Environment, Safety and Health Progress Assessment of the Hanford Site

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report documents the result of the U.S. Department of Energy (DOE) Environment, Safety and Health (ES&H) Progress Assessment of the Hanford Site, in Richland, Washington. The assessment, which was conducted from May 11 through May 22, 1992, included a selective review of the ES&H management systems and programs of the responsible DOE Headquarters Program Offices (particularly the Office of Environmental Restoration and Waste Management (EM)), the DOE Richland Field Office (RL), and the site contractors (Westinghouse Hanford Company (WHC), Battelle Pacific Northwest Laboratory (PNL), Kaiser Engineers Hanford (KEH), and Hanford Environmental Health Foundation (HEHF)).

The ES&H Progress Assessments are part of the Secretary of Energy's continuing effort to institutionalize line management accountability and the self-assessment process throughout DOE and its contractor organizations. The purpose of the Hanford Site ES&H Progress Assessment is to provide the Secretary with an independent assessment of the adequacy and effectiveness of the DOE and contractor management structures, resources, and systems to address ES&H problems and requirements. They are not intended to be comprehensive compliance assessments of ES&H activities. The point of reference for assessing programs at the Hanford Site was, for the most part, the Tiger Team Assessment of the Hanford Site, which was conducted from May 21 through July 18, 1990. The Hanford Site Progress Assessment was conducted by a team of 16 professionals from various DOE offices and their support contractors, with expertise in the areas of environment, safety, health, and management.

The Hanford Site was chosen for the Manhattan Project in 1943 to produce plutonium for the world's first nuclear weapons. While defense production has been a prime mission for the Hanford Site for most of its existence, the mission has varied over the years. Today, there are virtually no continuing production activities. The focus of activities are site cleanup and environmental restoration; scientific and environmental research; development and application of radioactive and hazardous waste management technology; and the design, construction, and operation of major energy related test and development facilities. As a reflection of its changing mission, in 1990 the management responsibility for the Hanford Site was transferred from the Office of Defense Programs (DP) to EM. Day-to-day oversight and management of the Hanford Site is performed by RL.

A summary of issues and progress in the areas of environment, safety and health, and management follows. The reader is referred to Section 2 and Appendices A and B for a full description.

Progress in ES&H Performance

In reviewing the Hanford Site ES&H programs, the Progress Assessment Team concluded that the site has not made adequate progress in establishing key management systems to fully institutionalize ES&H into site programs and activities, and to ensure a sustainable ES&H program. DOE Headquarters and RL are not performing adequate oversight of ES&H programs, and the self-assessment and corrective action processes have not been adequately implemented at the site. Rigor and formality are not consistently applied in

the performance of ES&H activities at the Hanford Site, especially within the operations of RL.

However, the Hanford Site has made adequate progress in improving most of the specific technical programs evaluated. In some areas, such as conduct of operations/maintenance, quality assurance, and planning significant progress has been made.

Several specific areas of strength were identified relating to the Site Management System; radioactive and mixed waste characterization and certification; PNL's project data and management system; the Hanford Future Site Use Working Group; and Hanford Site Total Quality Management (TQM) initiatives. These strengths are further discussed in Section 2.1.3.

Key Concerns and Root Causes

From an analysis of the individual Concerns and Improvement Items and their identified causal factors, the Progress Assessment Team identified two key concerns and one root cause. Key concerns and root cause are further discussed in Sections 2.1.1. and 2.1.2 respectively.

The two key concerns cut across many of the more specific deficiencies identified. The key concerns are:

- **DOE Headquarters and RL are not performing appropriate oversight and self-assessment of ES&H programs to ensure full compliance with requirements and the pursuit of excellence.**

Although DOE oversight activities have been expanded and enhanced since the Tiger Team Assessment, significant weaknesses persist in the areas of DOE HQ guidance and direction to the Hanford Site, RL guidance and direction to contractors, assessing DOE's own performance through self-assessment, and personal involvement in onsite field activities.

- **Rigor and formality are not consistently applied in the performance of ES&H activities at the Hanford Site, especially within the operations of RL.**

Some deficiencies in rigor and formality persist within Hanford Site contractor organizations. RL has not adopted and applied the same standards for disciplined performance of ES&H activities that DOE requires of its contractors. There is no clear RL management policy regarding procedure use. RL directives and procedures' systems are out-of-date, basic office-wide ES&H implementing procedures have not been identified or developed, and issued procedures are consciously not being followed. Insufficient formality is being applied to RL programs including construction safety, radioactive and mixed waste management, and environmental restoration.

The Progress Assessment Team identified the following root cause:

- **RL has not properly balanced the importance of effective ES&H programs against mission priorities.**

A large part of the Hanford Site Mission today is very closely tied to ES&H responsibilities (i.e., substantial efforts are directed towards safety considerations for high-level waste tanks; Tri-Party Agreement activities have as their goal environmental cleanup). However, that mission has the same need for a formal, comprehensive, and self-critical ES&H program as is needed for a production mission. Near-term mission driven milestones have dominated priority setting and resources at the Hanford Site at the expense of establishing a sustainable ES&H program.

The Team recognizes that the ES&H issues identified through this assessment were influenced by many different factors. Such factors include competition for resources, the lack of unequivocal, detailed direction for implementation of ES&H initiatives, and the continuing transition of the Hanford Site Mission from production to environmental restoration and research. However, these are problems that must be faced and managed by essentially all DOE organizations and sites. Resolution of ES&H performance deficiencies hinges on management adapting to these constraints. Adaptation requires making hard decisions regarding priorities and the competition for resources between programmatic and ES&H initiatives in a manner that reflects DOE's ES&H priorities. RL must exercise the leadership necessary to establish a long-term disciplined approach to ES&H within RL and throughout the Hanford Site.

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Section 1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 ENVIRONMENT, SAFETY, AND HEALTH (ES&H) PROGRESS ASSESSMENT PROGRAM

In June 1989, Secretary of Energy, Admiral James D. Watkins, U.S. Navy (Retired), announced a 10-point Initiative to strengthen ES&H programs and waste management operations at the U.S. Department of Energy (DOE). One of the initiatives involved conducting independent Tiger Team Assessments of DOE operating facilities. To date, 34 Tiger Team Assessments have been conducted. These large, comprehensive assessments established baselines for ES&H compliance levels, evaluated ES&H management programs, identified root causes of noncompliance, and provided for corrective action plans. 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, the Secretary directed that small, focused, ES&H Progress Assessments be performed. The ES&H Progress Assessment at the Hanford Site, conducted from May 11 through May 22, 1992, is the third assessment of this new program. The point of reference for assessing programs at the Hanford Site was, for the most part, the Tiger Team Assessment of the Hanford Site, which was conducted from May 21 through July 18, 1990.

The objectives of the Hanford Site ES&H Progress Assessment were to develop an updated picture of (1) progress at the Hanford Site since the 1990 Tiger Team Assessment; (2) the effectiveness of actions to correct specific deficiencies identified by the Tiger Team and the root causes of those deficiencies; and (3) whether the current structure, resources, and systems are in place and functioning to identify weaknesses, correct them in a timely manner, and effectively manage ES&H issues.

Accomplishing these objectives involved evaluation of the following:

- Effectiveness of DOE and contractor management structures, resources, and systems to address ES&H problems and new ES&H initiatives, resulting from the 1990 Tiger Team Assessment.
- Adequacy and effectiveness of the ES&H self-assessment programs of the DOE line organization and the site management and operating contractors.
- Progress and effectiveness of the ES&H corrective actions resulting from the previous Tiger Team Assessment.

The assessment was conducted by a Team of specialists from various DOE offices and support contractors, with expertise in the areas of the environment, safety, health, and management. The Team Leader was a senior manager from the Office of the Assistant Secretary for Environment, Safety and Health (EH). Team members, with their areas of responsibility and work-related experience, are identified in Appendix C.

The assessment process consisted of a pre-assessment visit, offsite review of documents, DOE Headquarters interviews, and onsite interviews, observations, inspections, and document review. The pre-assessment visit was conducted April 6 through April 9, 1992. This activity included presentations by RL, WHC, PNL, KEH, and HEHF; a site/facility tour; the collection of documents for later review; and planning of the assessment strategy. Team members reviewed

documents and developed more formal assessment plans between April 10 and May 10, 1992. The assessment plans include a Statement of Scope (included as Appendix D) and Schedule of Activities (included as Appendix E). The assessment plan was transmitted to RL prior to beginning the onsite activities. Several Team members conducted interviews with DOE Headquarters personnel during this period. The onsite assessment was conducted May 11 through May 22, 1992. During this period, the Team conducted interviews with DOE, WHC, PNL, KEH, and HEHF personnel; inspected facilities; observed activities; 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 contractor personnel were requested to attend and participate in these meetings.

The approach used by the Team to perform the evaluations and achieve the objectives detailed above 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; human resources and training; oversight; and directives, policy, and procedures. Horizontal and vertical reviews were also performed on the self-assessment and corrective action programs. These two programs are integral parts of ES&H management systems and are addressed as separate management disciplines in this report. Both programs received special attention as indicators of progress since the Tiger Team Assessment, and more importantly, because they are key elements of a sustainable ES&H program.

The vertical cuts are used as validation points for the horizontal reviews. The programs selected for vertical evaluations were quality assurance, safety analysis, conduct of operations/maintenance, occupational safety, construction safety, environmental restoration, groundwater protection, radioactive and mixed waste management, and environmental radiation monitoring. The selection of these areas for vertical cuts was based on the results of the Tiger Team Assessment, other assessments, occurrence reports, and information obtained during the pre-assessment visit. The vertical reviews determine whether the existing management systems are adequate and effective at all levels throughout specific programs.

The Team conducted a review of all of the concerns, improvement items, and strengths to identify key concerns and root cause. The key concerns represent the essence of the weaknesses and deficiencies identified by the Team, and the root cause is the most fundamental reason why the deficiencies occurred.

The correction of 1990 Tiger Team findings and their 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 the self-assessment were consolidated and evaluated from a sitewide perspective. Details of the specific subjects covered by these reviews are provided in Sections 2.0 and Appendix B of this report. The results of the Team members' evaluations were categorized into one of three groups:

- **Concern.** A concern identifies an adverse condition discovered during an assessment that has potential significance to worker or public health and safety, environmental protection, nuclear safety, facility operations, or management performance.
- **Improvement Item.** An improvement item is a condition identified through an assessment that indicates a recommendation for improvement to reach excellence, but does not represent a deviation from DOE Orders or notices, rules, regulations, or technical safety requirements (TSRs), or a potential challenge to environment, safety, facility operations, or management performance.
- **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 HANFORD SITE

The Hanford Site occupies 560 square miles of semi-arid desert in southeastern Washington State. This land area, with restricted public access, presently provides a buffer for the smaller areas used for operations, waste storage, and waste disposal. The Columbia River flows through the northern part of the Site, and turning south it forms part of the eastern boundary. The Yakima River runs along part of the southern boundary and joins the Columbia River near the City of Richland. Adjoining areas to the west, north, and east are principally range and agricultural lands that include vineyards, orchards, and both dry and irrigated farms. Immediately southeast of the site, the Cities of Richland, Kennewick, and Pasco (often called the Tri-Cities) comprise the nearest population center, with about 150,000 residents.

The Hanford Site was chosen for the Manhattan Project in 1943 to produce plutonium for the world's first nuclear weapons. While defense production has been a prime mission of the Hanford Site for most of its existence, the mission has varied over the years. Today, there are virtually no continuing production activities. The focus of activities is site cleanup and environmental restoration; scientific and environmental research; development and application of radioactive and hazardous waste management technology; and the design, construction, and operation of major energy related test and development facilities.

As a reflection of its changing mission, in 1991 management responsibility for the Hanford Site was transferred from the Office of Defense Programs (DP) to the Office of Environmental Restoration and Waste Management (EM). Day-to-day oversight and program management of the Hanford Site is performed by RL. RL has a current staff of approximately 421.

RL currently employs four prime contractors on the Hanford Site, with a total workforce of approximately 15,000 people. Westinghouse Hanford Company (WHC) is responsible for operations and engineering at the Hanford Site. WHC leads the site's cleanup and environmental restoration activities under the Tri-Party Agreement (TPA) between the EPA, the State of Washington, and DOE. Battelle Memorial Institute operates DOE's Pacific Northwest Laboratory (PNL), a multiprogram national laboratory and the research and development center for the site. PNL's missions are to advance science and to rapidly develop and deploy technology. Kaiser Engineers Hanford (KEH) provides architect-engineer and construction services for the site. Hanford Environmental Health Foundation (HEHF) provides personnel health services in the fields of occupational medicine, behavioral sciences, and industrial hygiene for DOE and its Hanford Site contractors. It also conducts occupational and epidemiological research for DOE.

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 Hanford Site ES&H Programs; and Appendix B, Assessment Details. Section 2.0 presents the Team's overall evaluation of the results of the Progress Assessment. This includes an identification of key concerns, root cause of the assessment results, a discussion of strengths, and overview sections for each discipline. Each overview section provides a summary of the assessment conclusions for each area. Appendix B includes the individual concerns, improvement items, and strengths presented by discipline. A summary table of the individual concerns, improvement items, and strengths is presented in Appendix A.

Each evaluation item is given a unique 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 by: C = Concern, II = Improvement Item, 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 Appendix B.

Where appropriate, discussions are supported by references to specific documents and interviews. These references are tied to the reference numbers on the documents and interview lists in the appendices (see Appendix G and Appendix F, 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 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 Team member "A" would be I-A-6.

Section 2.0

PERFORMANCE AND PROGRESS OF HANFORD SITE ES&H PROGRAMS

2.0   PERFORMANCE AND PROGRESS OF HANFORD SITE ES&H PROGRAMS

2.1   OVERVIEW

In reviewing the Hanford Site ES&H programs, the Progress Assessment Team concluded that the site has not made adequate progress in establishing key management systems to fully institutionalize ES&H into site programs and activities, and to ensure a sustainable ES&H program. DOE Headquarters and RL are not providing adequate direction and oversight of ES&H programs, and the self-assessment and corrective action processes have not been adequately implemented at the site. Rigor and formality are not consistently applied in the performance of ES&H activities at the Hanford Site, especially within the operations of RL.

However, the Hanford Site has made adequate progress in improving most of the specific technical programs evaluated. In some areas, such as conduct of operations/maintenance, quality assurance, and planning, significant progress has been made.

Several areas of strength were identified relating to the Site Management System; Radioactive and Mixed Waste Characterization and Certification; PNL's Project Data and Management System; the Hanford Future Site Use Working Group; and Hanford Site Total Quality Management (TQM) initiatives. These strengths are further discussed in Section 2.1.3.

2.1.1   Key Concerns

In conducting the Progress Assessment, the Team identified 29 concerns and 6 improvement items, which are summarized in Appendix A and presented in Appendix B. Each concern represents a significant deficiency in some aspect of the management of ES&H programs at the Hanford Site. In reviewing those concerns and improvement items, the Team identified two key concerns that cut across many of the more specific deficiencies identified. The key concerns are:

- **DOE Headquarters and RL are not performing appropriate oversight and self-assessment of ES&H programs to ensure compliance with requirements and the pursuit of excellence.**

Although DOE oversight activities have been expanded and enhanced since the Tiger Team Assessment, significant weaknesses persist in the areas of DOE-HQ guidance and direction to the Hanford Site, RL guidance and direction to contractors, assessing DOE's own performance through self-assessment, and personal involvement in onsite field activities. Guidance and direction from DOE-HQ and RL have been limited, untimely, or deficient for issues such as self-assessment, conduct of operations, operational readiness reviews, hazard classification, and groundwater protection. DOE-HQ and RL have performed very few formal assessments of their own ES&H performance. Minimal onsite presence by DOE-HQ EM and ER in most ES&H areas and by RL line and staff personnel in the areas of occupational safety, construction safety, and radioactive and mixed waste management was evident.

- **Rigor and formality are not consistently applied in the performance of ES&H activities at the Hanford Site, especially within the operations of RL.**

Some deficiencies in rigor and formality persist within Hanford Site contractor organizations. RL has not adopted and applied the same standards for disciplined performance of ES&H activities that DOE requires of its contractors. There is no clear RL management policy regarding procedure use. RL directives and procedures systems are out-of-date, basic office-wide ES&H implementing procedures have not been identified or developed, and some issued procedures are consciously not being followed. As a result of this lack of formality, RL and the Hanford Site contractors' development and implementation of effective self-assessment and corrective action programs has been hampered. Vital elements of the Hanford Site Management Plans are in early draft form or do not exist, and there is no long-term comprehensive ES&H human resource management planning. Examples of this lack of formality were found in RL programs for construction safety, radioactive and mixed waste management, and environmental restoration.

2.1.2 Root Cause

In developing the 29 concerns and 6 improvement items presented in Appendix B, the Progress Assessment Team evaluated the causal factors believed to contribute most to the deficiencies observed. Definitions of causal factors are presented in Appendix H. These causal factors are then used to further evaluate the conclusions of the Team regarding the adequacy of the Hanford Site's progress in managing their ES&H programs and the key concerns presented above. Based on that evaluation, the following root cause was identified:

- **RL has not properly balanced the importance of effective ES&H programs against mission priorities.**

A large part of the Hanford Site mission today is very closely tied to ES&H responsibilities (i.e., substantial efforts are directed towards safety considerations for high-level waste tanks; Tri-Party Agreement activities have as their goal environmental cleanup). However, that mission has the same need for a formal, comprehensive, and self-critical ES&H program as is needed for a production mission. Near-term mission driven milestones have dominated priority setting and resources at the Hanford Site at the expense of establishing a sustainable ES&H program.

The Team recognizes that the ES&H issues identified through this assessment were influenced by many different factors. Such factors include competition for resources, the lack of unequivocal, detailed direction for implementation of ES&H initiatives, and the continuing transition of the Hanford Site mission from production to environmental restoration and research. However, these are problems that must be faced and managed by essentially all DOE organizations and sites. Resolution of ES&H performance deficiencies hinges on management adapting to these constraints. Adaptation requires making hard decisions regarding priorities and the competition for resources between programmatic

and ES&H initiatives in a manner that reflects DOE's ES&H priorities. RL must exercise the leadership necessary to establish a long-term disciplined approach to ES&H within RL and throughout the Hanford Site.

2.1.3 Strengths

The Team identified five practices that were considered strengths. One of these was in the management area, three were in the environment area, and one was in the safety area:

- RL is developing a management system, the Site Management System (SMS), that is a comprehensive, sitewide, integrated planning, budgeting, and resource allocation process. The SMS considers the Hanford Site as a single, complex, multifaceted project. It is a formal process that integrates DOE-HQ Directives, Orders, Notices, and Policies with DOE-HQ planning guidance and translates these requirements into well defined work packages for RL and each Hanford Site contractor. When fully implemented and fully integrated with ES&H requirements, the SMS should provide RL with a powerful tool to carry out its mission in a disciplined, cost-effective manner.
- The Hanford program for ensuring that radioactive and mixed waste currently being received for onsite storage or disposal is appropriately characterized and certified is an effective and rigorous program. The quality of data currently generated through the program has a high level of confidence. The program is centralized within WHC and imposes stringent standards for documentation on all onsite and offsite generators. Each component of the program, including a component to review generator certification plans, a component to audit and surveil generators, and a program to review and approve individual waste streams, is well proceduralized and documented. The program encourages generators to develop their own in-house waste management expertise to meet the program standards and can provide, upon a generator's request, assistance in meeting those standards.
- PNL has developed and implemented a system to manage the information generated by ongoing collection and analysis of environmental data. The system generates required forms and reports, and provides extensive project management capabilities. Implementation of this system is working well, and ensures that PNL is fulfilling the objectives of the surface environmental surveillance project. PNL is planning to expand this system to include WHC's radiological environmental data and PNL's Facility Monitoring Project.
- The Hanford ER Program has established, in conjunction with the U.S. Environmental Protection Agency (EPA) and State of Washington Department of Ecology, a unique process within DOE to secure broad community involvement in future land-use decisionmaking for the Hanford Site. A formal working group, the Hanford Future Site Use Working Group, composed of representatives from government,

business, labor, and public interest has been established to determine the spectrum of potential future site uses and resulting cleanup scenarios for the Hanford Site. Final cleanup at the Hanford Site cannot proceed until future land-use decisions are made. Aggressively seeking public involvement will advance the land-use decisionmaking process and enhance the credibility of DOE.

- The Hanford approach to their TQM initiatives evidences progress and great potential. TQM is recognized as an adjunct to and an enhancement of the formality of operations throughout the Hanford Site. RL and contractor management exhibited a personal commitment, involvement, and enthusiasm for the TQM methods. As a result, management at all levels, throughout each organization, will be involved in the initiative and there are plans to integrate the TQM initiative across all contractors and RL. When fully implemented, TQM will be an important enhancement to the formal management systems and controls at the Hanford Site. TQM represents a major factor in integrating the missions and organizational changes at the Hanford Site through analysis of work processes and systems with the aim of continuous improvement - a new quality assurance program requirement.

2.2 OVERVIEW OF ES&H MANAGEMENT SYSTEMS ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the Hanford Site ES&H management systems. The assessment was conducted through a combination of interviews, review of key documents, and where appropriate field inspection of activities and processes. Specific management disciplines were selected for review based on previous Tiger Team areas of concern, or because those disciplines were believed to be highly characteristic of ES&H program performance. The management disciplines assessed at the Hanford Site were corrective action program; self-assessment program; planning, budgeting, and resources; directives, policies, and procedures; oversight; and human resource management.

Based on the review of these areas, the Team reached the following conclusions with respect to the status of the Hanford ES&H management systems and the progress in improving these systems since the Hanford Site Tiger Team Assessment.

- With the exception of the planning, budgeting, and resource allocation management system, progress has been slow.
- Corrective action management systems are not fully implemented and RL has generally not applied self-assessment principles to its own activities.
- RL and Hanford Site contractors do not have comprehensive self-assessment programs in place.
- DOE Headquarters and RL oversight of contractor activities have improved, but are still not adequate.
- Contractor organizations have made progress implementing directives, policies, and procedures, but there is little evidence of progress by RL.
- RL and site contractor ES&H human resource requirements are not being adequately planned.
- Fundamental weaknesses persist in the formality and rigor applied to ES&H programs and activities at Hanford, especially within RL.

One strength was identified in the area of ES&H management systems relating to the Site Management System.

2.2.1 Corrective Action Program

In the corrective action plan program area, the Progress Assessment Team evaluated the adequacy of the Hanford Site Program to address Tiger Team Assessment (TTA) identified deficiencies and other ES&H deficiencies identified by ongoing oversight and self-assessment activities. In conducting the assessment, the Team looked specifically at management systems and programs for tracking, trending, verifying, and closing of corrective actions. In addition, the effectiveness of roles and responsibilities regarding corrective action plan implementation were evaluated. These areas were selected because the TTA identified as a root cause "management's inability to

achieve ES&H goals is inhibited by inadequate monitoring, assessment, and corrective action implementation." Specific TTA findings were related to inadequate corrective action implementation and RL management systems needing attention. The review included both the establishment and implementation of policy and requirements, and the status of DOE and contractor programs to meet consensus standards.

The approach taken by the Team included interviews with RL and contractor line and support staff, review of relevant documentation, and tours of the site. The review looked across the organizations in a horizontal fashion as well as a vertical review of the implementation of the program throughout all levels of each organization. The review included sampling packages of completed action items.

The key standards against which the site was assessed include, Management Performance Objectives and Criteria for Progress Assessments (e.g., 1.4 Oversight (DOE-HQ), 2.5 Oversight (RL), and 4.4 Oversight (Contractors); action plans developed in response to deficiencies identified in the TTA that are related to ineffective root cause correction; and Corrective Action Program requirements such as the capture of all ES&H findings, issues, and root causes, and the elevation of significant issues for management attention as required in ANSI/ASME NQA-1, a DOE recognized consensus standard.

The Hanford Corrective Action Programs are in various stages of development. EM issued the draft "EM Management Plan for Self Assessment" (January 6, 1992) that promulgates EM policy objectives and general requirements for self-assessment for the Hanford Site. The draft plan includes corrective action program requirements, but does not include a requirement that the tracking system have the capability to identify significant deficiencies (e.g., delinquencies, trends) to be elevated for management attention. The draft policy is ambiguous as to whether it constitutes the promulgation of policy by EM. Interviews with RL and contractor staff indicate that they have not recognized the document as policy to be implemented and have not responded in that fashion. EM required review and comment on the draft plan but did not require implementing any elements of a self-assessment program. EM stated in the memorandum that they expected to provide additional guidance to Hanford when the Department's self-assessment guidance was issued. This guidance has not been issued by the Department.

RL has developed some guidelines and requirements, but the approach has been narrowly focused on program elements that address the TTA findings instead of a comprehensive program that will capture all identified ES&H deficiencies from all activities such as surveillances, reviews, and self-assessment activities. Sitewide corrective actions responding to TTA findings are not being managed through a comprehensive sitewide corrective action program. There is no RL implementing corrective action plan to guide contractor action to collect all ES&H deficiencies, implement comprehensive tracking systems, and ensure validation before closing action items. Many deficiencies have been identified related to improper completion of action items, such as incomplete actions, changed action items with no controls, completion of open items that neglect root causes, and action plans that do not correct related or similar deficiencies in other locations due to ineffective dissemination of lessons-learned.

Contractors such as PNL, WHC, and KEH are developing formal corrective action programs as RL issues guidelines and direction, while HEHF has only the beginnings of a program. Completed corrective action packages that are submitted to DOE for closure are suffering approximately a 20 percent rejection rate and lessons-learned are not being collected and fed back to improve performance. (A March 13, 1992 internal WHC memorandum addressed a lesson to be learned. Although not available to the Team, WHC reportedly issued an informal memorandum on May 11, 1992 addressing lessons learned from the first six packages submitted, but it was transmitted only to verifiers.) The percentage of unacceptable completed packages that are below the threshold and do not require RL approval is on the order of 15-20 percent.

The TTA identified significant deficiencies in the Hanford self-assessment programs related to corrective actions and the lack of a self-assessment plan that would include a corrective action program. The deficiencies identified by this assessment lead to a concern that deficiencies identified through contractor self-assessments are not being tracked by RL and may not be receiving effective corrective action (see Concern S/C-10).

Although some progress has been made in corrective action plans, there will be no complete program until the self-assessment program is developed in FY 1993. RL issued guidelines and a plan in the self-assessment policy dated December 17, 1991, for three enabling systems: (1) a priority planning grid; (2) graded corrective action; and (3) common datafields for tracking systems that are a part of a corrective action program. When fully implemented, and taken collectively, they fall short of meeting all necessary elements of a comprehensive corrective action program.

WHC has implemented their directive "Corrective Action Management System" (April 14, 1992). The KEH tracking system is based on a pre-existing system used for tracking quality assurance findings. PNL is developing a tracking system to meet RL guidelines. HEHF is using a tracking system that is based in a word processing table but plans to upgrade the system using a data base software system. Many TTA action items are being completed by contractors in the absence of a complete program. There is limited oversight from RL of these activities and the tracking systems implemented in contractors organizations, except for KEH. There has been no RL independent oversight of TTA action item completion in the contractor and RL organizations, except for a RL Office of Compliance (CMP) surveillance of action items related to the radiation protection program. In the absence of a full set of requirements to ensure the validity of actions taken, there is concern that completion and closure may not be verified to a consistent set of criteria, and that all other aspects of actions items (i.e., change control, root causes, and lessons-learned) are being addressed.

The Progress Assessment Team identified two concerns related to the Corrective Action Program, which are identified in Appendix B-1 (see Concerns M/C-1, Corrective Action Plan Program and M/C-2, EM Direction for Corrective Action Program (EM) Direction).

2.2.2 Self-Assessment Program

In the self-assessment area, the Progress Assessment Team evaluated the status of development and implementation of the Hanford self-assessment program. In conducting the review, the Team looked specifically at whether necessary

program elements were reflected in a program plan and whether that plan was being implemented. These areas are basic indicators of whether the Secretary's direction that DOE Field Offices institute ES&H self-assessment programs is being followed. The approach taken by the Team was to interview DOE and contractor personnel responsible for developing and implementing the self-assessment program; review existing guidance, program plans, and reports; interview DOE, WHC, PNL, and KEH personnel involved in conducting or following up on self-assessment reports; and walk down PNL and Kaiser facilities to determine whether self-assessments conducted are serving the purpose of identifying problems and carrying out corrective actions. The key standards against which the site was assessed include the Action Plan responding to Management Finding 11 of the Hanford Tiger Team Report, and the July 31, 1990, memorandum issued by Secretary Watkins on ES&H Self-Assessments.

The Hanford Site self-assessment program is in the formative stage. To date, policy and requirements for conducting self-assessments have been issued by the RL Manager to the contractors with direction to implement programs by the beginning of FY 1993. However, there has been no direction internal to RL requiring development or implementation of a RL program.

The policy and guidance document was provided to RL's lead PSO, EM, in September 1991 for approval. At that time RL indicated that it was proceeding on the assumption that the RL plan would be approved. Another version was transmitted by RL to EM in March 1992. EM provided comments in April, 1992, but has not yet approved the document. No guidance beyond the Secretary's July 1990 memorandum on self-assessment has been finalized by HQ. However, draft guidance has been developed by EM and was transmitted to RL for review and comment in January 1992.

The focal point for development of the self-assessment program at Hanford has been a Self-Assessment Steering Group comprised of DOE and contractor personnel and chaired by the Branch Chief of the Quality Programs Branch, Technical Support Division. This group developed the Hanford policy and requirements referenced above and has also worked to create what have been termed enabling systems necessary to support self-assessment efforts. These enabling systems are (1) Priority Planning Grid (PPG) used to assign a value to deficiencies based upon relative risk, (2) a graded approach to corrective action based upon the relative risk value assigned through application of the PPG, and (3) a sitewide data base intended to capture the higher ranked deficiencies. The current schedule requires these systems to be in place for each contractor by the end of CY 1992.

In addition to the enabling systems, each contractor is working to develop a self-assessment program plan and/or implementing procedures in response to the RL direction. Furthermore, beginning with the first quarter FY 1992 contractors have been 'piloting' approaches to self-assessments on a limited basis and reporting the results to RL quarterly. The Quality Programs Branch Chief then prepares a report to the RL manager which condenses the contractor reports and identifies the top ten ranked deficiencies in the RL compliance tracking data base as ranked through use of the PPG.

The Progress Assessment Team concluded that the Hanford Site has not made sufficient progress in the self-assessment area. Two and one half years after the Secretary's mandate to establish self-assessment programs and nearly two years after the July 1990 guidance, neither RL nor its contractors have

comprehensive self-assessment programs. The Tiger Team Action Plan schedule for full implementation of a program by October 1, 1991, has not been achieved. Existing guidance to the contractors from RL directs that the program is to be developed by the beginning of FY 1993, but the Progress Assessment Team's review of current status indicates that this schedule for the Hanford Site program will not be met. Efforts needed to fully implement the program once it is established will be substantial, particularly in the areas of training, trending, and planning and scheduling assessments.

The guidance issued by RL fails to address certain key requirements of a self-assessment program required in the Secretary's guidance such as a system for tracking corrective actions taken to address self-assessment findings and use of performance objectives and criteria. In addition, the concept for the self-assessment process laid out by RL does not reflect a clear understanding that RL is required to do more than assess contractor performance but is required to evaluate its own ES&H performance. These continuing program deficiencies are attributable in part to RL's position that sufficient guidance has not yet been received from HQ and that it will not institute a self-assessment program until such guidance is finalized. This attitude exists despite the fact that when RL transmitted its self-assessment program guidance to DOE-HQ for approval in September 1991, RL stated that it was proceeding with development and implementation of its program on the assumption that its plan would be approved.

The Hanford contractors, particularly PNL, have made greater progress than RL in formulating self-assessment programs. Across the contractors organizations there is evidence of efforts to integrate existing activities into a self-assessment program and to conduct additional self-assessments, some of which are coordinated as part of the contractor self-assessment program development and some of which exist independently.

In general, the Hanford sitewide approach to self-assessment developed by the DOE/contractor Self-Assessment Steering Group focuses on utilizing available data generated from external reviews, audits and surveillances to determine additional improvement items or identify areas of excellence. This approach has required that resources be spent on establishing the means for consolidating existing data; establishing relative priority; and setting a graded approach to tracking, root cause analysis, closure and issuing lessons learned based upon relative priority of a deficiency. These efforts are in essence, the elements of a corrective action program, and while they assist in providing managers with a manageable pool of data from which to evaluate performance, self-assessment requires more than just evaluation of available data. This point was recognized by contractors to varying degrees as they worked to develop their programs, but there has only recently been sitewide recognition that an internal evaluation of an organization's performance independent of documented deficiencies is also a necessary component of self-assessment.

The Progress Assessment Team identified two concerns related to the self-assessment program, which are presented in Appendix B-1 (see Concerns M/C-3, Self-Assessment Program and M/C-4, Enabling Systems to Support Self-Assessment Program).

2.2.3 Oversight

In the area of oversight, the Progress Assessment Team evaluated the adequacy of the DOE (RL, ER, and EM) and contractor programs for assessment and review of ES&H activities. Additional key elements of ES&H oversight are detailed in other sections of this report addressing the site's self-assessment and corrective action programs and the directives, policies, and procedures' systems. In conducting the assessment, the Team looked specifically at the plans, procedures, and documentation detailing how assessment and review activities are performed by selected line and independent oversight organizations of the DOE and site contractors. Effective assessment and review oversight is a vital management system element in ensuring that ES&H programs are performed in accordance with requirements and that performance is directed at achieving ES&H excellence. Inadequate internal review, including independent oversight, was one of the key Management Subteam findings in the 1990 Tiger Team Assessment at Hanford. Inadequate management monitoring and assessment was also identified by the Tiger Team as one of three root causes for the most significant and generic issues identified by the Tiger Team. The assessment approach taken by the Team was to interview EM, ER, RL, WHC, PNL, and HEHF management personnel responsible for line and independent oversight and to review pertinent policies, procedures, surveillance and audit reports, and other documents to measure the adequacy of performance. The key standards against which the site was assessed include the ES&H Management Performance Objectives and Criteria (Draft, April 1992) 1.4 (DOE-HQ), 2.4 (RL), and 4.4 (M&O); DOE Orders; and individual organization policies and procedures.

ES&H oversight responsibilities flow down through line management and independent oversight organizations of DOE Headquarters (EM as the Lead PSO), the RL, and the Hanford Site contractors. Draft Memorandums of Agreement among EM, RL, and other Program Secretarial Officers with program activities at Hanford delegates primary ES&H oversight of all programs to RL. Other Program Secretarial Officer ES&H responsibilities include providing guidance and review of ES&H/quality assurance programs, review of ES&H documentation (SARs, NEPA, budget submissions, award fee determinations, etc.), performance of Operational Readiness Reviews and performing independent assessments of RL ES&H/QA programs. Within RL, line oversight is currently performed through the Assistant Manager for Operations (AMO), the Deputy Manager for Environment (DME), and the Tank Farms Project Office (TFP). Independent oversight of the ES&H programs of both the contractors and RL is provided by the Office of Compliance (CMP). The two branches of the Office of Compliance (CMP) (Quality Assessment and Safety, Environment and Security Assessment) perform formal surveillances of contractor ES&H programs and activities. Line managers, with support from the Technical Support Division (TSD), perform other oversight activities such as document reviews, DOE 5000.3A evaluations, award fee evaluations, ES&H program guidance and direction, self-assessment, deficiency tracking and trending, etc. Since the Tiger Team Assessment, RL has expanded the site representative program to provide increased onsite presence of DOE staff. The RL CMP also performs QA audits, DOE 5482.1B appraisals, and Operational Readiness Reviews (ORRs). Hanford contractor organizations also have line and independent oversight organizations with similar functions.

Management assessment and review oversight of ES&H programs and activities at Hanford has been improved since the Tiger Team Assessment through organizational changes, enhanced management attention, procedural

improvements, and increased staffing. The TFP Site Representative program, although still not fully developed or implemented, exhibited a well planned, formal, organized approach to onsite oversight activities. This program can make a significant contribution to enhancing ES&H compliance and overall performance of an operation that has had significant problems in the past. Many elements of this program could be used as models for similar activities at Hanford. Another very positive activity noted by the Progress Assessment Team was the trend analysis efforts by PNL's Performance Assurance Branch. Quarterly performance indicator reports showed a reasoned analysis of data with a narrative detailing conclusions, suggested corrective actions, performance initiatives taken, and good practices. These presentations reduce the large amount of trend data into understandable, practical, information for management to use in directing effective corrective action. Significant program improvements in areas where adverse trends were identified at PNL have already been observed.

Notwithstanding the above, these improvements have not been uniformly implemented in all areas and weaknesses in ES&H oversight persist, especially with regard to DOE responsibilities and activities. The ES&H guidance, direction, and assessment efforts by EM are in the formative stages of development with needed procedures being identified and drafted, initial assessment schedules being developed, and ES&H qualified personnel being acquired and trained. Guidance and direction for ES&H matters is provided, but primarily informally (by telephone) and on an as-requested basis. EM and ER assessment of the Hanford Site is primarily reactive at this time.

Weaknesses in RL guidance, direction, and assessment were identified in a number of areas. RL CMP is not assessing the ES&H performance of RL organizations as specified in RL mission statements and CMP procedures in a proactive manner. Although several CMP audits of RL activities have been performed recently, they were performed specifically at the direction of the RL manager (one in response to a DOE-HQ inquiry) or were part of assessments primarily directed at contractor activities. None of the 90 scheduled CMP FY 1992 assessments are directed solely at RL programs or activities.

The Operations Division (OPD) Site Representatives' routine, daily surveillance activities are informally documented and findings and observations are not documented in a formal manner to assure input to tracking and trending systems. RL has not provided sufficient guidance, direction and oversight of the RL and contractor corrective action programs (see Concern M/C-2). RL is not conducting adequate independent oversight of the Hanford Environmental Restoration Program to ensure compliance with environmental requirements as required by DOE 5482.1B (see Concern E/C-1). RL is not providing adequate onsite management oversight of Hanford radioactive and mixed waste program ES&H activities (see Concern E/C-5). RL guidance to contractors for the performance of ORRs lack sufficient detail (see Concern S/C-5). There is a significant lack of direct RL involvement in and oversight of onsite construction activities (see Concern S/C-9).

In addition, Progress Assessment Team interviews with WHC management indicates that WHC management onsite oversight presence for facility operations activities continues to be inadequate to meet the intent of DOE 5480.19. This weakness was previously identified by the 1990 Tiger Team Assessment (see Tiger Team Assessment Finding M-16).

PNL Laboratory-wide and PNL Center-level ES&H Plans specify that line managers perform periodic formal inspections and assessments to monitor the implementation of the ES&H program and procedures. The Team reviewed documentation in two PNL operations centers that verified that management was performing and documenting field inspections. However, only housekeeping and basic safety concerns were being assessed and documented. There was no evidence of the monitoring of work activities, procedure adequacy or performance, or direct interaction with the work force.

The Progress Assessment Team identified two concerns related to ES&H assessment and review oversight activities, which are presented in Appendix B-1 (see Concerns M/C-5, RL Oversight of ES&H Programs and Activities and M/C-6, PSO (EA and ER) Oversight of ES&H at Hanford).

In addition, 10 concerns and 1 improvement item related to other elements of ES&H oversight activities (self-assessment, corrective action, environmental, and safety and health programs, and directives systems) were identified and are also presented in Appendix B: M/C-2, M/C-3, M/C-4, E/C-1, E/C-4, E/C-5, S/C-1, S/C-2, S/C-5, S/C-9 and S/II-34.

2.2.4 Directives, Policies, Procedures

In the area of directives, policies and procedures, the Progress Assessment Team evaluated the adequacy and effectiveness of the directives systems and policies and procedures systems for EM, RL, WHC, PNL, and HEHF. In conducting the assessment, the Team looked specifically at the processes, procedures, and documentation detailing the development, control, distribution, and tracking of DOE directives (Orders, Secretary of Energy Notices, page changes, etc.) and any required responses or actions. The Team also evaluated the management systems in place to develop, issue, revise, use, and control policies and implementing procedures that assure that ES&H programs and activities are conducted in a rigorous, formal manner. These areas were selected for assessment because the Tiger Team identified a lack of formality and rigor (nonexistent or inadequate policies and procedures and failure to adhere to same) as deficiencies in many functional areas. Procedure related deficiencies were identified in three Environmental Subteam key findings, three Safety and Health Subteam key concerns, and was a Management Subteam key finding. RL directives system deficiencies were noted in Management Subteam Finding M-13. These deficiencies were identified in both RL and contractor organizations. The assessment approach taken by the Team was to review policies and procedures, and to interview responsible personnel to test their knowledge of and actual implementation of the directives, policies, and procedures' systems. In addition, the corrective actions taken to address Tiger Team Findings M-1 and M-19 for PNL were reviewed for adequacy. Directives, policy, and procedures' systems were evaluated against standards as delineated in POCs 1.4, 2.4.1, 2.4.2, 4.4.1 and 4.4.2 of the ES&H Performance Objectives and Criteria for Progress Assessments (Draft, April 1992).

The RL directives system is linked and formatted after the DOE directives system detailed in DOE 1321.1B, "Departmental Directives System," and includes the only formal field office-wide description of RL's policy on procedures. The formal RL directives system is delineated in RL 1321.1B, "Richland Operations Office Directives System" (May 8, 1986) and RLP 1321.9, Preparation, Control, and Distribution of RL Procedures (May 24, 1991). The

Team determined that the RL directives system is providing Hanford contractors with DOE and RL directives, with formal letters requiring compliance issued by the DOE Contracting Officer where appropriate. WHC Management Requirements and Procedures (MRP) Manual, Section 1.1, Revision 4, "U.S. Department of Energy Directives," establishes the responsibilities, requirements, and procedures for implementation of DOE directives within WHC. WHC has a very structured hierarchy of policies and procedures in the form of a three level Controlled Manual System with subordinate field level implementing procedures. PNL and HEHF have informal processes for disseminating and tracking DOE directives, responses, and actions. PNL has extensive company-wide policies and working level procedures. HEHF has company-wide policy documents and many working level implementing procedures in some divisions. Neither system provides a consistent and continuous flow down chain for policies and requirements.

RL, PNL, and HEHF directives' systems are not fully developed or properly implemented to assure that requirements and expectations are communicated to the proper organizations in a timely manner and provide effective tracking of required reviews, responses, actions, and approvals. These systems, in general, suffer from the fact that DOE and RL directives are controlled and distributed by administrative or legal organizations without consistent, formal input from the technical organizations responsible for specifying and complying with specific actions and responses.

Most RL directives and procedures are out-of-date, are not being followed, and draft revisions and new procedures have been in development since the Fall of 1991. RL directives and procedures are being issued that are not described in RL 1321.1B, biennial reviews have not been performed as required, and RL office-wide implementing procedures (e.g., RLP 10-01 and RL-EPs) have been issued that are not in the directives tracking/control system. Neither the official RL directives and procedure system nor the draft revisions adequately address the lack of an office-wide policy on procedure development and use. More fundamentally, RL management has not effectively addressed the need to identify and provide for development of office-wide procedures (technical and administrative). As a result, the format, and the extent of development and use, of formal procedures in RL is inconsistent between the various organizations.

