CH Policy Statement on ES&H	CH	11/90
D-C-13	None indicated	CH-AAO Policy Statement on ES&H	CH-AAO	12/90
D-C-14	None indicated	Management of Agreement between DOE-ER and DOE-CH	ER	8/90
D-C-15	None indicated	CH-AAO Facility Representative Program	CH-AAO	7/93
D-C-16	None indicated	Chicago Operations Office Directives System, Points of Contact and Implementation	CH/Freeman	10/93
D-C-17	None indicated	ANL Divisional Organization Charts	ANL	Various
D-C-18	None indicated	ES&H Management Appraisal Argonne Area Office, June 1993	CH-AAO	10/5/93
D-C-19	Report SR-93-03	Letter re: Office of Environment, Safety and Health (EH) Site Representative Performance Assessment Report SR-93-03	A. Taboas/AAO	8/25/93
D-C-20	None indicated	AAO Facility Surveillance Tracking System (User Instruction)	CH-AAO/R.Purucker	7/93
D-C-21	None indicated	Yearly Facility Surveillance Record	CH-AAO/R.Purucker	Various
D-C-22	None indicated	Current Concerns Report for All Buildings	CH-AAO/R.Purucker	10/93
D-C-23	None indicated	CH Directives Point of Contact, Procedures for Directive Processing	CH/J.Freeman	10/93
D-C-24	None indicated	AAO Facility Representative Program Occupational Safety Inspection Checklist	CH-AAO	None Indicated
D-C-25	None indicated	Master Report - Orders, Notices, SENs, Announcements	CH	9/17/93
D-C-26	None indicated	Tiger Team Status Report - Complete and Incomplete Milestones Due Between August 1, 1993 and September 30, 1993	ANL	10/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-27	None indicated	Corrective Actions on Tiger Teams' Findings Progressing Slower Than Planned	ANL	5/5/93
D-C-28	A92CH001	Chicago Field Office Implementation of audit Recommendations	CH	11/18/92
D-C-29	None indicated	Implementation of Environment, Safety, and Health Corrective Actions Required at Argonne National Laboratory	CH	4/28/92
D-C-30	Report ER-0-90-08	Environmental Compliance at Argonne National Laboratory, Report Number: ER-0-90-08	CH	9/18/90
D-C-31	None indicated	Argonne Area Office Weekly Reports	CH-AAO	8/93, 5/93, 5/92
D-C-32	None indicated	Argonne Area Office OIG Audits	CH-AAO	Various
D-C-33	None indicated	FY 1992 and FY 1993 Functional Appraisals University of Chicago, Argonne National Laboratory - DOE/Headquarters Reviews, Survey	CH	Various
D-C-34	Report SR-93-02	Memorandum re: Office of Environmental Safety and Health (EH) Site Representative Performance Assessment Report SR-93-02	P. Brush/EH	5/17/93
D-C-35	None indicated	Memorandum re: Office of Environment, Safety and Health (EH) Site Representative Report SR-93-02, Evaluation of Construction Safety Programs at Chicago Operations Office	J. Decker	6/30/93
D-C-36	None indicated	Laboratory Committees (UC and ANL-E ES&H Committee Charters)	ANL	10/93
D-C-37	None indicated	ANL Policy and Procedure for Directives Management	ANL	10/93
D-C-38	None indicated	Mission and Function Statements	ANL	10/93
D-C-39	None indicated	Safety Review of the APS at Argonne National East October 27-28, 1992	O. Lynch Jr./ER-32.1	11/9/92
D-C-40	None indicated	ANL Trip Report	A. Laufer/ER-141	12/22/92
D-C-41	None indicated	Environmental Protection Assessment Report	S. Goel/ER-14	4/91

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-42	None indicated	ANL Policy Manual Chapter General Administrative Matters Part XXVII DOE Directives Processing System	ANL/D.Karras	10/93
D-C-43	None indicated	Regulatory Software Listing	ANL/Parzyck	None indicated
D-C-44	None indicated	DOE Mail - Turnaround Time Assessment	CH/Freeman	10/18/93
D-C-45	None indicated	The University of Chicago Board of Governors Safety and Environment Committee Agenda	ANL/Parzyck	10/28/93
D-C-46	None indicated	ES&H Assessment Committee Charter	ANL	6/93
D-C-47	None indicated	ESH/QA Planning and Coordination Committee Charter	ANL	9/93
D-C-48	None indicated	ESH/QA Oversight Directorate Charter	ANL	10/92
D-C-49	None indicated	List of QA Audits for Last 24 Months	ANL	Various
D-C-50	None indicated	List of All Audits/Assessments/Appraisals Performed by DOE HQ, DOE-CH, CH-AAO and External Agencies Performed Over the Last 24 Months	CH	10/93
D-C-51	None indicated	Appraisal Action Status Report	ANL	9/21/93
D-C-52	None indicated	Tiger Team Action Plan Milestone Status Report	ANL	9/22/93
D-C-53	None indicated	ANL Laboratory Committees Book	ANL	Various
D-C-54	None indicated	ANL Policy and Procedure for Directives Management	ANL	10/93
D-C-55	None indicated	ANL Directive Ownership List	ANL/D.Karras	10/93
D-C-56	None indicated	ANL Directives Databases	ANL/D.Karras	10/93
D-C-57	None indicated	ESH/QA Oversight Internal Procedure Manual	ANL/Parzyck	10/93
D-C-58	None indicated	Draft ANL Quality Assurance Program Implementation Guide	ANL/Chipman	10/24/93
D-C-59	None indicated	ESH/QA Position Description	ANL/Parzyck	4/91 6/11/92
D-C-60	None indicated	ESH/QA Training Records	ANL/Parzyck	10/13/93 10/22/93
D-C-61	None indicated	Response to EH Site Representatives	CH-AAO	10/24/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-62	None indicated	Position Description ESH Coordination	ANL	5/91
D-C-63	None indicated	Workshop on DOE Performance Indicator Program Minutes	ER-8	2/9-10/93
D-C-64	None indicated	Updated Tiger Team Corrective Action Plan	ANL	10/24/93
D-C-65	None indicated	List of ANL-E Internal 1991, 1992, and 1992 ESH Appraisals	ANL	Various
D-C-66	None indicated	Organization Charts and Descriptions of Responsibilities for ANL-E Site Management and ESH Programs	ANL	Various
D-C-67	W-31-109-ENG-38	Contract No. W-31-109-ENG-38 Between USDOE and University of Chicago for M&O of ANL	CH-AAO	9/30/88
D-C-68	None indicated	ANL-E ESH Manual, Volume I	ANL	4/91
D-C-69	None indicated	ANL-E ESH Manual, Volume II	ANL	10/93
D-C-70	None indicated	ANL Quality Assurance Program Plan	ANL	2/17/93
D-C-71	None indicated	Comprehensive Emergency Management Plan	ANL	4/92
D-C-72	None indicated	ANL Policy Manual	ANL	2/93
D-C-73	None indicated	List of Current Environmental Permits	CH-AAO	Various
D-C-74	None indicated	ESH 5-Year Plan, 1995 Budget Year for ANL-E	CH-AAO	3/93
D-C-75	None indicated	Accelerator Safety Review Charter, Nuclear Facility Safety Committee Reactor Safety Review Committee Charter	ANL	3/19/93
D-C-76	None indicated	Tiger Team AP098, AP099, AP100, AP117, AP118, AP120, AP121, AP122	AAO	Various
Organization/Planning, Budgeting, and Resource Allocation - Louis A. Rancitelli				
D-D-1	DOE/EH-0147P	Tiger Team Assessment of the Argonne Illinois Site	Unknown/EH	10/19/90
D-D-2	DOE/CH-9101, Revision 1	Action Plan in response to the October 1990 Tiger Team Assessment of the Argonne Illinois Site, Volumes 1 and 2	Unknown/CH	4/24/91
D-D-3	None indicated	Memorandum for Energy Research Associate Directors	W. Happer/ER	7/2/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-4	None indicated	Office of Laboratory Measurement Mission and Function Statements	Unknown/LM	8/1/93
D-D-5	DOE CH 5110.a	CH Self-Assessment Program	Unknown/CH	5/19/92
D-D-6	None indicated	Chicago Operations Office All Employee Briefing, Our Next Steps	Unknown/CH	8/26/93
D-D-7	None indicated	CH Quality Initiative Completed Milestones	Unknown/CH	3/22/93
D-D-8	None indicated	Argonne National Laboratory-East Environment, Safety and Health Training Management Plan	Unknown/ANL-E	4/1/91
D-D-9	JOSTD-106-G-T004	Laboratory Integrated Facilities Plan (LIFP), FY 1993	Unknown/ANL-E	Unknown
D-D-10	None indicated	Argonne National Laboratory Quality Assurance Program Plan	Unknown/ANL	2/17/93
D-D-11	None indicated	Argonne National Laboratory, Draft Institutional Plan, FY 1994 - FY 1999	Unknown/ANL	5/1/93
D-D-12	None indicated	Draft - ESH Training Management Guide, Argonne National Laboratory - East	E. G. Langenberg and D. R. Larson/ES&H Division, ANL-E	7/1/93
D-D-13	None indicated	CMT Self-Assessment 1992	J. E. Battles/ANL-E	12/8/92
D-D-14	None indicated	Environment, Safety & Health Manual, Argonne National Laboratory - East, Volume I	R. A. Wynveen and D. C. Parzyck/ES&H Division, ANL-E	4/1/91
D-D-15	None indicated	Environment, Safety and Health Manual, Argonne National Laboratory - East, Volume II	R. A. Wynveen and D. C. Parzyck/ES&H Division, ANL-E	6/1/93
D-D-16	None indicated	Comprehensive Emergency Management Plan, Volume 1: Emergency Management Plan, Argonne National Laboratory-East	M. E. Goodkind/ANL-E	4/1/92
D-D-17	None indicated	Comprehensive Emergency Management Plan, Volume 2: Emergency Management Procedures, Argonne National Laboratory-East	M. E. Goodkind/ANL-E	4/22/93
D-D-18	None indicated	Charter of the Accelerator Review Committee	A. Schriesheim/ANL-E	9/16/92
D-D-19	None indicated	Nuclear and Accelerator Safety Manual, Section II-Nuclear Reactor Safety, Chapter 2- Reactor Safety Review Committee (RSRC) Charter	Unknown/ANL-E	3/19/93
D-D-20	None indicated	Memorandum To: A. Schreisheim, Subject: March 12, 1993, ASRC Review of ATLAS	B. Brown/ANL-E	3/12/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-21	None indicated	Triennial Review of Argonne National Laboratory Nuclear Facility Safety Review and Appraisal System	J. K. Anderson/Private Consultant	6/22/92
D-D-22	None indicated	Triennial Review of Argonne National Laboratory Nuclear Reactor Safety Review and Appraisal System	J. K. Anderson/Private Consultant	3/15/91
D-D-23	DOE 5480.25	Guidance for an Accelerator Facility Safety Program	Unknown/DOE	8/18/93
D-D-24	DOE 5480.25	Safety of Accelerator Facilities	Unknown/DOE	11/3/92
D-D-25	W0116-0017-AP	Operations Department Management Plan, Fuel Cycle Division, Argonne National Laboratory-West	B. C. McClellan/ANL-E	12/10/91
D-D-26	W0096-0161-DK	ANL-W WIPP Project, Safety Assessment for HFEF WCA Operations	Unknown/ANL-E	8/1/93
D-D-27	None indicated	Intra-Laboratory Memo to M. Bartos, Stop-Work Authority	B. Brown/ANL-E	9/17/93
D-D-28	None indicated	Intense Pulsed Neutron Source (IPNS), Users' Handbook	B. Brown/ANL-E	9/17/93
D-D-29	None indicated	Management Plan IPNS Division	B. S. Brown/ANL-E	9/81
D-D-30	None indicated	IPNS Safety Administrative Policy and Guide	J. Hanebuth/ANL-E	8/18/93
D-D-31	None indicated	ANL Position Descriptions, Various Including Environment, Safety and Health Coordinator, IPNS Operations Manager, Engineering Specialist Senior IPNS Neutron Facilities Supervisor, Scientific Associate	Unknown/ANL-E	Various
D-D-32	ANL-491	Argonne National Laboratory, Merit Review Performance Assessment, Exempt and Non-Exempt	Unknown/ANL-E	4/92
D-D-33	None indicated	Argonne National Laboratory Policy Manual	Unknown/ANL-E	Various
D-D-34	None indicated	ANL System for Managing DOE Draft Directives and ANL Institutional Requirements Management Process Current System, Attachment 1	Unknown/ANL-E	6/4/92
D-D-35	None indicated	Memorandum to: Distribution Subject: Laboratory Director ES&H Inspection Schedule	M. Grace/ANL-E	Various

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-36	None indicated	Memorandum to: Distribution, Subject: Chief Operations Officer ES&H Inspections	M. Grace/ANL-E	Various
D-D-37	None indicated	Memorandum to: Distribution, Subject: ES&H Facility Inspection Schedules	G. Dely/ANL-E	Various
D-D-38	None indicated	Staffing Increases in the ESH Division Since Tiger Team	Unknown/ANL-E	Unknown
D-D-39	DOE/S00097P	Environmental Restoration and Waste Management Five-Year Plan, Fiscal Years 1994-1998, Volumes I and II	Unknown/EM	1/93
D-D-40	None indicated	Argonne National Laboratory Institutional Plan, FY 1993 - FY 1998	A. Schriesheim/ANL	8/92
D-D-41	GAO/RCED-93-86	Report to the Chairman, Environment, Energy, and Natural Resources Subcommittee on Government Operations, Nuclear Health and Safety, Corrective Actions on Tiger Team's Findings Progressing Slower Than Planned	V. S. Rezendes/GAO	3/93
D-D-42	ANL/TTTF-90/1	Argonne-Illinois Site Self-Assessment Reports, Volumes 1, 2 and 3	Unknown/ANL-E	9/90
D-D-43	None indicated	CH Quality Initiative Resource Book	Various/CH	5/93
D-D-44	None indicated	Chicago Field Office Quality Initiative Overview	Various/CH	3/93
D-D-45	None indicated	Briefing to All Employees, Results of DOE Planning Sessions Motorola University	C. J. Langenfeld/CH	8/26/93
D-D-46	None indicated	Intra-Laboratory Memorandum to: Division Directors and Department Heads, Subject: Establishment of ESH/QA Program Review Committee	A. Schriesheim/ANL	8/3/93
D-D-47	None indicated	The University of Chicago Board of Governors for Argonne National Laboratory, Charter Safety and Environment Committee	Unknown/University of Chicago	4/27/89
D-D-48	None indicated	Review of Argonne's Strategic Plan, Report of the Ad Hoc Research Review Committee of the Board of Governors for Argonne National Laboratory	Unknown/University of Chicago	11/30/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-49	None indicated	Memorandum to: Members, Board of Governors, Subject: Safety and Environment, Budget Update, Program Accomplishments and Initiatives, Operations, and Other Matters	A. Schriesheim/ANL	3/25/93 6/23/93
D-D-50	None indicated	ANL-E Radiological Control Manual, Excellence in Radiological Control	Unknown/ANL-E	Undated
D-D-51	None indicated	APS 1992 Self-Assessment Report	D. E. Moncton/ANL-E	12/18/92
D-D-52	None indicated	Materials and Components Technology Division, ES&H Self-Assessment	C. E. Till/ANL-E	9/19/91
D-D-53	None indicated	ES&H Self-Assessment for the Environmental Research Division	C. A. Reilly/ANL-E	11/92
D-D-54	None indicated	Self-Assessment of Environment, Safety, and Health Performance for Energy, Environmental, and Biological Research	D. A. Haugen/ANL-E	12/92
D-D-55	None indicated	Self-Assessment Plant Facilities and Services	Various/ANL-E	8/31/93
D-D-56	CH 1100.1d CHG 1	Delegation of Authority	Unknown/CH	2/7/91 4/1/93
D-D-57	CH 1100.c	Mission and Function Statements of the Chicago Field Office	Unknown/CH	10/16/92
D-D-58	None indicated	Voluntary Protection Program Safety and Health Training	Unknown/ANL-E	8/19/93
D-D-59	None indicated	Competencies for ES&H Trainers	D. Larson, ANL-E and J. Vukelich, LLNL	Undated
D-D-60	None indicated	Environment, Safety and Health Division Conduct of Operations Assessment Document for the Training Section	D. R. Larson/ANL-E	9/92
D-D-61	None indicated	Draft Mission and Function Statement Argonne Area Office	Unknown/AAO	8/24/93
D-D-62	None indicated	Letter to Gordon F. Giarrante, Subject: FY 1992 FMFIA Assurance Memorandum Report on Self-Assessment Activities	D. Yuzeitis/CH	10/13/92
D-D-63	None indicated	Letter to William Happer, Subject: DOE Field Office, Chicago, Self-Assessment	D. T. Goldman/CH	11/4/91
D-D-64	None indicated	Chicago Operations Office Argonne Area Office, Management Plan	Unknown/AAO	9/10/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-65	None indicated	Argonne National Laboratory-East, Environment, Safety and Health Training Section Quality Assurance Plan	D. R. Larson/ANL-E	12/10/91
D-D-66	None indicated	Letter to Anibal L. Taboas, Subject: Approval of the Argonne Area Office's Self-Assessment Program Plan	D. Yuzeitis/CH	9/8/92
D-D-67	None indicated	Memorandum to: Distribution, Subject: Implementation of Departmental Realignment	L. G. Sye/AD	6/10/93
D-D-68	DOE N 1100.32A	Departmental Organization and Management	L. G. Sye/AD	6/10/93
D-D-69	None indicated	Memorandum to: Those on Attached List, Subject: Correspondence Flow Between Operations Offices and the Office of the Associate Deputy Secretary for Field Management	D. W. Pearman, Jr./FM	9/8/93
D-D-70	None indicated	Memorandum to: Distribution, Subject: Sub- Team on Indirect Cost Activities	T. P. Grumbly/S-3	7/12/93
D-D-71	None indicated	Memorandum to: Distribution, Subject: EM Indirect Cost Management	T. P. Grumbly/EM	8/2/93
D-D-72	None indicated	Argonne Area Office (AAO), Self-Assessment Plan	Unknown/AAO	9/4/92
D-D-73	None indicated	Environment, Safety, and Health Division (ESHD), Self-Assessment Plan-1992	Unknown/CH	8/18/92
D-D-74	None indicated	Letter to Archer L. Durham, Subject: Reorganization of the Chicago Operations Office (CH)	C. J. Langenfeld/CH	8/26/93
D-D-75	None indicated	Training Management System	Various/ANL	Undated
D-D-76	None indicated	Waste Handling Procedures Manual	A. Schriesheim, et.al./ANL	2/91
D-D-77	JOSTD-106-G-T003	Site Development Plan, FY 1993	Unknown/ANL-E	Undated
D-D-78	None indicated	Laboratory Committees	Unknown/ANL-E	9/93
D-D-79	None indicated	ANL-E Position Descriptions: Director, ESHD; Program Manager, EWM; and Assistant Laboratory Director for ESH/QA Oversight	Unknown/ANL-E	Various from 4/91
D-D-80	None indicated	ESH 5-Year Plan, 1995 Budget Year for ANL-E	R. J. Teunis/ANL-E	Undated