An RL commissioned assessment of the RL directives system was conducted by Stone and Webster Engineering Corporation (SWEC) in November 1991. The results of this assessment were presented to the RL Corporate Board, but no management directed, concerted actions have been taken to address the nine recommendations.

PNL and HEHF do not have formal procedures for implementation of their directives systems process and PNL, WHC, and HEHF systems lack adequate controls to assure that required responses are provided and actions are taken. PNL's procedure systems lacks Center-level (PNL's main technical operating organizations composed of Branches and Sections) implementing procedures to bridge between policy documents and company-wide plans and procedures to Department and Section level procedures. For example, there are no center level procedures detailing requirements for management safety walkthrough inspections or for identifying, correcting, tracking, and closing internally identified deficiencies. HEHF lacks company-wide and staff level implementing procedures for activities such as procedure preparation, revision, control,

use, etc., and for a company-wide corrective action system (including Tiger Team Action Plan processing, tracking, and closure).

The Progress Assessment Team identified two concerns and one improvement item related to directives, policies, and procedures, which are presented in Appendix B-1 (see Concerns M/C-7, RL Directives/Procedure System, and M/C-8, PNL and HEHF Procedure System; and Improvement Item M/II-1, PNL and HEHF Directives Systems). In addition, 14 concerns and 2 improvement items presented in Appendix B relate to policy and procedural deficiencies in other functional areas: M/C-1, M/C-2, M/C-3, M/C-4, M/C-6, M/C-9, M/C-10, E/C-1, E/C-3, E/C-5, E/C-6, E/C-7, S/C-1, S/C-7, S/II-2 and S/II-4.

2.2.5   Planning, Budgeting, and Resource Allocation

In the planning, budgeting, and resource allocation area, the Progress Assessment Team evaluated the Hanford management systems used to define and prioritize sitewide resource requirements, allocate resources appropriately, and monitor the accomplishment of ES&H objectives. This assessment area was selected because the 1990 Tiger Team Assessment identified the following Root Cause; "ES&H planning at the Hanford Site is inadequate," and because two of the five key findings and six Management Subteam findings related to planning, budgeting, and resource allocation deficiencies. The primary standards used to assess the progress in addressing these deficiencies were Secretary of Energy Notice (SEN)-25-A and the Management Performance Objectives and Criteria for Progress Assessments (Draft), (e.g., 1.1 Planning (DOE-HQ), 2.1 Planning (RL), and 4.1 Planning (Hanford Contractors)).

The approach of this assessment was to examine the planning, budgeting, and resource allocation process of DOE-HQ, RL, and the four Hanford contractors. Vertical cuts were taken down through these organizations; from DOE-HQ through RL to the first several contractor management levels. The assessment process involved interviews, document reviews, and site tours. Primary emphasis was on the ability of DOE to formulate its vision of the Hanford mission, to communicate its expectations to its contractors, and its ability to hold its contractors accountable for defining and executing their missions in a disciplined, planned fashion. The strategic and subordinate implementation planning processes of the contractors were examined to evaluate their planning, budgeting, and resource allocation processes and to evaluate the effectiveness of DOE's planning, budgeting, and resource allocation process. Specifically, a vertical cut through RL and WHC focused on the Tank Farms Project. In addition to the vertical cuts through these organizations, a horizontal slice across these organizations was taken to examine the degree to which various interrelated subordinate planning processes are coordinated and integrated.

The Site Management System (SMS) is RL's planning, budgeting, and resource allocation process. It is a comprehensive, sitewide, integrated management system that considers the Hanford Site as a single, albeit complex, and multifaceted project. The SMS is a formal process that integrates DOE-HQ Directives, Orders, Notices, Policies, and Agreements with DOE-HQ planning guidance and translates these requirements into well defined work packages for RL and each Hanford contractor.

The centerpiece of the SMS, the Hanford Integrated Planning Process (HIPP), requires the active participation of the four Hanford contractors. The HIPP

translates the Hanford Strategic Plan into the Hanford Mission Plan, a long range vision of the Hanford Site including its final disposition. The Hanford Mission Plan serves as the foundation of the Multi-Year Program Plan and its subordinate Project Plans and Fiscal Year Program/Project Work Plan.

The Site Management Plan (SMP) is the second major element of the Hanford Integrated Planning Process. The SMP integrates Tri-Party Agreement objectives, Multi-Year Program Plans, and DOE requirements and practices into a coherent work breakdown structure and discrete work packages. The SMP is the guiding document from which RL Directives, Notices, and Procedures flow and upon which RL and contractor implementation plans are founded.

The Hanford Tiger Team Assessment was conducted before the Secretary's emphasis on Department-wide strategic and subordinate implementation planning was fully defined and implemented by DOE line management organizations. Furthermore, at the time of the Tiger Team Assessment, the Hanford mission was undergoing a dramatic renaissance, one that changed its mission from materials production to Environmental Restoration and Waste Management. Even though planning did not receive the attention it now enjoys throughout DOE, the Hanford Tiger Team Assessment identified the following Root Cause: "ES&H planning at the Hanford Site is inadequate."

RL responded to the Tiger Team Assessment by initiating a comprehensive, integrated, sitewide planning, budgeting, and resource allocation process that continues today. When fully implemented, the Site Management System (SMS) has the potential to provide RL management with a powerful tool to carry out its mission in a disciplined, cost-effective manner and could serve as a model for other DOE sites. While the framework of the SMS and some of the subordinate implementation plans are in place, many of the implementing plans are in early draft forms or remain to be drafted. Considering the complex and comprehensive nature of the SMS, it is unlikely that it will be fully integrated and fully implemented for several years.

While conceptually sound, the RL strategic and subordinate implementation planning process has not yet been fully developed, in part because of RL's phased approach to planning. Many RL implementation plans to manage its own activities and the activities of its contractors are incomplete, and RL does not fully integrate all its contractors into all aspects of the planning process. Furthermore, RL has not applied the same standards of formality and discipline that it requires of its contractors. RL implementation plans that would guide and provide formality to RL ES&H activities are incomplete, in draft form, or do not exist. The RL phased planning approach has one flaw if it is followed slavishly. The RL planning approach is a systematic top-down approach that serves the project management aspects of the Hanford mission. ES&H implementation plans, lower tier plans in the planning process, will be among the last to be developed unless priority is given to interim plans.

An important element of the RL concept for the Site Management System, the full and active participation of the Hanford contractors in all aspects of the Hanford Integrated Planning Process, is not yet a reality. In particular, this involvement does not appear to be occurring at more detailed levels of planning on the site. For example, HEHF is actively involved in the Hanford Integrated Planning Process as a member of the Mission Plan Steering Committee. That involvement included the preparation of a portion of the Mission Plan and the Mission Plan review process. However, there is no

evidence of HEHF's involvement in any detailed planning related to specific worker health and safety issues.

The ES&H implementation plans that define and guide the ES&H activities of the Hanford contractors are incomplete. The ES&H implementation planning of the largest and the smallest Hanford contractors, WHC and HEHF respectively, was examined to sample the status and progress of implementation planning at Hanford. WHC has taken a disciplined, systematic approach to their implementation planning that has the potential to make a major contribution to a uniform approach to sitewide plans. While many WHC program and project plans have been prepared, important WHC ES&H Implementation Plans are in draft stages of development, or are incomplete and the development of ES&H implementation plans is progressing slowly. HEHF has begun a planning process founded on the planning assumption that its mission will change from surveillance to the Occupational Health contractor focusing on health risk management and surveillance. HEHF developed its first strategic plan but has not yet developed any ES&H implementation plans to guide and provide formality to its ES&H activities.

Despite the lack of a fully implemented SMS, the progress to date testifies to planning and coordination skills and the commitment of the RL and its contractors to carry out the Hanford mission in a disciplined, cost-effective manner.

The Progress Assessment Team identified two concerns related to the planning, budgeting, and resource allocation area, which are presented in Appendix B-1 (see Concerns M/C-9, DOE Strategic/Implementation Planning, Budgeting and Resource Allocation, and M/C-10, Contractor Strategic/Implementation Planning, Budgeting, and Resource Allocation). In addition, one strength was identified (see Strength M/S-1, Hanford Planning, Budgeting, and Resource Allocation Management System).

2.2.6   Human Resources and Training

In the human resources and training area, the Progress Assessment Team evaluated the adequacy of RL and WHC programs in managing current human resources, planning for future personnel needs, and training the work force to effectively carry out ES&H functions; KEH training programs were also evaluated. Human resource and training programs for PNL and HEHF, and human resource programs for KEH were not part of the scope. In conducting the assessment, the Team looked specifically at plans and programs to assess human resource requirements for ES&H under the new mission, plans for acquiring and maintaining ES&H personnel, and policies and programs to ensure adequate training and qualifications of the site work force. These areas were selected because they were identified in Tiger Team findings and their resolution is essential if the site's new mission is to be successfully accomplished. The approach taken by the Team was to conduct interviews of RL and WHC human resources and training staff, KEH training staff, and line personnel regarding human resource management and training issues. In addition, associated plans, policies, and other documentation were reviewed. The standards against which the site was assessed were the ES&H Management Performance Objectives and Criteria for Progress Assessments 2.3 and 4.3, and DOE and RL Orders and WHC policies and procedures related to human resources and training, including DOE 5480.20, WHC CH 4.1, WHC MRP 4.2, and WHC MRP 4.22.

Currently, RL and WHC plan for human resource needs based on near-term mission requirements and DOE initiatives. Staffing requirement allocations are developed for the upcoming two fiscal years, and needs are revised based on budget constraints, ceilings, and other priorities established at DOE-HQ and the Office of Management and Budget. For WHC, priorities are also established by RL. Once human resource allocations are established, both RL and WHC determine the positions to be filled by new hires (assuming ceilings have not been reached) and existing staff based on priorities as delineated by the RL manager (D-E-10). In descending order of importance, these priorities are unresolved safety concerns; compliance, including the Tri-Party Agreement (TPA); other safety concerns; DOE Order compliance concerns; conduct of operations; and enhanced operations. Existing staff distributions are adjusted through the reallocation of vacant positions, transfers, and reorganization.

At WHC, positions are filled through a formalized system of first considering excessed workers, then through posting, and finally through outside recruiting. The recruiting system is highly organized and is initiated upon receipt of a requisition from a manager. RL recruitment works through a similar process, although much of it is dictated by Federal hiring policies. Both organizations use a variety of recruiting techniques, including job and career fairs, internships and summer programs, and college recruiting trips. In addition, both organizations use contractor employees to enhance staff and to buffer against potential personnel ceilings and the impact of budget reductions.

Once employed, careers are developed through promotion potential, non-mandatory career development planning, educational assistance, training, and retraining. RL and WHC have non-mandatory individual development planning processes, in which the employee and supervisor determine career goals and tools needed to reach those goals. Employees may take courses related to their organizations' missions from local colleges and be reimbursed under an educational assistance program. They may also request to be sent to seminars, conferences, and professional training courses. For displaced workers, particularly in the crafts, laborers, and technician areas, WHC has an active retraining program that involves WHC- and QTRC-developed courses as well as courses offered at local colleges.

RL and WHC have policies regarding attainment and maintenance of technical qualifications through training and, in certain cases, certification. At WHC, these policies have generally been implemented for those job classifications that have training requirements under DOE Orders, such as DOE 5480.18 and DOE 5480.20. However, they have not been implemented for all ES&H functions. The WHC process involves job function analyses, training, and certification testing or other types of qualifications. Not all of these elements are consistently applied. Within RL, a technical training program is just being implemented, with site representatives being the first group for which a needs assessment, training, and certifications will be developed. Formalized training and qualifications or certification within RL are only applied within the Office of Compliance for their quality assurance auditors and lead assessors.

Many of the human resource problems observed during the Tiger Team Assessment continue today. For example, there exists an inability at RL and WHC to readily plan for future human resource needs to meet the requirements of the

new mission in terms of numbers of personnel, skill mix, and required training and qualifications. Furthermore, with regard to training, RL has not developed and WHC and KEH have not fully implemented programs for determining training and qualifications needs. Other continuing concerns include low morale (D-E-40) in certain programs and jobs classifications within RL and WHC and constant overtime at RL and WHC. In addition, staff shortages still exist, particularly at WHC, in certain key high demand, specialized disciplines such as health physics, industrial safety, and waste management engineering. Compounding this problem is that personnel ceilings exist at a time when mission requirements are expanding.

However, the site has begun to develop and, in some cases, implement policies and systems that should address many of these issues. These include the Hanford Integrated Planning Process (HIPP); the WHC staffing plan, which tiers from the HIPP; participation in a DOE-HQ long-term environmental restoration manpower needs assessment; streamlined and enhanced recruitment policies and procedures; and a heightened awareness of the need for performance-based training for ES&H functions. These policies and systems represent good first steps towards corrective action. However, their effectiveness currently cannot be assessed either because they have not been measured or the systems have not been fully implemented. A continuing challenge will be to commit the funds and resources necessary to complete development and implementation of these systems, and then ensure their long-term maintenance and effectiveness.

The Progress Assessment Team identified two concerns related to the human resources and training program, which are presented in Appendix B-1 (see Concerns M/C-11, Human Resource Management Systems, and M/C-12, Professional Development, Training, and Certification).

2.3

OVERVIEW OF ENVIRONMENTAL PROGRAM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the Hanford Site Environmental Program. The assessment was conducted through a combination of interviews, review of key documents, and where applicable field inspections. Specific environmental disciplines were selected for review based on previous Tiger Team areas of concern, or because those disciplines were believed to be highly characteristic of ES&H program performance. The environmental disciplines assessed at the Hanford Site were environmental restoration, groundwater protection management, radiological and mixed waste management, and radiological environmental monitoring.

Based on the review conducted by the Progress Assessment Team, the Hanford Site has made adequate progress in further developing their environmental programs since the Tiger Team Assessment. However, many deficiencies remain. In many instances, progress has been limited by the constraints placed on the Hanford Site by DOE's priority system, which places priority in decreasing order on: (1) safety concerns; (2) legal agreements or requirements; (3) DOE Orders; and (4) discretionary activities. RL has placed a higher priority on those environmental areas with legal or regulatory drivers. Consequently, program areas such as the Groundwater Protection Management Program and the Waste Minimization Program, where requirements are based on DOE Orders, have received a lower priority and have not been fully implemented.

Progress and overall performance has also been inhibited by informality of operations across RL environmental programs. Few Hanford Site policies have been established to provide program direction; there is a general lack of formalized procedures and program guidance; and there is insufficient line management oversight by RL to ensure effective implementation of environmental programs.

With respect to the specific environmental programs reviewed, the Progress Assessment Team reached the following conclusions:

- The Environmental Restoration Program has progressed significantly through the initiation of comprehensive planning efforts, however, there is a general lack of formal RL policies, procedures, and program guidance.
- The Groundwater Management Protection Program has made adequate progress within the context of activities driven by the Tri-Party Agreement, however, there is a general lack of integration between program elements.
- The Radioactive and Mixed Waste Management Program has also made adequate progress, but again there is a general lack of internal formal RL policies, procedures, and program guidance.
- The Radiological Environmental Monitoring Program has made adequate progress in most cases, however the radiological effluent monitoring program does not fully meet regulatory requirements.

Three strengths were identified in the environmental area relating to radioactive and mixed waste characterization and certification programs,

public involvement in Hanford land use decisionmaking, and project data and management system.

2.3.1 Tri-Party Agreement: Environmental Restoration Program

In the Environmental Restoration Area, the Progress Assessment Team evaluated the adequacy of the Hanford Site Program to implement the environmental restoration requirements of the Tri-Party Agreement (TPA). In conducting the assessment, the Team looked specifically at the adequacy of the Environmental Restoration (ER) Program at Hanford. Topics addressed include: Hanford ER policies, plans, and procedures; definition of roles and responsibilities; staff resources within line, oversight, and coordination offices; formalized training programs; and feedback and lessons-learned mechanisms. Additionally, this evaluation was intended to provide insight into the capabilities of RL to effectively direct and oversee the implementation of environmental restoration activities. The environmental restoration program at Hanford was relatively immature at the time of the Tiger Team Assessment. These assessment areas were selected in order to determine if the ER program has developed commensurate with the increase of the ER mission focus at Hanford. The approach taken by the Team was to conduct interviews with management and staff within the RL and WHC ER line organizations, TPA coordination offices, the RL independent oversight organization, and review of key program planning and implementation documents. The key standards against which the site was assessed included the requirements of the TPA, DOE 5482.1B, DOE 5400.4, and related standards contained in Performance Objectives and Criteria for Conducting Environmental Audits (DOE/EH-0229) (Inactive Waste Sites, and Environmental Management).

Inactive waste sites at the Hanford Site are being managed pursuant to the Hanford Federal Facility Agreement and Consent Order, also known as the TPA, with the U.S. Environmental Protection Agency (EPA) Region X and the State of Washington Department of Ecology. The TPA provides the legal and procedural framework for the conduct of site cleanup activities and waste operations. The TPA became effective in May 1989 and requires the Hanford Site to cleanup more than 1,100 inactive waste disposal and unplanned release sites (past practice sites). Past practice sites are grouped into 78 operable units that are being managed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Resource Conservation and Recovery Act (RCRA).

Within RL, the Environmental Restoration Division (ERD) is responsible for overall management of the Hanford environmental restoration program. ERD reports through the RL Office of Assistant Manager for Environmental Management. ERD is divided into two branches: the Environmental Programs Branch (EPB) and the Environmental Restoration Branch (ERB). EPB responsibilities include near-term and long-term planning; development of management systems required to achieve compliance with CERCLA, RCRA, and the National Environmental Policy Act (NEPA); oversight of the ER budget; and tracking cost and schedule performance. ERB responsibilities include day-to-day management of operable unit assessment, cleanup activities, decommissioning and decontamination of facilities, and other remediation activities.

Currently, the two major contractor program participants include WHC and the United States Army Corps of Engineers (USACE). The main responsibility of

USACE is environmental assessment activities within the 1100 Area of the Hanford Site. WHC is the primary site contractor responsible for technical management and implementation of the Hanford ER program. Additionally, WHC provides support to RL in the develop of overall Hanford ER management systems. Within WHC, the Environmental Restoration Program, under the Environmental Division, is responsible for program management activities. The technical implementation of the Hanford ER program is primarily assigned to other organizations within the WHC Environmental Division, as well as PNL and KEH.

The Hanford ER Program has developed significantly since the time of the Tiger Team Assessment. Improvements in the Hanford ER program include the development of the Strategic Plan which sets top level site policy to reflect the new Hanford mission focus on environmental restoration and waste management. ER program planning, conducted jointly by ERD and WHC, is maturing and valuable planning documents are being developed which should significantly aid in the long-term implementation of the ER program. Specifically, two recent strategic planning efforts resulted in the development of the draft Hanford Mission Plan and the initial Hanford Environmental Restoration Roadmap, which define a broad set of issues effecting the implementation of the ER program. Additionally, a draft Hanford Environmental Restoration Project Plan has been established to independently detail the goals and objectives of the Hanford ER program, establish project schedules, define organizational responsibilities, plan resource needs, and establish a formal Work Breakdown Structure.

There are several notable initiatives that also reflect Hanford ER program progress since the Tiger Team Assessment. Over the past 2 years, the Hanford Site has negotiated with EPA and State of Washington Department of Ecology a fundamental change towards past practice activities under the TPA. The Hanford Site Past Practice Strategy was incorporated into the TPA milestones in September 1991, and was formally approved by EPA and the State of Washington Department of Ecology on March 17, 1992. This strategy establishes a bias for action intended to drive the ER program towards substantial field remediation in an accelerated time period while resulting in significant program efficiencies. The Hanford ER program has established a formal quality assurance requirements document to establish the overall quality assurance requirements for the ER program. Upon revision of this document, to incorporate the new requirements of DOE 5700.6C, individual Quality Assurance implementation plans will be finalized by the program participants. Additionally, the Hanford ER Program is managing a unique process to secure broad community involvement in the future land-use decisionmaking process for the Hanford Site. A formal working group has been established to independently determine the spectrum of potential future land use scenarios which will be used to provide input into the Hanford Remedial Action Environmental Impact Statement.

Adequate progress in some program areas has not been achieved by the Hanford ER program. Numerous ER program documents remain in draft form. Program management activities within ERD are not sufficiently formalized. There is a general lack of formal ERD policies, procedures, and program guidance. ERD also lacks a formalized lessons-learned and feedback program to ensure that corrective actions for observed deficiencies are shared throughout the program and system improvements are implemented. Additionally, a more formal approach is needed with respect to planning and tracking of necessary training for

staff and management to ensure that necessary expertise of the organization as a whole is achieved. The formality of ERD management systems has been affected by staff resource constraints. A specific concern identified by this assessment is that routine coordination with natural resource trustees is not occurring in order to ensure that the ER program adequately addresses potential natural resource damages.

Independent oversight of the ER program by RL CMP is not sufficient to ensure effective ER program management. Additionally, CMP has only recently been authorized to conduct audits of the ERD line organization. ERD line management oversight is informal and limited. Due to competing priorities, unit managers within ERB are rarely available to conduct field-level oversight of contractor field activities.

The Progress Assessment Team identified two concerns related to the environmental restoration program, which are presented in Appendix B-2 (see Concerns E/C-1, Formality of the Environmental Restoration Program and E/C-2, Coordination with Natural Resource Trustees). In addition, one strength was identified (see Strength E/S-1, Public Involvement in Future Hanford Land-Use Decisionmaking).

2.3.2   Groundwater Protection Program

In the groundwater protection area, the Progress Assessment Team evaluated the adequacy of the Hanford Site program to protect, monitor, characterize, and restore groundwater resources. In conducting the assessment, the Team looked specifically at the Liquid Effluent Treatment Program and, the Groundwater Protection Program as defined in the Hanford Site Groundwater Protection Management Program Plan (GPMPP). The GPMPP includes the Resource Conservation and Recovery Act (RCRA) and operational groundwater monitoring, RCRA/ Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) past practice characterizations, sitewide groundwater monitoring surveillance. These areas were selected because they comprised a key finding in the Tiger Team Assessment. The Tiger Team concluded that "current and past waste disposal practices at the Hanford Site have contaminated the groundwater onsite and potentially offsite, and the Hanford Site has not adequately defined the vertical and horizontal groundwater flow regimes." The approach taken by the Team was a programmatic review related to these groundwater protection activities and included interviews of RL, WHC, and PNL staff and management; and review of documents relating to the management of the above programs. The key standards used to assess the site include Performance Objectives and Criteria for Conducting DOE Environmental Audits (DOE/EH-0229) relating to Groundwater Programs; ES&H Management Performance Objectives and Criteria (Draft April 1992); Tri-Party Agreement Milestones: M-12 (Submit RI/FS or RFI/CMS work plans for 15 operable units by June 1992), M-15 (Complete RI/FSs for all operable units by September 2005) and M-17 (Complete Liquid Effluent Treatment Facilities/Upgrade all Phase I Streams).

The Richland Operations Office Mission and Function Statement, October 7, 1991, assigns groundwater protection responsibilities to several RL organizations. The Groundwater Protection Management Program Plan (GPMPP) and the RCRA/CERCLA past practice operable units are the responsibility of the Environmental Restoration Division (ERD), Environmental Remediation Branch (ERB). Sitewide Groundwater Surveillance Monitoring is the responsibility of the Technical Support Division (TSD), Public Safety & Medical Programs Branch

(PSM). The responsibility for RCRA/Operational groundwater monitoring activities and the Liquid Effluent Treatment Program is the responsibility of the Waste Management Division (WMD), Waste Operations Branch (WOB).

WHC is responsible for the development of the Groundwater Management Program Plan, the management of the RCRA/CERCLA Past Practice Operable Units, the management of the RCRA/Operational Program, and the management of the Liquid Effluent Program. PNL is responsible for the sitewide groundwater surveillance monitoring activities through its contract with DOE and performs sample collection and analysis for the RCRA/Operational program under a work order from WHC. Therefore, management of groundwater monitoring and characterization activities are divided between programs at RL and implementation of those activities divided between WHC and PNL.

The Hanford Site has made adequate progress with respect to groundwater protection activities since the Tiger Team Assessment based largely on the activities required by the Hanford Federal Facility Agreement and Consent Order (the TPA). All of the above activities, with the exception of the Sitewide Groundwater Monitoring Program, are influenced by milestones within the TPA. In the time since the Tiger Team Assessment, a number of RI/FS workplans have been developed relating to groundwater (1100 EM, 200 BP-1, 300 FF-5, 100-BC-5, 100-HR-3, and 100-KR-4) and are being implemented. Sixty-one wells were installed during 1991 as part of the RCRA/Operational program. In addition, a change request under the TPA to install 26 wells to complete the well installations for RCRA compliance in 1992 is currently under review. This is a reduction from the 50 wells per year requirement in the TPA which reflects the progress in achieving RCRA compliance. Therefore, the majority of groundwater characterization activities are under the review of the CERCLA past practice program and the RCRA compliance program.

The primary purpose of the Groundwater Protection Management Program Plan is to provide a framework for coordination of existing groundwater protection activities and to describe how information needs are identified and can be incorporated into existing or proposed new programs. The Hanford Site GPMPP was the first plan of its type to be drafted within the DOE complex in October 1989. In addition, the corrective actions to Tiger Team findings GW/CF-2, Inadequate Characterization of the Hydrogeologic Regime, GW/CF-3, Deficiencies in Geographical Surveys of Monitoring Wells, and GW/BMPF-4, Inadequate Well Abandonment, all reference this plan in the respective corrective action responses. However, the plan has not been fully implemented and is currently outdated with respect to the activities that are taking place under the TPA (see Section 2.3.1, Tri-Party Agreement: Environmental Restoration Program). RL has made a conscious decision not to update or implement this plan based on the priority system developed by RL that ranks, in decreasing order of priority, (1) safety concerns; (2) legal agreements or requirements; (3) DOE Orders; and (4) discretionary activities.

Specifically, the plan requires an Office of Groundwater Protection Management for overall responsibility for coordinating groundwater issues at the site. Some informal coordination activities at the staff level have been initiated toward a cost-effective groundwater monitoring program. However, no individual or organization has been assigned the overall responsibility to implement a Groundwater Protection Management Program.

The Groundwater Protection Management Program Plan also addresses vadose zone characterization and monitoring. The Progress Assessment Team did not evaluate issues surrounding vadose zone characterization due to the fact that the Government Accounting Office (GAO) is evaluating the adequacy of the work being done by the Hanford Site to monitor the vadose zone, focusing on Tank Farm monitoring programs, costs of well drilling and well drilling technology, and consequent issues relating to groundwater management programs. The final GAO report is scheduled for release in June 1992.

The purpose of the Liquid Effluent Program is to discontinue discharges of contaminated liquid effluent streams to the soil column or obtain permitted treated discharges under the Washington Administrative Code (WAC). The Tiger Team Assessment identified a special issue (SI/D-1, Applicability of State of Washington Regulations on Liquid Waste Discharges) and finding (GW/CF-1, Hanford Disposal Practices have Contaminated and Continue to Contaminate Groundwater). During the latter part of 1991, TPA Milestone 17 was renegotiated to include requirements of the WAC 173-216 under an Administrative Consent Order between the State of Washington Department of Ecology and RL. The Administrative Consent Order was signed on December 23, 1991. Its execution closed out the response to this special issue SI/D-1 and also serves as the basis for the corrective action plan response to GW/CF-1.

To date, TPA milestones (and interim milestones) have been met. However, the Liquid Effluent Program management and oversight functions are largely informal within RL. There are few Hanford Site policies to establish program direction beyond the context of the TPA. Specifically, the RL environmental program lacks formal internal procedures, internal program guidance, and a clear delineation of staff roles and responsibilities. The lack of staff within the WMD has hindered the development of the necessary program elements to effectively manage a program of this magnitude under the milestones set forth in the TPA (see Section 2.3.3, Radioactive and Mixed Waste Management Program).

The Progress Assessment Team identified two concerns related to the Groundwater Protection Program, which are presented in Appendix B-2 (see Concerns E/C-3, RL Groundwater Protection Management Program, and E/C-4, Coordination and Integration of Groundwater Protection Program Elements). In addition, Concern E/C-5, RL Management of Waste Programs, crosscuts the Groundwater Protection Program and Radioactive and Mixed Waste Program disciplines.

2.3.3   Radioactive and Mixed Waste Management Program

In the radioactive and mixed waste management area, the Progress Assessment Team evaluated the adequacy of the Hanford Site Program to properly manage radioactive and mixed wastes generated or received at the site. In conducting the assessment, the Team looked specifically at RL's role in providing program management and oversight of site contractors; systems for the characterization, certification, and tracking of waste, including offsite waste; and the waste minimization program. These areas were selected because RL's leadership, knowledge, and control of the Hanford waste management program is critical to the success of Hanford's new mission. In addition, the integrity of data generated and managed through the certification, characterization, and tracking of waste is critical to the success of the Hanford waste management program, which is one of DOE's largest programs for

accepting offsite-generated radioactive and mixed wastes. Data managed through these programs must be of sufficient quality to ensure that future storage, treatment, and disposal activities will be adequate. Finally, the Hanford waste minimization program was chosen for evaluation because achievement in that area will determine, in part, the extent of DOE's future waste management burden. Specific Tiger Team findings also addressed the areas of waste characterization, offsite waste management, and waste minimization.

The approach taken to evaluate the adequacy of program management focused on interviews with RL line management responsible for overseeing contractor solid waste management. The evaluation of the characterization, certification, and tracking systems focused on interviews with WHC personnel responsible for operation of those programs and reviewing the documents that define and indicate the effectiveness of those systems. The evaluation of the waste minimization program was approached through interviews of the support organizations in RL, WHC, PNL, and KEH responsible for managing the program and reviewing program plans and periodic reports.

The key standards against which these aspects of the waste management program were assessed include DOE Performance Objectives and Criteria for Environmental Management, DOE 5400.1 requirements, internal RL plans and Mission and Function statements, and Hanford Tiger Team Corrective Action Plan commitments.

The RL program management and oversight responsibilities are centered on the program managers, who have line responsibility for their assigned programs. Individual program managers have been assigned for each area of the waste management program, including solid waste operations, solid waste projects, liquid waste operations, liquid waste projects, and other facilities. For each specific facility or project, a WHC manager is assigned as a counterpart to the RL program manager. In addition, RL site representatives within the Waste Management Division provide field oversight to support the program managers. The program management and oversight function is largely informal and lacks procedures, internal guidance, and specific job descriptions. Prioritization of day-to-day activities is directed through weekly meetings between the branch and division managers which are communicated verbally to program managers. Because of competing priorities, program managers are generally unable to be present in the field to familiarize themselves with their programs and to observe program progress first hand. Site representatives, who do not have line responsibility, serve as the RL program managers' "eyes and ears" in the field. Some program managers also utilize daily reports from their WHC counterparts to track the activity in their programs.

The Hanford waste characterization, certification, and tracking systems were developed and are operated by the WHC Solid and Liquid Waste Remediation Division. The systems support hazardous, radioactive, and mixed wastes including both onsite- as well as offsite-generated wastes. The characterization and certification programs are closely linked and include individual waste-stream-specific evaluations, generator certification program evaluations, and a generator audit program. Both RL and WHC provide auditors to implement the audit program. As currently structured, the program imposes strict standards on generators and encourages generators to develop their own in-house waste characterization and certification expertise. The current

characterization and certification programs are rigorous and highly proceduralized, providing a high confidence level of waste data through an established waste acceptance criteria. In response to a Tiger Team best management practice finding identifying a lack of onsite verification sampling and analysis (S&A), the generator certification program was strengthened. Though verification S&A is still not regularly performed, the current characterization and certification programs provide a level of data confidence equivalent to that which could be provided through verification S&A, and Hanford is planning to increase its capacity to perform verification S&A of mixed waste in cases where it is necessary. The Hanford RCRA Part B Permit, which the site expects to receive later this year and which may include requirements for limited verification sampling, may require a further increase in the site's mixed waste verification S&A capacity.

RL has assigned itself as well as each of the four site contractors specific roles to implement the Hanford waste minimization program. RL provides program oversight and data reporting to regulators. Each contractor implements its own waste minimization program, and WHC has been assigned the role of coordinating the four contractor programs in areas such as data compilation and information exchange. Within each organization, the responsibility for implementation of the waste minimization program is located within the support group that provides environmental compliance. Program direction is provided through sitewide and contractor-specific program plans that were updated in 1991 to reflect DOE Headquarters Office of Environmental Restoration and Waste Management (DOE-HQ EM) guidance.

A wide variety of waste minimization activities are being implemented by the site contractors, but the overall program has had mixed success and is deficient in certain key areas, including a lack of mechanisms to measure program effectiveness, to provide incentives, to provide quality assurance, and to meet state regulatory requirements for process waste assessments. In addition, RL's leadership in the program has been limited. Some waste generators have not implemented waste minimization activities that will reduce future Hanford waste management costs, resulting in lower overall program life-cycle costs.

In order to resolve a Tiger Team finding in this area, PNL appropriately revised a number of individual generator plans. However, since the Tiger Team Assessment, the sitewide and contractor waste minimization program plans were revised with more stringent requirements to meet new DOE-HQ EM guidance. Additionally, a 1991 Washington State regulation will impose stringent process waste assessment requirements on the site later this year.

The Progress Assessment Team concluded that the overall progress and performance of the radioactive and mixed waste management program at Hanford has improved in a number of technical areas since the Tiger Team Assessment and is currently meeting existing regulatory requirements. However, increasingly stringent requirements will continue to challenge the program. Within RL specifically, the roles and responsibilities associated with the waste management program have evolved through recent field office reorganizations. At this time, the Waste Management Division within the RL organization has not adopted the formality necessary to meet its program management mission.

The Progress Assessment Team identified two concerns related to the radioactive and mixed waste management program, which are presented in Appendix B-2 (see Concerns E/C-5, RL Management of Waste Programs, and E/C-6, Waste Minimization Program). In addition, one strength was identified (see Strength E/S-2, Waste Characterization and Certification Programs). Concern E/C-5 also includes issues identified within the scope of the Groundwater Protection Program discipline (see Section 2.3.2).

2.3.4   Radiological Environmental Monitoring Program

In the area of radiological environmental monitoring, the Progress Assessment Team evaluated the adequacy of the Hanford Site program to accurately monitor and evaluate the significance of radiological effluents. In conducting the assessment, the Team looked at the management systems, programs, and activities established to monitor air effluents from radiological facilities. During the 1990 Tiger Team Assessment, a key finding was written on sitewide and stack effluent radiological monitoring programs. This key finding represented the issues of four compliance and four best management practice findings in the Tiger Team Assessment report. The key standards against which the site was assessed include: Performance Objectives and Criteria for Conducting DOE Environmental Audits, RAD.3, RAD.4, and RAD.7; 40 CFR 61, Subpart H; Chapter 246-247 WAC; DOE 5400.1 and 5400.5; and DOE EH/0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance."

Radioactive airborne emissions are discharged from a variety of facilities at the Hanford Site. WHC and PNL are the two contractors responsible for managing these facilities for DOE. WHC monitors radioactive effluents from the FFTF test reactor, the N Reactor, the 200 Area facilities, and N reactor irradiated fuel stored at the two 100 K Area water-filled storage basins. It also conducts environmental air sampling close to these facilities. PNL operates facilities in the 300 Area that conduct research and development, and manages the Hanford environmental monitoring and surveillance program. There are 127 radionuclide air emission sources registered with the Washington State Department of Health that normally or potentially contain radionuclides. These emissions are discharged primarily from stacks or vents. The stacks and vents have associated filtration, such as water scrubbers, fiberglass prefilters, charcoal absorbers for iodine and antimony vapor trapping, sand filters, deep bed fiberglass filters, and high-efficiency particulate air (HEPA) filters.

During the Tiger Team Assessment, there were deficiencies noted in Hanford air monitoring programs. These weaknesses involved effluent sampling, absence of an air emissions inventory, and ambient air monitoring. In the area of effluent sampling, both of the contractors have made progress towards complying with the comprehensive requirements of the EPA. PNL has made significant progress in this area since the Tiger Team Assessment and will probably be in total compliance with the requirements by the end of 1992. PNL has prepared plans and is managing the process to accomplish the tasks required to bring its facilities into complete compliance. WHC has taken a different approach to complying with EPA stack sampling requirements. WHC, through RL, has applied to the EPA for approval to conduct effluent sampling using existing facility sampling techniques. This strategy is permitted in the EPA regulations, but EPA approval is required. Because this approach has required significant negotiation with EPA, WHC progress in this area is not as

advanced as PNL's progress. Thus far, EPA has not granted approval of this approach because of a lack of detailed information in the applications, and technical disagreements between EPA and WHC/RL. In addition, EPA or RL established commitment milestones that have not been met in several cases. Because of the missed milestones, and that the 2-year compliance waiver was due to expire in 1 month, EPA requested RL to enter into a Federal Facilities Compliance Agreement (FFCA) to develop a formalized compliance schedule.

In the area of developing an air emissions inventory, the contractors have made adequate progress. Both PNL and WHC have completed Facility Effluent Monitoring Plans (FEMPs) which provide detailed information on each facility's sources of emissions. The FEMPs were not developed at the time of the Tiger Team Assessment. In addition, both contractors have developed other inventory information required for compliance to the EPA effluent monitoring regulations discussed above. WHC's efforts in this area will not be complete until September 1992, while PNL has completed this work.

Ambient air sampling programs conducted by WHC and PNL at the Hanford Site have improved since the Tiger Team Assessment. WHC conducts sampling near radiological facilities, while PNL conducts sampling farther away from facilities, such as on the site perimeter. The concerns raised during the Tiger Team Assessment centered around the height of the air samplers; the samplers being too close to obstructions, such as trees; calibration of sampler rotameters; and improper sample handling by technicians. PNL has fully addressed the concerns about the far field ambient air sampling program. WHC has not made as much progress in the near field program. The sampler heights have not been readjusted, many of the air samplers are still next to roadways, and one is in a parking lot. However, plans are in place to address these concerns.

RL management and oversight of these programs has improved since the Tiger Team Assessment, but additional efforts are required. In the area of environmental surveillance and monitoring, the RL Technical Support Division staff responsible for management and oversight is effective, and proactively involved with the WHC and PNL programs. In the area of effluent monitoring, there is virtually no RL oversight. However, RL is actively involved in the management of the efforts to comply with EPA radiological effluent monitoring regulations. Although RL's management of this program has been problematic in the past, it has shown good improvement during the last 6 months, as evidenced by the quality and timeliness of submittals to EPA.

The Progress Assessment Team identified one concern and one improvement item related to the radiological environmental monitoring program, which are presented in Appendix B-2 (see Concern E/C-7, Management of NESHAP Compliance Program and Improvement Item E/II-1, Subcontractor Laboratory Support). In addition, one strength was identified (see Strength E/S-3, Project Data and Management System).

2.4

OVERVIEW OF SAFETY AND HEALTH PROGRAM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the Safety and Health (S&H) Program at the Hanford Site. The assessment was conducted through a combination of interviews, review of key documents, and site tours. Field review of activities and processes were made during site tours to: the 200 Area Waste Tank Facility (including the East Area Control Room, the Tank Areas, the Waste Tank Facility Evaporator, the Data Collection Facility, and the Waste Tank Office Building); the Grout Facility; the B-Plant in the 200 East Area; Building 324 Waste Technology Engineering Laboratory; Building 325 Applied Chemistry Laboratory; Buildings 1250 and 1226 construction heavy equipment shops; the 300 Area Water Conditioning Plant; the 327 Post-irradiation Testing Laboratory; the 200 Area Maintenance Shops; the 300 Area Environmental Science Laboratory and Life Science Laboratory; the 277W Fabrication Shop; the 272E Millwright Shop; the 2753E Office Building; the 2715EC Paint Spray Booth; the 350 Building Machine Shop, and 7 active construction project sites. Specific S&H disciplines were selected for review based on previous Tiger Team areas of concern, or because those disciplines were believed to be highly characteristic of ES&H program performance. The S&H disciplines assessed at the Hanford Site were quality assurance, conduct of operations and maintenance, safety analysis, industrial hygiene, and occupational safety (general and construction).

Based on the review of these areas, the Team concluded that RL and the Hanford Site contractors have made satisfactory progress in their S&H programs to correct the deficiencies noted in the 1990 Tiger Team Assessment. However, many deficiencies remain, but plans and programs are generally being put into place to address these deficiencies. Progress has been limited or slow in many areas due to inadequate guidance, direction, and oversight by RL and DOE-HQ.

Based on the S&H review, the Team reached the following conclusions:

- The Hanford Site quality assurance program is noticeably improved, but a few deficiencies remain in that there are delays in the completion of scheduled corrective actions and in the preparation of implementing procedures for line management.
- In spite of significant progress, there are no fully implemented programs in Conduct of Operations and Maintenance at the Hanford Site.
- The development of Safety Analysis Reports and Operational Safety Requirements are on schedule, but progressing slowly.
- Key deficiencies in industrial hygiene are primarily related to the optimization of management systems that have been implemented since the Tiger Team Assessment.
- Specifically identified Occupational Safety and Health Administration (OSHA) noncompliance deficiencies are being corrected, but the OSHA Safety and Health Management Guideline elements have not been fully implemented in the General Safety Program.

- In construction safety, the RL line staff generally has not recognized their responsibilities for onsite oversight of construction activities.

One strength was identified in the safety and health area relating to total quality management initiatives.

2.4.1 Quality Assurance Program

The Progress Assessment Team evaluated the adequacy of the development and the implementation of Quality Assurance (QA) Programs for the activities of the field office and the four site contractors. In conducting the assessment, the Team looked specifically at: (1) the management, organization, and administration of these programs; (2) the progress in correcting quality assurance and quality verification deficiencies noted during the Tiger Team Assessment (TTA); (3) the interfaces with the safety and health programs; and (4) the interfaces with the Total Quality Management initiatives at the Hanford Site. These areas were selected because two environmental key findings and seven safety & health root causes implicated failures in the Hanford Site QA programs. The approach taken by the Team was to interview QA managers and selected line managers regarding QA support activities, audits, and assessments; review QA program documents; conduct a vertical slice review of QA implementation for the Grout Facility; and identify specific examples of QA Program interactions with environment, safety and health activities, and Total Quality Management initiatives. The key standards against which the site was assessed are: DOE 5700.6C, "Quality Assurance," ASME/NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities," and EPA QA guidance documents.

The Hanford Quality Assurance Program can be described as being composed of the RL program and those of its four contractors (WHC, KEH, PNL, and HEHF). The Technical Support Division is responsible for developing the RL QA Program policies and technical guidance for self-assessments; and for conducting contractor QA program management assessments such as focussed inspections and surveillances. RL has not assigned responsibility for procedure development nor has RL assigned responsibility for management assessments to fully implement the line requirements of DOE 5700.6C. Independent oversight of the environment, safety, health, and quality programs resides in the Office of Compliance, which performs QA audits and appraisals, compliance assessments, surveillance activities, investigations, and readiness reviews. All Hanford contractors have split quality program responsibilities so that the line manages day-to-day safety, quality, and environmental compliance. A separate organization provides independent oversight functions.