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-81	None indicated	Plant Facilities and Services Division Waste Management Department, Waste Minimization Plan	R. Bouie/ANL-E	5/10/90
D-D-82	None indicated	Ground-Water Protection Management Program Plan for Argonne National Laboratory-East	G. H. Wittman/ANL-E	9/93
D-D-83	None indicated	Memorandum to: M. Bartos, Subject: Request for Copy of ANL Construction Manual	M. Hodshire/ANL-E	9/21/93
D-D-84	None indicated	Argonne National Laboratory-East, Environmental Protection Implementation Plan, November 1993 to November 1994 (Draft)	N. W. Golchert/ANL-E	8/93
D-D-85	None indicated	Memorandum to Managers, Operations Offices & Attached List, Subject: FY 1994 Initial Approved Funding Program Guidance	L. C. Ianniello/ER-83	9/28/93
D-D-86	None indicated	Environment, Safety, and Health Management Appraisal, Draft	Unknown/CH	Undated
D-D-87	None indicated	Letter to A. L. Taboas, Subject: Environment, Safety, and Health Management Appraisal of the Argonne Area Office	M. J. Flennigan/CH	10/5/93
D-D-88	None indicated	Management Plan for the Argonne Area Office	A. Taboas/AAO	6/10/91
D-D-89	None indicated	Memorandum to Various, Subject: 1993 ANL Self-Assessment	A. Schriesheim/ANL-E	9/3/93
D-D-90	None indicated	Building 212 Local Area Emergency Plan	A. C. Smith, Jr./ANL-E	10/27/92
D-D-91	None indicated	Chemical Hygiene Plan Energy Systems Division	N. Sather/ANL-E	2/92
D-D-92	None indicated	Environment, Safety and Health Manual Center for Mechanistic Biology and Biotechnology	Unknown/ANL-E	9/93
D-D-93	None indicated	EID Employee Handbook	Unknown/ANL-E	9/91
D-D-94	None indicated	Memorandum to E. Huberman and M. A. Essling, Subject: Safety Analysis for the High-Level Gamma Facility	D. A. Haugen/EEBR, ANL-E	9/22/92
D-D-95	None indicated	Safety Analysis Report for the High-Level Gamma Facility, Building 202	Unknown/ANL-E	7/93
D-D-96	None indicated	Memorandum to M. J. Robinet, Subject: Summary of ANL-E Health Physics Technician	R. H. Cooke/ANL-E	9/22/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-97	None indicated	ANL Training Management System, ESH Training - Regulatory Linkage	Unknown/ANL-E	9/10/93
D-D-98	None indicated	Memorandum to Distribution, Subject: Maintenance Implementation Plan for the AGHCF	R. A. Wynveen/ANL-E	8/25/92
D-D-99	None indicated	ANL-E Occupational Safety and Health Workers Protection Pilot Initiative (OSH/WPP) Program for Lockout/Tagout - Control of Hazardous Energy	Unknown/ANL-E	Undated
D-D-100	None indicated	Safe Supervision of Students at Argonne	Unknown/ANL-E	2/3/93
D-D-101	None indicated	ANL Guidelines Self-Assessment of ESH/QA Performance	Unknown/ANL-E	9/93
D-D-102	None indicated	PFS/FPE Construction Contract Safety Infraction Report Log	Unknown/ANL-E	9/10/93
D-D-103	AAO SOP-16	Shutdown of Operations for Safety Reasons (Revision 0)	Unknown/CH	5/93
D-D-104	None indicated	Memorandum to XFD Personnel, Subject: Safety Charter-Experimental Facilities Division - APS	G. K. Shenoy/ANL-E	8/4/93
D-D-105	None indicated	X-Ray Laboratory Safety Manual	Unknown/ANL-E	8/91
D-D-106	None indicated	Preliminary Safety and Environmental Protection Policies and Practices For the Experimental Facilities Division (XFD) of the Advanced Photon Source (APS) - First Draft	Unknown/ANL-E	9/8/93
D-D-107	None indicated	Advanced Photon Source - Magnet Safety Manual, Experimental Facilities Division	Unknown/ANL-E	Undated
D-D-108	None indicated	Various Individual Position Descriptions	Various/CH	Undated
D-D-109	None indicated	Various Individual Performance Appraisal Plans	Various/CH	Undated
D-D-110	ER-0-90-08	Environmental Compliance at Argonne National Laboratory	Unknown/IG	9/18/1990
D-D-111	None indicated	CH Realignment Implementation List	Unknown/CH	Undated
D-D-112	None indicated	Review of Progress on the Corrective Action Plan of the Argonne National Laboratory	Unknown/ER	10/25/91

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-113	ER L-93-06	Memorandum to C. J. Langenfeld, Subject: Chicago Field Office Implementation of Audit Recommendations	J. W. Swafford/IG	11/18/92
D-D-114	ER L-92-07	Memorandum to D. T. Goldman, Subject: Implementation of Environment, Safety, and Health Corrective Actions Required at Argonne National Laboratory	J. W. Swafford/IG	4/28/92
D-D-115	None indicated	Memorandum to A. L. Taboas, Subject: Action Plan for the Occupational Medicine Program Appraisal at the Argonne National Laboratory-East, July 27-30, 1992	J. G. Yates/ST	4/28/93
D-D-116	None indicated	Memorandum to William Happer, Subject: Office of Environment, Safety and Health (EH) Site Representative Performance Assessment Report FAIR-93-02	P. N. Brush/EH	6/1/93
D-D-117	5-93-00132	Memorandum to James F. Decker, Subject: Office of Environment, Safety and Health (EH) Site Representative Performance Assessment Report FAIR-93-03	P. N. Brush/EH	7/9/93
D-D-118	None indicated	Memorandum to C. Langenfeld, Subject: Office of Environment, Safety and Health (EH) Site Representative Report FAIR-93-02, Evaluation of Construction Safety Programs at the Chicago Operations Office	J. F. Decker/ER	6/30/93
D-D-119	None indicated	CH-ESHD FY 1992 Appraisal Schedule	Unknown/CH	3/2/93
D-D-120	None indicated	CH-ESHD FY 1993 Appraisal Schedule	Unknown/CH	Undated
D-D-121	None indicated	Memorandum to: Those on Attached List, Subject: Argonne Area Office Commitment to DOE Environmental, Safety and Health (ES&H) Policies	A. L. Taboas/AAO	12/18/90
D-D-122	None indicated	Memorandum to Chicago Operations Office Employees and Contractor Employees, Subject: Environmental Policy Statement	D. T. Goldman/CH	11/5/90
D-D-123	None indicated	Memorandum to Chicago Operations Office Employees and Contractor Employees, Subject: Safety, Health, and Quality Assurance Policy Statement (SH&QA)	D. T. Goldman/CH	12/10/90

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-124	AAO SOP-26	Chicago Operations Office - Argonne Area Office (CH-AAO) Standard Operating Procedure (SOP)-26: Conduct of Operations/Facility Representative (COFR) Program	Unknown/AAO	9/93
D-D-125	None indicated	Management Agreement Between the Office of Energy Research (ER) and the Chicago Operations Office (CH) for Operations at Energy Research Facilities	H. Rausch and D. B. Nelson/ER and CH	Undated
D-D-126	None indicated	Letter to Alan Schriesheim, Subject: EM-40 Program Streamlining, Emphasis on Interim Actions Which Reduce Health and Environmental Risk	A. L. Taboas/AAO	7/12/93
D-D-127	None indicated	Letter to Alan Schriesheim, Subject: Office of Environment, Safety and Health (EH) Site Representative Performance Assessment Report FAIR-93-03	A. C. Zook/AAO	8/25/93
D-D-128	None indicated	Letter to Alan Schriesheim, Subject Formulation of the FY 1995 Budget	A. L. Taboas/AAO	2/12/93
D-D-129	CH 3410.1	Technical Training Program	Unknown/CH	3/27/92
D-D-130	None indicated	Examples of CH-AAO Position Descriptions and Performance Plans	Various/AAO	Undated
D-D-131	None indicated	Advanced Photon Source Project Office, Conduct of Operations Assessment Document	L. Temple/ANL-E	1/93
D-D-132	None indicated	Various Individual APS Position Descriptions	Unknown/ANL-E	Undated
D-D-133	1.1.10-00017	Advanced Photon Source Linac Safety Assessment Document	Unknown/ANL	7/93
D-D-134	None indicated	The Rust Engineering Company, Environment, Safety and Health Procedure Manual R-A 2 for the Advanced Photon Source at ANL	L. L. Brandner/ANL-E	6/1/90
D-D-135	None indicated	Construction Project Status Report	Unknown/ANL-E	7/93
D-D-136	None indicated	Memorandum of Agreement Between the Assistant Manager for Environmental Management and the Chicago Area Offices, Draft	Unknown/CH & EM	Undated

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-137	None indicated	Chicago Operations Office (CH) Management Control/Vulnerability Assessment FY 1993 Status Report, Draft	L. P. Freeman/CH	8/30/93
D-D-138	None indicated	Leadership 2000 Supervisory/Management Development	Unknown/ANL	Undated
D-D-139	None indicated	Human Resources Policy and Procedure Manual	Unknown/ANL	8/93
D-D-140	CH-EM-2.2.1	Standard Operating Procedures, Work Authorization, Draft	Unknown/CH	Undated
D-D-141	CH-EM-2.2.2	Standard Operating Procedures, Funds Management, Draft	Unknown/CH	Undated
D-D-142	CH-EM-2.2.3	Standard Operating Procedures, Change Control, Draft	Unknown/CH	Undated
D-D-143	CH-EM-2.2.4	Standard Operating Procedures, Contingency Management, Draft	Unknown/CH	Undated
D-D-144	CH-EM-2.3.1	Standard Operating Procedures, Status Reporting, Draft	Unknown/CH	Undated
D-D-145	CH-EM-2.3.2	Standard Operating Procedures, Performance Monitoring, Draft	Unknown/CH	Undated
D-D-146	CH-EM-2.3.3	Standard Operating Procedures, Baseline Review and Validation, Draft	Unknown/CH	Undated
D-D-147	CH-EM-2.3.4	Standard Operating Procedures, PTS 4700.1 Reporting, Draft	Unknown/CH	Undated
D-D-148	CH-EM-2.1.1	Standard Operating Procedures, Work Definition, Draft	Unknown/CH	Undated
D-D-149	None indicated	Management Quality Assurance Program of Office of Assistant Manager for Environmental Management, Draft	D. Dashevsky/CH	Undated
D-D-150	None indicated	Roles and Responsibilities Working Group Report to the Manager, CH	C. Bingham, et. al./CH	2/18/93
D-D-151	AAO-SOP-Variou s	Argonne Area Office Procedures (AAO SOPs) - Various	Unknown/AAO	Various
D-D-152	None indicated	Environmental Research Division Strategic Plan	Unknown/ANL-E	1/93
D-D-153	None indicated	The Argonne Mission - Draft	Unknown/ANL-E	Undated