Within WHC, line QA programs are developed and implemented by the Tank Waste Remediation Systems, Facility Operations, Restoration and Remediation, Engineered Applications, and Operations Support Services. The WHC Quality Assurance Manual provides overall guidance for the program, and lower tier quality assurance program plans are prepared by line management to direct implementation for a specific program or facility, for example the Grout Facility QA Program Plan. The Environment, Safety, Health, and Quality Assurance Division is responsible for maintenance of the top tier program documentation and for independent assessments of WHC activities. At PNL, the Facilities and Operations Directorate has line functional responsibilities for performance assurance and laboratory safety, while Quality Programs performs

audits and independent assessments. Similarly, at KEH the line organizations implement quality activities and Performance Assurance organization provides independent assessments and compliance oversight. The QA program is in its formative stage within HEHF. The effort is being managed by an independent staff to the President. The only QA program is in one of the line organizations, i.e., Environmental Health Sciences Division.

This program has been evolving for several years and has been affected by changing DOE requirements. The current status of the RL QA program is that it meets the requirements of NQA-1 as outlined in the 1986 Order, DOE 5700.6B, which was superseded on August 21, 1991. The Quality Assurance Manual for the Richland Operations Office (September 29, 1989) provides adequate guidance to meet the 18 elements of an NQA-1 quality program. A limited number of procedures have been developed and implemented (see Concern M/C-7). The present plan is to revise these documents to meet DOE 5700.6C, "Quality Programs," within 6 months.

Similarly, the WHC and the PNL QA programs meet those same requirements of NQA-1. Both have submitted implementation plans to RL for review and approval. However, they do not expect to be in full compliance with the DOE 5700.6C for another 2 years. The KEH QA program approved by RL in October 1990 complies with NQA-1. The KEH Quality Management Program submitted to RL for review and approval is a QA program which complies with DOE 5700.6C and is to be fully implemented 60 days after approval by RL.

HEHF does not have a company-wide QA program, but it has developed several QA Project Plans and has been implementing an NQA-1 based program in its EHS Division, which has not yet been approved by RL. A draft QA Program Plan was recently submitted to bring the EHS Division laboratory quality activities into compliance with the DOE 5700.6C requirements.

The Hanford Site QA program has noticeably improved since the Tiger Team Assessment. RL and the four site contractors now have QA programs that meet the basic requirements of NQA-1, and each has developed implementation plans for modifying these programs to include the requirements of the new DOE 5700.6C. The Total Quality Management philosophy has been initiated within RL and each of the Hanford contractors. The use of special teams, under the Total Quality Management mantle, to analyze work processes and to develop operating procedures has already resulted in a better understanding of the quality assurance program elements by those employees involved in workplace improvements.

These positive changes, however, are inhibited by the RL delays in the timely completion, review, and closure of Tiger Team Assessment corrective actions pertaining to the Hanford Site QA program development, and the delays in the timely preparation, review, and approval of implementing documents. These actions are required to assist RL and its contractors in meeting the new DOE quality program, improvement, and assessment/verification criteria within DOE 5700.6C.

The Progress Assessment Team identified one concern related to the Hanford Site Quality Assurance Program, which is presented in Appendix B-3 (see Concern S/C-1, Corrective Actions to the Hanford Site QA Program). In addition, one strength was identified (see Strength S/S-1, Sitewide Total Quality Management Initiatives).

2.4.2 Conduct of Operations and Maintenance

In the conduct of operations and maintenance area, the Progress Assessment Team evaluated the adequacy of the Hanford Site program to develop and implement a formal and disciplined approach to the operations and maintenance programs that provides protection for the facilities and employees. This area was selected by the Team for review because the 1990 Tiger Team Assessment identified numerous findings and concerns related to operations and maintenance issues. The lack of formality and rigor in the conduct of ES&H activities was identified as a key finding, conduct of operations related problems were identified in two of the three probable root causes identified by the Tiger Team, and finally, because the Tiger Team Management Subteam identified six findings related to the conduct of operations. The Team recognized that a comprehensive assessment of complex and evolving issues such as the conduct of maintenance and operations at a large and diverse complex such as Hanford is beyond the scope of this Progress Assessment. Therefore, the Team focussed on the progress made by the site contractors in developing or enhancing management systems to ensure compliance with pertinent DOE Orders.

In conducting the assessment, the Team looked specifically at systems that guide the implementation of Conduct of Operations and Maintenance vertically from RL to contractor management to the operating facility with emphasis on the Waste Tank Facility. Specific topics reviewed included the uniformity and consistency between contractors with regard to the lock and tag, hoisting and rigging, and Job Control System procedures. In addition, the progress in closing Tiger Team Category II Concerns was evaluated. These areas were selected for review because the Tiger Team had found difficulties in effective Waste Tank Facility operation which related to the Job Control System. RL interest in sitewide procedures for lock and tag and hoisting and rigging prompted the horizontal review because sitewide consistency in these areas is seen to be in the interest of safety.

The approach by the Team was to review the flowdown of requirements from DOE Orders, directives, and management systems that resulted in procedures or systems being in place at the operating level. Interviews were held at appropriate levels of management within the WHC Waste Tank Facility and WHC maintenance organization, as well as with operators. Observations of equipment, facilities, and work activities were coupled with discussions with supervisors and operators where appropriate. Evaluations of the implementation of Conduct of Operations and Maintenance, at PNL and KEH, were also performed using the same approach. The standards against which the site was assessed include the TSA Performance Objectives and Criteria, the Tiger Team Action Plan commitments, DOE 5480.19, "Conduct of Operations," and DOE 4330.4A, "Conduct of Maintenance."

The implementation of the Conduct of Operations and Maintenance Orders was directed via transmittal of the Orders with a cover letter from RL to the contractors, dated November 21, 1990, for the Conduct of Operations and April 4, 1991, for the Conduct of Maintenance. Because the types of DOE facilities are so diverse, with wide variations in complexity and levels of risk, the DOE Orders related to the Conduct of Operations and Maintenance both specify that applicability and implementation plans must be determined on a case basis and applied using a graded approach. The guidelines provided are comprehensive and are based on lessons-learned in high risk, nuclear reactor

facilities and activities. Therefore, application of these Orders to non-nuclear or low risk facilities and activities requires a significant review and development effort to tailor the guidelines to individual operations. Further, decisions on how to apply the guidelines in these Orders are being made by personnel and organizations that are unfamiliar with established nuclear reactor practices and the concepts of rigor and formality of operations. Therefore, the responsibility of DOE line management to provide guidance and direction to the contractors on these issues is vitally important. EM has not yet issued any formal guidance to the field regarding the implementation of these two Orders. RL has not issued any formal sitewide guidance or direction regarding the Conduct of Operations Order except for the contracting officer's letters requiring compliance. RL direction and guidance has been provided at the Program Division level and has been inconsistent and often informal. Although WHC and the reactor facilities at Hanford have mature programs to implement these Orders, which for the most part pre-dated their issuance, there appears to be a significant lack of RL formal guidance and direction for contractors such as KEH and HEHF, especially with regard to the Conduct of Operations Order.

At WHC the formality and extensive content of the Orders required extensive training at all levels within WHC. This has been largely accomplished. In addition, management systems for all chapters of the Conduct of Operations Orders are in place at all locations visited within WHC. Some of these are recognized as now requiring revision based on experience to date. While different lock and tag systems are currently in use, a sitewide lock and tag standard is undergoing substantial revision at the time of this review to reconcile the OSHA requirements of CFR 1910.147 with the Status Control requirements of Conduct of Operations.

PNL is implementing both Conduct of Operations and Maintenance through a graded approach as directed by the DOE Orders. PNL plans to revise existing company manuals to reflect the new requirements of both orders which will entail a great deal of self-assessment to determine the degree of compliance. The training for the assessments has been completed and the assessment is underway. A matrix has been prepared to facilitate location of elements of the Orders within the company manuals for ease in assessing implementation.

The maintenance performed by KEH is on their own buildings and equipment, none of which is classified as being a critical system. Their assistance to the Westinghouse Fire Department in conducting inspections does constitute work on a critical system. KEH maintenance system falls within the graded requirements for a non-nuclear implementation, Chapter 1 (non-nuclear requirements) of DOE 4330.3A. The work packages are prepared by a facility maintenance office, but the work is actually done by construction forces out of construction shops.

KEH does not have a program or plan for implementing the Conduct of Operations Order, although compliance with DOE 5480.19 was directed by the RL Contracting Officer in November 1990; KEH has received no further guidance from RL on implementing the Order, and the RL directives system has not required a formal response by KEH. RL line management and independent oversight organizations have not performed adequate oversight of KEH to assure timely and appropriate implementation (see Concern M/C-7).

HEHF is not implementing the Conduct of Operations, although it was informed by the RL contracting officer in November 1990 that DOE 5480.19 had been determined to be applicable to operation in Buildings 747 and 747B. The RL directives system has not required a formal response by HEHF and RL line management and independent oversight organizations have not performed adequate oversight of HEHF to assure timely and appropriate implementation (see Concern M/C-7).

In summary, the overall progress made at Hanford in the area of conduct of operations and maintenance since the Tiger Team Assessment is significant with regard to WHC and PNL nuclear facilities. The shutdown of the N-Reactor resulted in the transfer of a number of management people to the Waste Tank Facility. These people, through their experience with the reactor industry and INPO guides, had a working knowledge of the principles, if not the requirements, of these Orders. While Conduct of Operations and Maintenance are still not fully implemented, within WHC and PNL plans for full implementation are in place. KEH and HEHF are not implementing the Conduct of Operations Order as required and RL guidance and direction, and oversight has been inadequate.

The Progress Assessment Team identified two concerns and two improvement items related to the Conduct of Operations and Maintenance programs, which are presented in Appendix B-3 (see Concerns S/C-2, DOE Guidance for the Implementation of Conduct of Operations and S/C-3, Conduct of Operations and Maintenance - Interfaces between Contractors; and Improvement Items S/II-1, Implementation of the Job Control System at WHC and S/II-2, Work Training for WHC Waste Tank Facility Operators).

2.4.3   Safety Analysis Program

In the safety analysis area, the Progress Assessment Team evaluated the adequacy of the Hanford Site program for updating Safety Analysis Reports (SARs) and Operational Safety Requirements (OSRs), and performing Operational Readiness Reviews (ORRs). In conducting the assessment, the Team looked at the safety management systems that ensure SAR and OSR development and ORR performance. These areas were chosen because one key finding, one management finding, and eight safety concerns were noted in this area in the 1990 Tiger Team Assessment. The areas chosen for review included both nuclear and non-nuclear facilities, and specifically included the 200 Area Waste Tank Farms and the 300 Area Water Treatment Plant, both operated by WHC; and the 324 Waste Technology Engineering Laboratory, operated by PNL. The 324 Bldg. was chosen because both nuclear and non-nuclear work is performed there. The approach taken by the Team included interviews with RL management, staff, and contractor management who have responsibilities in these areas. The Team reviewed documents and toured facilities to obtain an understanding of the activities performed at the chosen facilities. The key standards against which the site was assessed included the Technical Safety Appraisal Performance Objectives and Criteria (DOE/EH-0135), in organization and administration, operations, auxiliary systems, and technical support that pertain to SARs, OSRs, and ORRs.

The RL management systems, orders, and organizational responsibilities are generally in place to ensure that SARs and OSRs are developed and ORRs are performed. The RL line organizations, with support from the Technical Safety

Division (TSD), sometimes review SARs and sometimes just act as a pass-through for DOE-HQ review. The RL ORR program is to overview the contractor process.

The contractors' management systems (i.e., policies, directives, procedures, and organizational responsibilities) regarding SARs, OSRs, and ORRs appear to be well developed. WHC Tank Farm line management has done extensive planning and appears to have a good understanding of what is required to develop current SARs and OSRs for the Waste Tank Farms. PNL line management for the various facilities is well underway in revising and updating the required SARs and OSRs. Both contractors are performing the required ORRs, but each one uses a different process to accomplish the review.

Some progress has been made in the area of SAR and OSR planning and development since the 1990 Tiger Team Assessment. Within RL, there is still a need to provide more guidance to attain safety consistency among the Hanford Site contractors. Some progress is being made within PNL to upgrade the SARs and OSRs; however, the progress is on schedule but slower than optimum because resources are being obtained from overhead funds. At WHC, there has been extensive planning but the actual progress to upgrade the SARs and OSRs has been restricted because of a lack of resources. Greater resources are needed in these areas so that more focused attention can expedite the development of this very important safety area.

The Progress Assessment Team identified two concerns related to SARs, OSRs, and ORRs, which are presented in Appendix B-3. They include Concern S/C-4, Safety Analysis Reports (SARs) and Operational Safety Requirements (OSRs); and Concern S/C-5, DOE Direction Concerning Operational Readiness Reviews, and Hazard and Safety Classifications.

2.4.4   Industrial Hygiene Program

In the industrial hygiene area, the Progress Assessment Team evaluated the adequacy of the Hanford Site program to implement management systems and programs to recognize, evaluate, and control physical, biological, and chemical hazards to Hanford Site employees. In conducting the assessment, the Team looked specifically at the adequacy of contractor oversight and surveillances, self-assessment, internal quality assurance programs, staffing, and management systems implemented by RL, WHC, and PNL. In addition, a review was conducted of the actions taken to improve performance of the Hazard Communication Program of WHC and PNL. These areas were selected to look broadly at industrial hygiene management at the site. The Team selected the Hazard Communication Programs of the site for vertical slice review in an attempt to gauge the overall level of commitment of WHC and PNL, and to adequately apply resources to correct program deficiencies.

The approach taken by the Team was to conduct interviews of RL, WHC, and PNL ES&H managers responsible for industrial hygiene, and to review program and corrective action files.

The hazard communication program performance was assessed, in part, through tours of the WHC 200 Area Maintenance Shops and the PNL Life Sciences, Environmental Sciences, and Material and Chemical Sciences Laboratories in the 300 Area. The industrial hygiene programs of HEHF and KEH were not assessed. The key standards against which the site was assessed included DOE 5480.10,

DOE 5480.4, 29 CFR 1910, and the 1990 Tiger Team Assessment (TTA) corrective action plan.

Since the 1990 TTA, RL has reorganized its ES&H management structure into primarily two functional organizations with responsibilities for industrial hygiene Program elements. The RL Office of Compliance (CMP) Safety, Environment and Security Assessment Branch (SES) is responsible for industrial hygiene compliance, independent oversight, and surveillance reviews of contractors programs. The Technical Support Division (TSD), Occupational Safety Branch (OSB) is responsible for providing industrial hygiene program technical review, developing guidance, and conducting independent audits and surveillances.

RL implements the industrial hygiene program through contractual requirements for compliance with DOE Orders and applicable Federal regulations and standards. A part of this implementation includes RL issued procedural guidance and both formal and informal RL staff/contractor interactions.

Since the 1990 TTA, WHC has reorganized the ES&H component of the WHC Organization. Industrial hygiene responsibilities are divided between two functions within the Environment Safety and Health and Quality Assurance (ESH&QA) organization: Health and Safety Assurance (HSA) and Occupational Health and Safety (OHS). HSA performs the primary functions of program development, technical review and guidance, and independent audit and surveillance. OHS performs the primary functions of daily interaction and technical support for line management programs and projects, including provision of "classical" industrial hygiene exposure monitoring and response to field concerns. WHC's industrial hygiene program is defined through several policy and procedural documents; Management Policies (WHC-CM-1-1), Industrial Hygiene Manual (WHC-CM-4-40), Internal Safety Instruction (WHC-IP-030), Organization Charts and Charters (WHC-CM-1-2), Management Requirements and Procedures (WHC-CM-1-3), and Industrial Safety Manual (WHC-CM-4-3). Memoranda further define responsibilities such as Interim Guidance Memo - Management Responsibilities and Procedures. Industrial hygiene responsibilities at PNL are managed within the Occupational and Radiological Safety Section of the Laboratory Safety Department. PNL manages its industrial hygiene program through policy and procedural documents, Industrial Hygiene Program Manual (PNL-MA-43).

RL has made adequate progress in correcting deficiencies noted in the 1990 TTA in the areas of staffing, implementation of a sitewide tracking system, contractor oversight/surveillances, and assurance of uniform compliance and program requirements for all site contractors. However, not all of these issues have been fully resolved; and action plans are in varying stages of completion.

While significant progress has been made in overall staffing in industrial hygiene, deficiencies still remain in the level of industrial hygiene support available within both WHC and PNL. This appears to be due in part to inadequacies in the contractor and RL planning and budgeting process for safety and health support functions.

WHC has made progress in correcting deficiencies noted in the 1990 TTA in the areas of industrial hygiene procedures development, staffing, program implementation, field surveillances, hazard inventory, supervisor health and

safety training, chemical inventory, hazard communication, hearing conservation, and the capability to provide technical support for operations and maintenance activities at the site. Funding levels appear adequate to support current program objectives. While some of these programs are in varying stages of implementation within the corrective action process and full compliance has not yet been achieved, WHC has made adequate progress in implementing industrial hygiene programs and management systems that were partially in existence at the time of the 1990 TTA.

Remaining deficiencies include: absence of formal charters for the functional industrial hygiene organizations; industrial hygiene QA Plans; and formality of work program plans and program procedures within the OHS industrial hygiene group. Stronger management attention in these areas is required. A part of the difficulty experienced by OHS may be due to lack of a Level III manager over the industrial hygiene Manager for the past 14 months; WHC has recently hired a manager to fill this vacancy.

The formality of communications between the various functional organizations that have responsibilities for various components of the WHC industrial hygiene program is not clearly defined. WHC has recognized this issue and has recently formed a working group to address the issue. The industrial hygiene program policies and guidance documents are in the process of being updated but the supervisor training program has not been updated to direct supervisors to new policies. Industrial hygiene-related as low as reasonably achievable (ALARA) goals have not been integrated into the WHC ALARA Program.

PNL has made progress in correcting some of the program deficiencies noted in the 1990 TTA in the areas of industrial hygiene procedures, staffing, management training, industrial hygiene Quality Assurance Plans, chemical inventory, and hazard communication. However, inadequate progress was observed in PNL's corrective actions for implementation of a chemical exposure monitoring program, hazard assessment, industrial hygiene procedures and recordkeeping (e.g., exposure monitoring), and hearing conservation, all of which involve serious noncompliance with OSHA Regulations.

The Progress Assessment Team identified one concern and two improvement items related to the industrial hygiene program, which are presented in Appendix B-3 (see Concern S/C-6, PNL Hazard Assessment and Exposure Monitoring; Improvement Item S/II-3, RL, WHC, and PNL Budgeting and Planning for Industrial Hygiene Program Activities; and Improvement Item S/II-4, Formality of WHC Industrial Hygiene Program Operations).

2.4.5 Occupational Safety Program

In the occupational safety area, the Progress Assessment Team evaluated the adequacy of the Hanford Site program to ensure worker safety. In conducting the assessment, the Team looked specifically at the criteria described in the Safety and Health Management Guidelines published by the Occupational Safety and Health Administration (OSHA) (Federal Register dated January 26, 1989). WHC, PNL, and HEHF were assessed against four elements: management commitment/employee involvement; worksite analysis; hazard prevention and control; and safety and health training. These elements were selected because OSHA uses them to determine whether an employer goes beyond the minimum OSH compliance requirements to achieve excellence in the occupational safety and health area. KEH was evaluated under the construction safety portion of this

assessment (Section 2.4.6). The approach taken by the Team was to visit facilities that are likely to have high employee exposures to occupational hazards, such as machine shops and paint spray booths; interview both employees and line supervisors at those sites; and interview managers responsible for occupational safety performance. In addition, the Team looked specifically at the Hanford Lockout/Tagout Program. The key standards against which the site was assessed include DOE 5483.1A and OSHA's General Industry standards contained in 29 CFR 1910.

The RL Occupational Safety Branch, under the Technical Support Division, develops programs/procedures and standards in accordance with DOE Order requirements for health and safety of RL and its contractor employees. This branch office also provides management or staff assistance and/or technical guidance to contractors and other RL organizations in the assigned technical discipline areas.

The Safety, Environmental, and Security Assessment Branch (SES) under the Office of Compliance performs independent oversight of OSHA compliance through periodic inspections of workplaces. Limited oversight activity has been performed because of a limited number of personnel resources that are available within the SES.

The Occupational Safety Program oversight activities for RL are supported by Stone and Webster, a support services contractor for RL. In an effort to reach excellence in the occupational safety and health area, RL sent out a letter in April 1992 to all its contractors requiring implementation of OSHA's Voluntary Protection Program guidelines. Contractors are in the pursuit of implementing the RL's requirement.

The Hanford Site has made significant improvement in the occupational safety area since the Tiger Team Assessment. PNL and WHC have evaluated their current policies and procedures against the four elements of the Safety and Health Management Guidelines, and tried to incorporate those elements in those areas they felt they were deficient. They each have plans to initiate a pilot program implementing the requirements of the four Safety and Health Management elements. WHC has made several improvements during the past year. For example, they initiated Safety Observer training classes for, and trained about, 230 employees. Another example of WHC's improvement is the initiation of a reporting system to management of the injuries occurring during the last 24 hours.

Similar improvements have been made by PNL. For example, PNL has trained all craft services supervisors in the occupational safety and health area, and PNL is continually trying to develop new safety and health initiatives, including an employee incentive program.

HEHF has made adequate progress in updating its occupational safety programs. About 75 percent of the deficiencies identified by the Tiger Team have been corrected. However, they have not developed a program plan for the implementation of the four Safety and Health Management Guideline elements.

With respect to Lockout/Tagout Program, at least three different approaches are still in use at Hanford Site. In part because of these differences, there is a continuing problem with violation of Lockout/Tagout procedures. However, a simplified program has been drafted by a Hanford Site team made up of

representatives from DOE, WHC, PNL, KEH, and SWEC. This revised program, which is currently in the draft stage, incorporates the OSHA 1910.147 requirements on Lockout/Tagout, and is expected to be adopted for sitewide use.

The Progress Assessment Team identified two concerns related to the Occupational Safety Program, which are presented in Appendix B-3 (see Concerns S/C-7, OSHA Safety and Health Management Guidelines and S/C-8, Process Safety Management (PSM) Implementation).

2.4.6   Construction Safety Program

In the area of construction safety, the Progress Assessment Team evaluated the adequacy of the Hanford Site program both in terms of the effectiveness of the KEH's construction safety program and the adequacy of oversight of KEH's program by RL. Construction safety was not evaluated as part of the 1990 Tiger Team Assessment. In conducting the assessment, the Team looked specifically at how well both KEH and RL have integrated the management of construction safety into the project management process, the adequacy of OSH staff support to KEH and RL project engineers, and the use of the self-assessment process to improve program performance. This approach was selected because DOE and KEH project managers have the line responsibility to ensure that KEH and subcontractor activities fully comply with project OSH requirements. The assessment was performed by interviewing KEH and DOE staff responsible for construction safety, reviewing construction safety program documents, and by visiting seven active construction projects managed by KEH. The key standards used to assess the management and performance of RL and KEH in the construction safety area include 29 CFR 1926 and 1910 OSHA regulations, DOE 5480.9 and 4700.1, dealing with Construction Safety and Project Management, and Secretary of Energy Notice (SEN)-6 and its revisions.

Ongoing construction projects at the Hanford Site include several major projects (the Grout Facility, the LERF Project, the WCSF, and the recently started HWVP), several more mid-size projects in the million dollar range, and a large number of small projects in the \$10,000 to \$300,000 range. Project Management Division (PMD) is the primary RL line organization responsible for the management of KEH's contract and its Director is the Contracting Officer's Representative (COR) for the KEH contract. However, a significant amount of construction at Hanford is performed by KEH with line accountability to the Treatment Projects Division (TPD) (e.g., the Grout Facility), and Project Management Division (PMD) (e.g., the LERF Basins) or by KEH or WHC under line supervision of RL's Assistant Manager for Operations (AMO) (typically smaller scale maintenance/rehabilitation projects). RL oversight of KEH's compliance with contract OSH requirements are accomplished through surveillances and walkthroughs performed by representatives of the responsible line organization as well as by representatives of RL's Technical Support Division (TSD) and Office of Compliance (CMP).

The responsibility for the implementation of KEH's Construction Safety Program, as defined within Kaiser Operating Policies (KOP) and Kaiser Administrative Procedures (KAP), lies with the assigned Project Engineer or Superintendent within KEH's Construction Services Division. They are supported by technical staff within KEH's Performance Assurance Division in the areas of construction safety, industrial hygiene, and radiation protection.

Overall, KEH has a satisfactory construction safety program. There is significant emphasis on staff training, formalized procedures, and management accountability for construction safety performance. There are, however, shortcomings in several key areas. The investigation of a recent onsite fatality revealed deficiencies in KEH's prejob planning and job safety analysis procedures and implementation. These procedures have been recently revised to address this deficiency. KEH has made efforts to identify trends in frequently occurring jobsite violations. They have not implemented effective measures to improve performance in deficient areas, particularly in the area of electrical safety.

Construction represents the highest risk activity for worker safety on the Hanford Site (32 of 45 recorded fatalities have been attributed to construction activities), yet RL line oversight of compliance with construction safety standards is minimal. With the exception of the large projects managed by TPO and PMD (e.g., the Grout Facility and LERF, respectively), there is very limited direct RL oversight of construction activity. RL project engineers and line management have limited training in construction safety, do not visit their assigned projects on a regular basis, and view their role as monitoring project cost, schedule, and technical requirements during its construction phase. For construction projects less than \$300,000, projects are not assigned to project engineers and there is no RL line oversight of ongoing construction activity.

The Progress Assessment Team identified two concerns related to the construction safety program which are presented in Appendix B-3 (see Concerns S/C-9, RL Oversight of Construction Safety and S/C-10, KEH Corrective Action Program).

Appendix A

SUMMARY TABLE OF CONCERNS, IMPROVEMENT ITEMS, AND STRENGTHS

**SUMMARY TABLE OF CONCERNS,
IMPROVEMENT ITEMS, AND STRENGTHS**

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M/C-4	Enabling Systems for Implementation of Self-Assessment Program	B-1-10
M/C-5	RL Oversight of ES&H Programs and Activities	B-1-12
M/C-6	Program Secretarial Officer (EM and ER) Oversight of ES&H at Hanford	B-1-15
M/C-7	RL Directives/Procedures System	B-1-17
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M/C-9	DOE Strategic/Implementation Planning, Budgeting, and Resource Allocation	B-1-21
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E/C-2	Coordination with Natural Resource Trustees	B-2-4
E/C-3	RL Groundwater Protection Management Program	B-2-6
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E/C-5	RL Management of Waste Programs	B-2-10
E/C-6	Waste Minimization Program	B-2-12
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E/II-1	Subcontractor Laboratory Support	B-2-17
E/S-1	Public Involvement in Future Hanford Land-Use Decisionmaking	B-2-18
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**SUMMARY TABLE OF CONCERNS,
IMPROVEMENT ITEMS, AND STRENGTHS**

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S/C-3	Conduct of Operations Interfaces Between WHC and KEH	B-3-5
S/C-4	Safety Analysis Reports (SARs) and Operational Safety Requirements (OSRs)	B-3-6
S/C-5	DOE Direction Concerning Operational Readiness Reviews, and Hazard and Safety Classifications	B-3-9
S/C-6	PNL Hazard Assessment and Exposure Monitoring	B-3-11
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S/C-8	Process Safety Management (PSM) Implementation	B-3-16
S/C-9	RL Oversight of Construction Safety	B-3-17
S/C-10	KEH Corrective Action Program	B-3-20
S/II-1	Implementation of the Job Control System for the Waste Tank Facility	B-3-22
S/II-2	Training for WHC Tank Farm Facility Operators	B-3-24
S/II-3	RL, WHC, and PNL Planning and Budgeting for Industrial Hygiene Program Activities	B-3-25
S/II-4	Formality of WHC Industrial Hygiene Program Operations	B-3-26
S/S-1	Sitewide TQM Initiatives	B-3-27

Appendix B

CONCERNS, IMPROVEMENT ITEMS, AND STRENGTHS BY DISCIPLINE

Appendix B-1

ASSESSMENT DETAILS - ES&H MANAGEMENT SYSTEMS/CONCERNS, IMPROVEMENT ITEMS, AND STRENGTHS

Assessment Concern Number:

M/C-1

Assessment Concern Title:

Corrective Action Plan Program

Performance Objective

ES&H Management Objective for Progress Assessments 4.4.3.1 states that a formal process captures, on a sitewide basis, ES&H deficiencies identified in assessments, and reviews and tracks corrective actions through verified closure.

Concern

The Hanford Site corrective action plan program is neither fully developed nor fully implemented and as a result it does not collect all of the site ES&H deficiencies or require verification against established criteria.

Discussion

An effective corrective action program establishes systems for capturing all ES&H deficiencies; tracking, followup, completion, and closure of corrective actions; conducting root cause analyses and trends; incorporating lessons-learned; and communicating results and trends to appropriate organizations. Further, a corrective action program identifies significant deficiencies and delinquent action items and alerts management for review and action. Since the completion of the Tiger Team Assessment (TTA), RL has been issuing direction and guidelines for the Hanford Site in a fragmented manner. All the components of a complete program are not yet an established requirement nor implemented within RL or the contractor organizations (also see Concern M/C-4). Some progress is being made, but the TTA corrective actions have been ongoing with varying degrees of control and rigor since the completion of the TTA in July 1990. The following specific deficiencies in the corrective action program were identified:

- Tracking systems at the contractor organizations are in various stages of development, some nearing full implementation (i.e., WHC, KEH, and PNL). However, HEHF has only a tabular listing of TTA corrective actions and action items (I-A-23). RL has not conducted oversight of the implementation of their contractors' tracking systems for implementation of a comprehensive, fully functioning system (I-A-20 and I-A-5). RL has overviewed tracking systems for data fields and compatibility with the RL Central tracking system.
- Since the TTA, there has been some RL oversight of corrective plan implementation, primarily related to an investigation of tank farm vapor exposures. CMP completed this Class "B" investigation. This report identified numerous deficiencies related to inadequate corrective action tracking, root cause analysis, trending, action tracking systems, accounting of WHC action items, corrective action management system, review of closed actions for definitive closure, and followup of action items.
- RL-Assistant Manager for Projects (AMP) has oversight responsibility for closure of KEH action items, but does not have

protocols or procedures to close them (I-A-4). Line management reviewed all completed action item packages but there has been no independent RL oversight of them. All but three KEH action items are closed.

- RL-Tank Farm Project Office (TFP) informally manages TTA Action Plan activities through daily, undocumented meetings (I-A-7). RL-TFP has no formal procedures or protocols for closing action items.
- RL has closed action plan packages that are the responsibility of RL to complete, but there has been no independent quality assurance verification of these actions nor oversight by EM (I-A-5).
- Action items are priority ranked using the established Priority Planning Grid (PPG) processes. Contractors are required by RL to trend corrective actions with a PPG below 11 by a footnote in the graded approach table. There is no requirement to trend actions with a PPG value less than 11 in the RL corrective action system for sitewide deficiencies, even though issues can be identified from these trends (I-A-19). The RL, WHC, and KEH programs have the capability to trend this data, but RL does not collect the data. The HEHF system cannot trend data. Therefore, it is not possible to identify sitewide deficiency trends at this level.
- There is no consistent set of sitewide criteria for action plan closure, nor is there a procedure. For action items with a PPG above 11, RL rejected 9 of 63 WHC closure packages that have been reviewed (I-A-18). Approximately 58 percent of the TTA action items are rated above a PPG value of 11. In addition, it is reported that for all other action item completed package reviews below the 11 threshold, the rejection rate by DOE of completed packages is on the order of 15 to 20 percent (I-A-21). Lessons-learned from this experience are not collected and fed back to improve performance. (A March 13, 1992, internal WHC memorandum addressed a lesson to be learned).
- In the conduct of operations and conduct of maintenance performance areas, Category II TTA concerns related to hoisting and rigging and others are being closed with no quality assurance checks.
- The Team found instances where closed TTA action items, as in TTA Concern MA.2-1, had failed to correct root causes and did not correct similar deficiencies in other locations.

Priority levels and action items are not periodically reviewed and updated by actionees through a formal process with appropriate levels of approval.

- In the groundwater protection area, the TTA action item related to characterization of the hydrogeologic regime has not been reevaluated to consider technical data developed by activities being performed (see Concern E/C-4).

- HEHF had developed actions for five findings that are not included in the RL Tiger Team Findings and Planned Corrective Action system as HEHF responsibilities (see Tiger Team Assessment Findings M-6, 8, and 9; TSCA/CF-5; and FR.5-1). As a result, HEHF has deleted these items from their tracking system. There are no written procedures developed by HEHF to process, track, close, or verify TTA findings (I-A-23).
- The "RL Plan for completion of the Tiger Team Action Plan" Rev. 1, November 20, 1991, does not address control of action items or tracking requirements.
- For activities below established thresholds, contractors do not consistently perform independent verification. In addition, RL provides little oversight of the completed action items for closure and verification, except for KEH and the CMP review of action items related to the radiation protection program.

RL has taken actions that are part of a comprehensive approach to a corrective action program, but much remains to meet all requirements for a fully implemented program. The following actions have been taken towards implementing a corrective action program.

- RL issued a Self Assessment Policy and Requirements document on December 17, 1991, that emphasizes only three systems. These address (1) prioritization of deficiencies; (2) application of graded corrective action; and (3) data fields and data field contents for tracking systems. A response within 45 days to address a plan to implement these activities was required. Other attributes that are a part of a comprehensive corrective action program do not require response until FY 1993 (D-A-40).
- A memorandum issued by RL, "Verification and Closure of Tiger Team Findings" (March 19, 1992), provides interim guidance to RL Division Directors for control of change, verification of TTA findings, and closure of action items.
- RL memorandum "Guidelines for Tiger Team Finding Electronic Data Transmittals" (April 2, 1992), provides guidance for weekly delivery of data to the Tiger Team Findings and Planned Corrective Actions tracking system.

RL recognizes the slow progress by contractors and RL to fully implement a complete program (I-A-21). Further, RL acknowledges that (1) contractors have been given the "what to do," but have not been given the "how to" for corrective action completion and closure; (2) that there is no common understanding of expectations between RL and its contractors; and (3) that RL has not communicated the full range of requirements nor plans and procedures (I-A-21). Contractors express frustration at the lack of consistent RL direction on expectations, especially for closure of packages. Based on the interviews conducted during this assessment, there is not a good understanding of requirements between the RL staff and the site contractor staff. The dissemination of guidance and requirements in small increments places emphasis on narrow elements, rather than on developing a comprehensive approach to a program that can be implemented.

The causal factors for this concern appear to be inadequate policy implementation and guidance.

Assessment Concern Number:

M/C-2

Assessment Concern Title:

EM Direction for Corrective Action Program

Performance Objective

Secretary of Energy Notice (SEN)-6D-91, "Departmental Organizational and Management Arrangements," provides requirements for establishing Self-Assessment Offices within the Program Offices for independent feedback of how effectively line management implementation and oversight of ES&H satisfy the directive's goals. Secretary of Energy Memorandum, "Guidance on Environment, Safety, and Health (ES&H) Self Assessment" (July 31, 1990), provides guidelines for self-assessment programs that include formal reporting systems to document, communicate, and track findings and corrective actions. Also, the Secretary directs each Secretarial Officer to review and approve self-assessment programs developed by field offices for which they have responsibility.

ES&H Management Performance Objective for Progress Assessments 1.4.3 states that management information systems are in place to track, trend, determine root causes, provide lessons-learned, and furnish management with the current status of ES&H compliance.

Concern

EM has not implemented a formal policy or requirement for institutionalizing a comprehensive corrective action plan program for the Hanford Site.

Discussion

An effective corrective action plan program is required to ensure that identified deficiencies are controlled, tracked, verified, and evaluated for root cause and that issues that are beyond a specific deficiency (root causes and similar deficiencies in other site locations or organizations) are addressed in the action plan. Further, a comprehensive system will alert management of trends that are adversely affecting the program and elevate delinquent items for disposition. EM Headquarters has not implemented policy or given clear direction for the Hanford Site that delineates requirements for a formal Corrective Action Plan and process that captures all identified ES&H deficiencies and inputs them into a comprehensive corrective action system.

EM issued a memorandum dated January 6, 1992, concerning a draft EM Management Plan for Self Assessment that contains, as a part of the Requirements Section, the establishment of management systems that contain many corrective action program elements. This draft plan is to be followed by additional detail when DOE's self-assessment guidance is issued. The objective of the plan is to promulgate EM policy, although it is not clear whether or not its transmittal in draft was intended to effect the policy. RL did not interpret the memorandum as establishing policy and EM has not followed up with requests to RL for specific actions, schedules, or implementation plans. As a result of RL formal and informal guidance, the corrective action programs at the Hanford Site (RL and contractor organizations) are developing in a fragmented fashion with only a few elements of a comprehensive program addressed (see Concern M/C-1).

The causal factor for this concern appears to be a lack of policy implementation, in that EM has not taken actions to ensure that the policy promulgated in draft form is being implemented by RL and Hanford Site contractor organizations.

Assessment Concern Number:

M/C-3

Assessment Concern Title:

**RL and Hanford Contractors
Self-Assessment Program**

Performance Objectives

SEN-6-89, dated May 19, 1989, through SEN-6-D, dated May 16, 1991, require establishment of independent self-assessment organizations in the field, at both DOE and contractor sites. These organizations were directed to be operational by September 30, 1991.

A January 26, 1990, directive from the Secretary required all line organizations to implement comprehensive self-assessment programs.

A July 31, 1990, memorandum from the Secretary concerning ES&H self-assessment provides further direction to DOE field offices to institute self-assessment programs and attaches guidance for improving and/or implementing such programs.

Concern

RL and its contractors have not fully implemented the Secretary's mandate to establish comprehensive ES&H self-assessment programs.

Discussion

The Secretary mandated his self-assessment policy in January 1990, provided additional guidance in July, 1990, and reaffirmed its importance in SEN-6-D in May 1991. Two and one half years after the Secretary's mandate and nearly two years after he provided additional guidance, RL does not yet have a comprehensive self-assessment program. The schedule in the Tiger Team corrective action plan to implement a program by October 1991 has not been met.

In December 1990, RL established a sitewide steering committee to develop a self-assessment methodology, establish Hanford policy, and share information. The committee developed a basic approach which was submitted on September 26, 1991, by the RL Manager to EM for approval. The schedule in the submittal reflected a different date for full implementation than the Tiger Team Action Plan. On December 17, 1991, the manager of RL issued Self-Assessment Policy and Requirements for the Hanford Site (D-B-2) to the Hanford site contractors. That document required establishment of self-assessment programs by the beginning of FY 1993. However, the directive failed to cover all required elements of a self-assessment program and was not issued to RL managers. The following discussion addresses inadequacies in the RL guidance, indications that the FY 1993 date will not be met, and deficiencies in development of the RL and contractor programs.

The July 31, 1990 guidance from Secretary Watkins identified two self-assessment program elements which are not found in the RL guidance.

- The Secretary required use of a formal system for carrying out corrective actions which assigns responsibilities and includes

budgeting and scheduling information. The RL policy and requirements directs only that major improvement items documented in self-assessment reports be incorporated into program plans (I-B-15).

- The Secretary also required use of performance objectives and criteria (POCs) as part of the self-assessment program. This requirement is not part of the RL guidance, although RL recognizes that it should be an element and is now beginning to develop POCs (I-B-15).

The approach taken by the Hanford Site through the DOE/Contractor Self-Assessment Steering Committee to develop the self-assessment program has been to focus on consolidating the body of known deficiencies identified through audits, surveillance, and appraisals by groups external and internal to the Hanford Site. This data is then reviewed to ascertain whether any new information or trends indicate the existence of any areas needing additional attention or highlight areas of excellence. This approach may serve the Secretary's objective of developing self-assessment programs which build upon existing programs, but does not meet other fundamental objectives of a self-assessment program. The Secretary's guidance requires that, in addition to the use of available data, personnel examine their operations and activities for compliance with requirements and track newly identified deficiencies through to closure. The current guidance provides for consideration of employee input on use of checklists, and efforts are underway to identify POCs. However, the Hanford program and approach is currently missing those requirements of POCs and tracking which would enable this aspect of self-assessment to be implemented.

Several other required program elements are present but not fully developed:

- Although training on certain aspects of the self-assessment program is in place, a training program for all personnel who will be conducting self-assessment has not been developed and implemented.
- While trending is required by the RL guidance, and in some cases, is being performed by contractors, contractor and DOE personnel recognize that the process and requirements for a trending program are not yet in place (I-B-4, 7, 10, and 15).
- The planning component of self-assessment requires that self-assessments be planned to take other ongoing assessment activities into account. RL does not intend to address this requirement until CY 1993 (I-B-1).

The guidance issued by RL to the contractors has not been issued to RL managers and established as a required activity for RL itself. The process laid out in the guidance for conducting self-assessment does not clearly reflect that RL is required to assess itself.

Based upon the above deficiencies in the RL guidance and program, and the need to further develop certain program elements, Hanford will not be able to meet its schedule of implementing a self-assessment program by FY 1993. The actions of RL do not demonstrate a strong commitment to such an effort.

Instead, within RL, self-assessment program development and implementation appears to be treated as one more activity that everyone will have to add to their already heavy workload (I-B-2 and I-B-15). RL is considering waiting for HQ to finalize its self-assessment directive before proceeding further with the development of the program (I-B-15).

Despite the absence of a self-assessment program at RL, there is evidence that some self-assessment activity is taking place. A RL program engineer involved in the DOE/Contractor Self-Assessment Steering Committee, which developed the Hanford Site self-assessment guidance, indicated that the methods developed to identify, evaluate, and manage corrective actions had introduced efficiencies into job performance and were helping to improve the quality of audits and surveillances conducted by his organization (I-B-6). There are also initiatives within the RL Environmental Restoration Division to develop self-assessment procedures out of the sense that current progress may be insufficient (I-B-5). Finally, some personnel are conducting self critical reviews in the management and organization area. These activities could qualify as self-assessment even though the personnel have not been trained in self-assessment and did not recognize them as such (I-B-31 and I-B-13).

Deficiencies within the Hanford Site contractor organizations include:

- There has been confusion over which organization at WHC should have responsibility for managing the self-assessment program. A responsible organization has now been identified, but the effort has not been staffed, and this could delay program development (I-B-4 and I-B-4). As with RL, the WHC Environmental Restoration Program is moving out ahead and developing a self-assessment program below the corporate level (I-B-11), and there also is evidence of initiatives in other groups (I-G-25).
- There had been an unresolved issue at KEH regarding where management of the program should lie within the organization and this could delay program development. In addition, management attention to self-assessment reports and the level of action taken to address improvement items identified on KEH self-assessment reports is not sufficient (see Concern S/C-10).
- Lack of resources and turnover of personnel have impacted HEHF's ability to have a program in place by the beginning of FY 1993 as directed (D-B-20 and I-B-16). However, HEHF is working to a schedule to develop a program by the end of CY 1992.