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-154	None indicated	Manual of Construction for the Argonne National Laboratory - East	R. Bouie/ANL-E	10/25/93
D-D-155	None indicated	Plan for Restart of Construction at the ANL-Illinois Site, Volumes 1 and 2	Unknown/ANL-E	1991
D-D-156	None indicated	Memorandum to: Heads of Field Elements, Subject FY 1995 Unified Field Budget Call	E. E. Smedley/CR	1/15/93
D-D-157	None indicated	Memorandum for the Secretary, Subject: Action: Department Realignment Implementation	A. L. Durham/HR	Undated
D-D-158	None indicated	Cost Quality Management Assessment, ANL-E, Final Draft	Unknown/EM	6/18/93
Human Resources Management/Formality of Operations - Steven Masciulli				
D-E-1	DOE/EH-0147P	Tiger Team Assessment of the Argonne Illinois Site	Environment Safety & Health/U.S. DOE	10/19/90
D-E-2	DOE/CH-9101	Action Plan in response to the October 1990 Tiger Team Assessment of the Argonne Illinois Site	DOE and ANL	4/24/91
D-E-3	None indicated	ESH/QA Planning and Coordination Committee Charter	D. Parzyck/ANL	4/93
D-E-4	None indicated	ES&H/QA Budget Validation and Planning Committee SUPERSEDED	D. Parzyck/ANL	1/92
D-E-5	None indicated	ES&H/QA Coordination Committee Superseded	D. Parzyck/ANL	6/12/91
D-E-6	APS-3.1.1.0, Rev. 0	Advanced Photon Source Conduct of Operations Manual	Advanced Photon Source Directorate/ANL	6/15/93
D-E-7	None indicated	Memorandum re: Reorganization of the Chicago Operations Office (CH)	C. Langenfeld/CH	9/26/93
D-E-8	None indicated	Prioritization of Critical Hire Requests and Status of Authorized Positions	A. Smith/CH	9/93
D-E-9	None indicated	Chicago Directives Report and Master Report - Orders, Notices, SENs, Announcements	CH	9/17/93
D-E-10	None indicated	Memorandum of Agreement Between the Chicago Operation Office's Programs and Facilities Management Division and the Argonne Area Office	CH	8/13/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-11	None indicated	AAO Areas Of Responsibility	CH/AAO	None indicated
D-E-12	None indicated	Employee Technical Training Information Report	CH/AAO	9/10/93
D-E-13	None indicated	AAO Facility Surveillance Tracking System User Instruction	CH/AAO	7/93
D-E-14	None indicated	List of Personnel With Various ES&H Responsibilities	ANL	Various
D-E-15	None indicated	List of Proposed Nuclear Facilities in Response to DOE 5480.23	CH/AAO	None indicated
D-E-16	None indicated	Conduct of Operations Manual	GOCO Cross-Cultivation Committee/Westinghouse	7/1/91
D-E-17	None indicated	Handouts From CH, AAO, ANL Presentations During Progress Assessment Initial Site Visit	CH/AAO/ANL	None indicated
D-E-18	None indicated	Argonne National Laboratory Guidelines for Conduct of Operations	ANL	6/92
D-E-19	None indicated	Instructions for Implementation of Conduct of Operations Program at Argonne National Laboratory	ANL	6/92
D-E-20	None indicated	Argonne National Laboratory Course Catalog	Human Resources/ANL	9/16/93
D-E-21	None indicated	Job Hazards Checklist Guide - DRAFT	ANL	9/15/92
D-E-22	None indicated	AAO Facility Representative Program Inspection Checklists - DRAFT (several examples)	CH/AAO	None indicated
D-E-23	None indicated	Functional Analysis of Selected Technical Positions	J. J. Nettles, Jr./DOE AD Administration and Human Resource Management	11/5/91
D-E-24	None indicated	Report on December 9-11, 1991 Taskgroup Meeting	P. Mink/DOE AD Administration and Human Resource Management	1/17/92
D-E-25	None indicated	Functional Analysis of DOE Technical Positions Environmental, Nuclear Health, and Safety Functions	Office of Professional and Technical Recruitment, Training and Development, DOE AD	12/9-12/91
D-E-26	None indicated	Completion of Functional Analysis Report	C. R. Tierney/DOE AD	7/31/92
D-E-27	None indicated	AD-70 Functional Analysis Project	Training Development and Recruitment Steering Committee/DOE AD	7/20/92
D-E-28	None indicated	Functional Analysis Project Status Report	P. Mink/DOE AD	11/10/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-29	None indicated	AD-70 Functional Analysis Project	Training Development and Recruitment Steering Committee/DOE AD	9/92
D-E-30	None indicated	Clarification of the Objectives of the June 16, 1993 Taskgroup Meeting	P. Mink/DOE AD	7/11/93
D-E-31	None indicated	Technical Training Excellence Workshops	C. Tierney/DOE AD	8/31/93
D-E-32	None indicated	Federal Staff Technical Training Curriculum - Preliminary Site Visit Report and Notification of Meeting to Review Information and Define Issues Identified During the Visits	C. Tierney/DOE AD	8/3/93
D-E-33	None indicated	Preliminary Site Visit Report and Notification of Meetings to Review Information and Develop Technical Training Curriculum for Federal Staff	C. Tierney/DOE AD	8/4/93
D-E-34	None indicated	Memorandum of Agreement Between the Assistant Manager for Environmental Management and the Chicago Area Offices - DRAFT	Assistant Manager for Environmental Management/CH	None indicated
D-E-35	Various	Chicago Operations Office Environmental Management Program, Standard Operating Procedures - DRAFT	Assistant Manager for Environmental Management/CH	None indicated
D-E-36	None indicated	ESH Training Section, ESH Division, Mission Statement	D. Larson/ESH Training Section, ESH Division	8/15/93
D-E-37	None indicated	Environment, Safety and Health Training Section Quality Assurance Plan, Revision 0	D. Larson/ESH Training Section, ESH Division	12/10/91
D-E-38	None indicated	Environment, Safety and Health Division Conduct of Operations Assessment Document for the Training Section	D. Larson/ESH Training Section, ESH Division	9/92
D-E-39	None indicated	TMS Course Form, TMS Session Update Form	ANL	3/19/93
D-E-40	None indicated	List of Conduct Of Operations Organizational Subunits and Subunit Level	R. Schlenker/ESH Division	None indicated
D-E-41	None indicated	Policy Manual	ANL	Various
D-E-42	None indicated	Training Management System	D. Larson, J. Thompson, J. Hyzer/ANL	None indicated
D-E-43	None indicated	CH-AAO Management Plan, 1993 Draft Revision And 1991 Management Plan	A. Taboas/CH-AAO	9/10/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-44	W-31-109-ENG-38	Contract Between United States Department of Energy and the University of Chicago For Management and Operation of Argonne National Laboratory	DOE	9/30/88
D-E-45	None indicated	Environment, Safety and Health Manual, Argonne National Laboratory - East	R. Wynveen/ANL	Various
D-E-46	None indicated	Correspondence Flow between Operations Offices and the Office of the Associate Deputy Secretary for Field Management	D. Pearman/U.S. Office of the Associate Deputy for Field Management	9/8/93
D-E-47	None indicated	Implementation of Departmental Realignment	L. G. Sye/U.S. DOE Administration and Management	6/10/93
D-E-48	None indicated	List of ES&H Guidance Issued by ER-10	ER	None indicated
D-E-49	None indicated	FY 1994 Initial Approved Funding Program Guidance	L. Ianniello/ER	9/28/93
D-E-50	None indicated	CMT Self-Assessment	J. Battles/ANL	None indicated
D-E-51	None indicated	Position Descriptions of ES&H Technical Support Staff in ER-13 and ER-14	ER	None indicated
D-E-52	None indicated	Performance Assessment	J. Bohren/ANL	4/16/93
D-E-53	None indicated	Leadership 2000, Development	ANL	None indicated
D-E-54	None indicated	Human Resources Policy and Procedure Manual	ANL	8/1/93
D-E-55	None indicated	Mission Statements for Operations Office Divisions	AAO	None indicated
D-E-56	None indicated	Training Tracking Systems	L. White/CH	Various
D-E-57	None indicated	Mid-Year Appraisals and Individual Development Plans	B. Thomas/CH	12/9/92
D-E-58	None indicated	DOE Draft Implementation Plan for Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 93-3 and 92-7	P. Kasper	9/21/93
D-E-59	None indicated	ESH Training Management Guide, Argonne National Laboratory - East, DRAFT	D. Larson/ANL	10/1/93
D-E-60	None indicated	Approval of the Janus Training Implementation Matrix (TIM)	A. Schriesheim/ANL	7/21/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-61	None indicated	Transmittal of AGHFC Training Implementation Matrix for DOE Order 5480.20	L. Neimark/ANL	1/28/93
D-E-62	None indicated	Argonne National Laboratory - East, Environment, Safety, and Health Division, DRAFT	J. Simmons/ANL	9/1/93
D-E-63	JOSTD-106-G-T003	FY 1993 Site Development Plan, ANL-E	ANL	None indicated
D-E-64	None indicated	Argonne National Laboratory, Institutional Plan FY 1993 - FY 1998	ANL	8/92
D-E-65	None indicated	Argonne National Laboratory Quality Assurance Program Plan	A. Schriesheim/ANL	2/17/93
D-E-66	None indicated	Nuclear Safety Procedures Manual, Rev. 07	H. McFarlane/ANL	5/31/93
D-E-67	None indicated	ANL, ESH 5-Year Plan, Section 1 Planning Summary	ANL	None indicated
D-E-68	None indicated	ANL Self-Assessment Program	ANL	9/92
D-E-69	None indicated	ANL Guidelines Self-Assessment of ESH/QA Performance	ANL	9/93
D-E-70	None indicated	ANL Occurrence Reports, September 9, 1991 through September 9, 1993	ANL	Various
D-E-71	None indicated	Conduct of Operations Implementation Support	ANL	7/17/92
D-E-72	None indicated	DOE-CH/AAO Mission and Function Statements	CH/AAO	Various
D-E-73	CH 5110.a	DOE Chicago Field Office Self-Assessment Program	D. Goldman/CH	5/19/93
D-E-74	None indicated	DOE Chicago Operations Office Orders	CH	Various
D-E-75	None indicated	Various CH Position Descriptions and Performance Records	CH	Various
D-E-76	None indicated	CH-ESHD Standard Operating Procedures	CH	Various
D-E-77	None indicated	Lists of ES&H Division Procedures	CH	Various
D-E-78	None indicated	Building Maintenance and Operation	A. Schriesheim/ANL	10/3/91
D-E-79	None indicated	Certification of ES&H Responsibilities	B. Thomas/CH	1/6/93
D-E-80	None indicated	New ESH Measures of Effectiveness	J. Bohren/ANL Division	5/24/93
D-E-81	None indicated	Conduct of Operations Training	D. Larson/ANL Section	10/28/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-82	None indicated	Argonne National Laboratory - East, Training Procedures Manual	ANL	2/9/92
D-E-83	None indicated	List of ANL-E Accelerator Facilities	J. Neuhoﬀ/CH	None indicated
D-E-84	CH 3410.1	CH Order, Technical Training Program	U.S. DOE	3/27/93
D-E-85	AAO-SOP-26	CH-Operations Office - Argonne Area Office (CH-AAO) Standard Operating Procedure - 26, Conduct of Operations Facility Representative Program	CH-AAO	9/93
D-E-86	None indicated	Laboratory Committee Book	ANL	Various
Quality Assurance - Jessica L. Johnston				
D-F-1	None indicated	ANL Quality Assurance Program Plan	A. Schriesheim	2/17/93
D-F-2	111-00001-00	Quality Assurance Plan for the Advanced Photon Source Project	J. Giller	5/90
D-F-3	None indicated	Review of Progress on the Corrective Action Plan of Argonne National Laboratory	ER	10/21-25/91
D-F-4	ER-L-92-07	Implementation of Environment, Safety, and Health Corrective Action Required at Argonne National Laboratory	IG-36 (A92CH007)	4/28/92
D-F-5	None indicated	Argonne Area Office Self-Assessment Report	AAO	8/4/92
D-F-6	ANL/TTTF-90/1	Argonne Illinois Site Self-Assessment Report	ANL-E	9/90
D-F-7	None indicated	Environment, Safety, and Health Division Self-Assessment Plan	CH	8/18/92
D-F-8	None indicated	Environment, Safety, and Health Division Self-Assessment	CH	1/6/93
D-F-9	None indicated	Memorandum - Decision on Landlord Management of ER Multiprogram Labs	ER	7/2/92
D-F-10	None indicated	Draft, Office of Laboratory Management Mission and Function Statements	LM	8/1/93
D-F-11	None indicated	Draft Scope for QA and Environmental Management for Originally Scheduled Progress Assessment	S. Masciulli	3/2/93
D-F-12	None indicated	Draft Argonne National Laboratory QA Program Implementation Guide	ANL	Rev. 0 9/24/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-F-13	None indicated	Progress Assessment Team Quality Assurance Summary Statement	L. Chipman	10/5/93
D-F-14	None indicated	Environment, Safety, and Health Management Appraisal Argonne Area Office Argonne, Illinois June 21 - July 2, 1993	CH	10/5/93 (final) 6/93 (draft)
D-F-15	None indicated	Summary of ANL Multi-Media Inspection June 29 - July 2, 1993	A. Lawrence/EH-221	7/9/93
D-F-16	SR-93-02	EH-Site Representative Report Concerning Construction Safety Programs at the Chicago Operations Office	R.W. Everson/EH	5/17/93
D-F-17	None indicated	Reorganization of the Chicago Operations Office (CH)	C. Langenfeld/CH	8/26/93
D-F-18	AAO SOP-5	DOE Directives Distribution and Implementation Program	AAO	Rev. 3 9/93
D-F-19	AAO-SOP-11	Document Control and Procedures Revisions	AAO	Rev. 1 9/93
D-F-20	AAO SOP-13	Tracking and Verification of ANL/DOE Tiger Team Corrective Actions	AAO	Rev. 4 9/93
D-F-21	AAO SOP-26	Conduct of Operations and Facility Representative Program	AAO	Rev. 2 9/93
D-F-22	CH 5700.6C	Quality Assurance	CH	5/5/92
D-F-23	CH 5110.a	DOE Chicago Field Office Self-Assessment Program	CH	5/19/92
D-F-24	CH 3410.1	Technical Training Program	CH	3/27/93
D-F-25	SR-93-03	EH Site Representative Performance Assessment Report, CH Oversight of QA Programs	R. Everson/EH	7/9/93
D-F-26	ANL-E-90-003	QA Audit Report (ATLAS, IPNS, JANUS, and Waste Management Operations)	CH	7/17/90
D-F-27	04-ANL-E-QA-91	QA Audit (APS)	CH	6/91
D-F-28	None indicated	Cognizant OQA Engineering Assignments	L. Chipman/ANL-E	9/14/93 DRAFT
D-F-29	None indicated	QA Audit (CMT, MCT, OQA)	CH	6/5/92
D-F-30	None indicated	QA Audit (APS)	CH	12/3/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-F-31	ESHD/SOP-4	Conduct of Multiprogram Functional Appraisals	CH	Rev. 2 4/24/92
D-F-32	None indicated	Memorandum to Dr. Schriesheim Requesting Corrective Action for EH-30 Site Representative Performance Assessment Report SR-93-03	EH-30	None indicated
D-F-33	None indicated	Memorandum to File: Telephone Record Between L. Chipman (ANL-E OQA) and C. Miller (LM) Regarding ANL QAPP.	L. Chipman	9/7/93
D-F-34	CH 5000.1b	Functional Appraisal System Safety	CH	5/17/91
D-F-35	None indicated	Safety and Health Programs Branch Goals Office of Assistant Manager for Environmental Management	AAO	None indicated
D-F-36	None indicated	Office of Assistant Manager for Environmental Management QA Program	CH	DRAFT
D-F-37	Memorandum	Request for Submittal of Implementation Plans for Review and Approval- DOE 5700.6C, "Quality Assurance"	D. Bray/CH	7/27/92
D-F-38	UNOFFICIAL	Notes on Proposed CH Quality Program Manual	J. Adachi	None indicated
D-F-39	None indicated	Mathematics and Computer Science Division (Interim Quality Assurance Plan)	G.W. Pieper	8/93
D-F-40	QA-91-16	QA Audit of Mathematics and Computer Science Division	L.D. Chipman	7/24/91
D-F-41	92-12	QA Assessment of Mathematics and Computer Science Division (MCS)	L.D. Chipman	8/29/92
D-F-42	None indicated	CH/ESHD FY 1994-1996 Appraisal Schedule	CH	None indicated
D-F-43	None indicated	QA Policy ANL Environmental Assessment and Information Sciences Division	E.D. Pentecost	5/90
D-F-44	92-01	ANL/OQA QA Audit of the Advanced Photon Source Project	L. Chipman	12/18/91
D-F-45	None indicated	QA in Research and Development, APS - Lighting Up the Future, Paper Delivered at the 20th ASQC Energy and Environmental Division Annual Conference	V.J. Potent	9/93
D-F-46	CH N 1321.1A	Current Listing of CH Orders	CH	11/23/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-F-47	93-02	Final Report - Quality Assurance Assessment of the Advanced Photon Source	D.C. Parzyck	2/12/93
D-F-48	93-Q26-M.36	Recommendations for an Argonne Quality Management Program	A.J. Goldman	6/2/93
D-F-49	None indicated	Quality Assurance Plan for the Data Acquisition and Management System for Monitoring the Fuel Oil Spill at the Sandia National Lab installation in Livermore California	ANL	Rev. 0 7/14/93
D-F-50	None indicated	Argonne National Laboratory Policy Manual, Chapter Quality Assurance	None indicated	Draft
D-F-51	None indicated	Listing of CH-EM Standard Operating Procedures	CH	None indicated
D-F-52	None indicated	Performance Indicator Working Group Meeting Summary	J.M. Thompson/CH	10/20/93
D-F-53	Report SR-93-03	Memorandum Argonne Area Office Response to the Office of Environment, Safety, and Health (EH) Site Representative Performance Assessment Report SR-93-03	A.L. Taboas	Draft
D-F-54	00044	Implementation of Chicago Operations Office Realignment	C.J. Langenfeld	10/4/93
D-F-55	None indicated	Performance Indicator (PI) Program Enhancement Meeting	L.P. Freeman	9/24/93
D-F-56	None indicated	QA/QC Questionnaire for Fabricators (Initial Survey Guide for Vendor Quality Evaluation)	Y.G. Amer and M.H. Skonicki	4/93
D-F-57	ANL/SSD/100	General Calibration Procedures for M&TE	T.H. Busse	7/15/91
D-F-58	92-24	Final Report, QA Assessment of EID Division	D.C. Parzyck	8/2/93
D-F-59	93-15	Preliminary Report - QA Assessment of Support Services Division	L.D. Chipman	10/11/93
D-F-60	92-22	Final Report - QA Assessment of Support Services Division, Inspection Department (SSD-IN)	D.C. Parzyck	1/15/93
D-F-61	29	ANL Procurement Procedure 29 Technical Evaluation Team	University of Chicago, ANL	7/76

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
Environmental Monitoring Program - Charles B. Lewis				
D-G-1	None indicated	Letter to Dr. Schriesheim: EM-40 Program Streamlining, Emphasis on Interim Actions which Reduce Health and Environmental Risk	A. Taboas/AAO	7/2/93
D-G-2	None indicated	Letter to Dr. Schriesheim: Environmental Monitoring Plan for ANL-E	A. Taboas/AAO	10/25/91
D-G-3	None indicated	Letter to A. Taboas: Draft Environmental Monitoring Plan for ANL-E (Comments)	M. Flannigan/CH	11/12/91
D-G-4	None indicated	Letter to Dr. Schriesheim: Environmental Monitoring Plan for ANL-E (Comments)	A. Taboas/AAO	4/23/92
D-G-5	None indicated	Letter to M. Flannigan: Transmittal of revised Environmental Monitoring Plan from AAO to CH addressing CH comments of November 12, 1991	A. Taboas/AAO	8/11/92
D-G-6	CH 560(5-90)	Environmental Evaluation Notification Form (Blank for example)	CH	2/5/90
D-G-7	None indicated	DOE S&H Database, Activity Data Sheet 10-Line Report, ANL-E Environmental	EH-30	9/22/93
D-G-8	None indicated	Summary of EPA Multi-Media inspection of June 29-July 2, 1993	A. Lawrence/EH-221; D. Green/AAO	7/9/93
D-G-9	None indicated	Memorandum for ER Associate Directors: Decision on Landlord Management of ER Multiprogram Laboratories	W. Happer, ER	7/2/92
D-G-10	CH 5400.1	Order: General Environmental Protection Program	CH	12/14/92
D-G-11	CH 5400.2A	Order: Environmental Compliance Issue Coordination	CH	12/11/92
D-G-12	CH 5440.1C	Order: National Environmental Policy Act	CH	5/5/90
D-G-13	CH 5480.1A	Order: Environmental Protection, Safety, and Health Protection Program for Chicago Operations Office Operations	CH	2/24/82
D-G-14	CH 5700.6C	Order: Quality Assurance	CH	5/5/92
D-G-15	DOE Reference # 101	SOP-13: Tracking and Verification of ANL/DOE Tiger Team Corrective Actions(REV 4)	CH-AAO	9/13/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-G-16	DOE Reference # 102	Environmental Protection Appraisal Report, ANL-E, Contract No. W-31-109-ENG-38, November 9 - December 3, 1992	K. Joshi/CH	12/3/92
D-G-17	DOE Reference # 102	Environmental Protection Appraisal Report, ANL-E, Contract No. W-31-109-ENG-38, May 18 - June 5, 1992	R. Freeman/CH	6/5/92
D-G-18	DOE Reference # 102	Environmental Protection Appraisal Report, ANL-E, Contract No. W-31-109-ENG-38, June 3 - 21, 1991	D. Green/CH	6/21/91
D-G-19	None indicated	DRAFT: Environment, Safety and Health Management Appraisal, Argonne Area Office, June 21 - July 2, 1993	CH	Draft
D-G-20	JOSTD-106-G-T004; ANL Reference Item # 2A	Laboratory Integrated Facilities Plan (LIFF) FY 1993	ANL-E	None indicated
D-G-21	ANL Reference # 6	Environmental Protection Appraisal, ANL-E, March 18 - 22, 1991; Appraisal Report Rev 1	G. Winner/ANL	6/24/91
D-G-22	ANL Reference Item # 10B	ANL Quality Assurance Program Plan	ANL-E	2/17/93
D-G-23	J0500-101-W-T003 ANL Reference Item # 43	800 Area Landfill Closure and Post-Closure Plan	ANL-E	11/15/91
D-G-24	ANL Reference Item # 44	DRAFT: ANL-E Environmental Protection Implementation Plan	ANL-E	8/93 Draft
D-G-25	ANL Reference Item # 45	ANL-E Groundwater Protection Management Program Plan for Argonne National Laboratory	G. Wittman/ANL-E	9/15/93
D-G-26	ANL Reference Item # 46	ANL-E Environmental Monitoring Plan (including Groundwater Monitoring Plan)	ANL-E	7/92
D-G-27	ANL Reference Item # 47	Water Systems Task Force: Charter, Work Plan, Draft Schedule, Meeting Summaries.	ANL-E	9/22/93
D-G-28	ANL-93/5	ANL-E Site Environmental Report for CY 1992	ANL-E	5/93 Draft
D-G-29	None indicated	NEPA Determination for Transportation Building	A. Taboas/AAO	6/24/92

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-G-30	None indicated	Package of Correspondence Related to Review and Approval of CY 1992 Annual Site Environmental Report, Groundwater Protection Management Plan and Environmental Protection Implementation Plan	CH-AAO	Various
D-G-31	None indicated	Standard Collection Procedures Water Sampling	ANL-E	1993
D-G-32	None indicated	Letter to Archer L. Durham, Subject: Reorganization of the Chicago Operations Office (CH)	C. J. Langenfeld/CH	8/26/93
D-G-33	DOE Reference # 100	Tiger Team Action Plan Packages: #254, #232, #239, #255, #302, #113	AAO	Sept 93 status
D-G-34	None indicated	ANL-E Environmental/Waste Management Appraisals Report	ANL-E	10/1/93
D-G-35	None indicated	CH-ESHD Appraisal of AAO	CH-ESHD	7/2/93
D-G-36	77 Illinois Administration Code	Illinois Water Well Construction Code	Illinois Department of Public Health	1992
Hazardous/Mixed Waste Generation Practices and Waste Minimization Program - Richard M. D'Ermilio				
D-H-1	None indicated	ANL Training Management System	ANL-E	9/93
D-H-2	None indicated	ANL Waste Minimization Plan	PFS Department	5/10/90
D-H-3	None indicated	The Waste Line Newsletter	ANL-E	Various
D-H-4	None indicated	Policy and Procedures Manual for Waste Management	ANL-E	8/16/93
D-H-5	None indicated	ANL-E Site Development Plan 1993	ANL-E	8/92
D-H-6	None indicated	CH-AAO Mission/Function Statements	CH/AAO	9/93
D-H-7	None indicated	CH-ESHD SOP's	EH CH	Various
D-H-8	None indicated	CH Policy Statement on ES&H	CH	11/90
D-H-9	None indicated	EH&S Assessment Committee Charter	ANL-E	5/90
D-H-10	None indicated	ESH/QA Planning and Coordination Committee Charter	ANL-E	4/93
D-H-11	None indicated	ES&H/QA Oversight Directorate Charter	ANL-E	11/90
D-H-12	None indicated	Waste Management Department Monthly Reports	R.M. Schletter/EWM	Various