PNL is progressing adequately towards development of a self-assessment program. A draft program plan and orientation materials have been prepared, and POCs have been established (I-B-10 and I-B-10). There was visible evidence in Building 325 of management commitment to self-assessment, and self-assessment activities are discussed at regular staff meetings. Efforts to address negative trends in the number of reportable occurrences pursuant to DOE Order 5000.3A have been successful (I-B-9).

The causal factor for this concern appears to be risk in that RL management has identified failure to develop a self-assessment program as a low risk item.

Assessment Concern Number:

M/C-4

Assessment Concern Title:

**Enabling Systems for Implementation
of Self-Assessment Program**

Performance Objective

The July 31, 1990, memorandum issued by Secretary Watkins concerning ES&H Self-Assessment requires development of a formal system for carrying out and auditing corrective actions.

Concern

The approach developed by the Hanford Site to manage identified deficiencies lacks sufficient formality to ensure that the system will be established and implemented in a consistent fashion.

Discussion

The initial focus of efforts to develop a self-assessment program at the Hanford Site has been to develop enabling systems which provide the means for conducting self-assessments. Three systems are under development: a database which consolidates existing deficiency tracking databases; the Priority Planning Grid (PPG), which provides a means of assigning a value to deficiencies based upon their relative risk; and a graded approach to corrective action management activities of tracking, root cause analysis, closure, and issuance of lessons learned based upon that relative risk ranking.

The Self-Assessment Policy and Guidance issued in December 1991 directed the contractors to implement these enabling systems by the beginning of FY 1993 (D-B-2). Although some procedures are currently under development these systems have not yet been formalized. RL and the Hanford contractors must build in appropriate safeguards to assure that the systems are being properly, consistently and effectively used by all parties. In addition, many other elements of a comprehensive corrective action program are not yet established or required (see Concern M/C-1).

The three enabling systems operate as follows:

- The Hanford Self-Assessment Database (HSADB) will capture all DOE findings regardless of their PPG value and all contractor findings with a PPG above 11. The database is scheduled for full implementation by the end of FY 1992. To create the database, each contractor was required to establish common data fields in their own deficiency tracking systems. Those datafields will then be downloaded from each contractor's database.
- The PPG is a method for ranking deficiencies based upon relative risk. Use of the grid involves an evaluation of the seriousness of the deficiency and the likelihood that adverse conditions would result if the deficiency were not corrected. Training is required before an individual is qualified to use the PPG, and training is available through the QTRC.

- The graded approach to corrective action is based upon the PPG. The PPG score is used to determine the minimum corrective action investigation to be applied to track, analyze for root cause, evaluate lessons learned, and close deficiencies.

The following concerns were identified with regard to the PPG and the graded approach to corrective action:

- A process has not been established to ensure that the version of the PPG used is current across the Hanford Site and that it is applied consistently. The PPG is undergoing a nearly continual process of modification to ensure that it is as exacting as possible in setting relative risk values (I-B-6 and I-B-15).
- Lessons learned from application of the PPG have not been formally disseminated and strict controls have not been established to ensure adequate oversight and consistent application. However, oversight activities and attempts to ensure consistent application have taken place (I-B-3).
- There is no requirement under the graded approach to corrective action to track low value PPG items on a consolidated database, even at the contractor level. However, the Hanford guidance on self-assessment programs requires that trend analysis be conducted for all formally reported deficiencies (D-B-2). There is a concern that low PPG value items tracked by the individual actionee will not be available for formal trend analysis as required to provide indications of changes in performance and identify further corrective actions necessary to address frequently occurring problems or those with a common root cause. At this time, only the WHC system provides for tracking all deficiencies regardless of PPG value.
- Expectations of what is required to complete and verify corrective actions taken to address deficiencies by both the contractor and RL are not clearly defined in procedures or guidance.
- Once a PPG value is assigned, it is not required that this value be reexamined if the conditions leading to the initial ranking change.
- Due to the graded approach to RL corrective action, only deficiencies scoring above 11 on the PPG are tracked by RL. RL may not have a body of data which adequately reflects the actions and efforts necessary to correct deficiencies at the contractor level. One contractor, HEHF, has commented that its findings will generally fall below the cut off point at which they enter the sitewide data base which can be accessed by RL (D-B-20).

The causal factors for this concern appear to be procedures in that no formal mechanisms have been established to control these enabling systems and require appropriate oversight. Policy may also be a causal factor, in that established guidance may not be adequate to meet the program requirements for formal trend analysis.

Assessment Concern Number:

M/C-5

Assessment Concern Title:

RL Oversight of ES&H Programs and Activities

Performance Objective

Performance Objective 4.4.2 of ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) specifies that DOE field office personnel are actively and personally involved in assessment (e.g., appraisals, audits, and surveillances) and review of field 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.

Concern

RL guidance, direction, and assessment of contractor ES&H programs and activities and in RL independent assessment of field office activities is inadequate.

Discussion

Within RL, line oversight is currently performed through the Assistant Manager for Operations (AMO), the Deputy Manager for Environment (DME), and the Tank Farms Project Office (TFP). Independent oversight of the ES&H programs of both the contractors and RL is provided by the Office of Compliance (CMP). The two Branches of the CMP (QA and SES) perform formal surveillances of contractor ES&H programs and activities. Line managers, with support from the Technical Support Division (TSD), perform other oversight activities such as document reviews, DOE 5000.3A evaluations, award fee evaluations, ES&H program guidance and direction, self-assessment, deficiency tracking and trending, etc. Since the Tiger Team Assessment, RL has expanded the site representative program to provide increased onsite presence of DOE staff. The RL CMP also performs QA audits, DOE 5482.1B appraisals, and Operational Readiness Reviews (ORRs).

The Progress Assessment Team identified inadequate RL performance of line and independent oversight responsibilities in a number of areas. Following are examples of the failure of RL to provide adequate guidance, direction, review, and assessment of contractor and RL ES&H programs and activities:

- The RL Mission and Function Statement (D-C-42) states that the CMP performs independent oversight of RL ESH&QA via surveillance, audits, and management assessments. In 1992, the CMP staff has conducted several audits of specific RL activities at the direction of the RL manager, one in response to a DOE-HQ inquiry. In addition, RL activities have been assessed as parts of audits and surveillances of contractors in some cases. However, all of the approximately 90 CMP oversight activities listed on the FY 1992 CMP schedules for audits, appraisals, and surveillances are directed at Hanford contractors, none at RL activities or programs. An August 26, 1991, letter to RL Office and Division Directors, signed by the RL Deputy Manager (D-C-35), stated that CMP assessments of RL activities had not been initiated due to the

lack of RL implementing procedures and required the Directors to provide a status and schedule for issue of implementing procedures by September 30, 1991. The letter further indicated that CMP assessments of RL would commence in January 1992. RL divisions have not yet developed the needed procedures and CMP has not performed an adequate number of assessments. The Progress Assessment Team is concerned that the identified lack of formality of operations in the field office has not received adequate management attention and priority and that assessments of performance are not being performed simply because of a lack of procedures in the audited unit. The lack of procedures, collectively or in individual RL units, should be formally identified in the RL audit/surveillance system and dispositioned as required by procedure.

- RL CMP has not audited, nor is an audit scheduled for, the facility effluent radiological monitoring programs of WHC and PNL.
- The Facilities Surveillance Branch (FSB) of the RL Operations Division (OPD) provides onsite RL presence at key operating facilities. Oversight activities of FSB include seven to ten scheduled, formal surveillances in various facilities, many conducted by the General Site Services Contractor (SWEC) personnel. The findings from these surveillances are formally documented, communicated to the responsible parties, and entered into the RL tracking system for tracking, closure and verification. However, there are no OPD or FSB procedures that detail the conduct of routine daily surveillances by the site representatives, the documentation of observations and findings, the communication of findings and concerns and corrective actions, the closure or verification of corrective actions, or the elevation of concerns to other appropriate deficiency reporting systems or to management's attention. As a result, each site representative uses individual systems to document surveillance activities and results and findings are not collectively tracked or trended to identify generic or systemic deficiencies.
- In the area of construction safety, KEH's environment, safety, and health program was reviewed and approved in 1987 but subsequent revisions to the program have not been approved by RL. Line oversight of construction activities for compliance with safety requirements is sporadic. RL line staff generally do not believe that they are responsible for onsite oversight of construction safety and there has been no comprehensive review of construction safety by RL CMP (see Concern S/C-9).
- RL is not providing clear, consistent and appropriate guidance and direction to the Hanford contractors for implementing corrective action plan programs (see Concern M/C-1).
- RL has not provided guidance to the Hanford Site contractors regarding all circumstances under which an Operational Readiness Review (ORR) should be performed, how ORRs are to be performed, and which organization (line or independent) performs the ORR. Neither has RL ensured timely development of Hazard Classification

for a facility nor for the assignment of the level of Safety Classifications of equipment, systems or components important to the safe operation of a facility or relied upon to mitigate the consequences of an accident (see Concern S/C-5).

- Independent oversight of the Hanford ER program by RL CMP is not sufficient to ensure effective program management. CMP has not conducted any formal oversight of ERD program management activities (I-F-22). RL line management oversight of contractor performed ER activities is also insufficient. No formal surveillances are conducted by ERD, and unit managers within ERD are rarely available to conduct routine field level oversight of contractor field activities (see Concern E/C-2).

The causal factors for this concern appear to be risk, policy implementation, and supervision in that RL management has not accorded the concepts of formality of operations and self-assessment in the field office sufficient priority, nor assured that DOE policies towards rigor and formality have been implemented.

Assessment Concern Number:

M/C-6

Assessment Concern Title:

Program Secretarial Officer (EM and ER) Oversight of ES&H at Hanford

Performance Objective

Performance criteria 1.4.1 and 1.4.2 of the ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) specifies that Program Secretarial Officer staff provide necessary and timely interpretations and guidance to ensure full implementation of ES&H laws, regulations, DOE Orders, and other DOE requirements. Program Secretarial Officer line organizations and independent ES&H oversight organizations conduct appropriate appraisals, Operational Readiness Reviews (ORRs), ES&H document reviews, and cost plus award fee (CPAF) evaluations/Annual Institutional Appraisals.

Concern

The independent oversight role of DOE Headquarters offices of EM and ER are not well established. Guidance and direction is often untimely and much of the oversight is reactive, rather than planned and scheduled.

Discussion

The Office of Environmental Restoration and Waste Management (EM) is the lead Program Secretarial Officer for the Hanford Site. As such, the EM Office of Oversight and Self-Assessment (EM-20) is responsible for providing independent ES&H oversight at Hanford. In addition, draft Memoranda of Agreement between EM, RL, and the other Program Secretarial Officers with facilities or activities located at Hanford delegate day-to-day oversight to RL with each Program Secretarial Officer responsible to perform independent assessments of the RL ESH/QA programs as well as providing guidance and review of ESH/QA programs, ORRs and reviews of documentation such as SARs and NEPA documents.

Progress Assessment Team interviews with EM and ER (which has program responsibilities for PNL activities) Headquarters personnel (I-C-1 through I-C-9) and reviews of documents indicate that the ES&H guidance, direction and assessment efforts by EM are in the early developmental stages. The ER program is more formally developed, but assessment activity at PNL is minimal. Day-to-day guidance and direction for ES&H matters is provided by EM. This guidance and direction is primarily given verbally and on an as requested basis. However, tank safety issues at Hanford have received extensive attention and scheduled oversight from EM through the Tank Safety Oversight Group, EM-36. EM and ER do perform ES&H oversight activities related to document reviews such as ES&H quality assurance program plans, award fee determinations, budget and manpower requests, etc.

In EM, ES&H Program implementing procedures are still being identified and developed, schedules for independent assessments have not yet been finalized and additional technical staff are being hired and trained. Assessment activities performed by EM are primarily reactive at this time, and guidance and direction is not always timely. For example, formal EM guidance and direction to field offices regarding DOE 5480.19, "Conduct of Operations at DOE Facilities," issued in July 1990, was still in draft form and had not been

disseminated as of April 27, 1992. It is noted that EM has recognized the value and importance of the Conduct of Operations initiative and has established a separate EM HQ Office of Operations Oversight (EM-25) to provide guidance, direction, and oversight of these activities. EM guidance on self-assessment was only provided to the site in draft form for comment in January 1992. In addition, due to the continuing lack of qualified ES&H personnel in the line EM and ER organizations, the "independent" ES&H organizations are performing a significant amount of ES&H technical support activities, detracting from their assigned mission and compromising the required organizational independence.

The causal factors for this concern appear to be resources in that sufficient numbers of qualified ES&H personnel have not been allocated or acquired to perform the required oversight activities; and change in that DOE has not made the adjustment to changes in mission and ES&H requirements.

Assessment Concern Number:

M/C-7

Assessment Concern Title:

RL Directives/Procedures System

Performance Objective

Performance Objective 2.4.1 of the ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) specifies that a field office directive system be in place to ensure that ES&H laws, regulations, DOE Orders, Secretary of Energy Notices (SENs) and other DOE requirements are translated into site-specific guidance, and that such guidance is formally transmitted in a timely fashion to the site contractor. Performance Objective 2.4.1.2 also states that the field office directives system ensures common understandings of ES&H requirements, identified their specific impacts on contractor activities, and facilitates contractor development of policies and implementing procedures. Performance Criteria 2.4.2.1 of the same document states that activities throughout the field office are conducted with the formality, rigor, and quality assurance (QA) mandated by DOE ES&H requirements.

DOE 5480.19, "Conduct of Operations Requirements at DOE Facilities," and DOE 5700.6C, "Quality Assurance," both detail the importance of procedure systems to ESH&QA activities.

Concern

RL does not have an effective system in place for DOE directives and RL directives, policies, and procedures to establish and maintain a consistent level of rigor and formality in the management of ES&H activities at the Hanford Site.

Discussion

A solid framework of clear, up-to-date, written instructions detailing administrative, operational, and oversight activities are necessary to implement and maintain effective ESH&QA programs. This framework consists of tiers of documents including requirements and directives, policies, plans, procedures, and instructions. Coupled with this framework of procedures must be a clearly communicated and implemented management policy of strict procedure adherence. In addition, an effective directives/procedures system is essential to enable the Site Management System to integrate DOE ES&H requirements with programmatic objectives and ensure full compliance.

The RL directives system is linked to and formatted after the DOE directives system detailed in DOE 1321.1B, "Departmental Directives System," and includes the only formal field office-wide description of RL's policy on procedures. The formal RL directives system is delineated in RL 1321.1B, "Richland Operations Office Directives System" (May 8, 1986) and RLP 1321.9, "Preparation, Control, and Distribution of RL Procedures" (May 24, 1991).

The Progress Assessment Team identified the following deficiencies in the RL directives/procedures system:

- The above identified RL directives/procedures are out-of-date, are not being followed, and draft revisions and new procedures have

been in development since early in 1991. RL directives and procedures that are not described in RL 1321.1B (RLPs-RL Procedures and RLIPs-RL Implementing Procedures) have been, and are being, issued in accordance with various versions of these draft procedures.

- The biennial reviews of directives as required by RL 1321.1B have not been performed, e.g., RL 5482.1B, "Environment, Safety, Health, and Quality Assurance Appraisal and Surveillance Program," has not been reviewed or revised since issuance in March 1987.
- Issued RL office-wide implementing procedures are not in the directives tracking/control system. Examples include RLP 10-01, "RL Surveillance Program Procedure," and various RL-EPs (issued by the Technical Support Division (TSD)) regarding RL emergency planning and response. RL management has not adequately addressed the lack of an office-wide policy on procedure development and use, or the need to identify and provide for development of office-wide procedures (technical and administrative). Neither the official RL directives/procedure system, nor the draft revisions address these needs. The format and the extent of development and use of formal procedures in RL are inconsistent between the various organizations. For example, RL organizations, Office of Compliance (CMP) and Tank Farm Project Office (TFP) - Operations Branch (OPB) have a well established set of operating procedures either issued or prioritized and scheduled for issue. In contrast, TSD and Operations Division (OPD) - Facilities Surveillance Branch (FSB) do not have well defined procedure systems and key operating procedures have not been developed.
- The lack of management attention to RL procedures and the impact on self-assessment activities is discussed in Concern M/C-5.
- The RL directives system did not capture the July 1990 Secretarial Guidance memorandum detailing the Secretary's expectations related to self-assessment and as a result the directives systems for WHC, PNL, and HEHF did not capture this directive either. Although this type of document is not included in the formal DOE directives system of DOE 1321.1B, it clearly contained important guidance and direction that needed to be formally tracked and communicated to DOE organizations and to the Hanford contractors.

RL has a new version of RL 1321.1B (to be RLID 1321.1C) and a new procedure, RLP 1321.1C, "RL Directives System Program," in draft form. The documents and the processes they detail have essentially been in development since early 1991, and have, in fact, been partially implemented. However, these documents have been developed and administered by the RL Office for Administration (AMA). A Procedure Development Committee was established in 1990 charged with identifying needed RL-wide procedures and coordinating their development. A formal charter was developed and issued and RLP 1321.9, "Preparation, Control, and Distribution of RL Procedures," was issued on May 24, 1991, but has never been implemented. This committee has been inactive for some time. Interviews with RL staff indicated that the committee and its mission did not have the needed support from RL technical managers, and thus was ineffective in improving the DOE procedures and procedures systems in the field office.

Without a coordinated, RL-wide approach to this issue, with total support and involvement by the technical management and staff, the newly drafted directives/procedures documents will probably fail to achieve the desired and necessary result.

The causal factors for this concern appear to be policy in that there is no clear RL policy on procedures and procedure adherence; and policy implementation in that issued procedures for the development and control of directives and procedures at RL have not been adhered to or revised.

Assessment Concern Number:

M/C-8

Assessment Concern Title:

PNL and HEHF Procedure Systems

Performance Objective

Performance Criteria 4.4.2.1 of the ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) specifies that site contractor activities are conducted with the formality, rigor, and quality assurance mandated by DOE ES&H requirements.

Concern

PNL and HEHF directive and procedure systems do not provide a continuous hierarchical flowdown chain from policies and directives to desk level instructions to assure that all ES&H related requirements and policies are consistently and effectively implemented.

Discussion

PNL has extensive Laboratory-wide policies and working level (section) procedures. However, PNL's procedure systems lacks Center-level (PNL's main technical operating organizations composed of branches and sections) implementing procedures to bridge between Laboratory policy documents and Laboratory-wide plans and procedures and Department and section-level procedures. At the Reactor Technology and Materials and Chemical Sciences Centers, Center-level policies are detailed in operation document manuals consisting of five "Plans" addressing safety, chemical hygiene, security, training and waste minimization. However, there are no detailed implementing procedures except for section-level safe operating procedures (SOP). For example, there are no Center-level procedures detailing the requirements for performing management safety walkthrough inspections (required by PNL-MA-43, Industrial Hygiene, Occupational Safety, and Fire Protection Program), or for identifying, correcting, tracking, and closing internally identified deficiencies (each branch has its own method for tracking and closure).

HEHF lacks company-wide and staff level implementing procedures for such activities as procedure preparation, revision, control, use, etc., and for a company-wide corrective action system (including Tiger Team action plan processing, tracking and closure). As a result, the development and control systems for procedures across company divisions is inconsistent. The lack of formal procedures for processing Tiger Team corrective action plans contributed to deletion of five findings with HEHF required actions from the HEHF and RL action tracking data bases (see Concern M/C-1).

The causal factors for this concern appear to be policy in that the company policies did not clearly dictate development of all required procedures and the DOE and company requirements regarding the formality of operations; and policy implementation, in that quality assurance was not properly implemented.

Assessment Concern Number:

M/C-9

Assessment Concern Title:

**DOE Strategic/Implementation
Planning, Budgeting, and Resource
Allocation**

Performance Objective

Secretary of Energy Notice (SEN)-25A, and the ES&H Management Performance Objectives and Criteria for Performance Assessments (Draft); 2.1: states that ES&H plans and programs are an integral part of the DOE's sitewide strategic and implementation planning, budgeting, and resource allocation process; all programmatic and ES&H activities are integrated and prioritized; procedures exist for analyzing ES&H risks and vulnerabilities of the entire site on a prioritized basis, and for making the necessary trade-off decisions between achieving programmatic objectives and ES&H objectives; and implementation plans guide the accomplishment of ES&H objectives.

Concern

The RL strategic and subordinate implementation planning process has several deficiencies; many ES&H implementation plans to manage RL's activities and the ES&H activities of RL's contractors are incomplete; and RL has not fully integrated all of its contractors into all aspects of the planning process.

Discussion

Strategic and implementation planning is the systematic process management used to transform its vision for accomplishing its mission into actions. The planning process defines the policies and procedures, resources, organizational relationships, management systems, and goals and objectives of subordinate organizations required to accomplish the mission. The goals and objectives derived from this planning process form the basis of a hierarchy of strategic and implementation planning processes by subordinate organizations that, when completed, serve to guide and coordinate the programmatic and ES&H activities of all participants. Following the 1990 Hanford Tiger Team Assessment, RL initiated the development of a comprehensive sitewide management system, the Site Management System (SMS), with the above characteristics. When fully implemented, the SMS has the potential to provide RL management with a powerful tool to carry out its mission in a disciplined, coordinated, and cost-effective manner.

A great deal has been accomplished in the past year; the framework of the SMS is in place and the Hanford Strategic Plan (D-D-5), a draft Hanford Mission Plan (D-D-7 and D-D-8), the Multi-Year Program Plans (D-D-25), Fiscal Year Program/Project Work Plan (D-D-30), and a draft Site Management Plan (D-D-86) have been prepared. While some of the subordinate implementation plans, primarily those of the Hanford Site contractors, are in place, many are in early draft form or remain to be drafted. As a result of the RL phased planning approach, the SMS is not expected to be fully implemented for several years. The RL phased, top down, planning approach serves the project management aspects of the Hanford mission. However, in general this planning approach accords ES&H activities a low priority since ES&H implementation plans are generally the lower tier planning documents. In the case of WHC, ES&H implementation plans have been controlled in accordance with the WHC

Management Control system and are now being finalized and integrated into the SMS. Furthermore, The Hanford Integrated Planning Process does not fully involve the Hanford Site contractors in all aspects of the process as it is designed to do.

RL has not adopted the same standards of formality and discipline that it applies to its contractors. RL Implementation Plans that would guide and provide formality to its own ES&H activities are incomplete, in draft form, or do not exist. For example:

- Implementation plans that guide TSD activities are limited to emergency preparedness procedures; a comprehensive emergency preparedness plan; several RL orders that relate to TSD activities; a document (D-D-82) describing the TSD Mission, Roles/Responsibilities, and Program Management Assignments; a schedule; and a budget (I-D-3). These documents fall short of a comprehensive implementation plan in that they do not provide the protocols for the prioritization and conduct of TSD activities. TFP (I-D-17), AME, AMD, and AMP (I-D-14) exhibit even less formality than TSD in the conduct of their ES&H related activities. They do not have formal, or informal, documented implementation plans to guide and control their own activities or the activities of their contractors.
- CMP does not have a comprehensive ES&H implementation plan. Some scheduled assessments have been based on the date of the last audit when such audits are required by DOE Order requirements, and others have been scheduled when CMP learns of ES&H deficiencies or if past audits identified services deficiencies requiring followup audits. Taken collectively, the processes used by CMP do not represent a proactive approach to plan and prioritize its activities based on risk and performance. CMP has recently developed an audit schedule based on risk and performance (I-D-87).
- RL does not have a formal implementation plan that includes procedures and protocols for the verification and closure of their own Action Items and their contractor's (I-D-12 and I-D-15). RL's rejection of some contractor corrective actions has been attributed to the lack of understanding by the contractors of DOE expectations (I-D-12). This confusion is the direct result of RL's failure to develop, communicate, and implement formal corrective action closure plans (also see Concern M/C-1).
- A formalized RL training program has only recently been initiated; it consists of a preliminary draft program plan for training (also see Concern M/C-12). However, Isolated elements of an effective training program exist, for example QA lead auditor training.

Effective resource allocation, the goal of a comprehensive planning and budgeting process, is founded on a well defined, uniformly applied, prioritization system. In general, the priority system that guides DOE management planning and budgeting decisions is (1) unresolved safety issues; (2) agreements and legal requirements; (3) other DOE Orders; and (4) discretionary activities (I-D-6 and I-D-11). Currently, the Tri-Party

Agreement (TPA) is a dominate consideration of the priority system (I-D-5, I-D-6, and I-D-13). These TPA considerations address a number of factors in addition to ES&H risk. This creates a problem for RL when they must respond simultaneously to different requirements, some placing a higher emphasis on ES&H risk than the TPA (I-D-5). For example, the current RL priority system is not useful for the 1994 budget cycle; priority ranking of TPA, Tiger Team Assessment, and DNSFB cross cutting activities are not well defined. The priority system that satisfies the TPA will not satisfy the risk based priority requirements of the TTA or deficiencies identified by the DNSFB (I-D-12). These shortcomings are further complicated by the fact that planning throughout RL is currently decentralized, resulting in a number of variations of the RL priority system. As a result, RL management acknowledges that it sometimes prioritizes activities on an ad hoc basis in an attempt to satisfy the TPA, Tiger Team Assessment, and DNSFB issues (I-D-11 and I-D-12). RL management indicated that it recognizes the need to develop a single prioritization system to accompany the planning process and expects to centralize the RL planning function (I-D-12 and I-D-13).

An important element of the RL concept for the SMS is the full and active participation of the Hanford Site contractors in all aspects of the Hanford Integrated Planning Process (HIPP). The Hanford Environmental Health Foundation, the Hanford Occupational Medicine contractor, has not been fully integrated into the HIPP. HEHF's involvement in the HIPP is limited to membership on the Hanford Mission Plan steering committee and as the final repository for Site Safety Plans (I-D-22).

The causal factors for this concern appear to be change, in that RL has not had time to respond fully to the recent change in the Hanford Mission; and policy, in that RL has not fully appreciated the need to improve the formality of its own activities.

Assessment Concern Number:

M/C-10

Assessment Concern Title:

**Contractor Implementation Planning,
Budgeting, and Resource Allocation**

Performance Objective

ES&H Management Performance Objectives and Criteria for Performance Assessments (Draft); 4.1: states that ES&H plans and programs are an integral part of the contractor's sitewide strategic and implementation planning, budgeting, and resource allocation process; all programmatic and ES&H activities are integrated and prioritized; procedures exist for analyzing ES&H risks and vulnerabilities of the entire site on a prioritized basis, and for making the necessary trade-off decisions between achieving programmatic objectives and ES&H objectives; and implementation plans guide the accomplishment of ES&H objectives.

Concern

The implementation plans that define and guide the ES&H activities of the Hanford Site contractors are incomplete, many are in draft form, and others do not exist.

Discussion

The Site Management System (SMS) is a formal process that integrates DOE-HQ Directives, Orders, Notices, and Policies with DOE-HQ planning guidance and translates these requirements into well defined work packages for RL and each Hanford Site contractor. Specifically, the Site Management Plan (SMP) (D-D-86) is the principal planning document within the SMS upon which the Hanford Site contractor implementation plans are founded. The ES&H implementation planning of the largest and the smallest Hanford contractors, WHC and HEHF respectively, was examined to sample the status and progress of implementation planning at the Hanford Site.

WHC

WHC has taken a disciplined, systematic approach to their ES&H implementation planning that has the potential to make a major contribution to uniform sitewide plans. WHC issues guides for the preparation ES&H implementation plans (D-D-18) that standardize the form and content of implementation plans and requires a comprehensive regulatory needs analysis. While many program and project plans have been prepared, important WHC ES&H implementation plans are in draft stages of development or are incomplete, and the development of implementation plans is progressing slowly. For example:

- The WHC Waste Tank Safety Condition and Remediation Strategic Plan (D-D-17) and the Facility Effluent Monitoring Plan for the Tank Farms Facilities (D-D-22) subordinate implementation plans have not been fully developed; for example, they lack implementation schedules. Numerous other WHC ES&H related program and project plans are incomplete or in draft form. For example, the Waste Minimization and Pollution Prevention Awareness Program Plan (D-D-14) is not fully developed.

- WHC is developing a staff development ES&H training needs analysis, an important element of a Human Resource Management Plan, for Hanford Tank Farm employees. Currently, the training needs analysis is focusing on operators and will eventually include all staff including engineers and management. This process is expected to take about 5 years to complete (I-D-18).
- WHC is taking a phased approach to a comprehensive, centralized ES&H training system. A fundamental element of its ES&H training system, the Mandatory Training Matrix (MTM), is being developed to identify the ES&H training requirements for all employees (I-D-23). However, it has been completed only through level 5, the mandated ES&H training that applies to all employees to meet company/contractor general requirements, site general requirements, area requirements, and organization requirements (e.g., so they can work in radiation zones). Full implementation of the MTM is forecast for September 1992. This will permit the identification of training requirements for specific jobs, rooms and sometime equipment operation. This Tiger Team Action Plan item is behind schedule.

HEHF

Prior to the Hanford Tiger Team Assessment, HEHF did not have an ES&H planning process or a broad ES&H focus. HEHF perceived that it had a passive role as the Hanford Occupational Health support service contractor (I-D-22). In the past year, HEHF management has become more proactive. HEHF has begun a planning process founded on the planning assumption that its mission will change from surveillance to the Occupational Health contractor focusing on Health Risk Management and surveillance (I-D-22). HEHF developed its first strategic plan (D-D-11), but has not yet developed any ES&H implementation plans to guide and to provide formality to its ES&H activities. For example, since HEHF human resource management has traditionally been limited employment activities, it does not have a comprehensive HRM Implementation Plan (D-D-67) and is just beginning to develop and implement an ES&H training needs identification.

The causal factor for this concern appear to be change, in that WHC has not had time to respond fully to the change in the Hanford mission and HEHF has not fully appreciated the changes required by the new Hanford mission.

Assessment Concern Number:

M/C-11

Assessment Concern Title:

Human Resources Management Systems

Performance Objective

Management Performance Objectives and Criteria for Progress Assessments 2.3.1 and 4.3.1 cite the need for a sitewide human resources planning process that identifies short-term and long-term staff requirements for ES&H programs to ensure sufficient and appropriate personnel are available for full implementation of those programs.

Concern

Human resources management systems at RL and WHC do not allow for effective planning and implementation to ensure that appropriate staff, in terms of numbers of personnel, skill mix, and required training and qualifications, are available to meet current and future ES&H needs.

Discussion

Human resources requirements at RL and WHC are currently planned in the context of the 2-year budget cycle. The process to accomplish this has several inadequacies with regard to planning, policies, and recruitment such that short-term and long-term ES&H human resource needs, in terms of skill mix, numbers, and training and certification requirements, are not effectively identified and met. The following issues were noted during the assessment to support this conclusion.

- In the context of the current human resource planning process, RL and WHC are reluctant to plan beyond the near term because of future uncertainties such as facility shutdowns, Environmental Restoration Management Contract, privatization, new DOE initiatives, technology development, and potential budget and manpower ceilings. The absence of a long-term human resource planning process has hindered the analysis of future human resource requirements in terms of numbers and skill needs and mixes (D-E-27; I-E-2, I-E-12, and I-E-22). Without that information, long-term internal resource allocation alternatives, recruitment strategies, and training and retraining programs are not being effectively developed and implemented. The Hanford Site has a long-term planning tool available - the SMS, of which the Hanford Integrated Planning Process (HIPP) is a part - that has the capability to incorporate uncertainties such as those outlined above. However, RL has not performed long-term human resource planning, including integration of its activities with the HIPP (D-E-1 and D-E-29; I-E-7, I-E-8, and I-E-22). WHC has only recently begun to move in the direction of integrating human resource planning with the operational (5-year) planning portion of HIPP. However, it has only been performed as a pilot on a limited basis (D-E-9).
- Staffing shortages exist in certain key high demand, specialized disciplines such as health physics, industrial safety, and waste management engineering (I-E-5 and I-E-14). For example, currently

there are 30 vacancies for health physics technicians at WHC (I-E-14). Several techniques are being used to fill those positions including retraining of displaced workers and recruitment of new employees. However, neither RL nor WHC recruitment groups track their successes and failures (e.g., time that a vacancy has remained opened, number of rejections for a position) to determine whether alternative recruiting techniques or corporate policies need to be developed to increase their efficiency and effectiveness (I-E-6, I-E-9, and I-E-14).

- There are no incentives or other mechanisms to retain experienced personnel, who are knowledgeable of operational, safety, health, and environmental issues associated with the older facilities, at those older facilities whose missions are ending. At WHC, a formal system is in place to make personnel aware of open positions and to enable them to move into positions for which they are qualified or can be trained to become qualified (I-E-9 and I-E-10). Through this system, technicians and crafts people with high seniority are moving from programs to be terminated, such as PUREX, to programs that are an integral part of the new Hanford mission, such as the Hanford Tank Farm, to preserve their job security. As a result, there has been a drain of an experienced work force from older facilities, which still need to be operated and maintained, to newer programs (I-E-10 and I-E-12).
- Institutional and policy constraints have limited the ability of RL and WHC to carry out effective human resource planning. DOE has stated that all current workers will be given the opportunity to retain employment at the site as the mission changes. However, in order to move a bargaining unit employee from one classification to another and to permit that employee the right to return to his or her former classification, the company (by labor contract) must provide reduction of force notices. At this time, WHC would rather not exercise this option because it is contrary to DOE-HQ's stated preference. This may constrain the site in reallocating its work force to meet the ES&H requirements of the new mission (I-E-10 and I-E-12). In addition, other constraints hinder the ability to provide for a fully staffed work force with the appropriate balance of skills and training. These include personnel ceilings, Federal hiring practices and pay scales, competition for high-demand skills, length of time to place an applicant, relocation policies, and the amenities of the area. As a result, RL and WHC remain understaffed in certain job categories and must rely on support contractors to perform some of their responsibilities (I-E-3 and I-E-9).

Both RL and WHC are aware of several of the items in this concern and have begun to implement systems to address them. WHC has begun to integrate longer-term human resources planning into the site's systematic planning process. They have produced a Staffing Plan (D-E-05), which provides the basis for the staffing segment of the SMS. Once the staffing levels proposed in the Staffing Plan are approved by DOE, they will become the baseline for change control under the SMS. In addition, WHC has begun to perform 5-year planning to assess future skill mix needs and to improve recruitment, training, and internal resource allocation planning. To date, this plan has

been performed for Tank Waste Remediation System (TWRS), although all other WHC programs within the SMS work breakdown structure are expected to undergo the same analysis by October 1992 (D-E-5; I-E-9). Also, RL and WHC are currently participating in a DOE-HQ (EM-522) initiative to identify and characterize current and future staffing difficulties for the entire EM complex to allow for national policy decisions regarding recruitment and training (D-E-26). A pilot study was performed at the Hanford Site to obtain rough order-of-magnitude estimates of the skills mix and levels of activity needed to accomplish Hanford Site restoration and remediation goals over a 30- to 50-year period (D-E-27).

WHC has streamlined their recruiting process and both WHC and RL recruitment groups have used many of the mechanisms that their respective administrative systems will allow to improve their success (I-E-9 and I-E-14). As a result, WHC has been able to shorten the time frame of a placement from 280 to 99 days (I-E-9).

The causal factor for this concern appears to be change in that the site mission and DOE ES&H culture has changed. As a result, RL and WHC are attempting to develop new systems to adjust to that change. In addition, design and barriers may also be a causal factor in that human resource planning system designs may be inadequate and administrative policies may provide barriers for appropriate staffing and recruiting.

Assessment Concern Number:

M/C-12

Assessment Concern Title:

**Professional Development, Training,
and Certification**

Performance Objective

Management Performance Objectives and Criteria for Progress Assessments 2.3.2 and 4.3.2 cite the need for formal staff development, training, and certification programs which ensure that only fully qualified personnel are assigned to ES&H programs.

DOE 5480.20, "Personnel Selection, Qualification, Training, and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities," establishes training and qualifications requirements for personnel supporting DOE nuclear facilities to ensure that qualification programs are developed and implemented in an effective and reliable manner.

WHC MRP 4.22, "Job Classification, Training, and Indoctrination," requires that job assignments of all WHC employees must be evaluated to establish required documentation of training and indoctrination.

Concern

RL has not developed and WHC and KEH have not fully implemented formalized ES&H-oriented training programs that are based on needs assessments, with qualifications and certifications as a component. RL, WHC, and KEH have not fully implemented professional development planning programs.

Discussion

The Hanford Site has a large training capability with the onsite presence of the Hanford International Environmental Institute, the WHC Human Resources Division Development Group training program, and the Quality Training and Resource Center managed by KEH. In addition, WHC has a developed training and qualifications program for nuclear operations. Despite this training capability, and policies and procedures supportive of formalized training programs, the following problems were noted with regard to ES&H training and professional development.

- For the most part, RL and WHC do not have a systematic program that results in a consistent approach to performing job function analyses or needs assessments of ES&H personnel responsible for safety- and environmental compliance-related issues to ascertain training and qualifications requirements (I-E-17, I-E-19, and I-E-25). Some exceptions were noted during this assessment, including quality assurance auditors and lead assessors in the RL Office of Compliance (I-E-20). In addition, the WHC Environment, Safety, Health, and Quality Assurance (ESQ) Division is in the process of implementing such a program and performed needs analyses and identified training requirements for their Health & Safety Assurance function (I-E-26).
- In areas where job function analyses are being performed at WHC, they are generally applied to operators and technicians, and not

to their supervisors and managers who have ES&H responsibilities (I-E-26). At the Hanford Tank Farm, a review of training records during the assessment indicated that some managers had not been trained in their ES&H responsibilities (see Concern S/C-7). However, job function analyses are being planned for all positions at the Hanford Tank Farm. By June 1992, this will have been performed at certain Hanford Tank Farm facilities, and will include first level supervisors and managers (I-E-26).

- KEH is in the process of analyzing all company jobs and training needs. Fifty percent of the company jobs have been completed, and the remainder are planned for completion by September 1992 (I-E-21).
- RL, WHC, and KEH do not consistently perform individual development planning to assist personnel in outlining their paths for career development and the training required to reach their goals (I-E-4, I-E-6, and I-E-19). RL has a program for this type of planning, although it is not mandatory and is inconsistently applied. WHC also has a system as part of its annual performance appraisal process, but clear guidance on its use and application is not provided. As a result, it is also inconsistently applied.
- There is some redundancy in training programs offered by the various site contractors, for example hazardous waste operations and emergency response (29 CFR 1910.120) training, resulting in an inefficient use of resources, particularly from an administrative perspective (D-E-34; I-E-21).
- The pay-for-progression concept, wherein workers' wages are tied to their levels of certification, has met with some bargaining unit opposition (I-E-27). Lack of acceptance of this concept may remove workers' incentive and slow certification, thereby potentially impeding WHC's ability to implement a fully effective performance-based training program.

Other examples of training deficiencies are described in Concerns E/C-1, E/C-2, S/C-7, and S/C-9, and Improvement Item S/II-2.

The site organizations are aware of these problems. RL is developing a formalized employee development and technical training program that is performance based. It is also overseeing the consolidation and standardization of Hanford training programs. These activities are chartered to the Human Resources Division Training and Education Branch (I-E-19). WHC is implementing a mandatory training matrix which will identify the ES&H training requirements for each individual at WHC, based on their work areas and job responsibilities (I-E-18). As noted above, KEH is in the process of assessing training needs.

The causal factor of this concern appears to be risk, in that the job functions of ES&H personnel have been viewed to involve low risk activities and have not merited formalized training assessments and qualifications.

Assessment Improvement Item Number: M/II-1

Assessment Improvement Item Title: PNL and HEHF Directives Systems

Performance Objective

Performance Criteria 4.4.1 of the ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) specifies that DOE Contractor directive systems ensure that ES&H laws, regulations, DOE Orders, Secretary of Energy Notices (SENs), and other DOE requirements and guidance are translated into site-specific policies and implementing procedures and formally transmitted throughout the organization. The directive system provides necessary and timely interpretations and direction to ensure full implementation of ES&H laws, regulations, DOE Orders, SENs, and other DOE requirements and guidance. Further, the processes and responsibilities for receipt, control and distribution of directive materials are clearly defined, formally documented, communicated, and understood. Finally, site activities are conducted with the formality, rigor, and quality assurance mandated by DOE ES&H requirements.

Improvement Item

PNL and HEHF directives systems are not fully developed or properly implemented to assure that requirements and expectations are communicated to the proper organizations in a timely manner and provide effective tracking of required reviews, responses, actions, and approvals.

Discussion

PNL does not have formal procedures for implementation of the directives systems' process and the system lacks adequate controls to ensure that required responses are provided and directed actions are taken and compliance is attained. The PNL Legal Office distributes DOE directives and uses a "Requirements Evaluation and Tracking Form" to assign an Office of Primary Responsibility. This form and a general process for handling directives was established by a PNL task force which issued to company managers, under an October 10, 1991, cover letter, a copy of the form, instructions for using the form, and a flow chart of the process. This tracking form and process are currently in use. The system provides a central control mechanism and documentation of reviews and required actions and additional responsible parties. However, this information has not been incorporated into a final procedure. In addition, the process does not require or provide for continuous tracking of specific responses or action items to final closure, e.g., assurance that the required actions and commitments have been completed. For example, the tracking form for DOE 5700.6C does not indicate the specific actions required or PNL documents required to be issued. A copy of a memorandum in the file indicates that implementation will be reflected in the issuance of a PNL-MP-7, but no scheduled implementation/issue date is provided nor is this action item being tracked in this forum.

HEHF lacks company-wide and staff level implementing procedures for such activities as procedure preparation, revision, control, use, etc. and for a company-wide corrective action system (including Tiger Team Action Plan processing, tracking and closure).

The causal factor for this improvement item appears to be policy implementation in that company policies for control of DOE directives were not adequately implemented into formal, effective procedures.

Assessment Strength Number:

M/S-1

Assessment Strength Title:

**Hanford Planning, Budgeting, and
Resource Allocation Management
System**

Discussion

RL has initiated the development of a comprehensive management system that, when fully implemented, should provide RL management with a powerful tool to carry out its mission in a disciplined, cost-effective manner. The RL management system, the Site Management System (SMS), is a comprehensive, sitewide, integrated planning, budgeting, and resource allocation process that considers the Hanford Site as a single, albeit complex, multifaceted project. The SMS is a formal process that integrates DOE-HQ Directives, Orders, Notices, and Policies with DOE-HQ planning guidance and translates these requirements into well defined work packages for RL and each Hanford Site contractor.

The centerpiece of the SMS, the Hanford Integrated Planning Process (HIPP), involves the active participation of RL and its four Hanford contractors. The HIPP translates the Hanford Strategic Plan into the Hanford Mission Plan, a long-range vision of the Hanford Site including its final disposition. The Hanford Mission Plan serves as the foundation of the Multi-Year Program Plan and its subordinate Project Plans and Fiscal Year Program/Project Work Plan.

The Site Management Plan (SMP), the second major element of the Hanford Integrated Planning Process, integrates Tri-Party Agreement objectives, Multi-Year Program Plans, and DOE requirements and practices into a coherent work breakdown structure and discrete work packages. The SMP is the guiding document from which RL Directives, Notices, and Procedures flow and upon which RL and contractor implementation plans are founded.

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Appendix B-2

APPENDIX DETAILS - ENVIRONMENT PROGRAMS/CONCERNS, IMPROVEMENT ITEMS, AND STRENGTHS

Assessment Concern Number:

E/C-1

Assessment Concern Title:

**Formality of the Environmental
Restoration Program**

Performance Objective

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides requirements and guidelines for the development of directives, plans, and procedures relating to the conduct of operations. This Order states that it is the policy of DOE that the conduct of operations at DOE facilities be managed within a consistent and auditable set of requirements, standards, and responsibilities.

Performance Objectives and Criteria for Conducting DOE Environmental Audits (DOE/EH-0229), cites the need for a program to plan and effectively implement all actions required to manage responses to past releases of hazardous substances to the environment.

Concern

Some elements of the Hanford environmental restoration program and Tri-Party Agreement (TPA) coordination function lack formality: RL Environmental Restoration Division (ERD) has not developed formal internal management systems to ensure effective program management and achievement of program goals; there is inadequate follow through planning for the implementation of strategic planning by RL and WHC; and roles and responsibilities and procedures in the TPA Handbook are outdated.

Discussion

The successful management and implementation of the environmental restoration program at the Hanford Site faces numerous substantial challenges to meet the broad requirements of the TPA. Many of these challenges occur in the absence of clear guidance from DOE Headquarters. Hanford's resolution of issues will likely set precedents for DOE as a whole. It is therefore necessary for the Hanford Environmental Restoration Program to achieve a level of formality commensurate with the needs and challenges of the mission.

There has been significant development of the Hanford Environmental Restoration Program since the Tiger Team Assessment. However, some elements of the Hanford Environmental Restoration Program continue to lack necessary formality. These elements involve ERD program management, implementation of strategic planning, and TPA coordination.

Program management activities within ERD are not sufficiently formalized. Currently, there is a general lack of formal policies, procedures, and program guidance to direct the activities of the organization. Deficiencies in the formality of ERD management systems occur in the following areas:

- There are no formal environmental restoration policies to establish specific program direction above and beyond DOE Orders and the Hanford Strategic Plan.

- Establishment of administrative guidelines for the conduct of environmental restoration program management activities (distribution of technical reports for comment, guidelines for adding documents to administrative records, and process to facilitate coordination with natural resource trustees) (I-F-2).
- Establishment of necessary procedures for program management and oversight activities (surveillances and appraisals, self-assessment activities, and line management National Environmental Policy Act (NEPA) implementation) (I-F-2 and I-F-6). A formal surveillance procedure was established for ERD activities in 1988 (D-F-6). However, it is not being implemented and no one is assigned responsibility for maintenance of the procedure (I-F-4, I-F-6, and I-F-11).
- Establishment of a formalized lessons-learned and feedback program to ensure that corrective actions for deficiencies are shared throughout the program and system improvements are implemented to prevent recurrence (I-F-2).
- ERD's approach towards planning and tracking of necessary training for staff and management does not ensure that necessary expertise of the organization as a whole is achieved. Currently, ERD training is based on the Individual Development Plan process (I-F-2). No formal program planning efforts are conducted with respect to organizational training needs (I-F-2).

ERD had initiated an effort to develop a program guidance manual that would address some of these elements, but this effort was put on hold due to the initiation of the development of the Site Management System which was expected to have a partially overlapping function (I-F-2). The formality of ERD management systems has been affected by staff resource constraints.

Environmental restoration program planning, conducted jointly by ERD and WHC, is maturing. Valuable planning documents are being developed that should significantly aid in the long-term implementation of the environmental restoration program. Recent Hanford efforts include the development of the draft Hanford Mission Plan (D-F-8) and the initial Hanford Environmental Restoration Roadmap (D-F-9). These documents identify many of the strategic issues facing the successful implementation of the environmental restoration program. The environmental restoration program, however, currently lacks follow through planning for the resolution of issues identified by these strategic planning activities (I-F-2 and I-F-12). Roles and responsibilities for the resolution of strategic ER issues have not been defined, nor have schedules and management expectations been set. The draft Hanford Environmental Restoration Project Plan (D-13-92), which serves as a multi-year program plan, does not carry through the resolution of these issues. The Roadmap effort envisions the development of formal systems to define and resolve the strategic issues identified. However, because the initial Roadmap and Mission Plan differ in the issues identified, the resolution of strategic issues identified in the Mission Plan is of additional concern. Staff assignments for the resolution/coordination of some key issues have been made within ERD and WHC, and initiatives on some critical issues are ongoing. Resolution of many of these issues will require the combined efforts of the

Hanford Site and DOE Headquarter's Office of Environmental Restoration and Waste Management (EM) program management.

In response to Tiger Team Assessment finding M-3, the Hanford TPA coordination function developed the Tri-Party Agreement Handbook (D-F-7) to formalize the roles and responsibilities of the organizations involved in the implementation and coordination of TPA required activities. The TPA handbook includes specific management guidelines and procedures needed to direct the activities of the various involved organizations. Review of the TPA handbook indicated that some of the defined roles and responsibilities are obsolete and several procedures were in need of minor updates. Specifically, several stated functions for the TPA Project Manager no longer appear to be appropriate and are not being implemented (I-F-9). Additionally, the WHC TPA Office has grown significantly since the publication of the handbook, making some of the defined roles and responsibilities obsolete (I-F-17). Currently, there is no defined schedule for revising the TPA handbook (I-F-14). Additionally, training on the TPA Handbook, required as part of the Tiger Team corrective action for finding M-3, has not been effective in communicating roles and responsibilities and procedural requirements (I-F-10, I-F-14, and I-F-21). The WHC TPA Office has proposed a supplemental training effort (D-F-25) to address this concern.

The causal factors for this concern appear to be a lack of staff resources within the RL ERD and EAP necessary to conduct program development activities; change, in that the Hanford Site is still in the process of building the ER program to a level commensurate with the new mission; and a lack of DOE Headquarters policy and guidance on complex environmental restoration issues.

Assessment Concern Number:

E/C-2

Assessment Concern Title:

Coordination with Natural Resource Trustees

Performance Objective

Section 104(b)(2) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and implementing regulations of 40 CFR 300 (et seq.) require prompt notification of appropriate Federal and state natural resource trustees to potential damages of natural resources resulting from releases under investigation pursuant to CERCLA, and coordination of the assessments and investigations of such potential damages. Additionally, coordination with other natural resource trustees should be conducted to ensure that the environmental restoration process adequately addresses all potential natural resource concerns.

Concern

RL is not coordinating environmental restoration assessment activities with natural resource trustees in order to ensure that potential natural resource damage concerns are adequately addressed.

Discussion

Pursuant to the Tri-Party Agreement, the Hanford Site is in the process of conducting field investigations regarding the nature and extent of releases of hazardous substances to the environment due to historic defense production and research activities. Numerous past practice characterization workplans have been prepared or are being prepared. These workplans establish the scope of individual investigations to be conducted with respect to impacts on the various environmental media. The media assessed are directly related to natural resources under the jurisdiction of Federal, state, and tribal natural resource trustees.

Pursuant to CERCLA 104(b)(2), in October 1990, RL notified potential Federal, state, and tribal natural resource trustees of potential damages to natural resources under their jurisdiction. No formal inquiries were received from any of the trustees notified regarding the past practice characterization efforts (I-F-11). RL, however, is not actively seeking to coordinate ongoing and upcoming investigations and assessment activities with Federal, state, or tribal natural resource trustees (I-F-2, 4, 11, and 19). This process is necessary in order to give all trustees ample opportunity to ensure that potential resource damages under their jurisdiction are adequately addressed in the scoping and conduct of the investigation efforts. Failure to obtain this input may result in incomplete characterization of natural resources affected, and could result in additional costs to conduct supplemental natural resource characterization and damage assessment activities.

Coordination on an exception basis may be conducted by the Hanford Site with individual trustees for specific project related activities (I-F-5). Additionally, pursuant to the TPA, significant public communication activities are conducted by Hanford on environmental restoration program activities. However, only through aggressive coordination with all trustees on environmental restoration characterization activities can the Hanford Site

minimize the need to conduct separate investigations, as well as minimize the potential for natural resource damage claims for residual damages not addressed by the environmental restoration process.

The causal factors for this concern appear to be a lack of a formal site policy regarding coordination of assessment activities with natural resource trustees, and a lack of training of environmental restoration staff within DOE and contractor organizations on natural resource issues.

Assessment Concern Number:

E/C-3

Assessment Concern Title:

RL Groundwater Protection Management Program

Performance Objective

DOE 5400.1, "General Environmental Protection Program," Chapter III, Section 4.a., requires that a Groundwater Protection Management Program be developed and include a plan with sufficient scope to provide for effective management of the site's groundwater program. The Groundwater Protection Management Program Plan (GPMPP) includes specific elements to provide a framework for an integrated program and must be revised annually and updated triennially.

RLIP 5400.1, "General Environmental Protection Program," assigns RL and its contractors responsibilities to supplement DOE 5400.1.

Concern

The Hanford Site Groundwater Protection Management Program Plan (October 1989) has not been implemented as written per the requirements set forth in DOE 5400.1.

Discussion

A Groundwater Protection Management Program requires documentation of the groundwater regime with respect to quantity and quality; design and implementation of a groundwater protection and remediation program including specific regulatory actions; a management program for groundwater protection and remediation including specific regulatory actions; identification and summary of areas that may be contaminated with hazardous substances; strategies for controlling sources of these contaminants; a remedial action program that is part of the site Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program required by DOE 5400.4; and decontamination and decommissioning and other remedial programs contained in DOE directives.

The Hanford Site GPMPP was the first plan of its type drafted within the DOE complex. To date, RL has not fully implemented the plan (I-G-4 and I-G-7). However, the GPMPP is referenced within the corrective action plan response to the following Tiger Team Assessment findings: GW/CF-2, Inadequate Characterization of the Hydrogeologic Regime; GW/CF-3, Deficiencies in Geophysical Surveys of Monitoring Wells; and GW/BMPF-4, Inadequate Well Abandonment.

Conceptually, the plan and the subordinate planning documents address many of the required elements of DOE 5400.1. However, the plan did not include an implementation schedule and the plan has not been implemented. Specifically, the following items have not fully been implemented:

- No individual or organization (the GPMPP proposed the creation of Office of Groundwater Protection Management) has been formally established to coordinate groundwater-related activities. There

is no formal long-term plan regarding a sitewide protection program (I-G-7 and I-G-25).

- Both PNL and WHC perform maintenance activities on wells that are a part of their programs. WHC has recently established an Office of Well Management as called for in the plan (and the corrective action plan response to Tiger Team Assessment Finding GW/BMPF-4). Because of competing priorities there is not adequate funding for a comprehensive program to inventory, evaluate, and abandon wells that are not "owned" by WHC or PNL. In addition, WAC 173-160-560 and 415 specify that any well which is unusable, or whose use has been permanently discontinued shall be abandoned.
- The Geohydrologic Working Group proposal to maximize hydrogeologic information acquisition was not established or institutionalized.

Generally, the corrective action responses proposed to Tiger Team findings that rely on the implementation of the GPMPP are not current with ongoing activities. For example, PNL has made progress with respect to initiation of three-dimensional characterization activities proposed to address Tiger Team Assessment Finding GW/CF-2, as specified in the corrective action plan (D-G-26). However, response to this Tiger Team finding has not been re-evaluated to integrate ongoing site characterization work based on the Hanford Federal Facility Agreement and Consent Order (TPA), specifically activities relating to past practice strategy (I-G-19). There is no formal system to update proposed Tiger Team corrective action items with new information (see Section 2.2.1, Corrective Action Program).

The GPMPP is being updated by WHC, with no direction from any organizational unit within RL (I-G-18 and I-G-25). Currently, all organizations who are involved in programs to protect, monitor, characterize, or restore groundwater resources (RL, WHC, and PNL) are not actively involved in the development of plans that ensure a successful and effective Groundwater Protection Management Program across the Hanford Site.

The causal factor for this concern appears to be risk. The GPMPP is required by DOE Order, and therefore, the program is a low priority item in accordance with the RL manager's system for priorities.

Assessment Concern Number:

E/C-4

Assessment Concern Title:

**Coordination and Integration of
Groundwater Protection Program
Elements**

Performance Objective

DOE 5400.1, "General Environmental Protection Program," Chapter III, in a statement of policy, establishes requirements for DOE operations to develop and implement specific program plans.

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," provides requirements and guidelines for the development of directives, plans, and procedures relating to the conduct of operations. This Order states that it is the policy of DOE that the conduct of operations at DOE facilities be managed within a consistent and auditable set of requirements, standards, and responsibilities.

Concern

RL does not have a formal Groundwater Protection Management Program to coordinate and integrate all Hanford Site programs that protect, characterize, or monitor groundwater.

Discussion

The Richland Operation Office Mission and Function Statement, October 7, 1991, assigned groundwater characterization and monitoring activities among RL organizations. However, no individual or organization has been assigned responsibility for the coordination and/or integration of these activities. Consequently, duplicative efforts are taking place across program lines and other efforts are not being conducted.

The following activities represent duplication of efforts or deficiencies resulting from the absence of a single point of coordination:

- The RL Mission & Function Statement (D-G-24) assigns responsibility for updating the Groundwater Protection Management Program Plan to the Environmental Restoration Division (ERD). Consequently, WHC Environmental Restoration Division has been tasked to update the plan (I-G-26). The plan is being developed by WHC with no oversight or direction from ERD because the program manager for this task has moved to another organization within RL and the responsibility has not been reassigned. In addition, TSD has had preliminary discussions with PNL for updating the plan (I-G-4 and I-G-19) (see Concern E/C-3, Groundwater Protection Management Program).
- Groundwater Maps of the Hanford Site were developed as part of both the Sitewide Surveillance Program (D-G-11) and the Resource Conservation and Recovery Act program (D-G-9) by separate contractors, PNL and WHC respectively. The reports were prepared for different audiences (i.e., regulators, sitewide program) but they utilize much of the same information.

- RL does not have a sitewide procedure for the groundwater sampling activities that crosscuts all requirements and minimizes duplicative efforts. Both WHC and PNL conduct groundwater sampling activities at the Hanford Site, and each organization has its own sampling procedures manual, Environmental Investigation & Site Characterization Manual (WHC-CM-7-7), and Procedures for Groundwater Investigations (MA 567), respectively (I-G-24). (A review of the differences between these manuals was not undertaken as part of this assessment.)
- RL, WHC, and PNL have committed to the development of the Hanford Environmental Information System (HEIS) data base as a sitewide data base for groundwater characterization information office. To date, the HEIS data base is operational but there are major data entry backlogs. The WHC Office of Sample Management also has a sample tracking data base to track samples collected as part of the past practice activities. However, these data bases are not meeting the needs of all users and individual data bases are being developed on an individual need basis to manage data (I-G-12, I-G-13, I-G-19, and I-G-25).

Coordination of activities across program lines is occurring at the initiative of individual staff members, including:

- Integration of Comprehensive Environmental Response, Compensation, and Liability Act past practice and RCRA/Operational groundwater monitoring activities within the 300 FF-5 operable unit (I-G-4 and I-G-6). The definition of Data Quality Objectives and the evaluation of Contract Lab Program (CLP) versus SW-846 quality assurance requirements are currently topics of negotiation between EPA, State of Washington Department of Ecology, and the DOE (D-G-2 and D-G-3).
- Initiation of the Geophysics Working Committee to evaluate the cost effectiveness of geophysical techniques for the characterization of the geologic regime (D-G-25 and D-G-26).
- Integration of the sitewide groundwater surveillance sampling program with the RCRA/Operational and CERCLA past practice sampling programs (D-G-2 and D-G-3). Groundwater sampling events are being coordinated so that samples for multiple programs are obtained during one sampling event.
- Establishment of the Risk Assessment Working Group to develop and submit documentation describing the Hanford risk assessment methodology (of which one aspect is groundwater pathways).

The causal factor for this concern appears to be that there is no formal RL policy (i.e., Groundwater Protection Management Program) to integrate and coordinate all groundwater management activities across the Hanford Site; and risk, in that the Groundwater Protection Management Program is required by DOE order; therefore, the program is a low priority item in accordance with the DOE system for priorities.

Assessment Concern Number:

E/C-5

Assessment Concern Title:

RL Management of Waste Programs

Performance Objective

Secretary of Energy Notice (SEN)-6 and its revisions mandate direct DOE Line oversight of contractor activities.

ES&H Management Performance Objectives and Criteria for Tiger Team Assessments states that ES&H roles, responsibilities, and authorities should be clearly defined, formally documented, communicated, and understood; environmental protection programs should be defined in formal standards, procedures, and guidance; support should be provided for staff development and training; and staff should be actively and personally involved in the assessment and review of site contractor activities.

Concern

Roles, responsibilities, procedures, and guidance for the program management of RL radioactive and mixed waste programs are not well defined, formally documented, or understood; and the onsite presence of some program managers is inadequate.

Discussion

The mission and function of the RL Waste Management Division (WMD), Waste Operations Branch (WOB), includes planning, managing, budgeting, coordinating, and providing general direction and integration of programs for the storage, treatment, and disposal of Hanford's radioactive and mixed waste. The WMD mission and function includes assuring that all plant maintenance and waste operations are conducted in a safe and environmentally sound manner and are in compliance with applicable regulations (D-H-21).

RL management and direction for waste management operations and programs is led by various program managers within the WOB. Each program manager is responsible for cost and schedule, technical adequacy, and ES&H compliance. There are currently five program managers, including the acting branch chief, to oversee all solid and liquid waste operations and programs. Only two program managers have institutional knowledge of the Hanford Site and the waste management program, while the remainder of the staff has less than 1 year of experience at Hanford.

Because of competing priorities, some program managers infrequently visit the facilities for which they are responsible, and consequently the degree to which they have direct (i.e., field) knowledge of their programs varies considerably. Program managers are dependent on information from other sources to manage their programs. These sources include verbal information from RL site representatives and contractors, daily and other periodic reports prepared by contractors, and technical documents required by regulations or DOE Orders (I-H-1, 3, 4, and 7). Program managers and RL management recognize the need for program managers to be present onsite more frequently to ensure ES&H compliance at their facilities (I-H-11). However, management has assigned higher priority to achieving milestones, tracking budget and schedule, reviewing technical documents for programmatic and technical

accuracy, and responding to management and headquarters inquiries. Within the liquid waste programs, the program managers often do not perform indepth technical reviews of the documents that are developed through their programs (I-G-11 and I-G-28). These reviews are often provided by support contractor Stone and Webster Engineering Corporation (SWECC), for the liquids programs, and consequently RL is gaining little in-house expertise. RL technical assistance to program managers is restricted to two site representatives, who serve as the program managers' "eyes and ears."

Many of the internal activities of the WOB staff are conducted informally and no procedures exist for branch activities (I-H-7). As a result, the methods by which program managers meet their functional requirements vary considerably. This is evidenced by the variation in which program managers prioritize work functions, including time spent at their facilities. The Assistant Manager for Operations is currently developing procedures that will formalize some of the functions of the program managers (as well as those of the site representatives). The procedures are scheduled to be finalized and implemented in mid-1992.

The position descriptions for program managers are generic (I-H-1 and I-H-4). There is no document which states the specific responsibilities and duties of the manager for each specific program. In addition, there is no formal WMD or WOB guidance available to program managers. For week-to-week direction of their activities, program managers depend primarily on verbal instructions that are passed down from RL management in setting their priorities. RL depends on qualifications and informal on-the-job training to ensure that program managers have sufficient control of their projects (I-H-23). In a similar area, only minimal guidance was provided to the acting branch chief when the position was filled 4 months ago (I-H-7).

The causal factors for this concern appear to be resource allocation and risk. The current organization within WMD and the number of staff positions within the WOB do not allow RL to effectively manage this program. RL has viewed the lack of formality and rigor of the WMD function as a low risk and low priority item.

Assessment Concern Number:

E/C-6

Assessment Concern Title:

Waste Minimization Program

Performance Objective

DOE 5400.1, "General Environmental Protection Program," requires each DOE site to implement a waste minimization program that contains goals for reducing the volume and toxicity of wastes that are generated.

WAC 173-307, when it becomes applicable to Hanford through the site's RCRA Part B Permit, will require Hanford to conduct evaluations of waste streams comprising 90 percent of its mixed and dangerous waste and waste streams containing 90 percent of the dangerous materials consumed by Hanford.

The Hanford Site Waste Minimization Program Plan includes numerical goals that are activity- or material-based, requires accurate accounting of waste management costs, and requires each contractor's Waste Minimization Program to meet standard quality assurance practices.

Concern

Several elements of the Hanford Site Waste Minimization Program, including accurate cost accounting, incentives, minimization tracking, quality assurance, and a system to evaluate its waste streams have not been fully implemented.

Discussion

In response to DOE-HQ EM guidance in May 1991, RL updated its sitewide Waste Minimization Program Plan to include the appropriate elements called for in the guidance, including those elements that apply to radioactive and mixed wastes. Each of the four RL contractors also updated their own plans at that time to maintain consistency with the sitewide plan. Since that time, only limited progress has been made in implementing the elements of the plan.

For radioactive and mixed wastes, cost accounting is provided through the WHC waste management chargeback system. Generators account, through their budgets, for the waste management charges they experience through the chargeback system. However, the design of the WHC chargeback system only captures current fiscal year cost of managing the waste and does not generate data that accounts for the true cost of the waste (I-H-29). There is no system at Hanford for tracking the true cost of radioactive and mixed waste, which should include short- and long-term costs arising from

(1) underutilization of raw materials found in the waste stream;
(2) management of the wastes that are generated; (3) waste disposal; and
(4) third-party liabilities if the waste is improperly disposed. Associated costs to be accounted for include personnel, recordkeeping, transportation, pollution control equipment, treatment, storage, disposal, liability, compliance, and oversight (D-H-14).

As it is currently structured, the chargeback system does provide some incentive for generators to minimize waste since the charges are tied to each generator's waste forecast. There are some situations, however, where the chargeback does not provide an incentive. For example, the costs expended

through minimization efforts that would reduce generation below a generator's forecast level are not encouraged by the chargeback program. A DOE-wide steering committee is currently investigating alternatives for developing a consistent and improved DOE complex-wide chargeback system. Hanford is participating on the committee.

Waste minimization tracking at Hanford has been limited to each contractor measuring overall fluctuations in waste streams. The measurements are not based on the level of activity performed or on the level of materials expended (I-H-17). Therefore, the waste minimization tracking efforts are not able to distinguish between reductions due to actual minimization and reductions due to decreased activity levels or materials use levels. Due to this deficiency, contractors have been unable to consistently provide QA documentation of the effectiveness of waste minimization activities (I-H-20).

RL leadership of the Waste Minimization Program at Hanford is inadequate. Program responsibilities have been accepted by only two groups in RL:

- The Environmental Assurance, Permits, and Policy Office (EAP) approves and submits EPA and DOE-HQ biennial and annual reports containing waste minimization data compiled by the site contractors (I-H-18).
- The Waste Management Division (WMD) is responsible for developing and monitoring of efforts related to the minimization of wastes generated from WMD programs. The WMD waste minimization function is performed primarily by passing DOE-HQ guidance on to WMD contractor organizations and responding to generator inquiries (I-H-24).

Other RL line management organizations, including the Operations Division, the Tank Farms Project Office, and all divisions under the Deputy Manager for Environment, do not have waste minimization identified as part of their functions.

In addition to the requirements stated in the program plan, an April 1991 Washington State regulation requires evaluations of site waste streams. In May 1992, after it was determined that Hanford could expect to be subject to this regulation through its RCRA Part B Permit, RL directed all four site contractors to take actions to comply with the recent state regulation. The regulation requires waste stream evaluations, also known as process waste assessments (PWAs), to be performed on mixed waste streams and the planned actions resulting from the PWAs to be incorporated in a plan to be submitted to the State of Washington Department of Ecology by September 1, 1992. In response to the RL direction, all contractors are performing or planning to perform PWAs. Due to the short time period in which to perform the PWAs, however, RL, WHC, and PNL do not project that PWAs of enough waste streams will be completed in time to meet the state regulation (I-H-19, I-H-20, and I-H-22).

The causal factors for this concern appear to be change and barriers. The regulatory requirements and guidance for waste minimization have become increasingly stringent. RL accounting practices have acted as a barrier to discourage near-term funding of waste minimization activities that provide benefits in out years. The Hanford waste chargeback system does not encourage

implementing unplanned waste minimization projects with benefits realized in the current fiscal year.

Assessment Concern Number:

E/C-7

Assessment Concern Title:

Management of National Emission Standards for Hazardous Air Pollutants (NESHAP) Compliance Program

Performance Objective

DOE 5400.1, "General Environmental Protection Program," subparagraph 6b, provides requirements for satisfying externally imposed regulations. The Order specifies that activities, documentation, and special planning to meet these legal requirements will be used to the maximum extent.

40 CFR Part 61, "National Emission Standards for Hazardous Air Pollutants," subpart H, specifies public dose standards, emission monitoring and testing procedures, reporting, and recordkeeping requirements for radionuclide air emissions.

WHC-CM-1-3, "Management Requirements and Procedures," requires the Manager, Environmental Division, to submit required documentation for environmental licenses, permits, and variances, and provide appropriate tracking to ensure that they are issued for the facility.

Concern

RL and WHC have not established adequate management systems and formality to ensure full compliance with NESHAP radiological monitoring requirements.

Discussion

RL and its contractors are in compliance with the 40 CFR 61 dose standard of 10 mrem/yr and continue working towards full compliance with the technical aspects of subpart H. This has been a time consuming and complicated process because of the large number of facilities and emission points. Although progress has been made since the Tiger Team Assessment, full compliance with emission flow-rate and monitoring requirements has not been achieved, in part as a result of the RL and contractor's approach to managing this effort. Deficiencies exist in management systems and formality in interactions between RL and contractors; RL and WHC have had similar problems with EPA. The following specific deficiencies in the compliance effort were observed by the Progress Assessment Team:

- WHC and PNL sometimes use a method to measure effluent flow rates that does not have prior approval for use by EPA. Use of alternate methods is allowed by EPA only when the owner or operator has received prior approval (I-I-4, I-I-28, and I-I-45).
- RL's application for a compliance waiver from the EPA requirements was not timely. The regulations were promulgated on December 15, 1989, and went into effect on March 15, 1990. The compliance waiver request letter was sent to EPA on May 14, 1990, 2 months after the effective date of the rule (D-I-52).

- RL submittals to request approval of present monitoring systems to EPA Region X have lacked the necessary detailed information for complete EPA evaluation (D-I-53, 54, 64, 66, and 67).
- Part of the conditions of the EPA compliance waiver was the submission of a plan to design, purchase, install, and test monitoring equipment for those emission points requiring modification to meet applicable requirements by October 31, 1991. RL submitted this plan to EPA on November 21, 1991 (D-I-54, D-I-55, and D-I-67).
- The working relationship between RL/WHC and EPA is characterized by RL and WHC as strained. Part of the apparent problem is the lack of formality in some of the meetings and telephone conversations between EPA and RL/WHC. The meeting minutes and telephone conversation summary memos have not been concurred on by EPA. This has resulted in misunderstandings, causing further delays in RL's and WHC's compliance efforts (I-I-3, I-I-4, and I-I-45).

The causal factor for this concern appears to be barriers and controls in that the relationship with EPA has presented some barriers to completing the NESHA compliance process, and there appears to be administrative barriers within RL that contribute to the listed deficiencies.

Assessment Improvement Item Number: E/II-1

Assessment Improvement Item Title: Subcontractor Laboratory Support

Performance Objective

Best management practice suggests having more than one supplier of critical services, materials, and supplies.

Improvement Item

PNL has not established a second contract with a radiological analysis laboratory to ensure that its sample analysis requirements can be attained.

Discussion

PNL sends thousands of samples to a single subcontractor laboratory for radiological analysis. The intricate process to put this contract in place took 17 months. In the event of a fire, facility contamination, or other potential catastrophe, the PNL would not have the capability to analyze the samples required to meet basic compliance needs. During 1989, the Hanford Site faced this situation with a different subcontractor lab. The Hanford Site had to rely on other laboratories within the DOE complex for assistance to meet its sample analysis requirements. Since that time, demand for laboratory capacity within the DOE complex has increased, so it is less likely that PNL could depend on DOE labs for assistance (I-I-24 and I-I-25).

Approximately 1 year ago, RL consolidated Hanford's analytical services under the Waste Management Division. This has resulted in better coordination, consistency, and oversight.

The causal factor for this improvement item appears to be risk, in that the relative degree of risk of losing this laboratory capability has not been assessed by RL and its contractors.

Assessment Strength Number:

E/S-1

Assessment Strength Title:

**Public Involvement in Future Hanford
Land-Use Decisionmaking**

Discussion

The Hanford Environmental Restoration (ER) Program has established, in conjunction with the EPA and State of Washington Department of Ecology, a unique process within DOE to secure broad community involvement in the future land-use decisionmaking process for the Hanford Site. The issue of future land uses of the Hanford Site is a critical item facing the Hanford ER program. Final cleanup at the Hanford Site cannot proceed until the decision on cleanup levels is made. The establishment of cleanup levels is to be based upon quantitative risk assessments which use exposure scenarios based on potential future site uses. Formal decisionmaking to establish the direction of the Hanford Site cleanup will be accomplished through the National Environmental Policy Act (NEPA) process. A Notice of Intent is expected to be published this summer to initiate the preparation of a Hanford Remedial Action Environmental Impact Statement (D-F-32).

Many organizations within the region have vested interests in the outcome of cleanup efforts at the Hanford Site. A formal working group, the Hanford Future Site Use Working Group, has been established to independently determine the spectrum of potential future site uses and resulting cleanup scenarios for Hanford. It is not intended that the working group seek consensus on a single vision for Hanford's future site use and cleanup strategy. The group has developed a formal charter and groundrules, and is composed of representatives from the State of Washington, State of Oregon, Federal agencies, and tribal nations, in addition to representatives from agriculture, business, labor, municipalities, and environmental and public interest groups (D-F-29, D-F-30, and D-F-31). The results of the group's efforts will be used to provide input into the Hanford Remedial Action Environmental Impact Statement. By aggressively seeking public involvement in this critical decisionmaking process, the credibility of the DOE should be enhanced.

Assessment Strength Number:

E/S-2

Assessment Strength Title:

**Waste Characterization and
Certification Programs**

Discussion

The Hanford Site has an effective and rigorous program for ensuring that radioactive and mixed waste currently being received for onsite storage or disposal is appropriately characterized and certified. The program is one of only a few within the DOE complex that addresses both onsite and offsite generated waste. The program treats both onsite and offsite generators with equal rigor.

The program, which is operated by the WHC Solid and Liquid Waste Remediation (SLR) Division, is based on several elements, including a program to evaluate and approve generator certification programs, a generator audit program which includes direct participation by both WHC and RL, and a program to characterize and evaluate each waste stream to be received. The program operates by placing much of the responsibility on the waste generator.

In order to be approved for waste acceptance at Hanford waste management storage and disposal facilities, each generator must be able to develop and implement a waste certification program that meets established requirements. Program approval is often an iterative process with followup modifications to the generator certification program after its initial evaluation. Following WHC's approval of the program, the generator is required to be audited by the WHC SLR Division. Generators are required to be audited annually and to appropriately close-out audit findings through the audit group to become and remain eligible to send waste to Hanford waste management facilities. Records of approved certification programs, audit plans, checklists, reports, and finding close-outs are maintained by the audit group. A computer spreadsheet is used to track the status of each generator and the status of each open finding.

After becoming eligible to ship waste to Hanford waste management facilities through the certification process, generators are required to submit a separate request to the WHC SLR Division for each waste stream. The requests are required to include detailed information on waste radiological content, physical and chemical characteristics, and packaging to meet standards established in the Hanford Waste Acceptance Criteria (WAC). From each request, the WHC SLR Division develops, according to established procedures, an approval record for that generator's specific waste stream. Depending on generator needs, each approval record covers either a single shipment for a waste stream or multiple shipments. Once the approval record is issued, a generator can ship its approved wastes to Hanford waste management facilities. In order to ensure that the approval records are current, the records expire annually and are required to be renewed by the generators. Additionally, the WAC is updated annually to incorporate regulatory requirements and any lessons-learned from the previous year. The WHC SLR Division also maintains records of all past and current generator requests and approval records.

In order to meet the standards of the certification approval program and audit program and the Hanford WAC, waste generators must develop their own in-house expertise of the WAC, waste certification program standards, and waste

management regulations (i.e., Resource Conservation and Recovery Act and Toxic Substances Control Act). Offsite generators also must become familiar with Washington State dangerous waste regulations. The certification specialists in the WHC SLR Division also, upon request, assist generators in meeting the certification and WAC standards.

Assessment Strength Number:

E/S-3

Assessment Strength Title:

Project Data and Management System

Discussion

PNL has developed and implemented a system for the Surface Environmental Surveillance Project to manage the information generated by ongoing collection and analysis of numerous environmental data. This system establishes annual sampling schedules, generates sample identification labels, and generates chain-of-custody and other required forms. It also produces various status and result reports that ensure a smooth and accurate flow of information and the prompt identification of unusual results. Results are stored in a data base and are retrievable for review and preparation of special reports and the Annual Site Environmental Report. The Project Data Management System is also capable of tracking samples from the time the sample label is produced, until sample results are entered into the data base. This allows for true accountability of sample collection, analysis, and data recording. Further project management capability is provided by the Project Data Management System reporting systems. The reporting systems produce error, late sample results, anomalous data, outstanding anomalous data, and logic check reports. These reports allow for good management and quality assurance of this program, and is one of the underlying strengths of the system. This system has worked so well that it will be used for other programs, such as WHC's radiological environmental data and PNL's Facility Monitoring Project. While the system design is not innovative, the system is unique in that its implementation is working well and helps to ensure that the Surface Environmental Surveillance Project is fulfilling its objectives.

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Appendix B-3

APPENDIX DETAILS - SAFETY AND HEALTH PROGRAMS/CONCERNS, IMPROVEMENT ITEMS, AND STRENGTHS

Assessment Concern Number:

S/C-1

Assessment Concern Title:

Corrective Actions to the Hanford
Site Quality Assurance Program

Performance Objective

Technical Safety Appraisal Performance Objective QV.1 requires that administrative programs and controls should be in place to ensure policies concerning quality are administered for each facility throughout the site. The Hanford Site Tiger Team Assessment Action Plan sets forth plans and schedules for improvements to QA Programs. ES&H Management Performance Objective 4.5.6 requires an effective system for tracking, closing, and verifying closure of action items resulting from assessment activities. DOE 5700.6C, "Quality Assurance Program," requires management followup reviews of deficient areas identified in independent assessments.

Concern

RL has not assured the timely completion, review, and closure of corrective actions for Tiger Team Assessment findings and concerns pertaining to the Hanford Site QA Programs, and the timely preparation, review, and approval of implementing documents. Some top level and project level QA documents have not been developed and calibration programs remain out-of-date.

Discussion

The RL QA Program is described in the Quality Assurance Manual for the Richland Operations Office (September 1989) (D-J-38). However, the manual has not been revised to reflect the realignment of safety responsibilities for line management and independent assessment. RL has not prepared appropriate Richland Procedures (RLPs) for implementing these revised quality assurance support, assessment, and audit responsibilities. The independent QA oversight resides in the Office of Compliance which performs QA audits and appraisals, compliance assessments, surveillance activities, investigations, and readiness reviews. Procedures have been prepared that guide these functions. The line management responsibilities for safety and quality assurance oversight include surveillance, self-assessments, technical support, and inspections. The Technical Support Division is responsible for the policies, procedures, and technical guidance for self-assessments and focussed inspections and surveillance. Line management assessments also include inspections and surveillances conducted by RL site representatives. Formal administrative procedures and guidelines have not yet been fully developed for these line management assessment activities.

The Tiger Team Assessment indicated that QA programs and activities had improved, but still identified shortcomings in RL guidance and direction of the QA programs at the Hanford Site. In particular, HEHF lacked a company QA program; WHC required a QA program plan for its environmental efforts and its instrument calibrations; and RL needed to provide leadership and guidance to the sitewide program. A review of the status of corrective actions pertaining to the Hanford Site QA Program indicates that RL is delinquent in managing and directing several programmatic actions:

- HEHF Environmental Health Sciences Laboratory QA Manual draft was submitted August 31, 1990, and required several revisions. The latest revision submitted March 31, 1992, is not yet approved by RL. The planned implementation was scheduled for January 31, 1991.
- HEHF is delinquent in preparing their company-wide QA Program and their QA Program Plan for the industrial hygiene program.
- HEHF has not met its commitments to RL for timely (i.e., September 1991) establishment of a company-wide calibration program that complies with 5700.6B.
- RL has not performed a QA audit of HEHF QA Program.
- The WHC has not met its commitments for timely improvements to its calibration program.
- RL has not verified the WHC Liquid Effluent Study QA Program.

RL has not ensured timely review, closure, and verification of completed actions related to the Hanford Site QA Program as evidenced by a review of the tracking system for Tiger Team Findings and Planned Corrective Actions. A sampling by the Office of Compliance showed weakness in the system used by RL for closure (I-J-3 and D-J-40). There were seven QA findings and 18 QV concerns expressed in the Tiger Team Assessment. This resulted in 113 action items, most with 1990 or mid-1991 completion dates. Interim guidance for all RL personnel responsible for performing verifications and authorizing closure of completed Tiger Team Assessment action items was only recently issued (D-J-37). Thirty-nine of the QA Program action items are shown as closed on a recent May 10, 1992, status report. More significant is the report that 42 of 88 completed action items remain to be reviewed at this time, and that 23 action items are delinquent.

The completed actions which still await RL review pertain to important QA program elements of verification, purchase control, QA project plans, and calibration.

The causal factors for this concern appear to be risk, in that RL has placed a low priority on expeditious preparation of written procedures to implement its line oversight functions; and change, in that RL has not been able to cope with changes in organization and functions, and changes in the DOE Order.

Assessment Concern Number:

S/C-2

Assessment Concern Title:

**EM and RL Guidance for Graded
Approach to Implementation of DOE
5480.19, Conduct Of Operations**

Performance Objective

DOE 5480.19, "Conduct of Operations," requires that DOE contractors implement Conduct of Operations and allows a graded approach where appropriate. The introduction to DOE 5480.19 provided for a graded implementation of the Order depending upon the nature of the process involved. DOE 5480.19 states that Program Secretarial Officers are to provide direction to field offices for the Conduct of Operations. In addition, field offices are directed to ensure adequate contractor plans, procedures, and programs are in place to assess the effectiveness of the implementation of Orders.

ES&H Management Performance Objectives and Criteria for Progress Assessments (Draft, April 1992) 4.4.1, Directive System, states that a directive system ensures that ES&H laws, regulations, and DOE Orders and guidance are translated into site-specific policies and implementing procedures and formally transmitted throughout the organization.

Concern

EM and RL have not provided formal guidance to Hanford contractors in implementing graded applications of the DOE 5489.19.

Discussion

DOE 5480.19 provides that Program Secretarial Officers are to provide direction to field offices for the Conduct of Operations and field offices are directed to ensure adequate contractor plans, procedures, and programs are in place to assess the effectiveness of implementation of Orders. To date, EM has not issued implementing guidance to the field offices (I-C-1 and I-C-2). However, on March 24, 1992, EM established a new Office of Operations Assessment to specifically address Conduct of Operations issues.

By letter, dated November 21, 1990, the Director, Procurement Division, Contracting Officer RL directed WHC, PNL, and KEH to implement DOE 5480.19. That letter contained no guidance on implementation of the Order. HEHF was directed to implement the Conduct of Operations Order in two buildings (747 and 747B) and to implement only the best management practices identified in this Order in all elements of HEHF.

HEHF and KEH have not embraced the graded approach to Conduct of Operations. Neither has performed a comparison of their operations and practices with the Order guidelines as required. RL has not required HEHF to respond indicating their level of compliance. Implementation at HEHF has not made visible progress.

At KEH, there is no plan to implement the Conduct of Operations Order due to the absence of an operating budget (I-K-19). KEH has interpreted the absence of specific guidance from RL as approval of this approach. KEH has not adopted a disciplined approach to work (see Improvement Item S/II-1).

WHC has implemented an ungraded approach to Conduct of Operations. PNL has implemented a graded approach to Conduct of Operations which applies to nuclear facilities, non-nuclear facilities, laboratory operations, and engineering test facilities (I-K-22). The implementation process which evolved without guidance resulted in several iterations of plan submission which may have been reduced or eliminated if RL had provided effective guidance.

The management systems to implement Conduct of Operations by WHC at the Waste Tank Facility are in place. The effectiveness of this program is attributable to WHC experience with INPO guidelines and staff trained in nuclear operations.

The causal factor for this concern appears to be policy implementation, in that the Order was disseminated without sufficient guidance with regard to implementation of various graded approaches.

Assessment Concern Number:

S/C-3

Assessment Concern Title:

Conduct of Operations Interfaces
Between WHC and KEH

Performance Objective

TSA Objective MA.1, "Organization and Administration," Criteria *4, states that personnel should clearly understand their authority, responsibilities, accountability, and interfaces with supporting groups.

DOE 5480.19, "Conduct of Operations," Chapter 1, states that operations personnel should clearly understand their authority, responsibility, and interfaces with other groups.

Concern

There is no formal agreement and procedure which establish KEH responsibility and accountability in the their role of providing assistance to the Westinghouse Fire Department.

Discussion

DOE 5480.19 requires that all work be covered by formally approved procedures; where an interface with another contractor is a part of the job, further attention must be paid to the division of responsibility and accountability; when the work involves a critical system, the content of the work and procedure must be further reviewed to ensure the integrity of the safety system involved is not altered or degraded as a result of the maintenance.

The only critical aspect (contact with equipment listed as part of a critical system as documented in the SAR or OSR) of the maintenance functions provided by KEH is their work on the fire protection systems in support of the Westinghouse Fire Department (I-K-27). The crafts involved in the inspection work are electricians and pipe fitters from KEH construction forces (I-K-19). KEH has no formally approved procedures covering this work; the Hanford Fire Department controls the work and actually directs the KEH forces. Insufficient KEH documentation exists relative to the status of responsibility and authority as required by DOE 5480.19. Safety vulnerability of KEH and WHC workers and systems depends entirely upon the WHC procedure documentation and implementation. WHC Fire Department uses manual WHC-CM-4-3 for guidance. In general, WHC is responsible for establishing a safe configuration for the work and reestablishing a safe configuration for service. There is no procedure in effect at the supervisor/craftsman level which establishes and/or limits the KEH worker activity and defines responsibility.