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-H-13	None indicated	List of Environmental Compliance Reports	ANL-E	9/13/93
D-H-14	None indicated	CH-AAO SOPs	DOE/CH and AAO	Various
D-H-15	None indicated	ANL-E ES&H Manual	ANL-E	4/91
D-H-16	None indicated	Chemistry Division - Building/Facilities Safety Orientation EHS Course 108	J. R. McCreary and R.S. Kolman	9/93
D-H-17	None indicated	CH-AAO Policy Statement on ES&H	AAO	12/90
D-H-18	CH Order 3410.1	Technical Training Program	CH	3/92
D-H-19	None indicated	Correspondence on ANL Conduct of Operations	AAO	8/93
D-H-20	None indicated	Management, Agreement Between DOE-ER and DOE-CH	CH	8/90
D-H-21	None indicated	DOE CH Mission and Function Statements	Operations Management Support Division	4/89
D-H-22	CH Order 5480.2	Hazardous and RAD Mixed Waste Management	DOE ES&H Division	10/84
D-H-23	CH Order 5482.1A	ES&H Appraisal Program	DOE ES&H Division	11/81
D-H-24	CH Order 5484.1	ES&H Protection Information Reporting Requirement	DOE ES&H Division	3/84
D-H-25	None indicated	ES&H Appraisal of AAO	CH	1/93
D-H-26	None indicated	Reorganization of the Chicago Operations Office (CH)	Archer L. Durrer/HR	8/93
D-H-27	None indicated	ES&H Management Appraisal of AAO	CH	10/93
D-H-28	None indicated	ANL-E Waste Handling Procedure Manual	Waste Management Department	2/91
D-H-29	Memorandum	Clarification to Waste Minimization B and R Code Usage	EM-352	3/3/93
D-H-30	Letter	Regarding Waste Minimization Activities Funding	Director/WMTD HQ	2/12/93
D-H-31	None indicated	Memorandum of Understanding Among DOE Offices regarding Environmental Management	DOE Headquarters	9/18/89
D-H-32	None indicated	Memorandum re: Financial Management	L. Snedley	4/17/91
D-H-33	None indicated	Memorandum re: Rehab of Five-Water Towers - Waste Minimization	PFS/FPE	6/9/93
D-H-34	None indicated	Memorandum re: Commonwealth Edison Energy Cooperative	PFS	5/21/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-H-35	None indicated	Paper on Chemical Management System	S. Morss	None indicated
D-H-36	None indicated	Memorandum re: APS Disposal of Aluminum Extension Cleaning Solvents	N. Golchert	6/18/92
D-H-37	None indicated	Memorandum re: Recycled Paper Study	PFS Supervisor	4/28/93
D-H-38	None indicated	Memorandum re: Scintillation Cocktails Waste Minimization	ANL-E Waste Minimization Coordinator	9/21/93
D-H-39	None indicated	Memorandum re: Task Description for 1994 Waste Minimization Program Funds	K. Hancock/R. Lang	10/15/93
D-H-40	None indicated	1992 Annual Report on Waste Generation and Waste Minimization Progress	ANL-E	3/16/93
D-H-41	None indicated	1994 Waste Minimization and Pollution Prevention Awareness Plan Format	ANL-E	10/93
D-H-42	None indicated	Corrective Actions Validations Package for APO35 Waste Minimization	AAO	Various
D-H-43	None indicated	Waste Minimization and Pollution Prevention Project Descriptions	ANL-E	9/93
D-H-44	None indicated	Memorandum re: Description of Duties of ANL- E Environmental Compliance Representative	D.C. Parzyck/ANL-E	9/90
D-H-45	None indicated	Various Position Descriptions Describing ECR and ES&H/QA Representative Duties	Various Organizational Supervisors	Various
D-H-46	None indicated	ANL-E Environmental Protection Policy	ANL-E	10/91
D-H-47	None indicated	EEBR (Energy, Environmental, and Biological Research Administration Waste Management Plan	EEBR (CMB)	7/91
D-H-48	None indicated	Memorandum re: Detailing Requirements for Discharge of Citranox Solution	N.W. Golchert/EWM	10/93
D-H-49	None indicated	Memorandum re: RAD Waste Generator Training - Pilot Course	D. C. Pancake/EWM-WMTS	10/93
D-H-50	None indicated	Paper Documenting Process Used to Clean Printed Circuit Boards	D. Patterson	6/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
Conduct of Operations - James A. Buckham				
D-I-1	None indicated	ANL Guidelines for Conduct of Operations	P. Unik/Laboratory Directorate	6/92
D-I-2	None indicated	Instructions for Implementation of Conduct of Operations Program at ANL	P. Unik/Laboratory Directorate	6/92
D-I-3	Letter	Request for a "Crosswalk" between ANL Buildings and Conduct of Operations Plans	A. Taboas/AAO	8/16/93
D-I-4	Letter	Approval of the ANL Conduct of Operations Program	A. Taboas/AAO	2/14/92
D-I-5	None indicated	Conduct of Operations Manual for Steam Plant	J. Heine	6/30/92
D-I-6	None indicated	Steam Plant Operating Log	A. Carbaugh	4/93
D-I-7	None indicated	Draft Operating Procedures Manual for Steam Plant	J. Heine	Draft
D-I-8	None indicated	Energy Systems Division Conduct of Operations Assessment Document	Energy Systems Division	10/29/92
D-I-9	None indicated	Conduct of Operations Assessment Document	Reactor Engineering Division	11/2/92
D-I-10	None indicated	Conduct of Operations Assessment Document	Physics Division	9/3/92
D-I-11	None indicated	Conduct of Operations Assessment Document	Environmental Assessment and Information Sciences Division	10/30/92
D-I-12	None indicated	Conduct of Operations Assessment Document	Office of the Chief Financial Officer	10/31/92
D-I-13	None indicated	Conduct of Operations Assessment Document	Environment, Safety and Health Divisions	10/31/92
D-I-14	None indicated	Conduct of Operations Assessment Document	Chemical Technology Division	11/2/92
D-I-15	None indicated	Conduct of Operations Assessment Document	Materials Science Division	9/25/92
D-I-16	None indicated	Conduct of Operations Assessment Document	Electronics Department	8/25/92
D-I-17	None indicated	Conduct of Operations Assessment Document	Materials and Components Technology Division	11/2/92
D-I-18	None indicated	Conduct of Operations Assessment Document for Bldg. 200 Operations	Chemistry Division	9/25/92
D-I-19	None indicated	Conduct of Operations Assessment Document	Plant Facilities and Services Division	10/31/92
D-I-20	Section 1.2 of CTD Manual	Computing and Telecommunications Division Procedure to Write or Revise Procedures	Computing and Telecommunications Division	2/91