The causal factor for this concern appears to be risk, in that KEH has not recognized or evaluated their vulnerability in this situation, or the potential input of their activities on critical systems.

Assessment Concern Number:

S/C-4

Assessment Concern Title:

**Safety Analysis Reports (SARs) and
Operational Safety Requirements
(OSRs)**

Performance Objective

DOE 5480.5, "Safety of Nuclear Facilities," and DOE 5481.1B, "Safety Analysis and Review System," require SARs that address the current status of the facility, and OSRs that define the safety envelope for the operations of the facility.

Concern

At the Hanford Site, many SARs and OSRs do not reflect the current status or the safety envelope of the facility. Safety equipment, systems, and components are not well defined.

Discussion

Historically, the Hanford Tank Farms received very little safety attention as long as they fulfilled their intended function of receiving radioactive separations waste. It was only when a tank began to leak that consideration was given to tank safety, and then only limited consideration focused on the leak. Because of this neglect, as-built drawings do not exist, and there is poor documentation of the current condition of the materials, equipment, components, and systems at the tank farms. Safety hazards are not fully characterized, and safe operating envelopes are not defined.

A 1988 Technical Safety Appraisal of the Hanford Tank Farms noted that current SARs did not exist. A commitment to that appraisal was to have an updated SAR for the Aging Waste Tank facilities (AWF) in FY 1994, an updated SAR for the Double Shelled Tanks (DST) in FY 1995, and an updated SAR for the Single Shelled Tanks (SST), also in FY 1995. The 1990 Tiger Team Assessment also noted that the Hanford Waste Tank Farm SARs and OSRs did not adequately address all safety hazards or bound the safe operations of the tanks.

Starting in FY 1989, funding to begin the updating of the Hanford Tank Farm SARs was provided. Funding levels have been increased each year since and projections indicate completion of the Tank Farm SARs in a phased schedule over the next 3 to 5 years, with the first SAR being completed in 3 years and the last completed in 5 years, subject to funding assumptions. WHC is performing extensive studies in FY 1992 defining what technical documentation needs to be done so that the development of the SARs can begin as soon as funding and technical basis is available. The development of as-built drawings, one of the key inputs, is projected as a multi-year effort (I-L-36).

In the meantime, WHC is starting a program to develop interim OSRs. These interim OSRs are based on existing SARs, but for example, will expand the number of operating limits from 4 to 20 on the Double-Shell Tanks. These interim OSRs will continue to be used until the final SAR is approved for each type of tank. It is a WHC target to send the DST interim OSRs to RL for approval by the end of June 1992, and the interim SARs for the AWF and SST to RL by the end of FY 1993 (I-L-11 through I-L-19).

The continued lack of SARs and OSRs for the Hanford Tank Farms is a complicating factor that requires WHC to be reactive rather than proactive. It requires the expenditure of considerable resources in that three Unreviewed Safety Questions (USQs) have been declared. These three USQs apply to: (1) all activity involving the flammable gas tanks (23 tanks); (2) all activities involving the ferrocyanide tanks (24 tanks); and (3) all activities that could affect the criticality in any tank (e.g., sampling, stirring, or diluting). Since the tanks cannot be shutdown, a Justification for Continued Operation (JCO) is needed. One JCO has been approved by RL for the 101 SY tank and another is being transmitted to RL to cover activities that could affect criticality safety. In addition, a Safety Assessment is required for any activity involving a USQ. These added activities and the expenditure of resources will continue until the USQs have been fully evaluated and documented (I-L-11 through I-L-19) and (D-L-2).

Many of the SARs for facilities operated by PNL do not meet current criteria as required by DOE 5480.5 and DOE 5481.1B. In addition, the safe operating envelope is not fully defined in all cases. PNL has an active program to upgrade the SARs. Even though the program is on schedule, the process is going slowly because funding is being provided from PNL overhead funds (I-L-33 through I-L-37) and (I-L-20 through I-L-24):

- The draft SAR for the 325 Applied Chemistry Laboratory was submitted to RL for review and approval on January 31, 1992. An interim OSR checklist, dated January 1991, is currently being used. However, a new OSR checklist based on the Final Safety Analysis Report (FSAR) will be developed (D-L-18).
- The draft FSAR for the 324 Waste Technology Engineering Laboratory was delivered to RL on January 26, 1992, for review and approval. An OSR checklist approved in April 1990 with some parts of HEDL-TC-1008 still applicable is based on the old SARs; however, an updated interim OSR checklist was submitted to RL on May 6, 1991. RL did not approve this interim version, but instead directed PNL to develop a new OSR checklist based directly on the new draft FSAR (D-L-18). PNL received a memorandum from RL on May 18, 1992, that the OSRs based on the draft FSAR had interim approval, but final approval was being withheld until approval of the FSAR.
- The draft FSAR for the 306-W Metals Development Laboratory is under development and is scheduled for delivery to RL by September 30, 1992. A compilation of OSRs from previous SARs is still in use (D-L-18).
- The draft FSAR for the 327 Postirradiation Testing Laboratory will be started as tasks from the 306W Bldg. draft FSAR are completed. The 327 Bldg. draft FSAR is currently targeted for delivery to RL by June 30, 1993. A PNL approved draft of interim OSRs was delivered to RL on August 28, 1991 for review and approval (D-L-18).

There currently is no work in progress on the 329 Neutron Multiplier Facility. Some consideration is being given to cleaning out the facility and developing a decommissioning SAR (I-L-36).

As noted in the above SAR/OSR listed status, work is progressing. However, the approved SARs are outdated and the safety envelope for each facility is not well defined.

The causal factor for this concern appears to be resources, in that WHC lacks resources to aggressively begin the development of tank farm SARs, and PNL has only limited resources, out of overhead funds, for the upgrade of PNL SARs and OSRs. In the interim, the facilities continue to operate with outdated and ill defined safety analyses and safety envelopes.

Assessment Concern Number:

S/C-5

Assessment Concern Title:

DOE Direction Concerning Operational Readiness Reviews, and Hazard and Safety Classifications

Performance Objective

Technical Safety Appraisal Performance Objective OA.2 requires that administrative programs and controls should be in place to ensure that policies concerning health and safety are administered throughout the facility.

DOE 5480.5, "Safety of Nuclear Facilities," and Secretary of Energy Notice (SEN)-16B-91 require that Operational Readiness Reviews (ORRs) be performed (1) before DOE authorizes activities, operations, or modifications that involve an unreviewed safety question; (2) when a facility has been shutdown for safety reasons; and (3) when requested by DOE.

DOE 5481.1B, "Safety Analysis and Review System," defines "Low," "Moderate," and "High" hazard classes.

DOE 6430.1A, "General Design Criteria," defines the criteria for a Safety Class Item.

Concern

Neither DOE-HQ nor RL have provided adequate direction to Hanford Site contractors on the performance of Operational Readiness Reviews (ORRs). DOE-HQ guidance has been limited and RL has not ensured timely development of hazard classification of facilities and safety classification of equipment at the Hanford Site. Consequently, performance of activities that involve these reviews and classifications are not consistent from one contractor to another and do not ensure the same level of safety review.

Discussion

The establishment of a hazard classification for each facility is used to determine the level of safety review and authorization level for DOE operations as defined in DOE 5481.1B. The system to determine hazard levels of facilities is not consistent from one contractor to another at the Hanford Site. This situation is exacerbated by the lack of specific guidance from DOE-HQ regarding hazard classifications. This specific problem was recognized by RL and its contractors, and an effort was undertaken to establish some consistency through a site committee. At RL's direction, PNL developed a guide, A Practical Approach to Hazard Classifications (March 1991). However, WHC has not, as yet, adopted this PNL approach. Discussions on remaining differences are ongoing and WHC reported that resolution should be attained by July 1992 (I-L-1 through I-L-10) (I-L-33 through I-L-35) and (D-L-14).

The designation of safety classifications for structures, systems, and components important to the safe operation of a facility allows for a graded approach to the application of design and quality assurance requirements commensurate with their need to help maintain the safe operating envelope of the facility or to mitigate the consequences of an accident. DOE 6430.1A

defines the criteria for a "Safety Class Item." Both PNL and WHC designations for a first level safety class of structures, systems, and components correspond to the DOE 6430.1A criteria. However, from that point, PNL defines two additional levels of non-safety class items, while WHC defines three additional levels (I-L-1 through I-L-10) (I-L-33 through I-L-35) and (D-L-15).

It has been recognized throughout the DOE complex, and especially by RL, that safety classifications of equipment are not consistent. A DOE-HQ Memorandum, "Clarification of the Description and Use of Safety Class Items in Department of Energy Order 6430.1A, 'General Design Criteria'," was issued by John J. Nettles, Jr., on February 20, 1991. However, differences still exist. Both PNL and WHC recognize that their systems for determining the non-safety classification of structures, systems, and components are not consistent; therefore, RL initiated an effort to resolve the differences, but no target date has been set for this resolution (I-L-47) and (D-L-7).

DOE 5480.5, DOE 5480.6, and SEN-16B-91 require that an Operational Readiness Review be performed for specific conditions. However, these specific conditions are the minimum required. As with many DOE requirements, details are left for the program and field offices to provide. The "DOE Procedure For Restart of Reactors and Non-Reactor Nuclear Facilities" issued by NE-1 and the "Draft EM Policy and Guidance for Readiness Determination" issued by EM Director, Office of Quality Assurance and Quality Control, February 6, 1992, provides some guidance. However, RL has not provided details regarding all circumstances for which DOE may request that an ORR be performed, how ORRs are to be performed, and which organization (line or independent) performs the ORR (I-L-30 and I-L-31) and (I-L-43 through I-L-46).

At the Hanford Site, the contractors have developed different systems for performing ORRs and developed different criteria regarding the circumstances when an ORR should be performed.

The causal factors for this concern are the lack of policy and policy implementation, in that RL has not properly developed implementing policy and guidance to ensure consistency among the Hanford Site contractors.

Assessment Concern Number:

S/C-6

Assessment Concern Title:

PNL Hazard Assessment and Exposure Monitoring

Performance Objective

DOE 5480.4, "Preliminary Notification of Environment, Safety, and Health Concerns," and 29 CFR 1910.1200 require that contractors implement hazards assessment and exposure monitoring plans.

Concern

PNL has not implemented comprehensive hazard assessment and exposure monitoring programs.

Discussion

The original 1990 Tiger Team action plan for the hazards assessment and exposure monitoring finding has been modified from the original date of full implementation by June 30, 1991 to December 30, 1995 (see 1990 Tiger Team Assessment PNL IH.3-3, IH.1-6). It is not clear that the proposed corrective actions by PNL are expeditious and require the extended period of time suggested by PNL to implement.

PNL has three potential sources of resources for funding the hazard assessment and exposure monitoring programs. Those sources are from PNL overhead funding, from the Tiger Team Action Plan and budget requirements, and through the Activity Data Sheet (ADS) process from a PSO. The PNL overhead account is constrained. PNL tripled the IH staff in FY 1992 using this overhead account. The Tiger Team Action Plan and budget did not have any funds associated with it. The Plan required the contractors to seek funding through other avenues. The ADS process has been pursued by PNL through the EM and ER PSOs in each of the years since the 1990 TTA. To date no ADS requests have been funded for occupational safety or industrial hygiene. If the ADS that was most recently submitted is approved and funded, resources will not be available until FY 1994. PNL has requested funding such that the compliance efforts can be spread over 3 fiscal years.

A January 11, 1991, RL memorandum (D-M-77), clarified requirements for exposure monitoring and hazards assessments, and directed all contractors to implement this requirement with milestones to be established for 6 months and 1-year implementation. RL further indicated that "The cost of this effort has been factored into and is a part of the Tiger Team Action Plan and budget requirements." To date, no action has been taken by PNL to address this issue. PNL has prepared only limited interim compensatory actions for approval by RL and has not requested an exemption. Both of these issues involve serious noncompliance with OSHA regulations. PNL attributes the reason for delinquencies and extensions as being due to lack of staff and overhead funds to complete all tasks (see Concern M/C-10 and Improvement Item S/II-3).

The causal factors for this concern appear to be policy implementation, resources, and risk, in that PNL has been unsuccessful in recognizing the importance and degree of risk associated with this issue and has not applied appropriate levels of human resources and funding to this task.

Assessment Concern Number:

S/C-7

Assessment Concern Title:

OSHA Safety and Health Management Guidelines

Performance Objective

OSHA Safety and Health Management Guidelines published in the Federal Register on January 26, 1989, recommend employers implement the following four elements: management commitment/employee involvement; worksite analysis; hazard prevention and control; and safety and health training.

Evaluation of the U.S. Department of Energy's Occupational Safety and Health Program for its Government-Owned Contractor-Operated Facilities (the "Green Book"), published by OSHA, provides DOE with a blueprint for strengthening occupational safety and health programs and recommends that DOE and its contractors establish safety and health goals and objectives that provide the basis for budgeting, planning, and resource allocations; develop policies, procedures, and plans; and define employee roles, responsibilities, and performance standards.

Concern

Portions of the RL and site contractors' Safety and Health Management Guideline programs lack the formality necessary to ensure full program implementation. Components of a formal program include goals and objectives; policies, procedures, and plans; and clear definitions of roles, responsibilities, and required resources.

Discussion

On January 26, 1989, OSHA published the Safety and Health Management Guidelines, in which four major elements were set forth. These elements are to be used to determine whether an employer goes beyond the minimum occupational safety and health requirements to achieve excellence. During the OSHA evaluation of Government-Owned Contractor-Operated facilities, major deficiencies in implementation of the guideline program elements were found. Since that time, significant improvements have been made by PNL and WHC in their programs. Nonetheless, not all contractors have formalized programs with goals and objectives; policies, procedures, and plans; and clear definitions of roles, responsibilities, and resources. Without these elements of formality, the guidelines have not been consistently and appropriately applied across the site. During the Progress Assessment, scattered deficiencies were noted in three of the four elements. These are indicative of the inconsistencies and incomplete implementation that arise when a formalized process is not implemented. The deficiencies identified are described below by element.

Management Commitment/Employee Involvement

- WHC and PNL have not provided training for all managers and line supervisors to ensure that they understand their occupational safety and health responsibilities (I-N-13 and I-N-19).

- Employee involvement in workplace inspections has not been encouraged by all contractors. Employees have not always participated in safety and health inspections (I-N-1, 11, 19, and 22).
- RL and WHC will not have implemented all required elements of the new "Process Safety Management of Highly Hazardous Chemicals" standard on or before its effective date of May 26, 1992 (see Concern S/C-8).
- WHC's performance appraisal system for managers does not place adequate emphasis on their safety and health responsibilities (I-N-11).

Worksite Analysis

- Effective occupational safety and health surveys (worksite analyses) are not fully conducted. Examples of worksite analyses activities that have not been conducted by WHC, PNL, or HEHF include lifting practices, processes covered by the new Process Safety Management Standard, when applicable (see Concern S/C-8), and process tank filling operations.
- The guidelines also provide that routine job hazard analyses be conducted to determine hazards involved in the workplaces, regardless of whether the job involves radiological or nonradiological hazards. Though procedures are in place, PNL does not always conduct job hazard analyses, unless the jobs involve radiological hazards (I-N-17).
- HEHF does not perform any workplace analyses (I-N-24).
- Hanford contractors do not use the number of employees occupying a building as one of the criteria in the prioritization of inspection schedules for high hazard areas. For example, the Industrial Safety and Health Compliance Inspection Program developed by the Office of Site Services Safety Assurance (SSSA) group of WHC, developed a prioritization logic in planning the OSHA type compliance inspection activities. This logic, however, does not consider the number of employees occupying a building to be inspected to achieve the maximum benefit of providing protection to greater number of employees. The current system uses square footage as one of the logic elements in the prioritization of inspection activities. WHC is considering using the number of employees occupying a building in the inspection prioritization (I-N-10).

Hazard Prevention and Control (Hazard Abatement Tracking)

- WHC and PNL each have several data bases for occupational safety and health hazard abatement tracking. The data bases are individually maintained by different line managers, and are not consistent.

- The information from these data bases is not transmitted to top level managers for resource planning and funding allocation purposes. Consequently, WHC and PNL cannot comprehensively plan their resources for hazard abatement activities.
- From the occupational safety perspective, it is important that hazards be identified in a data base through reference to the relevant OSHA standards, or in the absence of specific OSHA standards, Section 5(a)(1) of the Occupational Safety and Health Act. The "Quality, Environmental, and Safety Tracking" (QUEST) system maintained by WHC contains only general information about deficiencies, and does not contain information relevant to OSHA standards, when applicable (I-N-1, I-N-10, and I-N-19). Consequently, WHC OSH personnel do not consider the QUEST system to be user-friendly for their purposes.
- None of the hazard abatement tracking systems provide information relevant to interim measures (interim engineering controls) being taken until hazards are being corrected.

Other observations applicable to the overall programs, rather than any one specific element, include the following:

- HEHF has not developed a program plan for the implementation of the guidelines.
- The RL Safety, Environmental, and Security Assessment Branch (SES), who performs independent overview of the OSHA compliance program, has performed very little oversight activities.

The Hanford Site is aware of their need to improve the Safety and Health Management Guidelines program and are undertaking several initiatives. PNL and WHC have evaluated their current policies and procedures against the four elements and have attempted to incorporate them. They have plans to initiate pilot programs at specific facilities. For example, WHC has developed "Worker Protection Program" initiatives addressing the four guideline elements, to be implemented in October 1992. Similarly, PNL plans to begin implementing its pilot program in June 1992. WHC has also initiated Safety Observer training classes and a management reporting system of injuries occurring during the last 24 hours. PNL has trained all of their craft services supervisors in the occupational safety and health area, and an employee incentive program is being developed.

The causal factor for this concern appears to be risk, in that the Safety and Health Management Guidelines are a non-mandatory program. Therefore, they are viewed as a low risk/low priority item in accordance with the RL Manager's list of priorities, and receive a small amount of resources relative to the size and complexity required to implement a successful program.

Assessment Concern Number:

S/C-8

Assessment Concern Title:

Process Safety Management (PSM)
Implementation

Performance Objective

OSHA regulations at 29 CFR 1910.119 published on February 24, 1992, require that certain facilities which have specified chemicals over a certain quantities comply with the provisions of the standard on, or before, May 26, 1992. DOE 5483.1A, "Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated Facilities," mandates that DOE contractors comply with the requirements of OSHA standards.

Concern

RL and WHC have not been proactive and aggressive in the implementation of the new "Process Safety Management of Highly Hazardous Chemicals" standard and will not meet the requirements on, or before, its effective date of May 26, 1992.

Discussion

On July 17, 1990, OSHA issued a proposed rulemaking on process safety management of highly hazardous chemicals that have a potential for catastrophic releases. The standard applies to only those facilities that contain specific chemicals over a specified threshold quantities. The final standard was published on February 24, 1992, with an effective date of May 26, 1992. The standard requires the affected facilities to develop and implement management systems comprised of 14 elements. The process hazard analyses element is the cornerstone of the standard. Four elements of the standard covering operating procedures, contractors, mechanical integrity, and management of change have been administratively stayed until August 26, 1992.

WHC has identified four chemicals that may be subject to the requirements of the standard: (1) chlorine (10 locations; 45 total storage containers of 1 ton each); (2) nitrous oxide (1 container); (3) hydrogen peroxide (1 container); and (4) propane (1 container). Currently, WHC is drafting policies and procedures to implement the requirements of the standard. WHC does not have information pertaining to management systems required under the standard. Moreover, WHC does not have design drawing information for chlorine containers. WHC is planning to conform to the PSM requirements by October 1, 1992, for at least one of the four processes covered by the PSM standard.

While some limited RL activity began in December 1991, RL did not aggressively pursue implementation of the standard until they received correspondence from EM in April 1992, requesting information on the number and type of affected facilities.

The causal factors for this concern appear to be change, in that RL and WHC have not properly planned for changing regulatory requirements; and inadequate policy implementation.

Assessment Concern Number:

S/C-9

Assessment Concern Title:

RL Oversight of Construction Safety

Performance Objective

DOE 5480.9, "Construction Safety and Health Program," requires that DOE onsite construction inspections be performed to ensure compliance with applicable construction safety standards and the contractor's approved safety and health program. DOE 4700.1, "Project Management System," states that the DOE project manager is responsible for assuring compliance with project ES&H requirements. Secretary of Energy Notice (SEN)-6 and its revisions mandate direct DOE line oversight of contractor activities.

Concern

RL has not approved KEH's current construction safety program, provided direct oversight of onsite safety compliance, or ensured coordination between KEH and other site contractors regarding their respective responsibilities for construction safety.

Discussion

The roles and responsibilities for RL's direct oversight of onsite compliance by KEH with construction safety requirements are not well defined, formally documented, or understood. There is an informal agreement between the responsible line organization, Project Management Division (PMD), and the Technical Support Division (TSD) that TSD provides programmatic oversight of KEH's construction safety program. Management of both PMD and TSD acknowledge that this includes a review by TSD of whether KEH's construction safety program, as defined by applicable Kaiser Operating Policies and Kaiser Administrative Procedures (KOP's and KAP's), provides an effective means of KEH managing the OSH requirements of its contract (I-O-1, 3, 5, and 6).

There is not a clear understanding of who is responsible for ensuring that KEH complies with these program requirements on a project by project basis. TSD management and staff were unanimous that direct oversight on a project by project basis was not their responsibility (I-O-5, I-O-6, and I-O-27). However, interviews with PMD management and staff revealed that confusion exists as to who was responsible for direct DOE oversight of KEH onsite compliance with construction project OSH requirements (I-O-1, 2, 3, 21, 22, and 26). RL line management expressed reservations about providing direction to KEH without going through the assigned WHC project manager (I-O-3; D-O-43), yet KEH project managers assert that they have no oversight from WHC in the area of construction safety (I-O-9 and I-O-11). RL issued guidance on Health and Safety Responsibilities at Hanford in July 1991 (D-O-40), but RL line managers have not ensured its implementation.

RL's Mission and Function Statement (D-O-50) does not clarify roles and responsibilities for the oversight of KEH jobsite safety performance. The Occupational Safety Branch of TSD "administers safety programs for Hanford facilities and operations in . . . construction safety, . . .", "develops programs and procedures . . . for the health and safety of RL and RL contractor employees . . .", and "reviews RL contractor programs . . . including safety performance and compliance . . . ." AMP's mission includes

providing "principal cognizance over the performance of the onsite E/C contractor, Kaiser Engineers Hanford (KEH)" and assuring "that construction activities are conducted in a safe and environmentally sound manner . . . ." This overlap has resulted in both organizations believing that the other is responsible for and conducting onsite oversight activities in construction safety.

With respect to the DOE 5480.9 requirement for DOE approval of the contractor's safety and health program, this was last performed in 1987 when KEH was awarded the contract for construction management at the Hanford Site (I-O-28). Subsequent revisions or additions to the KOP's and KAP's that makeup Kaiser's Safety and Health Program have not been approved by RL (I-O-5 and I-O-6). These include program elements for compliance with new or revised OSHA standards or program revisions that address previous program shortcomings. For example, in response to a recent onsite fatality, KEH revised its procedures for prejob planning and job safety analysis (D-O-47). This procedure, described by KEH as "the absolute foundation of our Industrial Safety program," has been neither reviewed nor approved by RL. It does not adequately address coordination between KEH and other site contractors during prejob planning, a critical issue that must be resolved by RL.

Management and staff in the line organizations responsible for RL oversight of construction (PMD and TPD) have had limited training in construction safety. RL has recognized this shortcoming and has scheduled several project engineers (PE's) (reportedly one per branch in PMD) to attend an OSHA construction safety course in the near future (I-O-21, I-O-22, and I-O-26). No specific plans for training of the other PE's were given.

With regard to direct DOE oversight of construction contractor activities, the large projects managed by TPD and PMD (e.g., the Grout facility and LERF, respectively) are visited frequently by the assigned DOE PE. Other projects managed by PMD appear to have significantly less direct oversight by their assigned PE's. The PE's are encouraged by management to visit the project sites more often but the desired or required frequency has not been established. In an effort to address logistical difficulties and competing PE priorities, an informal pilot program has recently commenced whereby a "roving" PE visits his sites as well as those assigned to other PE's and reports back on project status. Although PMD management indicated that oversight of contractor safety performance was part of the "roving" PE's duties (I-O-21 and I-O-22), this has not been effectively communicated to him nor has he yet been provided with any construction safety training (I-O-28). No observations concerning construction safety have been noted since the pilot program began over a month ago.

For construction projects less than \$300,000, there are no assigned PE's in any of the above mentioned line organizations, no available listing of ongoing projects or their status within RL, nor any apparent attempt to provide direct RL line oversight of these construction activities despite the fact that they reportedly accounted for \$40 million of \$110 million in construction placement last year (I-O-1). RL's recently developed responsibility matrix for projects (D-O-48) does not show any DOE responsibility to perform, contribute to, or surveil performance of site safety walkthroughs. This demonstrates that DOE line managers do not recognize their responsibility for assuring onsite compliance with contract safety requirements.

Regarding program oversight by TSD or independent assessment by CMP, there have been several sitewide surveillances performed in narrow program areas that impact KEH construction operations (e.g., management commitment, hoisting and rigging, and well drilling operations), but a comprehensive assessment of KEH's Construction Safety Program was last performed in June 1989 (D-O-52) and there has not yet been an internal assessment by CMP of RL's line oversight of construction safety.

The causal factors for this concern appear to be a lack of policy and procedures for assuring onsite compliance with applicable construction safety standards.

Assessment Concern Number:

S/C-10

Assessment Concern Title:

KEH Corrective Action Program

Performance Objective

Secretarial guidance of July 31, 1990, concerning ES&H Self-Assessment requires development of a formal system for carrying out and auditing corrective actions. ES&H Management Performance Objective 4.4.3.1. provides that a process captures ES&H deficiencies identified in assessments, reviews, and occurrence reports, and tracks corrective actions through verified closure.

Concern

KEH has not implemented measures to ensure the effectiveness of actions taken to correct trends identified by surveillances, audits, and self-assessments.

Discussion

Although KEH has been active in identify trends in frequently occurring jobsite violations and ES&H deficiencies through self-assessment, they have not yet implemented fully effective measures to improve performance. KEH's self-assessment report for the period of October 1, 1991 - December 31, 1991, completed on February 5, 1992 (D-O-16), identified three deficient areas:

- Increased attention to notification mechanisms that alert employees of an unsafe condition, safety concern, or hazardous situation/material/etc.
- Increased attention to electrical safety issues.
- Increased attention to contractor use of personal protective equipment (PPE).

Effective actions have not been taken to correct these program deficiencies:

- Inadequate prejob planning and job safety analysis were cited as a probable cause for the KEH employee fatality at the 100-F reactor in April 1992. These form the basis for an effective "notification mechanism" to alert employees of unsafe conditions (D-O-51).
- During this assessment, electrical safety violations were noted on five of seven projects visited on a weekly safety walk-through with KEH Construction Management and Safety staff. Three sites had multiple electrical safety violations (I-O-18, I-O-18, and I-O-18).
- KEH Project Management and Industrial Safety staff expressed frustration at their inability to compel WHC Health Physics Technicians (HPT) assigned to their construction activities to wear appropriate PPE. These frustrations were based both on concerns about the safety of the WHC HPT and the impact of improperly protected WHC staff on KEH's ability to properly

enforce project PPE requirements (I-O-11, I-O-12, and I-O-18). Their concern was confirmed through observations on a jobsite safety walkthrough conducted as part of this assessment (I-O-18).

KEH management stated that action was being taken to address the results of the self-assessment (I-B-7 and I-O-8), yet deficiencies in these areas persist on KEH jobsites. While KEH's self-assessment was effective in identifying these deficiencies to KEH management, actions taken to date to correct them have been ineffective. KEH has not taken steps to evaluate the adequacy of their corrective action program.

The causal factors for this concern appear to be ineffective policies and procedures for assuring the effectiveness of KEH's corrective action program.

Assessment Improvement Item Number: S/II-1

Assessment Improvement Item Title: Implementation of the Job Control System for the Waste Tank Facility

Performance Objective

DOE 4330.4A, "Conduct of Maintenance at DOE Facilities," requires implementation of a Job Control System designed to meet the requirements of Chapter 2 of this Order. TSA Performance Objective MA.-1 states that the Maintenance Organization and administration should ensure effective implementation and control of maintenance activities.

Improvement Item

The large backlog and long "in-out" time of work orders in the Job Control System at the Waste Tank Facility has not been improved by eliminating controllable deficiencies.

Discussion

Possibly the greatest factor determining the backlog of maintenance orders in the WHC Waste Tank Job Control System is associated with the design of this system to ensure that all internal and external requirements, including those associated with state and Federal environmental legislation, are met. With little exception, these requirements are not controllable by the maintenance organization. Therefore, as long as environmental compliance is implemented within the Job Control System, the work backlog will reflect the required level of effort and is expected to be large. All maintenance orders in this Job Control System directly effect the safety of facility conditions or operation and thus improvement in performance of the Job Control System and reduction of the backlog becomes imperative.

There are a number of controllable factors within the WHC Waste Tank Job Control System that have been identified by WHC. Actions to correct or improve the handling of these factors is progressing in some instances. All require further attention and a continuing effort to identify other controllable factors. Some of these are described as follows:

- The absence of up-to-date and valid Safety Analysis Reports (SARs) requires that the safety reviews take a very conservative approach in all matters that are not covered by valid safety analyses and confirmed drawings. This is an obvious complication in the preparation of the work package as well as in executing the work. Work of updating SARs and Operating Safety Requirements (OSRs), which are associated with the Waste Tank Facility, should have a priority equivalent that of safe facility operation.
- In an effort to achieve a sensitivity to reporting maintenance items, workers are encouraged to initiate maintenance items. Many of the workers have reported the same item in different terms. Two actions are underway to correct this. Operations is conducting a validation of all new orders. A deficiency tag is being hung on the deficient item when the work order is issued to

minimize duplication. When duplication is eliminated, an estimated 5 percent of the backlog will be reduced.

- A number of organizations require work permits for various reasons. Improvement can be achieved by negotiation between the maintenance organization and the sources of these requirements, and establishing an effective and efficient method for integrating the work permit process.
- There are work packages in the Job Control System covering requests on which, for various reasons, the operating organizations do not need the work to progress. These items, if retained in the system, inaccurately reflect a larger backlog of work.
- The office and work spaces occupied by persons responsible for various elements of the Job Control System are spread out and not ideally situated to facilitate management participation in minor problem solving and effective presence. Even though work packages are communicated by computer, the drawings must be hand carried and the value of face-to-face communication is not always realized.
- The lack of integrated scheduling may result in untimely planning of activities on the part of the Maintenance Organization which is, in effect, reacting to the planned requirements of Operations.
- In a spread out maintenance operation such as the Waste Tank Facility, transportation is a tool of the job at the craft level. Interviews with maintenance personnel indicated a high level of frustration for both the manager and the craftsman with inadequate transportation affecting productivity.

Due to the importance of the Waste Tank Facility operation, accomplishing maintenance in the most effective and efficient manner achievable is critical.

The causal factor for this improvement item appears to be change, in that the Job Control System is a complicated one and will undergo an evolution process within the required elements in order to achieve effective implementation.

Assessment Improvement Item Number:

S/II-2

Assessment Improvement Item Title:

Training for WHC Tank Farm Facility Operators

Performance Objective

DOE 5480.5, "Safety of Nuclear Facilities" requires the establishment of a program for selecting, training, and retraining of all individuals who operate, maintain, or supervise activities in nuclear facilities. Further requirements for on-shift training are set forth in DOE 5840.19, "Conduct of Operations," Chapter V. The TSA Performance Objective TC.3 reflects the requirements of DOE 5840.5 and emphasizes the need to improve the knowledge and skills necessary to perform assigned job functions. In addition, TSA Performance Objective, OP.6, states that operator knowledge and performance should support safe and reliable operation of equipment and systems for which they are responsible.

Improvement Item

WHC Training programs for operators are deficient and hinder the full implementation of conduct of operations at the Waste Tank Facility.

Discussion

The WHC Management plans are largely in place for the implementation of the disciplined approach to operations required by DOE 5480.5 at the Waste Tank Facility and implementation has progressed well down to the interface of management/operators.

In implementing the Order, it became evident to WHC management that the training of operators were not fully effective (I-K-8 and I-K-9). An example of this was that remedial training was urgently needed to clarify for the operators the meaning of breaker markings: "Off - On" and "Open - Closed." The impact of this incomplete training is delay in the full and effect the implementation of the conduct of operations program. This example indicates that WHC needs to ensure that the Conduct of Operations training program is providing the needed level of detail and that adequate measures are in place to ascertain the effectiveness of this training. Using the fifth shift for relief, each shift is being given 5 weeks of "Core" training, which includes fundamental knowledge required to provide a common base on which further specific job training can be built. Core training is now 70 percent complete. Operators indicated that the training has been well received (I-K-10). Especially impressive to them was the meeting with higher management at the end of the training activity to accept feedback.

Further retraining is planned to include principles of Conduct of Operations along with specific plant knowledge required to do the work. Management recognizes that implementing the retraining objectives are a major factor in obtaining and maintaining the degree of implementation desired.

The causal factor for this improvement item appears to be change, in that the mission of the Hanford Site has been in the state of continuous change for a number of years, which has resulted in the movement of people into new positions in the Tank Farm Facility.

Assessment Improvement Item Number:

S/II-3

Assessment Improvement Item Title:

**RL, WHC, and PNL Planning and
Budgeting for Industrial Hygiene
Program Activities**

Performance Objective

ES&H Management Performance Objectives and Criteria, 2.1.2 requires that ES&H Plans and programs are an integral part of the sitewide strategic and implementation planning and budgeting process.

Improvement Item

RL has not ensured that industrial hygiene requirements are prioritized relative to program requirements and integrated into contractors plans and budgets based on risks associated with hazards.

Discussion

RL has not incorporated management controls into the budgeting and review process to ensure a proper balance between achieving programmatic objectives and ES&H objectives. As a result, contractors must determine ES&H priorities themselves and fund the work from overhead accounts. This creates a situation where ES&H activities receive only the level of resources that overhead ceilings permit, and effectively removes RL from the sitewide ES&H activities prioritization process.

In general, Hanford Site contractors generate an annual management plan and budget for submission to the cognizant RL line management program division for approval. RL budget representatives indicated that the overhead costing mechanism that is utilized by RL to review budget documents prepared by the site contractors is not specific in detail to fully determine line item costing of ES&H items or indicators of levels of priority based on defined hazards. Industrial hygiene programs have largely been budgeted from contractor overhead costing mechanisms rather than directly from program funds. WHC has established OHS at a level of 60 percent funding from line program support in FY 1992. In response to pressures to keep overhead cost low, industrial hygiene resources have been allocated without regard to the priority of ES&H risks relative to programming or other administrative activities. RL review of contractor work plans and budgets has not assured that the necessary resources are built into program operating costs.

The causal factors for this improvement item appears to be policy, procedures, and risk, in that RL has not implemented written guidance for budgeting and planning to include procedures, based on risk priorities, for RL and site contractors to prepare and implement ES&H programs and plans.

Assessment Improvement Item Number: S/II-4

Assessment Improvement Item Title: Formality of WHC Industrial Hygiene Program Operations

Performance Objective

DOE 5480.19, "Conduct of Operations," requires that roles, responsibilities, and authorities of an organization are clearly defined, formally documented, communicated, and understood.

Improvement Item

The WHC industrial hygiene program is not sufficiently formal; formally approved charters do not exist for industrial hygiene organizations; communications between industrial hygiene organizations are informal and not defined; and work plans, procedures, and industrial hygiene QA program plans have not been developed for all industrial hygiene organizations. Most WHC managers do not understand the function of the industrial hygiene program.

Discussion

Formality of operations is key to ensuring that multiple industrial hygiene organizations which have responsibilities for separate components of the overall program are able to successfully communicate and integrate their functions to meet overall programmatic goals and objectives. The overall WHC industrial hygiene program is divided into two primary industrial hygiene organizations; Health and Safety Assurance (HSA) and Occupational Health and Safety (OHS).

HSA is further divided into two suborganizations, one performing independent assessments and program reviews and one performing the function of programs development. OHS is primarily responsible for responding to daily industrial hygiene support functions for operations and maintenance.

No formal charters and lines of communication exist for the industrial hygiene organizations within WHC. The OHS and IH organization charters are not placed in the ESQ Administrative Manual which contains a section where lower than level II charters are placed. Within the OHS industrial hygiene group, there are few clearly defined work program plans and program procedures. The functions of the industrial hygiene organizations have not been clearly communicated to WHC management.

The causal factors for this improvement item appear to be issues that are directly related to resources, in that OHS has not had a Level III manager over the past 14 months; and change due to the relative newness of the structure of the current ES&H organization which has been in transition since the 1990 Tiger Team Assessment.

Assessment Strength Number:

S/S-1

Assessment Strength Title:

Sitewide TQM Initiatives

Discussion

The Total Quality Management (TQM) approach to work has been adopted by RL and each of the contractor organizations at the Hanford Site. That approach emphasizes the analysis and evaluation of work processes for the purpose of continuous improvement of products and services. That purpose is a major criterion of quality assurance programs established under DOE 5700.6C. TQM is recognized as an adjunct to and an enhancement of the formality of operations throughout Hanford.

RL and contractor management exhibit a personal commitment, involvement, and enthusiasm for TQM (I-J-2 and D-J-41). Presently, the TQM approach is in varying stages of implementation; e.g., WHC and KEH started several years ago and have the most mature efforts; the other contractors (PNL and HEHF) began their initiatives within the past 24 months; and the RL effort is just beginning. The Federal Quality Institute has sponsored RL as one of six Federal sites in its model program. The integration of TQM across the Hanford Site is planned.

The early application of the TQM approach to selected pilot projects has showed its effectiveness, for example improved procedures at HEHF, establishment of an HEHF QA Program, the sitewide lockout/tagout effort, containment and reduction of radioactively contaminated areas, and improved conduct of operations.

TQM represents a major factor in integrating the mission and organizational changes at the Hanford Site through analysis of work processes and systems with the aim of continuous improvement - a new requirement within DOE 5700.6C.

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Appendix C

BIOGRAPHICAL SKETCHES OF TEAM MEMBERS

NAME: Michael A. Kilpatrick
AREA OF RESP: Team Leader
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 16 Years

- U.S. Department of Energy, Washington, DC
  - Director, Office of Environmental Audit. Responsible for managing environmental audits and environmental components of Tiger Team Assessments; developed and presented Tiger Team Training Program; served as Deputy Tiger Team Leader at Brookhaven National Laboratory and Environmental Subteam Leader for Tiger Team Assessments at Princeton Plasma Physics Laboratory and Idaho National Engineering Laboratory; served as Team Leader for Environmental Management Audit of the Western Area Power Administration.
- Maryland Department of Environment, Baltimore, MD
  - Administrator of Superfund and Underground Storage Tank Program. Responsible for planning and implementing regulatory, enforcement, and cleanup programs.
- U.S. Environmental Protection Agency, Washington, DC
  - Chief, Compliance Branch, Office of Waste Programs Enforcement. Responsible for national implementation of enforcement programs under Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act.
- Naval Ship Research and Development Center, Annapolis, MD
  - Chemical Engineer. Responsible for developing wastewater treatment systems and other pollution control systems for Navy ships.

EDUCATION: Graduate Studies, Chemical/Energy Engineering, University of Maryland
B.S., Chemical Engineering, University of Maryland

NAME: Christine S. Beling

AREA OF RESP: Groundwater Protection Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 7 Years

- U.S. Department of Energy, Office of Environmental Audit
  - Environmental Engineer under the direction of the Audit Team Leader/Environmental Subteam Leader, provides guidance, direction, and assistance to a multidisciplinary group of professionals performing Environmental Audits and Tiger Team Assessments at DOE facilities. Assistant Environmental Audit Team Leader for the Southwestern Power Authority Audit, Rifle, Gunnison and Grand Junction UMTRA Project Sites Audit, Environmental Measurements Laboratory Audit, Pittsburgh Energy Technology Center Tiger Team Assessment, and the Stanford Linear Accelerator Center Tiger Team Assessment.
- Environmental Strategies Corporation
  - Environmental Engineer responsible for project management at an ongoing Superfund remedial investigation/feasibility study (RI/FS), remedial design/remedial action (RD/RA), and New Jersey Environmental Cleanup Responsibility Act (ECRA) hazardous waste sites. Additionally, responsible for construction management, auditing, and environmental sampling at various sites.
- U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response
  - Environmental Engineer responsible for guidance development for RD/RA activities conducted at Superfund sites by potentially responsible parties. Instructor for the corrective action order workshop regarding design and construction activities.
- U.S. Environmental Protection Agency, Region II, Office of Emergency and Remedial Response
  - Environmental Engineer responsible for all phases of RI/FS and RD/RA at various Superfund sites. Special Assistant to the Regional Administrator.

EDUCATION: B.S., Chemical Engineering, Tufts University

NAME: Lorin C Brinkerhoff

AREA OF RESP: Safety Analysis Program

ASSOCIATION: Private Consultant

EXPERIENCE: 38 Years

- Private Consultant
  - Associated with Oak Ridge Associated Universities, and EG&G Idaho, Inc.
- U.S. Atomic Energy Commission/Energy Research and Development Administration/DOE
  - Technical Safety Appraisal Team Leader, DOE Office of Safety Appraisal.
  - Acting Reactor Safety Branch Chief, DOE Headquarters.
  - Senior Nuclear Safety Specialist, Atomic Energy Commission, Energy Research and Development Administration, and DOE.
- Aerojet General Corp.
  - Senior Nuclear Engineer, Nerva Program, Nuclear Rocket Development Station, Nevada.
- Lawrence Livermore National Laboratory
  - Manager, Nuclear Critical Facility.
- Phillips Petroleum Co.
  - Reactor Foreman, Idaho Test Site.
- General Electric Co., Hanford, WA
  - Graphite Studies Group.

EDUCATION: B.S., Chemical Engineering, University of Utah

OTHER: Member, ANS-15 Standards Committee on Research Reactor Safety (1980-1989)
Member, ANSI N-16 Standards Committee on Nuclear Criticality Safety (1978-1984)
Listed in "Who's Who in the East," "Who's Who in the World," and "Who's Who in Science and Engineering"

NAME: Robert M. Compton
AREA OF RESP: Oversight/Directives, Policy, Procedures
ASSOCIATION: Nuclear Power Consultants, Inc.
EXPERIENCE: 23 Years

- Private Consultant
  - DOE Tiger Team Assessments at Savannah River, Hanford Site, Energy Technology Engineering Center, Morgantown Energy Technology Center, Idaho National Engineering Laboratory, and Naval Petroleum Reserve Center.
  - DOE Progress Assessment at Fernald Environmental Management Project and Y-12 Plant.
  - Appraisals of construction programs, Safety System Functional Inspections (SSFIs), Motor Operated Valve problems, regulatory issues, etc. for nuclear utilities.
  - Numerous individual and team assessments and problem resolution assignments at nuclear utilities for the U.S. Nuclear Regulatory Commission (USNRC) related to Safety System Quality Inspections (SSQEs), SSFIs, Safety System Outage and Modification Inspections (SSOMIs), Construction Appraisal Team (CAT) inspections, instrumentation, in-service-testing of pumps and valves, compensatory measures, restart readiness reviews, "problem plant" corrective actions, safety allegations, etc.
- U.S. Nuclear Regulatory Commission
  - Senior Engineer and Reactor Inspector in the areas of civil and mechanical construction, testing, and modification.
- Mare Island Naval Shipyard (Department of Defense).
  - Nuclear Fluid Systems Engineer and Supervisory Nuclear Engineer for construction, repair, and refueling of navy nuclear vessels.