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-I-21	Section 7.0 of IPS-2-00-00	ASHCF Operations Manual and Standard Examination Procedures	AGCF	6/20/89
D-I-22	None indicated	Procedures for Development, Review Distribution, Training, and Implementation of Operational Bulletins and Emergency Response Procedures	Fire Department	9/16/93
D-I-23	WMAD-0001	Waste Management Procedure Guidelines	Waste Management Operations	Rev. 3 4/93
D-I-24	PMM-M-1	Draft of Preparation of Procedures	Project Management Division	8/12/93
D-I-25	None indicated	ATLAS Operating Procedures Manual	ATLAS	9/93
D-I-26	ANL-PHY-84-1	Draft ATLAS Users Handbook	ATLAS	Rev. 2 10/93
D-I-27	None indicated	AGHCF Operating Manual	AGHCF	1991
OSHA and Construction Safety - Ronald E. Alexander				
D-J-1	None indicated	Electrical Safety Committee	Chief Operations Officer	9/81
D-J-2	None indicated	Manual of Construction for Argonne National Laboratory - East	Plant Facilities and Services Facilities Planning and Engineering	10/25/93
D-J-3	None indicated	CH and CH-AAO Organizational Charts	CH/CH-AAO	Various
D-J-4	CH 5001.a	Self-Assessment Program	CH	5/19/92
D-J-5	None indicated	CH Self-Assessment Report	CH	10/13/92
D-J-6	None indicated	CH-AAO Self-Assessment Program Plan and Report	CH/CH-AAO	None indicated
D-J-7	None indicated	CH-ESHD Self-Assessment Program Plan and Report	CH	9/18/92
D-J-8	None indicated	Tiger Team Action Plan Progress Reports	ANL-E	Various
D-J-9	None indicated	ANL Divisional Organization Charts	ANL-E	Various
D-J-10	Report SR-93-03	Letter re: Office of Environment, Safety and Health (EH) Site Representative Performance Assessment Report SR-93-03	A. Taboas/AAO	8/25/93
D-J-11	None indicated	Tiger Team Status Report	ANL-E	9/8/93
D-J-12	None indicated	Action Plans and Associated Findings	ANL-E	9/8/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-J-13	None indicated	Tiger Team Status Report - Complete and Incomplete Milestones Due Between August 1, 1993 and September 30, 1993	ANL-E	9/8/93
D-J-14	None indicated	DOE-CH-AAO Construction Restart Oversight Plan for ANL Illinois Site (AIS)	CH-AAO	2/91
D-J-15	None indicated	Advanced Photon Source Project Safety Program 1990 to 1993 Status and Write-up	CH-AAO	Various
D-J-16	None indicated	CH-AAO Programs and Projects Branch Area of Responsibilities	CH-AAO	9/10/93
D-J-17	None indicated	CH-AAO Programs and Projects Branch Goals for 1993	CH-AAO	9/10/93
D-J-18	None indicated	Construction Corrective Action Plans and Their Status	CH-AAO	9/93
D-J-19	None indicated	Facility Representative Surveillance Records from S. Reyes, CH-AAO, Programs and Projects Branch	CH-AAO	Various
D-J-20	None indicated	CH-AAO, Programs and Projects Branch Weekly Highlights	CH-AAO	Various
D-J-21	None indicated	CH-AAO Independent Contractor OSHA Construction Safety Inspector's Functional Work Assignments as of June 15, 1993	CH-AAO	6/15/93
D-J-22	None indicated	CH-AAO Independent Contractor OSHA Construction Safety Oversight Inspection Reports	CH-AAO	Various
D-J-23	None indicated	Minutes of the CH-AAO PFS-FPE and ESH Construction Safety Meetings	CH-AAO, PFS-FPE, ES&H	Various
D-J-24	None indicated	CH-AAO Shutdown and Restart Documentation of Underground Storage Tanks, Transportation and Grounds Facility Construction Project	CH-AAO	Various
D-J-25	None indicated	Occupational Safety and Health Inspection Findings and Notice of Noncompliance Reports Conducted by CH-ESHD at ANL	CH-ESHD	Various
D-J-26	None indicated	Safety and Health programs Branch Areas of Responsibilities	CH-AAO	9/10/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-J-27	None indicated	Industrial Safety and Fire Protection Quarterly Status Reports and Industrial Safety and Fire Protection Appraisal Reports	CH-AAO	1991-1992
D-J-28	None indicated	Industrial Safety and Fire Protection Quarterly Safety Reports	CH-AAO	12/91
D-J-29	None indicated	Industrial Safety and Fire Protection Quarterly Status Report	CH-AAO	12/92-4/93
D-J-30	None indicated	Institutional Plan, FY 1993, FY 1998, August 1992	ANL-E	8/92
D-J-31	None indicated	Updated Tiger Team Corrective Action Plan	ANL-E	10/24/93
D-J-32	None indicated	DOE Field/Area Office and ANL-E Self-Assessment Reports	CH-AAO/ANL-E	Various
D-J-33	None indicated	Internal ES&H Assessments, Corrective Action Plans, Trending Data Analyses	ANL-E	Various
D-J-34	None indicated	Organizational Charts and Description of Responsibilities for ANL-E Site Management and ES&H Programs	ANL-E	Various
D-J-35	None indicated	ANL-E ES&H Manual, Volume I and II	ANL-E	Various
D-J-36	None indicated	Hoisting and Rigging Manual	ANL-	None indicated
D-J-37	None indicated	Plan for Restart of Construction at ANL-Illinois Site, Volumes 1 and 2	ANL/ANL-E	None indicated
D-J-38	None indicated	Technical Specifications and Operations Safety Requirements (TS/OSRs) Documents	ANL-E	Various
D-J-39	None indicated	Safety Analysis Report (SARs) and Operational Readiness Review Reports (ORRs)	ANL-E	Various
D-J-40	None indicated	ANL ES&H Assessment Program	ANL-E	9/92
D-J-41	None indicated	ANL Construction Progress Status Report	ANL-E	7/93
D-J-42	None indicated	Worker Safety Program Summary	ANL-E	1990-1993
D-J-43	None indicated	Machine Guard Sweep Survey	ANL-E	12/1/92
D-J-44	None indicated	Hoisting and Rigging Manual	ANL-E	8/91
D-J-45	None indicated	ES&H Inspection Program	ANL-E	8/19/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-J-46	None indicated	Laboratory Committees (UC and ANL-E ES&H Committee Charters)	ANL-E	Various
D-J-47	None indicated	ANL Construction Manual Memorandum	ANL-E	9/21/93
D-J-48	None indicated	PFS/FPE Construction Contract Safety Infraction Report Log	ANL-E	9/10/93
Industrial Hygiene/Health Physics Programs - John A. Leonowich				
D-K-1	None indicated	ANL-E RADCON Manual Implementation Status Report	ANL-E	10/93
D-K-2	None indicated	Revision of Implementation Schedule of RADCON Manual for Argonne National Laboratory - East	R. Jarrett/DOE-HQ/ER	10/22/93
D-K-3	None indicated	Health Physics Appraisal, ANL-E, May 18 - June 5, 1992	CH	7/92
D-K-4	None indicated	Organization Chart, Health Physics Surveillance and Support	ANL-E	10/27/93
D-K-5	None indicated	Revision of Responses to 1991 ANL-E Radiation Protection and Health Physics Program Appraisal	R.A. Wynveen/ANL-E	2/3/92
D-K-6	None indicated	Radiological Posting Principles	ANL-E Health Physics	No date
D-K-7	None indicated	Health Physics Appraisal, ANL-E, June 3 - June 21, 1991	CH	7/91
D-K-8	None indicated	Unplanned Personnel Radiation Exposure at the Intense Pulsed Neutron Source on March 17, 1993	ANL-E	6/93
D-K-9	None indicated	IPNS Safety Administrative Policy and Guide	J. Hanebuth/IPNS	8/93
D-K-10	None indicated	Experimental Facilities Division Self-Assessment of ESH/QA Performance	B. Stockmeier/APS	10/93
D-K-11	None indicated	Position Description, ESH Coordinator, APS/Experimental Facilities	APS	5/24/91
D-K-12	None indicated	1994 Action Plan, APS/XFD ESH	B. Stockmeier/APS	10/93
D-K-13	None indicated	Quality Assurance Plan, Industrial Hygiene Section	J. L. Woodring/ANL-E	9/93

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

Ref. No.	Document #	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-K-14	None indicated	AAO Facility Representative Program Occupational Safety Inspection Checklist	CH	None indicated
D-K-15	None indicated	CH and AAO Correspondence on RADCON Manual	Various	Various
D-K-16	None indicated	Samples of Industrial Hygiene Quarterly Status Report - Industrial Hygiene Appraisal Reports	CH	1991-1992
D-K-17	None indicated	Industrial Hygiene Quarterly Safety Reports	CH	6/93
D-K-18	None indicated	Industrial Hygiene Quarterly Status Report	CH	12/92, 3/93
D-K-19	None indicated	ANL-E ES&H Manual, Volume I and II	ANL-E	None indicated
D-K-20	None indicated	ANL Correspondence re: Internal Self-Appraisals of Industrial Hygiene	ANL-E	1991-1993
D-K-21	None indicated	DOE Radiological Control Manual	EH	6/92
D-K-22	None indicated	ES&H Management Appraisal of the AAO	CH	10/5/93

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Appendix H

List of Acronyms

LIST OF ACRONYMS

Acronym/ Abbreviation	Definition
AGHCF	Alpha-Gamma Hot Cell Facility
AIS	Argonne Illinois Site
ALDs	Associate Laboratory Directors
AMEM	Assistant Manager for Environmental Restoration and Waste Management
ANL	Argonne National Laboratory
ANL-E	ANL facilities located in Illinois
ANL-W	ANL facilities located in Idaho
APS	Advanced Photon Source
ASD	Accelerator Systems Division
ATLAS	Argonne Tandem Linear Accelerator System
CH	DOE Chicago Operations Office
CH-AAO	DOE Argonne Area Office
CH-NBL	DOE New Brunswick Laboratory
COO	Chief Operating Officer
CSO	Cognizant Secretarial Officer
DOE	Department of Energy
DOE HQ	DOE Headquarters
ECR	Environmental Compliance Representatives
EM	DOE Office of Environmental Restoration and Waste Management
EMP	Environmental Monitoring Plan
EPIP	Environmental Protection Implementation Plan
ER	DOE Office of Energy Research
ES&H	Environment, Safety, and Health
ESH/QA	Environment, Safety, and Health and Quality Assurance (Oversight)
EWM	Environment and Waste Management Program
FM	DOE Office of Field Management
FR	Facility Representative

LIST OF ACRONYMS (Continued)

Acronym/ Abbreviation	Definition
GOCO	Government Owned - Contractor Operated
GMP	Groundwater Management Plan
GPMP	Groundwater Protection Management Plan
LM	DOE Office of Laboratory Management
M&S	Monitoring and Surveillance
MOA	Memorandum of Agreement
NE	DOE Office of Nuclear Energy
NEPA	National Environmental Policy Act
OQA	Office of Quality Assurance
OS	Occupational Safety
OSHA	Occupational Safety and Health Act
PFS	Plant and Facilities Services
PP	Personnel Protection
QA	Quality Assurance
QAP	Quality Assurance Plan
QAPD	Quality Assurance Program Description
QAPP	Quality Assurance Program Plan
QARD	Quality Assurance Requirements Document
RCRA	Resource Conservation and Recovery Act
SAO	Self-Assessment Officer
SEC	Safety and Environment Committee
SEN	Secretary of Energy Notice
WM	Waste Management
WS	Worker Safety

**DATE
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7/19/94

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