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

OTHER: Member, American Nuclear Society
Member, American Society for Quality Control
Member, American Society of Civil Engineers
Member, American Consulting Engineers Council

NAME: Lynne Day

AREA OF RESP: Administrator

ASSOCIATION: META

EXPERIENCE: 15 Years

- META

- Information Processing Specialist. Provides administrative support for Environmental Audits, Progress Assessments, and the Environmental Subteam on DOE Tiger Team Assessments. Participant in Tiger Team Assessments of the Solar Energy and Research Institute, Los Alamos National Laboratories, and Strategic Petroleum Reserves. Participant in Environmental Audits of the Component Development and Integration Facility and Environmental Measurements Laboratory sites. Provided support for the production of the Progress Assessment Guidance Manual and the Environment, Safety and Health Progress Assessment of the Fernald Environmental Management Project. Attended Progress Assessment training program.

- INNOVA Communications, Inc.

- Office Administrator. Provided system and documentation support for a local and wide area network integration firm. Worked on office automation systems configuration analysis project providing technical writing and project management support. Responsible for development of instruction materials, graphics support, manuals, and vendor documentation. Prepared proposals, presentations, graphics, and technical drawings. Compiled and prepared statistical data for price quotations, cost proposals, and for use in analysis and reporting.

- Sandler & Greenblum

- Word Processing Departmental Manager. Developed and coordinated activities related to the word processing department for law firm specializing in patent/trademark law. Responsible for direct supervision and staffing of word processing department. Responsible for hardware and software procurement and installations. Identified and resolved problems, and repaired and replaced malfunctioning hardware components. Performed database management functions.

EDUCATION: A.A., Computer Science, Strayer College, Arlington, VA
Data Processing Diploma, Strayer College, Arlington, VA

NAME: George E. Detsis

AREA OF RESP: Team Coordinator

ASSOCIATION: U.S. Department of Energy, Headquarters, Office of Special Projects

EXPERIENCE: 15 Years

- U.S. Department of Energy, Washington, DC
  - Office of Special Projects. Tiger Team Management Subteam Leader for the Solar Energy and Research Institute (SERI) and Assessment Coordinator for Lawrence Berkeley Laboratory (LBL), Energy Technology Engineering Center (ETEC), and Stanford Linear Accelerator Center (SLAC). Program lead for Corrective Action Plans, and fourteen workshop training sessions at DOE facilities.
  - 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 eleven DOE facilities.
  - Assistant Team Leader for the Environmental Surveys for seven DOE facilities. Responsible for planning activities in preparation for the onsite surveys, team management, guidance in 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. Responsible for planning, programming, and budgeting forest resource allocations, and land use management.
  - Project Manager for eight multi-state energy-related EISs. Responsible for conducting public scoping meetings and directing 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 and Environmental to Congressman Lloyd Meeds.
- U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, Seattle, WA
  - Research Assistant with the Wildland Recreation Research Station.

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

NAME: William A. Eckroade
AREA OF RESP: Tri-Party Agreement: Environmental Restoration Program
ASSOCIATION: U.S. Department of Energy
EXPERIENCE: 5 Years

- U.S. Department of Energy, Office of Environmental Audit
  - Environmental Engineer under the direction of the Environmental Subteam Leader, provides guidance, direction and assistance to a multidisciplined group of professionals performing Environmental Audits and Tiger Team Assessments at DOE facilities.
  - Served as the Assistant Team Leader for the Maywood, New Jersey, FUSRAP Site Environmental Audit, the Energy Technology Engineering Center Tiger Team Assessment, the Grand Junction Environmental Audit, the Bonneville Power Administration Line Program Environmental Management Audit, and the Ames Laboratory Tiger Team Assessment. Served as Team Leader for the Western Area Power Administration Line Program Environmental Management Audit.
- U.S. Department of Energy, Office of Environmental Compliance
  - Environmental Engineer responsible for conducting independent oversight of Environmental Compliance activities at the Savannah River Site.
- U.S. Environmental Protection Agency, Office of Waste Programs Enforcement
  - Environmental Engineer responsible for providing assistance in technical case development to assigned EPA regional offices. Additionally, responsible for conducting oversight of regional activities involving activities at enforcement lead Superfund sites.

EDUCATION: M.S., Civil Engineering, University of Maryland
B.S., Geophysics, Virginia Polytechnic Institute

NAME: Patrick F. Finn

AREA OF RESP: Construction Safety Program

ASSOCIATION: U.S. Department of Energy, Headquarters, Office of Occupational Safety

EXPERIENCE: 18 Years

- U.S. Department of Energy, Headquarters
  - Construction Safety Team Leader.
- Occupational Safety and Health Administration
  - Chief, Construction Division, Office of Construction and Engineering.
- U.S. Army Corps of Engineers, Headquarters
  - Design/Construction Evaluation Team Leader. Responsible for evaluating the effectiveness of design and construction management at Corps of Engineers District Offices worldwide.
- U.S. Army Corps of Engineers, Europe Division
  - Resident Engineer in Augsburg, Germany, responsible for supervision of all new construction and major rehabilitation projects for the Army, Air Force, and NATO in southern Bavaria.
- U.S. Army Corps of Engineers, New Orleans District
  - Construction Manager for the Red River Waterway Program in northern Louisiana and southern Arkansas.
- District of Columbia Department of Highways and Traffic
  - Construction Inspector for the Mall Tunnel Project.

EDUCATION: M.S. Engineering Management, George Washington University
M.S. Civil Engineering, Tulane University
B.S. Civil Engineering, Virginia Polytechnic Institute

OTHER: Registered Professional Engineer, Virginia
Chi Epsilon, National Honorary Fraternity for Civil Engineers
Chairman, Corps of Engineers National Quality Assurance Team
Chairman, DOE Construction Safety Advisory Committee
Construction Industry Institute Taskforce on Quality Performance Measurement

NAME: Charles Grua
AREA OF RESP: Corrective Action Program
ASSOCIATION: U.S. Department of Energy, Office of Special Projects
EXPERIENCE: 35 Years

- U.S. Department of Energy
  - EH Office of Special Projects Team Leader.
  - TSA Team Leader, Office of Safety Appraisals, Office of Performance Assessment.
  - Quality Assurance Engineer, Team Leader, Lead Auditor, Office of Quality Assurance.
  - Program Manager, Environmental Control Technology Division, DOE/ERDA.
- U.S. Department of Interior
  - Program Manager, Combined Cycle Power Plant, Office of Coal Research.
  - Acting Chief, Plant engineering and Project Management Division, Office of Saline Water.
  - Resident Manager, R&D sites for desalination technologies at Freeport, TX; Rosewell, NM; Orange County, CA; Office of Saline Water.
- Department of Health, Education, and Welfare
  - Maintenance Engineering, National Institute of Health.
- Honeywell
  - Application Engineer.
- Lykes Brothers Steamship Co.
  - Third Assistant Engineer.
- U.S. Navy

EDUCATION: B.S., Marine Engineering, U.S. Merchant Marine Academy

OTHER: Member, American Society of Mechanical Engineers
Member, American Society of Quality Control

NAME: Donald C. Habib

AREA OF RESP: Radioactive and Mixed Waste Management Program

ASSOCIATION: HALLIBURTON NUS Environmental Corporation

EXPERIENCE: 10 Years

- HALLIBURTON NUS Environmental Corporation, Gaithersburg, MD

- Principal Engineer. Perform a broad range of regulatory compliance and waste management related projects, including assessments and audits. Served as a waste management or RCRA specialist on assessments/audits of approximately 20 facilities in the last 5 years, including 7 DOE Tiger Team Assessments as well as other DOE assessments and other government and commercial/industrial facilities. RCRA experience includes audits and assessments, developing permit applications, performing regulatory impact analyses, developing and providing regulatory training, reviewing RFI work plans and similar documents, and performing RFAs and RFIs. Mixed waste experience includes preparation of DOE's LDR Case-by-Case Extension Application for Radioactive Mixed Wastes, performing compliance studies for mixed wastes, and other DOE projects for DOE's Office of Environmental Audit, Environmental Compliance, Environmental Guidance, and Environmental Restoration and waste Management. Other radioactive waste management experience includes projects for several commercial nuclear power plants, including studies and engineering on radioactive waste solidification and volume reduction systems and shallow land burial facilities. Currently providing technical support to DOE's Office of Uranium Enrichment, providing oversight to DOE's two UE facilities in Paducah, Kentucky, and Piketon, Ohio, on waste management and compliance issues.

EDUCATION: B.S., Chemical Engineering, Massachusetts Institute of Technology

NAME: Peggy Hinman

AREA OF RESP: Self-Assessment Program

ASSOCIATION: U.S. Department of Energy, Idaho Field Office

EXPERIENCE: 6 Years

- U.S. Department of Energy, Idaho Falls, ID
  - Deputy Director, Technical Support Division. Current responsibilities include management of environmental compliance activities and interface with regulatory agencies in support of line management. Serve as Deputy to Project Manager responsible for preparing response to INEL Tiger Team Report.
  - Other experience includes QA/QC staff support to ER&WM organization at ID and Team Leader for Permits Team of the environmental compliance office.
- Private Law Practice, Idaho Falls, ID
  - General practice, including water and natural resource law.

EDUCATION: J.D., University of Idaho College of Law, Moscow, Idaho
B.A., Government, Smith College, Northampton, Massachusetts

NAME: Sanji Kanth

AREA OF RESP: Occupational Safety Program

ASSOCIATION: U.S. Department of Energy,

EXPERIENCE: 9 Years

- U.S. Department of Energy, Office of Occupational Safety, Germantown, MD
  - Develop Occupational Safety Program Guidance Documents.
  - Provide Technical Assistance in the Occupational Safety Area.
  - Workplace Chemical Accident Risk Review (WCARR) Group member.
- U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), Washington, DC
  - Developed OSHA directives providing guidance for compliance inspections at chemical/petrochemical plants.
  - Interpreted OSHA standards requiring clarifications.
  - Conducted several OSHA compliance inspections.
  - Conducted several accident investigations.
- West Virginia Department of Natural Resources, Charleston, WV
  - Assisted in the development of Hazardous Waste Management Regulations.
  - Reviewed Part B permit applications for hazardous waste management facilities.
- The Ohio State University, Columbus, OH
  - Graduate Teaching Assistant, Department of Mathematics

EDUCATION: M.S., Chemical Engineering, The Ohio State University
B. Tech., Chemical Engineering, Osmania University,
Hyderabad, India

NAME: William Levitan

AREA OF RESP: Human Resources and Training

ASSOCIATION: HALLIBURTON NUS Environmental Corporation

EXPERIENCE: 16 Years

- HALLIBURTON NUS Environmental Corporation, Gaithersburg, MD
  - Environmental Subteam Contractor Coordinator, Inactive Waste Sites Specialist, or Special Assistant on seven DOE Tiger Team Assessments.
  - Contractor Coordinator and Inactive Waste Sites/Surface Water Specialist on six DOE Environmental Surveys.
  - Subcontractor Manager and Principal Investigator in the development of the DOE Headquarters Environmental Audit Manual.
  - Technical Specialist on a variety of DOE environmental compliance-related tasks including development of EISs, environmental guidance, CERCLA report to Congress, and facility self-assessments.
  - Plan, manage, and conduct environmental assessments and audits of government and industrial facilities.
  - Manager of a nine-person department involved with environmental audits, self-assessments, and other compliance-related issues.
- Dames & Moore, Bethesda, MD
  - Administrative Manager, responsible for day-to-day operations of a 120-person office including recruiting, project staffing, performance and salary evaluations, affirmative action, administrative budgets, annual operations planning, and health and safety programs.
  - Participated in several facets of the CERCLA process, including health and safety planning, preliminary assessments/site inspections, remedial investigations, and risk assessments.
  - Involved in approximately 40 environmental impact analyses, including EAs, EISs, wetlands assessments, dredge and fill permitting, and siting.

EDUCATION: M.S., Marine Studies, University of Delaware
B.A., Natural Sciences, Johns Hopkins University

NAME: Leonard M. Lojek

AREA OF RESP: Quality Assurance Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 32 Years

- U.S. Department of Energy, Office of Performance Assessments, Washington, DC
  - Safety and Health Subteam Leader for Tiger Team Assessments and Team Leader for Technical Safety Appraisals. Leader or team member on 14 Technical Safety Appraisals.
  - Quality Assurance Manager, Assistant Secretary for Environment, Safety and Health.
  - Quality Assurance Program Manager, Assistant Secretary for Fossil Energy.
  - Program Manager of R&D efforts in Solvent Refined Coal Conversion Programs (SRC-I and SRC-II), Assistant Secretary for Fossil Energy.
- Chemical Systems Laboratory, U.S. Department of Defense
  - Project Manager and Project Engineer for disposal of obsolete toxic chemical munitions.
  - Product Engineer for smoke and pyrotechnic chemicals, and for riot control chemicals. Process Engineer for plasticized white phosphorus munitions.
- Calgon Corporation
  - Technical Service Engineer for industrial and utility water treatment systems.

EDUCATION: M.S.A., Management Engineering, George Washington University
B.S., Chemical Engineering, Carnegie Mellon University

OTHER: Member of AIChE, ASQC, and ADPA

NAME: Richard B. Lynch

AREA OF RESP: Technical Editor

ASSOCIATION: META

EXPERIENCE: 5 Years

- META

- Technical Editor. Provides technical editing and graphics support to the Environmental Subteam during Tiger Team Assessments. Also, oversees the preparation of the camera-ready copy of final assessment reports and audit reports for DOE's Office of Special Projects and Office of Environmental Audit.

- Writer/Editor. Provides technical writing and editing support for 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.

- 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, press releases, and assisted with media outreach activities.

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

NAME: David Pegram, CIH

AREA OF RESP: Industrial Hygiene Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 15 Years

- U.S. Department of Energy, Office of Health Programs
  - Audits and assessments include the Savannah River K-Reactor Restart ORR/ORE, Hanford Tiger Team (OSHA Team Leader), and the Sandia Livermore Tiger Team.
- EG&G Rocky Flats, Inc.
  - Principal Industrial Hygienist for the Health and Safety Directorate - Industrial Hygiene Group.
  - Senior Principal Engineer, Technical Support Services Directorate, Safeguards, Classification, and Emergency Operations.
  - Senior Industrial Hygienist, Health Safety and Environment Directorate - Industrial Hygiene Group.
- Occusafe Inc.
  - Project Consultant - Industrial Hygiene.

EDUCATION: B.S., Biology/Chemistry, University of Southern Colorado

OTHER: Certified Industrial Hygienist (CIH), Comprehensive Practice
American Board of Industrial Hygiene

NAME: Robert W. Powell

AREA OF RESP: Conduct of Operations and Maintenance

ASSOCIATION: EG&G, Idaho - Private Consultant

EXPERIENCE: 45 Years

- Private Consultant
  - Participated in 12 Tiger Team/Technical Safety Appraisals (TSAs), special reviews, and TSA Progress Assessments, during period since 1986.
  - Conduct Annual Safety Reviews and special reviews for Oak Ridge National Laboratory and Brookhaven National Laboratory under contract to a Laboratory. Member of NIST Reactor Safety Audit Committee and perform an annual reactor safety review.
- Brookhaven National Laboratory, Upton, NY
  - Manager, Reactor Division (Status: Sr. Engineer with Tenure).
  - Startup responsibility for the Brookhaven Graphite Research Reactor (30mw).
  - Project engineer for the design and construction, including startup responsibility, of the Brookhaven Medical Research Reactor.
  - Member Design Committee for the High Flux Beam Reactor, with startup responsibility.
  - Chairman, BNL Safety Committee for 6 years (non-reactor safety).
  - Member, Reactor and Critical Experiments Safety Committee (20 years).
- Du Pont Company, Various Locations
  - Supervisor, Cellophane production (Rayon Division).
  - Sr. Supervisor, TNT and DNT production (Military Explosives Division).
  - Sr. Supervisor, X-10 Reactor Operation (Oak Ridge, TN).

EDUCATION: B.S., Chemical Engineering, Auburn University (API)

OTHER: Fellow Emeritus, American Nuclear Society
Member, U.S. Team to investigate the windscale accident
Past Chairman, Reactor Operations Division, American Nuclear Society

NAME: Louis A. Rancitelli

AREA OF RESP: Planning, Budgeting, and Resource Allocation

ASSOCIATION: Private Consultant

EXPERIENCE: 25 Years

- Battelle, Columbus, OH

- Senior Technical Advisor. Participated in the Tiger Team Assessments of the Lawrence Livermore National Laboratory, the Paducah Gaseous Diffusion Plant, the Lawrence Berkeley Laboratory, the Energy Technology Engineering Center, the Sandia National Laboratories, the Idaho National Engineering Laboratory, the Pittsburgh Energy Technology Center, the Stanford Linear Accelerator Center, and the Naval Petroleum Reserves in California as a member of the Management Subteams.
- Participated on DOE-HQ Task Forces to develop ES&H Management Performance Objectives and Criteria for use in Tiger Team Management and Organization assessments. Provided strategic planning support to the DOE-HQ Office of Security Evaluations.
- Conducted a triennial appraisal (DOE 5482.1B) of the Brookhaven National Laboratory.
- 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 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 strategic planning studies.

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, 1985
National and International Security Program, John F. Kennedy School of Government, Harvard University, 1986

NAME: William G. Rhodes

AREA OF RESP: Radiation Environmental Monitoring

ASSOCIATION: Arthur D. Little, Inc.

EXPERIENCE: 12 Years

- Arthur D. Little, Inc.
    - Participated in the Tiger Team Assessments of Los Alamos National Laboratory as the Technical Coordinator and Sandia National Laboratory as the Deputy Technical Coordinator for the Environmental Subteam. Participated in the West Valley Demonstration Project Environmental Audit as the Radiation Specialist and Deputy Team Coordinator.
  - General Electric Company, Knolls Atomic Power Laboratory
    - Lead Engineer. Responsible for the radiological environmental monitoring for the laboratory and quality assurance for some environmental surveillance activities for U.S. Navy facilities. Supervised a three site action program to ensure each site complied with Environmental Protection Agency radionuclide emission standards.
    - Lead Health Physicist. Responsible for supervising internal, external, and environmental dosimetry for the laboratory.
    - Radiological Engineer. Conducted inspections and audits of various radiological facilities, including prototype reactor sites, radiochemistry laboratories, radioactive waste processing and storage facilities, fuel fabrication facilities, hot cell laboratories, and x-ray and radiography facilities. Also responsible for various radiological engineering tasks, such as approving radiological procedures, decontamination and decommissioning, soil characterization studies and air sampling applied research and development.
- EDUCATION:** M.S., Radiological Sciences and Protection, University of Massachusetts at Lowell
R.T., (ARRT), Registered Radiological Technologist, Wittenberg University and Mercy Medical Center
B.A., Physics and Biology (Dual Major), Wittenberg University
- OTHER:** Certified Health Physicist, American Board of Health Physics

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Appendix D

PROGRESS ASSESSMENT SCOPES

**PROGRESS ASSESSMENT SCOPES
HANFORD SITE**

NAME:	Charles Grua	DATE:	4/3/92	REV. #:	1
TELEPHONE #:	202/586-2028	FAX #:	202/586-9821		
DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Corrective Action Plan Implementation				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Issue 1: Adequacy of management systems or programs for tracking, tending, verification, validation and closure of corrective actions.

Issue 2: Effectiveness/adequacy of management roles and responsibilities regarding Corrective Action Plan (CAP) implementation.

Issue 3: Adequacy of CAP evidence files for closure.

Related Tiger Team Findings:

Root Causes: (3) Management's ability to achieve ES&H goals is inhibited by inadequate monitoring, assessment, and corrective action implementation; (2) ES&H Planning at the Hanford Site is inadequate.

Tiger Team Findings: M-4, ES&H Prioritization Plan; M-6, Weakness in Management's Communication of ES&H Objectives; M-12, Inadequate Corrective Action for Radiation Protection Programs Deficiencies; M-13, RL Management Systems Need Attention.

Related Tiger Team Action Plan Items:

Other Bases:

Core area for all Progress Assessments.

Overlapping Issues:

Conclusions as to the adequacy and effectiveness of the CAP Program will be partially based on the results obtained by other Team members during their assessment of specific action plan implementation processes.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Management Performance Objectives and Criteria: 1.4 (Oversight); 2.4.2 and 4.4.2 (Assessment and Review); and 2.4.3 and 4.4.3 (Management and Information Systems).

Description of Rationale of Approach:

1. Review documents (procedures, correspondence, etc.) related to programs established at DOE-HQ and RL. Contractor reviews will focus on Westinghouse and PNL with limited review of Kaiser and HEH. Conclusions drawn as to the adequacy of both Kaiser and HEH will rely more heavily on data obtained from other Team members. Cognizant personnel within all these organizations will be interviewed. Data concerning all the onsite organizations which has been gathered by other Team members will be reviewed for verification and/or validation of preliminary conclusions.
2. Review selected evidence files and referenced/related documentation to determine adequacy and/or appropriateness of closure.

Planned Interviews:

Randal Scott	EM-20	Assoc Director QA/QC
Owen Thompson	EM-23	Director, S&H Compliance
Willis Bixby	EM-6	Director, D&D Transition
James Dieckhoner	EM-10	Assoc. Director, Planning and Resources
A. Grayson Joseph	ER-40	Director, Field Operations
Alan Claflin	ER-42	Director, Laboratory Management Division
Lee Stevens	EM-331	Chief, Regulatory Compliance
William Wisenbaker	EM-43	Director, Program Support Division
Brian McCully	EM-432	Chief, Program Support
Pat Whitfield	EM-40	Assoc. Director Environmental Rest.
Sally Mann	EM-44	Director, Northwestern Area Programs
John Lear	EM-44	Deputy Director
Jane Monhard	EM-44	
Anthony Kluck	EM-443	Chief, Northwestern D&D Branch
J.D. Wagoner	RL	Manager
J. P. Hamric	RL	Principal Deputy Manager
J. H. Anderson	RL	AMD
L. E. Little	RL	AME
L. C. Williams	RL	AMP
R. M. Rosseli	RL	AMA
J. E. Ollero	RL	Director, HRD
N. M. Highland	RL	Director, SID
A. E. Lorenz	RL	Director, Budget
R. J. Light	RL	Director, FMD
R. A. Holten	RL	Director, TSD

Planned Interviews (continued):

R. P. Saget	RL	Director, CMP
G. M. Bell	RL	Branch Chief, SES
C. J. Bosted	RL	Branch Chief, QAB
R. E. Gerton	RL	Project Manager, TRP
G. J. Bracken	RL	Branch Chief, OPB
J. M. Clark	RL	Branch Chief, SEB
R. W. Christensen	RL	Branch Chief, CAB

All interviews will be related to the CAP process and related planning issues. Interviews will be accomplished by grouping related topics.

ADDITIONAL DOCUMENTS NEEDED:

None at this time.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE COUNTERPART	Name:	Mark Jackson		
	Telephone #:	509/376-3246	Fax #:	509/376-6621
WHC COUNTERPART	Name:	Howard Rew		
	Telephone #:	509/373-5005	Fax #:	509/373-2908
PNL COUNTERPART	Name:	Glenn Hoenes		
	Telephone #:	509/376-1187	Fax #:	509/376-6663
KEH COUNTERPART	Name:	Phyllis Bruce		
	Telephone #:	509/376-9934	Fax #:	509/376-9398
HEHF COUNTERPART	Name:	Candace Dillman		
	Telephone #:	509/376-2703	Fax #:	509/376-9818

NAME:	Peggy Hinman	DATE:	4/27/92	REV. #:	1
TELEPHONE #:	583-0657	FAX #:	583-1184		
DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Self-Assessment				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Status of development of self-assessment program. Specific program elements to be reviewed include: (1) responsibilities; (2) assessment scope and schedule; (3) provision for development of procedures for conducting assessments; (4) training; (5) performance objectives and criteria; (6) procedures for documenting, communicating and tracking findings and identifying trends; and (7) a system for carrying out corrective actions. An evaluation will be made whether these elements are reflected in a program plan.
2. Adequacy of the program. Is the self-assessment program, given its stage of development, adequate in coverage and execution of the program elements and in its rigor.

Related Tiger Team Findings:

Management Findings 4,7, and 9-12.

Related Tiger Team Action Plan Items:

M-4, 7, and 9-12.

Other Bases:

U.S. RL Self-Assessment Policy and Requirements for the Hanford Site, Rev.0.

Overlapping Issues:

Corrective Action, Planning Resources and Training, Oversight and status of self-assessment activities in areas slated for technical review. For technical areas, I will request Team members to inquire regarding self-assessment activities planned or underway at both the DOE and contractor level. For industrial safety and health, additional detail is described in the section on Description of Rationale Approach.

ASSESSMENT APPROACH:

Documents will include all self-assessments conducted for the first quarter FY 92; implementation plans; and all documents used by Kaiser to prepare the first quarter FY 92 report. Close coordination with the Oversight and Corrective action areas of inquiry will be necessary.

Performance Objectives to be Evaluated:

Secretary's July 31, 1990, Self-Assessment Guidance; ES&H Management Objectives and Criteria for Tiger Team Management Assessments, August 15, 1991.

Description of Rationale of Approach:

The first issue, status of development of a self-assessment program, was selected because it is the basic first step in evaluating where RL stands in implementation of the Secretary's requirement for self-assessment programs. Information needed to develop this issue will be obtained from a review of documents including the RL Self-Assessment policy and contractor's implementation plans. Interviews with key DOE and contractor personnel responsible for development and implementation of the self-assessment program at Hanford will also be conducted. The focus will be on the status of development of all program elements to determine where Hanford stands in formulating a program which meets current requirements. From the pre-assessment visit, it appears that a manageable amount of documentation exists so that input from all contractor and DOE up through the first quarter FY 92 self-assessment reports can be reviewed.

The second issue, adequacy of the self-assessment program, will focus on Kaiser and to a lesser degree on Westinghouse. From the pre-assessment visit, it became clear that RL, like many field offices, is struggling to understand what is a self-assessment program and has experienced some delays in implementing the program. Given this, the second issue will examine those program elements which have been sufficiently developed to determine if they have been adequately formulated and are being adequately executed. For Kaiser, the documents used to prepare the first quarter FY 92 self-assessment will be reviewed against the self-assessment report to determine whether the level of rigor in the analysis is adequate; the facilities which were the subject of the self-assessment report will be walked down to verify conditions and examine status of any corrective activities; and responsible managers for those facilities will be interviewed. The review of Kaiser will be conducted in conjunction with the Team's industrial safety and health member, because this technical area was the focus of the Kaiser self-assessment. At Westinghouse, the focuses will be on the data bases used to track findings and corrective actions. A review of the self-assessment and follow-up actions regarding the waste minimization program at PNL will be conducted as well conjunction with the Team member reviewing waste minimization.

Planned Interviews:

Charlie Kasch, RL responsible manager for self-assessment - status of program; Jack Keating, RL Manager for Technical support - status of program; Rich Holten, RL Director for Technical support - status of program; Carl Guidice, EM-20 view of RL self-assessment program; D. Trott and A. Hawkins - WHC database development and implementation of self-assessment program; P. Bruce - Kaiser conduct of self-assessment, development of report and implementation of corrective actions; P. Saget - RL Oversight, role of DOE oversight vis a vis self-assessment program; Larry Kimmel, PNL - self-assessment of waste minimization program.

ADDITIONAL DOCUMENTS NEEDED:

DOE 482.1B assessments for last 3 years. Documents used by Kaiser is developing and implementing first quarter FY 92 self-assessment report, including any plan for carrying out the assessment. Documents used by PNL in developing and implementing its self-assessment report on waste minimization, including any plan for carrying out the self-assessment.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR			
DOE COUNTERPART	Name:	Charles Kasch	
	Telephone #:	509/376-5183	Fax #: 509/376-6621
WHC COUNTERPART	Name:	Bob Ramsgate	
	Telephone #:	509/376-5261	Fax #: 509/376-1925
PNL COUNTERPART	Name:	Larry Kimmel	
	Telephone #:	509/376-3969	Fax #: 509/376-7885
KEH COUNTERPART	Name:	Phyllis Bruce	
	Telephone #:	509/376-9934	Fax #: 509/376-9398
HEHF COUNTERPART	Name:	Candace Dillman	
	Telephone #:	509/376-2703	Fax #: 509/376-9818

NAME:	Robert Compton	DATE:	4/24/92	REV. #:	1
TELEPHONE #:	916/894-8788	FAX #:	916/899-9525		
DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Oversight				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Assess the adequacy of the assessment and review aspects of oversight of ES&H programs by the PSO, RL and major Hanford contractors, with a focus on the PSO, RL, WHC and PNL.

Related Tiger Team Findings:

M-6, M-9, M-10, M-13, M-16; Environmental SubTeam key findings related to the failure of the site to develop and fully implement formal QA plans caused by a lack of supervision, review and assessment; S & H findings OA.1-3, OA.1-6, OA.1-7, OA.5-2, OA.5-3, OA.5-4, QV.1-3, QV.1-5, MA.1-3, PT.1-2, PT.3-1, PT.4-1, RP.1-1, RP.1-4, RP.3-1, RP.3-6, IH.1-9, IH.4-1, IH.4-4, IH.4-5, IH.4-6, IH.4-9, and OS.1-6.

Related Tiger Team Action Plan Items:

Management root causes 2-5 plus action plans for findings listed above.

Other Bases:

Overlapping Issues:

Need input from all Team members related to the evidence of (or the lack of) of management/supervisory presence and involvement with field activities. Are contractor managers, and especially RL line and independent oversight personnel, visible to the workers or visible to you, and/or is there evidence of their involvement? Are those with oversight responsibilities (line and independent) aware of what's happening "on the floor" ?

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Management POCs 1.4, 2.4, and 4.4.

Description of Rationale of Approach:

Review the plans and procedures that define and implement the review and assessment activities by line and independent oversight organizations in the PSOs, RL, PNL and WHC (audits, surveillances, reviews and approvals, inspections, etc).

Review facility representative program and products.

Test implementation for selected sample of Tiger Team action plan corrective actions.

Planned Interviews:

PSOs: Randy Scott, EM-20
Lee Stevens, EM-30
William Wisenbaker, EM-43
Pat Whitfield, EM-40

RL: Pierre Saget
Rich Holten
D. Templeton, Facility Surveillance Branch, Operations Div.
R. Guercia, Waste Operations Branch, Waste Mgmt. Division

WHC: Jim Hagan, Deputy Dir., ESQ
P. Praetorius, Staff Manager, ESQ
Ops Mgr, Tank Farm

PNL: Glenn Hoenes
Larry Kimmel
Frank Hood
W. Laity, Mgr. M&CS Center

ADDITIONAL DOCUMENTS NEEDED:

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE COUNTERPART	Name:	Joyce Gilbert		
	Telephone #:	509/376-2515	Fax #:	509/376-5335
WHC COUNTERPART	Name:	John Knoll Mick Wise		
	Telephone #:	509/376-4040 509/376-5246	Fax #:	509/376-4912 509/376-1560
PNL COUNTERPART	Name:	Glenn Hoenes		
	Telephone #:	509/376-1187	Fax #:	509/376 6663
KEH COUNTERPART	Name:	Joyce Van Arsdale		
	Telephone #:	509/376-6463	Fax #:	509/376-9398
HEHF COUNTERPART	Name:	Todd Haugen-Harrison		
	Telephone #:	509/372-0555	Fax #:	509/376-9818

NAME:	Robert Compton	DATE:	4/24/92	REV. #:	1
TELEPHONE #:	916/894-8788	FAX #:	916/899-9525		
DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Directives, Policies, Procedures				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Adequacy and effectiveness of the directives systems and policies and procedures systems for PSOs, RL, and major contractors (WHC, PNL, HEHF & KEH).

Related Tiger Team Findings:

M-1, M-13, M-19; Three Environmental SubTeam Key Findings related to WHC and PNL radiological monitoring program inadequacies, the continuing spread of radioactively contaminated surface soil, and the failure to develop and implement formal QA plans; three S&H key concerns related to less than rigorous implementation of procedures and two root causes indicating lack of discipline in procedure adherence and lack of working and immediate supervisors involvement in procedure development.

Related Tiger Team Action Plan Items:

M-1, M-9, M-13, M-19, Hanford Management Root Cause #1, MA.2-1, MA.2-2, MA.2-4, MA.6-1, AX.3-4, AX.3-5, TS.1-2, TS.2-1, RP.3-4, plus numerous other S&H and environmental findings related to inadequate policies, plans, procedures or implementation of same.

Other Bases:

N/A

Overlapping Issues:

Need input from other Team members related to evidence of an effective policy for procedure adherence and use, including document control systems, i.e., are procedures being used (onsite and open where appropriate, are they being followed verbatim, are they up-to-date (controlled) and technically adequate, etc. Do supervisors and workers understand company, RL, and DOE policies and directives related to ES&H, and demonstrate that understanding? Are management guidance, direction, and expectations regarding DOE Orders and Notices being clearly communicated down to the working level on a timely basis?

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Management POCs 1.4, 2.4.1, 2.4.2, 4.4.1, 4.4.2.

Description of Rationale of Approach:

Assess the existence and adequacy of formal procedures/systems for developing, disseminating, providing guidance and direction for, and implementing DOE directives such as Orders, SENS, guidance documents at PSO, RL and contractor levels (WHC, PNL, KEH & HEHF). Test personnel knowledge of and actual implementation of these process for selected, recently issued directive documents.

Assess the existence and adequacy of formal policies and procedures that detail the need for plans and procedures to implement ES&H policies and programs; the processes for development, issue, revision and control of procedures; and clear policies related to procedure use and adherence for PSO, RL, and major contractors (with a focus on RL, PNL and HEHF because of Tiger Team findings). Test personnel knowledge of and actual implementation of these processes for selected procedures and programs at RL, PNL and HEHF. Evaluate site corrective actions for selected sample of Tiger Team action plan items (see above listing for potential samples) with a focus on whether the corrective actions addressed the root cause and any generic considerations (did they address the possibility of similar deficiencies in other procedures, facilities or programs).

Planned Interviews:

PSO: Randy Scott, EM-20
Lee Stevens, EM-30
Pat Whitfield, EM-40

RL: Joyce Gilbert, HRD (System)
Zona Gale, BCSR (System)
Rich Holten (System and Implementation)
Tank Farm line oversight responsible manager

WHC: Mick Wise, Directives (System)
Gene Schroeder, Procedures (System)

PNL: Glenn Hoenes, Manger Laboratory Safety (System)
W. Laity, Manager, M & CS Center (Implementation)
B. Shipp, Manager, Reactor Technology Center (Implementation)

HEHF: Todd Haugen-Harrison (System)
John Funk, Filter Testing Services (Implementation)
Manager, Quality Assurance (Implementation)

KEH: Joyce Van Arsdale (System)

ADDITIONAL DOCUMENTS NEEDED:

None at this time.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE COUNTERPART	Name:	Joyce Gilbert		
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DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Planning, Budgeting, and Resource Allocation				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

The planning, budgeting, and resource allocation processes of DOE-HQ, RL, and the Hanford contractors will be examined. Specific issues include each organization's strategic and subordinate implementation planning process, the process by which ES&H and programmatic activities are prioritized and integrated, and the processes for allocating resources to programmatic and ES&H activities. RL plans to manage its contractors, and its own activities, will also be examined. The influence of the Tri-Party Agreement on the planning, budgeting and resource allocation process of DOE (HQ & RL) and the Hanford contractors will be examined.

Related Tiger Team Findings:

Root Cause: "ES&H planning at the Hanford Site is inadequate." Two of the five key findings relate directly to deficiencies in the Hanford planning, budgeting, and resource allocation process. Management subteam findings include M-3, M-4, M-7, M-11, M-12, and M-18.

Related Tiger Team Action Plan Items:

(PRC-1) Effective corrective action system; including self-assessment, root causes and backlog reduction (planning aspects). (PRC-2) Effective prioritization of issues and resources. (MRC-1) Definition and understanding of expectations.

Other Bases:

The EM Strategic Plan, Annual and 5-year Program Plan, Self-Assessment Program Plan. The Tri-Party Agreement and the Hanford Tiger Team Report. The ER strategic plan, institutional plan, and self-assessment plans. The Hanford Strategic Plan, Hanford Mission Plan, Hanford Multi-Year Plan, Site Management Plan, RL subordinate implementation plans such as the Tiger Team Action Plan, ES&H Program Plans, ES&H Oversight plans, Human Resource Management Plans and Self-Assessment Program Plans. Contractor Strategic Plans and subordinate implementation plans such as those noted above.

Overlapping Issues:

The review of subordinate implementation planning, budgeting and resource allocation for activities such as; Corrective Actions, Human Resource Management, Self-Assessment, ES&H Programs, ES&H Oversight, and satisfying the Tri-Party Agreement will be coordinated with Progress Assessment Team members who have primary responsibility for evaluating these areas.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Specific performance objectives in the August 15, 1991, Management Performance Objectives and Criteria which will be evaluated include; 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 (RL), 2.3.1 Human Resource Planning (RL), 2.5 Field Office-wide Self-Assessment Program Planning (RL), 3.0 Corporate Parent (corporate-wide strategic planning), 4.1 Planning (Hanford Contractors), 4.3.1 Human Resource Planning (Hanford contractors), and 4.5 Sitewide Self-Assessment Program Plans (Hanford contractors).

Description of Rationale of Approach:

The Hanford Tiger Team Assessment was conducted before the Secretary's emphasis on Department-wide Strategic and subordinate implementation planning was fully appreciated, defined and implemented. As a result, the Hanford Tiger Team assessment did not place the emphasis on the planning process throughout DOE and its contractors that it now receives. For example, little attention was accorded to the role of DOE-HQ in the Strategic Planning process. Even though planning did not receive the attention it now enjoys, the Hanford Tiger Team report is replete with deficiencies that can be related directly to a weak planning, budgeting and resource allocation process.

The approach of this assessment will be to examine the planning, budgeting and resource allocation process of DOE-HQ, RL and the Hanford contractors by taking vertical cuts down through these organizations. Primary emphasis will be on DOE's effectiveness in formally articulating its vision of the Hanford mission, communicating its vision to its contractors, and RL's ability to hold its contractors accountable for defining and executing their missions in a disciplined, planned fashion. The strategic and subordinate implementation planning process of the contractors will be examined to evaluate their planning processes and to evaluate the effectiveness of DOE's 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. Specifically, a vertical cut through RL and WHC will focus on the Tank Farms Project.

Planned Interviews:

Interviews of EM, ER, RL, WHC, KEH, and HEHF senior management will be conducted with the following small groups:

R. S. Scott (EM-20); W.W. Bixby (EM-6); J. Dieckhoner (EM-20); A.G. Joseph (ER-40); L. Stevens (EM-30); B. F. McCully (EM-43); S. A. Mann, J. P. Monhart, M. Janaskie, and C. E. Magnuson (EM-44); J. D. Wagoner and J. P. Hamric (RL); J. H. Anderson, L. E. Little, and L. C. Williams (RL); R. M. Rosselli, J. E. Ollero, and N.M. Highland (RL); J. J. Keating, and R. A. Holten (RL); A. E. Lorenz, and R. J. Light (RL); R. P. Saget, G. M. Bell, and C. J. Bosted (RL); R. E. Gerton, G. J. Bracken, J. M. Clark, and R. W. Christensen (RL); T.M. Anderson, R. R. DiSibio, and J.O. Honeyman (WHC); H. D. Harmon, S. Marchetti,

M. A. Payne, Director, and D. J. Newland (WHC); K. R. Jordan, J. W. Hagan, P. R. Praetorius, and A. J. Fisher (WHC); G. D. Carpenter, R. E. Heinemam Jr., A. R. Hawkins, and J. C. Wiborg (WHC); J. G. Cassady, J. H. Hammond, and H. A. Sieber (WHC); R. T. French, R. D. Folker, C. E. Anderson, J. A. Carter, and P. H. Bruce (KEH); and Dr. W. L. Meader, J. J. Maher, Dr. R. R. Ronish, T. W. Haugen-Harrison, and C. L. Bonadie (HEHF).

ADDITIONAL DOCUMENTS NEEDED:

1. EM Strategic Plan, 5-year plan, Self-assessment plan, and budget calls to RL (budget guidance to RL).
2. RL implementation plans (e.g., ES&H program plans including ES&H oversight plan, ES&H Human Resource Management Plans including Training, Certification and Accreditation Plans, and Corrective Action Management Plans).
3. Hanford contractor 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).

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DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Human Resources and Training				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Plans and programs for development and prioritization of staff requirements for ES&H programs under the new mission.
2. Plans for acquiring and maintaining ES&H personnel.
3. Programs for instilling ES&H culture through training.

Related Tiger Team Findings:

M-8, OA.1-2, OA.6-1, OA.6-2, TC.7-1, TC.7-2.

Related Tiger Team Action Plan Items:

M-8, OA.1-2, OA.6-1, OA.6-2, TC.7-1, TC.7-2

Other Bases:

None

Overlapping Issues:

1. Planning and budgeting, as it relates to allocation of resources for appropriately balanced and adequate staffing and for training.
2. All environment and safety and health Progress Assessment Team members regarding their observations on the adequacy (quality and quantity) of personnel to carry out ES&H functions, the ability to attain or maintain this adequacy, and personnel sensitivity to ES&H requirements as infused through site training programs. Examples of inadequacies in staffing or ES&H sensitivity will be used as validation of any higher level management findings that will be developed in this area.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The primary performance objectives will be ES&H Management Performance Objectives and Criteria for Tiger Team Assessments 2.3.1 through 2.3.4 for assessing RL, 4.3.1 through 4.3.4 for assessing WHC, and 4.3.2 for QTRC (KEH).

Description and Rationale of Approach:

During the past 2 years since the Tiger Team, the Hanford Site has been a facility in transition. Its primary mission has been refocused from one of defense programs, with a production orientation, to one of environmental restoration and waste management. One of the major challenges of this transition has been to ensure that the site work force is in place and able to successfully carry out the new mission. A finding of the Tiger Team, which occurred at the inception of the mission change, was that morale was low due to mission change, among other reasons; that people were leaving as a result; and that there were staffing shortages in certain ES&H areas. The finding noted that systems were not appropriately in place to plan for and identify staffing needs and to attract and retain personnel.

To assess the progress being made to rectify this finding so that the site can succeed in its mission without serious human resource constraints, management systems for assessing staff requirements and prioritizing those needs will be evaluated. In addition, programs for acquiring and maintaining ES&H personnel and providing meaningful career paths will also be assessed. Because of time constraints on the assessment, this portion of the human resources assessment will focus on RL and WHC, as the major site contractor. EM will also be evaluated in terms of guidance and direction they provide to the field office with regard to human resource allocations.

Assessment of these issues will be carried out through interviews with RL and WHC human resources divisions, including the RL Position Management Committee, and with resource planning personnel in terms of interface with human resource personnel. Policies, procedures, and plans for staffing determinations, recruiting, and career development will be reviewed. Based on the information collected, an overall picture of the human resources program will be developed and evaluated for effectiveness, adequacy, and implementation. This will be accomplished through comparison against management performance objectives and criteria; review of certain key human resources indicators such as turnover, position vacancies, and overtime/use of support contractors; and observations of other Progress Assessment Team members relative to human resource constraints in their technical areas.

A second major challenge of the changing mission is to ensure that Hanford Site personnel adopt an environment, safety, and health culture. One major mechanism to accomplish this is through training. RL and WHC have recently undertaken training initiatives by establishing new or revised training organizations. In addition, KEH maintains the Quality Training Resource Center, a sitewide training group. These programs will be assessed by reviewing charters, policies, procedures, and plans and interviewing personnel responsible for their implementation. The overall effectiveness, adequacy, and implementation of these programs will be evaluated based on the collected information. Comparisons will be made against performance objectives and criteria; performance indicators such as training records; and observations of other Progress Assessment Team members relative to ES&H training in their technical areas.

Planned Interviews:

RL: J. Ollero, Director Human Resources Division (HRD)(overall HRD program, planning, and priorities); S. Ortega, EEO Manager, HRD, (recruitment); S. Hostick and C. Pierce, Team Leaders, Federal Personnel Branch, HRD (hiring policies and career advancement); J. Gilbert, Team Leader, Federal Personnel Branch, HRD (longer term personnel planning); D. Kranz, Management Analyst, HRD (personnel planning); R. Roselli, Assistant Manager for Administration (Position Management Committee); B. Tibbetts, Chief, Program Budget Branch, Budget Division (program budget allocations); R. Higgins, Chief, Training and Education Branch, HRD (ES&H training); P. Saget, Director, Office of Compliance (ES&H training); D. Avant, Employee Development Specialist, HRD (ES&H training); R. Wible, Technical Training Coordinator, HRD (site representative ES&H training).

WHC: D. Lawrence (overall human resources); A. Brodie, Manager Employment (employment programs); J. Robbins, Manager Recruitment (recruiting policies); W. Wilson, Manager EHQ (budget tie-in to human resource planning); R. Bliss, V.P. for Operations (manpower planning); J. Oswald (resource allocations); S. Smith and S. Muller (human resources development); B. Klos (training).

KEH: G. Hayward (QTRC)

ADDITIONAL DOCUMENTS NEEDED:

None presently.

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DISCIPLINE:	Environment				
AREA OF RESPONSIBILITY:	TPA-Environmental Restoration				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Management of past practice activities under the Tri-Party Agreement (TPA).

Issue A: Evaluate the adequacy of the "formal" Environmental Restoration Program at Hanford. Topics to be addressed include: Hanford environmental restoration policies, plans, procedures to implement requirements of the TPA, CERCLA, RCRA, and DOE 5400.4; definition of roles and responsibilities of organizations and individuals within RL, WHC, and Army COE; staff resources within line, oversight and coordination offices; environmental restoration training programs; internal communication systems; and feedback and lessons learned mechanisms.

Issue B: Evaluate the adequacy of independent and Line Management oversight of Hanford's environmental restoration activities (RL). The focus will be on the formal oversight programs within RL to ensure that environmental restoration activities are conducted on schedule, are of high quality, and meet the requirements of the TPA, CERCLA, RCRA, and DOE 5400.4.

Related Tiger Team Findings:

IWS/BMPF-1: Ambiguous Roles and Responsibilities for Management and Quality Assurance of Past Practice Activities Under the TPA.

QA/CF-6: Lack of Program-Specific Quality Assurance Plans for TPA Activities.

M-3: Tri-Party Agreement Program Management.

Related Tiger Team Action Plan Items:

FRPA IWS/BMPF-1, FRPA QA/CF-6, and FRPA M-3.

Other Bases: N/A

Overlapping Issues:

Overlap is expected in all Progress Assessment Management Disciplines.

Planning: This review will generally approach environmental restoration planning activities from an overall "program planning" perspective. EM-40 has recently completed a review of Hanford's financial planning activities associated with the environmental restoration program, and will not be duplicated in this review. Output from this review will likely include: comprehensiveness of environmental restoration program planning; adequacy of

project-specific planning to support attainment of TPA milestones; and insight into human resource and staff development planning.

Resources: In the area of "resources," this review will focus on staff resources within RL and WHC. Output from this review will likely include: adequacy of staff resources within line, oversight and coordination offices to ensure effective management and oversight of the environmental restoration program.

Training: In the area of "training," this review will focus on training of staff within RL and WHC. Output from this review will likely include: adequacy of formal training systems to ensure that line management, oversight and coordination staff within RL and WHC plan and receive necessary training to support the environmental restoration program.

Self-Assessment: In the area of Self-Assessment, the output of this review will likely include: the adequacy of self-evaluation within the RL line organizations and TPA coordination office responsible for implementation and coordination of environmental restoration activities under the TPA.

Directives/Policy/Procedures: In the area of Directives/Policy/Procedures, the output of this review will likely include: adequacy of established environmental restoration policies; the extent to which effective implementing procedures have been established for environmental restoration activities.

Action Plan Program: This review will provide insight into the adequacy of the Hanford Tiger Team Action Plan's response to selected environmental restoration findings.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

1. Performance Objectives and Criteria for conducting DOE Environmental Audits (DOE/EH-0229)
  - IWS.1 "Inactive Site Program Planning"
  - IWS.4 "Response Investigation"
  - IWS.5 "Risk Assessment"
  - IWS.6 "Alternative Identification and Remedy Selection"
  - IWS.7 "Natural Resource Damage Assessments"
  - IWS.8 "Administrative Record/Community Relations"
2. Draft Protocols for Conducting Line Program Environmental Management Audits (February 1992)
  - EM.1 "Organizational Structure"
  - EM.2 "Culture and Attitude"
  - EM.3 "Environmental Protection Programs"
  - EM.4 "Formality of Environmental Programs"
  - EM.5 "Internal and External Communication"
  - EM.6 "Staff Resources, Training and Development"
  - EM.7 "Program Evaluation and Corrective Action:

Description of Rationale of Approach:

Issue A: The environmental restoration program has recently become the Hanford Site's main mission. The evaluation of the formal environmental restoration program will provide insight into the adequacy of the programmatic infrastructure to support this new mission. The environmental restoration program at Hanford was relatively immature at the time of the Tiger Team Assessment. Since then, pursuant to the TPA, significant restoration activities have occurred. This evaluation will reveal if the formal Hanford ER program has matured and been refined as a result of this increased level of program activity.

Information needed to conduct this evaluation includes formal (RL, WHC, and COE) policies, plans and procedures to carry out all components of the past practice activities pursuant to the TPA, CERCLA, RCRA, and DOE 5400.4. This information will be evaluated to determine the comprehensiveness of the environmental restoration program and the effectiveness of related management systems. The focus of this evaluation will be RL, WHC and, to some extent, the Army COE. Limited project specific verifications of selected environmental restoration activities will be conducted (e.g., review of the project specific Administrative Records).

Issue B: Independent and line management oversight is critical to the success of the environmental restoration program by ensuring that schedule requirements of the TPA and the procedural and technical requirements of CERCLA and RCRA are met. The Tiger Team Assessment identified that the scope and frequency of QA/QC functions within the environmental restoration program are not clearly specified and it is not clear where the scope of one organization's audits and surveillance ends and the other's begins. This evaluation will provide insight into the capabilities of RL to effectively oversee the implementation of environmental restoration activities. Additionally, this review will reveal if effective management systems are in place to monitor the progress of TPA ER activities identify deficiencies, and effect change in order to ensure that TPA milestones are met.

Information needed to conduct this evaluation include Environmental Restoration Quality Assurance Program Plans and for RL, WHC and the Army COE. Additionally, annual oversight schedules along with specific procedures for the conduct of audits, appraisals and surveillance will be reviewed. Audits, appraisals and surveillance and reviews of selected projects will be reviewed. The focus of this review will be RL, WHC and COE organizations responsible for implementation and oversight of environmental restoration activities at Hanford.

Planned Interviews:

Refer to schedule.

ADDITIONAL DOCUMENTS NEEDED:

None.

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DISCIPLINE:	Environment				
AREA OF RESPONSIBILITY:	Groundwater Protection Programs				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Management of groundwater protection activities.

Issue A: Evaluate the formal program for the elimination and treatment of wastewater discharges based on Tri-Party Agreement Milestone 17 as set forth in the Administrative Consent Order (ACO)/Tri-Party Agreement (TPA).

Issue B: Evaluate groundwater protection activities as specified in the Hanford Site Groundwater Protection Management Program (RL-89-12), specifically issues relating to the integration of groundwater monitoring activities conducted under DOE 5400.1, CERCLA (past practice) and RCRA groundwater monitoring activities; and the integration of subsequent remediation activities.

This progress assessment will focus on both RL and contractor (WHC and PNL) activities.

Related Tiger Team Findings:

Key Finding: current and past waste disposal practices at Hanford Site have contaminated the groundwater onsite and potentially offsite; SI/D-1 Applicability of State of Washington Regulations on Liquid Waste Discharges; GW/CF-1 Hanford Disposal Practices have contaminated and continue to contaminate groundwater.

Related Tiger Team Action Plan Items:

Same numbering system as Tiger Team Findings.

Other Bases:

Overlapping Issues:

Overlapping issues are anticipated in all management area disciplines.

Resources: This portion of the review will focus on the availability of DOE and contractor staff resources in both the line and oversight organizations to ensure that above groundwater protection activities are completed in a cost-effective manner.

Training: This portion of the review will focus on training needs of staff to support groundwater protection activities.

Self-Assessment: This portion of the review will evaluate self-assessment activities that are occurring in the line organizations responsible for groundwater protection activities.

Directives/Policy/Procedures: This portion of the review will determine the adequacy of the policies and procedures to implement the above groundwater protection activities as driven by the TPA and the Groundwater Protection Management Program.

Action Plan Program: This portion of the review will focus on the adequacy of the Tiger Team's Corrective Action Plan with respect to findings SI/D-1 and GW/CF-1.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance Objectives and Criteria for Conducting DOE Environmental Audits (DOE/EH-0229):

- GW.1 "Groundwater Protection Management Program;"
- GW.2 "Groundwater Monitoring Program;" and
- GW.3 "Sitewide Groundwater Monitoring-Well Network."

Tri-Party Agreement Milestones:

- M-12-00 Submit RI/FS or RFI/CMS work plans for 20 operable units;
and
- M-17-00 Complete Liquid Effluent Treatment Facilities/Upgrade all
Phase I Streams.

Description of Rationale of Approach:

Issue 1: The Liquid Effluent Treatment Program was selected for review because it is one of the major milestones in the Tri-Party Agreement and because of the impact to the environment. An Administrative Consent Order (ACO) was signed in December 1991 renegotiating the original milestones as set out in the 1989 Tri-Party Agreement. To date, RL has met each milestone successfully. The program will be evaluated to determine if the mechanisms are in place to ensure continued success in meeting all milestones in the most cost-effective and efficient manner.

Information necessary for the conduct of this progress assessment includes formal RL and WHC policies, plans and procedures to implement this program in accordance with the ACO/TPA. This information will be evaluated to determine the adequacy of the management systems in place. The focus of this assessment will be on RL and WHC line management responsible for this program. Field verification will take place with respect to the waste minimization activities, remedial activities and monitoring activities that are currently taking place at the 300 area.

Issue 2: The Groundwater Protection Management Program was selected for review because it is the overriding program to ensure that the numerous monitoring, analytical and remedial activities are being coordinated among RL

and the onsite contractors. The "Hanford Site Groundwater Protection Management Program, October 1989" outlines the site's strategy for groundwater protection. The components of the Groundwater Protection will be evaluated to determine if there is a comprehensive cost-effective program integrating all groundwater protection activities.

Information necessary for the conduct of this assessment include program plans related to groundwater protection activities (i.e., past practice strategy, groundwater monitoring plans summary document, HEIS documentation, etc.), quality assurance program plans relating to groundwater activities, and strategy documents relating to integrating groundwater protection activities. This assessment will focus on DOE-RJL, WHC and PNL. Field verification activities will include a review of the groundwater protection/source control activities that are underway at the 100 and 300 areas.

Planned Interviews:

See attached schedule.

ADDITIONAL DOCUMENTS NEEDED:

Groundwater Monitoring Plans Annual Summary Document
 QA Plans re: Groundwater Protection Activities
 Updated Groundwater Protection Management Program Plan (or is 1989 the most recent version?)

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DISCIPLINE:	Environmental				
AREA OF RESPONSIBILITY:	Radioactive and Mixed Waste Management				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

The Radioactive and Mixed Waste Management portion of the progress assessment will examine the following four issues:

1. **DOE Oversight of Waste Management Operations and Projects** - This area will be examined to determine whether RL personnel have sufficient knowledge of and control over contractor waste management activities. Also, this area will also be examined to determine whether RL personnel responsible for Hanford waste management activities are adequately self-assessing their own activities and effectively closing out Tiger Team findings related to waste management.
2. **Coordination of systems for Characterization, Tracking, and Certification of Waste** - This area will be examined to determine whether DOE and contractor personnel are adequately developing and controlling data on various regulated wastes and whether this data is being used effectively to satisfy current and future regulatory requirements.
3. **Offsite-Generated Waste Management** - This area will be examined to determine whether the Tiger Team concerns related to this issue have been adequately addressed.
4. **Waste Minimization Program** - This area will be examined to determine whether the planned programs are sufficient to meet DOE objectives and whether the programs have been implemented consistent with their plans.

Related Tiger Team Findings:

The following Tiger Team findings are related to the issues identified above, respectively:

1. WM/CF-7
2. WM/BMPF-2
3. WM/BMPF-3
4. WM/BMPF-5

Related Tiger Team Action Plan Items:

1. WM/CF-7
2. WM/BMPF-2
3. WM/BMPF-3
4. WM/BMPF-5

Other Bases:

None

Overlapping Issues:

The following issues under other areas of responsibility that may overlap with the waste management assessment:

1. Self-Assessment activities conducted by RL waste management personnel
2. Corrective action activities conducted by RL waste management personnel
3. Tri-Party Agreement milestones and issues related to waste management activities

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance objectives are projected to include those from Performance Objectives and Criteria for Conducting DOE Environmental Audits (DOE/EH-0229), as listed below:

WM.1	-	"Characterization/Certification"
WM.4	-	"Treatment/Recycling"
WM.6	-	"Recordkeeping and Tracking"
WM.7	-	"Minimization/Reduction"
WM.8	-	"Offsite Facility Evaluations"
EM.1	-	"Organizational Structure"
EM.3	-	"Environmental Protection Plans"
EM.4	-	"Formality of Environmental Operations"
EM.5	-	"Internal Communications"
EM.6	-	"Staffing and Resources"
EM.9	-	"Environmental Program Documentation"

In addition, site activities will be evaluated against other performance objectives and criteria relevant to the assessment issues, such as certain applicable Federal regulations (40 CFR Parts 260 through 270), State of Washington regulations (WAC Chapter 173-303), applicable Federal and state environmental directives and guidances, as well as applicable DOE orders and implementation guidances (Orders 4700.1, 5400.1, 5820.2A, and 5400.3).

In addition, group and department mission and function statements, TPA milestones, and best management practices will be used as performance objectives.

Description and Rationale of Approach:

1. **DOE Oversight of Waste Management Operations and Projects** - This area was selected for examination because DOE oversight and control of operations and projects should be the cornerstone of the waste management program. Ineffective performance in this area can result in long-term problems for the waste management program and the need for additional resource commitments.

This area will be approached by identifying and reviewing the key management tools used by RL personnel to oversee Hanford waste management activities to determine their effectiveness. These tools include several planning documents, the site representative program, self-assessment activities conducted by or of waste management personnel. Contractor personnel will be interviewed to ascertain the status of a sampling of ongoing waste management projects and operations. RL personnel will be interviewed to determine the use and effectiveness of available management tools. Personnel also will be interviewed to determine the status of corrective action activities.

2. **Coordination of systems for Characterization, Tracking, and Certification of Waste** - This area was selected for examination because the availability and proper use of characterization, tracking, and certification data is needed to ensure proper current and future management of waste and to maintain compliance with RCRA requirements.

To examine this area, interviews will be conducted with contractor personnel to determine the objectives and adequacy of the systems currently in use. Systems to be examined will include the SWITS system as well as other procedures and programs for waste characterization and certification, such as the Hanford Waste Acceptance Criteria. These personnel will include both personnel responsible for overseeing and developing the systems as well as system users and personnel that provide data input to the systems. Documents to be reviewed include materials associated with the SWITS system and the Hanford Waste Acceptance Criteria.

3. **Offsite-Generated Waste Management** - This area was selected for examination because Hanford is one of the few DOE sites that accepts offsite-generated low-level and mixed waste. The Hanford offsite waste program is unique within the DOE system, and Hanford is planning and operating a variety of facilities to manage both onsite and offsite waste. The development and operation of these facilities needs to be consistent with the current program for accepting offsite wastes. In addition, the Tiger Team identified a specific deficiency in this area related to a lack of performing verification sampling and analyses.

To examine this area, interviews will be conducted with DOE and contractor personnel who have been responsible for determining, implementing, and closing out the associated corrective actions. In conjunction with the data management issue described above, contractor personnel also will be interviewed to determine the adequacy of those actions.

4. Waste Minimization Program - This area was selected for examination because the minimization of currently generated waste through source reduction and recycling will determine, in part, the need for expending resources on waste management activities in the future. The Tiger Team determined that the Hanford waste minimization program was incomplete and, as a result, was not operating effectively.

To examine this area, the waste minimization planning documents, guidances, and semi-annual progress reports for both the sitewide program and the individual contractor programs will be reviewed. The waste minimization plans of certain individual groups also may be reviewed. Interviews will be conducted with RL personnel who oversee the programs to determine their knowledge of and control over the programs. Interviews also will be conducted with contractor personnel who are overseeing and implementing the programs to determine whether program objectives are being achieved.

Planned Interviews:

Issue: Contractor Oversight

Rudy Guercia (RL) - Contractor oversight
Keith Kline (RL) - Contractor oversight
Tom Davies (RL) - Contractor oversight
Lance Mamiya (RL) - Contractor oversight
Dennis Claussen (RL) - Contractor oversight
Bruce Davis (Stone & Webster) - Contractor oversight
Dana Bryson (RL) - Contractor oversight
M.M. McCarthy/Bill Jasen (WHC) - Waste management projects

Issue: Offsite Waste Management

Norm Willis/Harlan Boynton/Glen Triner (WHC) - Solid Waste Engineering Analysis
Randy Stickney (WHC) - Mgr, Solid Waste Process Engineering

Issue: Data Management Systems, Procedures, & Programs

Norm Willis/Harlan Boynton/Glen Triner (WHC) - Solid Waste Engineering Analysis
Randy Stickney (WHC) - Mgr, Solid Waste Process Engineering
Dennis Wilson/Darlene Hage1 (WHC) - SWITS

Issue: Waste Minimization

Donna Wanek (RL) - Waste minimization
Penny Craig/Bob Silva (WHC) - Waste minimization
Harold Tilden/Eric Hauth (PNL) - Waste minimization
Brian Dixon/Carrie DuPont (KEH) - Waste minimization

ADDITIONAL DOCUMENTS NEEDED:

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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PNL COUNTERPART	Name:	William Bjorklund		
	Telephone #:	509/376-4781	Fax #:	509/376-7885
KEH COUNTERPART	Name:	James Lilly		
	Telephone #:	509/373-5526	Fax #:	509/372-1830

NAME:	W. G. Rhodes	DATE:	4/3/92	REV. #:	1
TELEPHONE #:	617/864-5570	FAX #:	617/868-6361		
DISCIPLINE:	Environment				
AREA OF RESPONSIBILITY:	Radiation Monitoring				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Management of corrective action plans for Tiger Team findings noted below.
2. Planning and implementation of NESHAPs Subpart H for the 127 major stack and vent discharge points: monitoring, alternate procedures, quality assurance plan, stack and vent flow rate measurement, effluent measurement, FFCA, applications to construct new sources, and reporting requirements.
3. Development of formal policies, guidance and procedures for radiological monitoring programs.
4. Interaction of contractors to ensure that site radiological monitoring efforts are integrated and well-managed.
5. Implementation of Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance (DOE/EH-0173T) recommendations and guidance.
6. Management of the ambient air sampling program including: policies, guidance, procedures, training of technicians, siting of samplers, and management of data.
7. Resource allocation for radiological monitoring programs.
8. Oversight of contractor monitoring programs by RL personnel.
9. Management of State of Washington permit for radiological emissions
10. Monitoring of diffuse and "portable" sources of radionuclides.

Related Tiger Team Findings:

Key Finding on Radiological Monitoring Programs

A/CF-1 Effluent Stack Sampling Deficiencies

A/CF-5 Air Emissions from U-Plant

A/BMPF-2 Absence of an Air Emissions Inventory

A/BMPF-3 Line Losses in Sampling Systems

A/BMPF-4 Ambient Air Monitoring Deficiencies

A/BMPF-8 Releases Exceeding WHC Internal Guidelines

RAD/CF-1 Deficiencies in the WHC and PNL Radiological Monitoring Programs

RAD/CF-4 Hanford Dose Assessments are not Based on Current Land Use Data

Related Tiger Team Action Plan Items:

Same as items listed under Related Tiger Team Findings.

Other Bases:

Self-Assessment Reports, recent audits, reviews and appraisals.

Overlapping Issues:

Resources for the radiological environmental monitoring programs appear to be spread too thin. The WHC staffer in charge of the ambient monitoring program also is responsible for the hazardous pollutants ambient air monitoring program.

Quality assurance is always a big part of the radiological environmental monitoring area. There will probably be overlapping issues in this area, especially with NESHAPs required quality assurance programs.

Self-assessment programs seem strong on paper, but this will be verified during the site visit.

Planning for implementation of new regulations and guidance will probably be an issue. Hanford is not in compliance with NESHAPs, subpart H, and needs to enter into an FFCA. This issue will be examined, as well as the planning to implement new DOE Guidance on Environmental Monitoring and Surveillance (DOE/EH 0173T).

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

Performance Objectives and Criteria for Conducting DOE Environmental Audits: RAD.3, RAD.4, RAD.7; and Draft Protocols for Conducting Line Program Environmental Management Audits, December 1991 as appropriate, 40 CFR 61, Subpart H, DOE 5400.1 and 5400.5, and DOE/EH-01735.

Description of Rationale of Approach:

The approach to this assessment will include selected interviews within the PNL and WHC contractor organizations, and RL. Appropriate documents will also be reviewed. Self-assessment programs, corrective action programs, tracking and trending programs, and other such programs will be examined. The interviews, and program and document reviews will be used to assess programs, policies and procedures for radiological environmental monitoring in relation to the Tiger Team findings. A sample of ambient and effluent air monitoring systems will be visited. The systems will be reviewed from an "inside to out" perspective, that is, from the HEPA filters of a radiological facility, out to the environment.

Planned Interviews:

WHC: K.R. Jordan, Director ESH&QA (management of monitoring programs, Tiger Team finding management, Action Plan management); J.W. Hagan, Deputy Director

ESH&QA (management of monitoring programs, Tiger Team finding management, Action Plan management); G.D. Carpenter, Manager of Environmental Assurance (management of monitoring programs, Tiger Team finding management, Action Plan management); J.J. Dorian Manager Environmental Review & Integration (integration of monitoring programs between PNL and WHC); C.J. Geir, Manager Regulatory Assessment, Permitting, and NEPA (NESHAPs compliance, state and Federal permits); B. Erlandson, Manager Facility Compliance (NESHAPs compliance, facility monitoring); R.W. Oldham, Manager Environmental Permits (permit status, planning for new permits); J.A. Rivera, Manager Environmental Compliance Verification (audit, inspection, surveillance, self-assessment programs, Tiger Team closeout program); J. Schmidt, Advanced Engineer Environmental Review and Integration (ambient air sampling program); L. Diediker, Manager 200 Area Environmental Protection, (200 Area monitoring programs); E.M. Greager, Manager 300 Area Environmental Protection (300 Area monitoring programs); C. Webb (rad. survey report); L. Nelson, Supervisor of Health Physics (monitoring program issues); J. Bates (NESHAPs issues).

PNL: G.R. Hoenes (management of monitoring programs, Tiger Team finding management, Action Plan management); H.T. Tilden (management of monitoring programs, Tiger Team finding management, Action Plan management, annual reports); D.P. Higby, A. K. Stalker (environmental monitoring programs, contractor radiochemistry labs, program documentation issues, equipment shortage issues), K. Abel (contract with external radiochemistry lab), R. Woodruff (facility monitoring programs), G. Patten (ambient air sampling).

RL: D. Trader, Chief Programs Branch (PNL projects, operational issues); R. Brich Physical Scientist Safety and Environment (oversight of PNL and WHC rad environmental programs); G.M. Bell, Branch Chief Safety, Environment and Security Assessment Branch (assessment programs), R.G. Holt, Chief Regulatory Permits Branch (permit issues); S. Stites, Physical Scientist Regulatory Permits Branch (NESHAPs issues).

ADDITIONAL DOCUMENTS NEEDED:

Guide to Reducing Radiation Exposure to ALARA, PNL 6577/UC-610A
Operational Environmental Monitoring, WHC-CM-7-4
Counting Laboratory Procedures, PNL-00279
Waste Management and Environmental Compliance, PNL-MA-8

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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KEH COUNTERPART	Name:	Davis Foust		
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NAME:	Leonard Lojek	DATE:	5/8/92	REV. #:	2
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DISCIPLINE:	Safety				
AREA OF RESPONSIBILITY:	Quality Assurance				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Adequacy of RL's and contractors' (WHC, PNL, KEH, and HEHF) progress, tracking and closure of corrective action plan activities related to:
  - a. How QA programs are managed, organized, administered and implemented.
  - b. What the status is of QA manuals/plans and key QA documents.
  - c. What QA support, surveillance and audits are conducted to ensure implementation.
2. Identify the ties of QA program to ES&H activities and the Hanford Site's TQM initiative.

Related Tiger Team Findings:

Primary issues are:

1. WHC - QA implementation
2. PNL - Independent verification
3. KEH - Procedures or guidance
4. HEHF - QA program plans for OS, IH and Environmental Activities
5. RL - Hanford Site QA program direction and oversight

Related Tiger Team Action Plan Items:

QA/BMPF-1; QC/CF-1 to QA/CF-6; QV.1-1 to QV1-5; QV.2-1 to QV.2-5; QV.3-1 to QV.3-3; QV.4-1 to QV.4-5.

Other Bases:

Overlapping Issues:

ASSESSMENT APPROACH:

Performance Objectives to be evaluated.

CAP Progress. RL and contractors are meeting their CPA commitments for QA program improvements. RL is tracking CAP action items and has a mechanism for their closure.

Quality Programs. Administrative programs and controls should be in place to ensure policies concerning quality are administered for each contractor/facility throughout the site.

Description of Rationale of Approach:

1. Identify key managers of RL and contractors' QA support activities and QA audits/assessment.
2. Review top level and key QA documents.
3. Interview key managers of RL and contractors regarding QA program. (horizontal)
4. Interview managers and personnel of WHC (top management through bottom of one organization or facility - e.g., tank farms) to determine adequacy of CAP progress and visit facility. (vertical)
5. Identify interactions of QA program with ES&H activities.
6. Identify interactions of QA activities with TQM initiative or vice versa.

Planned Interviews:

- PAT coordinators - 5 people (4/9/92)
- QA support office managers/staff - 9 people (May)
- QA audit/compliance managers/staff - 7 people (May)
- TQM facilitators - 5 people (May)
- TOP Hanford site managers - 2-3 people (May)
- Individual/Position/Area of Responsibility
- Topic of Discussions

ADDITIONAL DOCUMENTS NEEDED:

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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KEH COUNTERPART	Name:	William Roe		
	Telephone #:	509/376-2669	Fax #:	509/376-3455
HEHF COUNTERPART	Name:	Todd Haugen-Harrison		
	Telephone #:	509/372-0555	Fax #:	509/376-9818

NAME:	Robert Powell	DATE:	4/2/92	REV. #:	1
TELEPHONE #:	205/928-5987	FAX #:	205/928-5421		
DISCIPLINE:	Safety and Health				
AREA OF RESPONSIBILITY:	Conduct of Operations and Maintenance				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Management Systems which guide the implementation of Conduct of Operations and Maintenance (vertically from RL to Contractor to operating facility).
2. The uniformity and consistency of practices between divisions within a contractor and between contractors with regard to the Lock and Tag, Hoisting and Rigging, and Job Control Systems to the extent that safety and management are practical factors.
3. Implementation of Conduct of Operations and Maintenance at selected facility operation level.

Related Tiger Team Findings:

M-6, M-11, M-18, M-19, M-20, OP.2-1, OP.3-1, OP.4-1, OP.4-2, OP.5-1, OP.5-2, OP.8-1, OP.8-2, OP.8-3, MA.1-1, MA.1-2, MA.1-3, MA.2-1, MA.2-2, MA.2-3, MA.2-4, MA.2-5, MA.4-1, MA.5-1, MA.6-1, and MA.7-1

Related Tiger Team Action Plan Items:

Action Plans related to the Concerns listed above.

There were five Cat.II Concerns within the Operations and Maintenance areas, Op.1-2, MA.2-1, MA.2-2, MA. 2-3, and MA.2-4.

Progress on these action plans will be reviewed.

Other Bases:

Status of implementation of DOE 5480.19, Conduct of Operations.

Status of implementation of DOE 4330.4A, Chapt. II, Conduct of Maintenance At DOE Nuclear Facilities.

Identify conflicts with 29 CFR 1910.

Status of the backlog and "in-out" time related to the Job Control System and the effect of these factors on operating problems and facility mission.

Status of preventive maintenance items delayed in general.

Overlapping Issues:

OSHA, 29 CFR 1910, Locks and Tags, as impacted by the Status Control management procedures (WHC G-1) overlaps the Occupational Safety Area.

Special Training Courses, i.e., Job Control Systems, Conduct of Operations will probably overlap issues in the Staffing and Training area.

Issues developed in the Hanford Hoisting and Rigging Procedures may also overlap the Occupational Safety Area.

Issues developed in the Directives/Policy and Procedures area.

ASSESSMENT APPROACH:

Review three levels of documentation (RL, Contractor, and Facility) relative to Conduct of Operations and Maintenance. Discuss implementation of the related management systems at the above stated levels of Management. At the facility level, couple the discussion with observations of implementation. As appropriate include first line supervisors and operators in the discussions.

At the facility level, inspect and otherwise test the implementation of the T.T. Assessment Action plans for five Category II Concerns.

Develop information concerning the method of assuring uniformity and consistency between contractors and within their organizations for those systems which require consistency (JCS, L&T, and Hoisting and Rigging). This implies a need for a horizontal assessment of these activities on the part of RL.

Performance Objectives to be Evaluated:

In the course of following the approach outlined above and below, many Criteria for the Performance Objectives will become visible for critique. Objectives (ref. T.S.A., P.O. & C's) concerning management practices for Operations and Maintenance are primarily OP.1 and MA.1. These will be evaluated aggressively, while those related to compliance will be reported if observed practices indicate failure to achieve an Objective.

Description of Rationale of Approach:

The WHC Waste Tank Facility is chosen for the bottom of the vertical investigation of these issues because of the importance of its mission, its backlog of maintenance requirements, experienced and potential operating difficulties, and the nature of the Tiger Team Concerns and comments.

A review of PNL activities will be made with regard to Conduct of Operations and Maintenance. PNL facilities accommodate a comparatively large number of small activities. The nature of these is perceived to be such that many "special cases" might arise which could lead to local variations in operating and safety requirements. Since the Tiger Team did not have time to fully assess these areas within PNL, a further look at this is in order.

Planned Interviews:

Please see a separate schedule attached:

ADDITIONAL DOCUMENTS NEEDED:

Requests have been made for copies the following documents:

MP5.3
MP6.3
WHC SP 0708
WHC CM 8-7
WHC CM 8-8 (ONLY THE G-1 PROGRAM)
Proposed revisions to G-1, Actions by Committee (incorrect name)
Hanford Hoisting and Rigging Manual

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE COUNTERPART	Name:	James Adams Burt Hill		
	Telephone #:	509/376-1948 509/376-6863	Fax #:	509/376-0695 509/376-0695
WHC COUNTERPART	Name:	Phil Scanlan		
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PNL COUNTERPART	Name:	Raymond King		
	Telephone #:	509/376-8394	Fax #:	509/376-7885
KEH COUNTERPART	Name:	Betty Hubbard		
	Telephone #:	509/376-1654	Fax #:	509/376-9482

NAME:	L. G. Brinkerhoff	DATE:	4/27/92	REV. #:	1
TELEPHONE #:	801-254-5695	FAX #:			
DISCIPLINE:	Safety				
AREA OF RESPONSIBILITY:	Safety Analysis Reports; Operational Safety Requirements; Operational Readiness Reviews				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Review safety management systems that ensure:
  - a. New and revised safety analyses are developed.
  - b. Safety analyses and operational safety requirements receive the proper independent review.
  - c. Safety limits adequately bound the safety envelopes.
  - d. safety limits are incorporated into the operating procedure.
  - e. operational readiness reviews are performed for new and restart operations.
  - f. The RL provides timely interactions and reviews.

Related Tiger Team Findings:

1. Key Findings on Safety and Health:

"The process for helping to ensure facility safety through up-to-date SARs, DSRs, and as-built drawings is not adequate to demonstrate safe activities."
2. Safety and Health Concerns:
  - a. DA.7-1, DA.7-2, DA.7-4, and DA.7.5.
  - b. DP.8.3.
  - c. AX.1-5, and AX.3-5.
3. Management Findings:

M-21 - Inadequate safety analysis.

Related Tiger Team Action Plan Items:

To be determined.

Other Bases:

Overlapping Issues:

Management Systems
Policies and Procedures
Overview
Training
Conduct of operations
Quality Assurance

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

Performance and objectives and criteria for technical safety appraisals at Department of Energy facilities, June 1990:

- a. DA.2 and DA.7
- b. DP.3
- c. TS.1, TS.2, TS.3 and TS.4.
- d. FR.1 and FR.2.

Description of Rationale of Approach:

Review RL, WHC, and PNL policies, programs and procedures. Interview responsible management. Follow several examples from SAR to OSR to procedures. Evaluate actions regarding Tiger Team findings and concerns.

Planned Interviews:

See attached schedule.

ADDITIONAL DOCUMENTS NEEDED:

To be determined.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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PNL COUNTERPART	Name:	Mike Yurconic		
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KEH COUNTERPART	Name:	Grant McCallum		
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NAME:	David K. Pegram	DATE:	4/27/92	REV. #:	1
TELEPHONE #:	301/903-2297	FAX #:	301/903-7773		
DISCIPLINE:	Management				
AREA OF RESPONSIBILITY:	Industrial Hygiene				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Contractor Program:

1. Adequacy of Health and Safety management procedures and policy statements.
2. Adequacy of internal quality assurance and self-assessment programs.
3. Adequacy of staffing levels to support programmatic goals.
4. Vertical slice audit of implementation of corrective action plans for Hazard Communication Program and Hazards Inventory.

RL:

1. Adequacy of contractor oversight and review.
2. Adequacy of internal quality assurance and self-assessment programs.
3. Adequacy of staffing levels to support programmatic goals.

Related Tiger Team Findings:

DOE R/L

IH.1-9, IH.1-10, IH.1-11, IH.4-10

Westinghouse (WHC)

IH.1-1, IH.1-2, IH.1-3, IH.2-1, IH.3-1, IH.5-1, WS.6-1

Pacific Northwest Laboratories (PNL)

IH.1-4, IH.1-5, IH.1-6, IH.2-2, IH.3-3, IH.5-2

Related Tiger Team Action Plan Items:

RL

IH.1-10 1 & 2 DOE Staffing and Oversight, IH. 1-11 DOE Contractor Guidance and IH.4-10 Contractor Oversight.

WHC

IH.1-2 00-01 through 03 Staffing, IH.3-3 00-02 and 03 Hazards Assessment, IH.5-1 00-01 through 03 Hazard Communication, IH.1-3 00 01 Industrial Hygiene

Management Structure, IH.2-1 00-01 Industrial Hygiene Management Concerns, IH.4-1 00-01 and 02 Revise Programs and Update Procedures.

PNL

IH.1-4 PA1 Industrial Hygiene Policies and Staffing, IH.1-4 PC1 Self-Assessment, IH.1-5 Resources, IH.1-6 PA1 and PB1 and PD1, IH.3-3 PA1 Hazard Communication and Chemical Exposure Monitoring, IH.4-5 PA1 Self-Assessment.

Other Bases:

A review will be conducted of the progress on the Tiger Team Corrective Action Plan for Hanford and other recent self-assessments performed by RL, EHC, and PNL.

Overlapping Issues:

Issues identified as Industrial Hygiene based including self-assessment, staffing, procedures, corrective action plans, procedures and quality assurance also covered other Team members in the broader sense. The objective of the Industrial Hygiene review will be more narrowly focused of identified deficiencies from the 1989 Hanford Tiger Team Assessment.

ASSESSMENT APPROACH:

Determine the existence and effectiveness of management control systems to ensure that the Industrial Hygiene Programs are being upgraded in a systematic manner including technical and programmatic issues. This assessment will also attempt to determine the effectiveness of line management to implement key objectives and resolved identified deficiencies as well as to conduct self-assessment and evaluations of the industrial hygiene programs.

Performance Objectives to be Evaluated:

Determine the level of effectiveness of the Hanford Site Industrial Hygiene Programs against:

1. DOE 5480.4, 5480.10, and 5480.19 and Occupational Health and Safety Administration (OSHA) Regulations 29 CFR 1910 and 29 CFR 1926 as they apply to Industrial Hygiene.
2. Verifiable progress in the close out of compliance issues and action items.
3. Compliance with other applicable standards and industry practices.

Description of Rationale of Approach:

Selected common site management and programmatic findings identified by the 1990 Tiger Team for the RL, WHC, and PNL will receive horizontal reviews, Selected technical issues will receive a vertical slice review to determine the effectiveness of the implementation of management actions. Due to time

limitations not all contractor Industrial Hygiene Programs will receive a review during this progress assessment.

Planned Interviews:

Monday May 11, 1992, Westinghouse Hanford Company (WHC)

- AM - IH Program Managers and WHC Director of Health and Safety.
Topics: Management procedures and policies, QA Program, Self-Assessment.
- PM - Tour 200 area WHC maintenance shops, document reviews, close out evidence files.

Tuesday May 12, 1992, WHC

Follow up interviews with WHC staff, document reviews, close out evidence files. Topics: Staffing and Tiger Team Corrective Action Plan, Hazard Communication Program and Hazards Inventory.

Wednesday May 13, 1992, Pacific Northwest Laboratories (PNL)

- AM - IH Program Manager and IH Program Staff
Topics: Management Procedures and Policies, QA Program, Self-Assessment, Hazard Communication Program and Hazard Assessment.
- PM - Tour PNL Laboratories
Document reviews, close out evidence files

Thursday May 14, 1992, Department of Energy Richland Field Office (RL)

- AM - RL Health and Safety Program Manager and Industrial Hygienists.
Topics: Contractor oversight, QA Program, funding, staffing and contractor guidance.
- PM - Document reviews, close our evidence files.

Friday May 15, 1992, RL

Follow up interviews and document reviews.

ADDITIONAL DOCUMENTS NEEDED:

None.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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KEH COUNTERPART	Name:	Sheldon Coleman		
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HEHF COUNTERPART	Name:	Rose Ann Moorman Todd Haugen-Harrison		
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NAME:	Sanji Kanth	DATE:	4/27/92	REV. #:	1
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DISCIPLINE:	Safety				
AREA OF RESPONSIBILITY:	Occupational Safety				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

Verify adequacy of contractors' (WHC, PNL, HEHF) management systems that provide occupational safety. Four elements of safety and health management systems will be evaluated: 1) Management commitment/employee involvement; 2) Worksite analysis; 3) Hazard prevention and control; and 4) Safety and health training.

Related Tiger Team Findings:

- 4.5.15 Occupational Safety
- 4.5.20 Worker Safety

Related Tiger Team Action Plan Items:

Proposed action plan items covering the occupational and worker safety.

Other Bases:

Overlapping Issues:

ASSESSMENT APPROACH:

Site visits will be conducted first, during which time the effectiveness of the implementation of the four elements described earlier will be evaluated through observations and interviews with line management and employees. Following the site visits, the key safety managers will be interviewed, and key documents will be reviewed.

Performance Objectives to be Evaluated:

The four elements described above.

Description of Rationale of Approach:

1. Identify and visit facilities (approximately 7 to 8) such as machine shops, paint spray booths, etc, that are likely to have high employee exposures to occupational hazards.
2. Interview line managers and employees at the visited sites.
3. Interview selected key occupational safety managers following the site visits.

4. Review selected documents that provide the information pertaining to those four elements.

Planned Interviews:

- Line managers and employees at the sites will be interviewed.
- Key safety managers will also be interviewed.
- Topics of discussion: Four elements described above will be discussed. A questionnaire focussed towards the four elements will be used during the interviews.

ADDITIONAL DOCUMENTS NEEDED:

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE COUNTERPART	Name:	Dennis Wiatrak Russell Nelson		
	Telephone #:	509/376-7316 509/372-0685	Fax #:	509/376-8153 509/376-6621
WHC COUNTERPART	Name:	Bobby Baker		
	Telephone #:	509/376-2166	Fax #:	509/376-1166
PNL COUNTERPART	Name:	Patrick Wright Robert Gough		
	Telephone #:	509/376-1634 509/376-1886	Fax #:	509/376-6663 509/376-6663
KEH COUNTERPART	Name:	Dale Johnson		
	Telephone #:	509/376-0363	Fax #:	509/376-3455
HEHF COUNTERPART	Name:	Todd Haugen-Harrison		
	Telephone #:	509/372-0555	Fax #:	509/376-9818

NAME:	Patrick Finn	DATE:	4/27/92	REV. #:	1
TELEPHONE #:	301/903-9876	FAX #:	301/903-5621		
DISCIPLINE:	Safety				
AREA OF RESPONSIBILITY:	OSH - Construction Safety				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

1. Extent of Integration of Construction Safety Management into the DOE's and KEH's Construction Project Management Process.
2. Adequacy and Effectiveness of DOE and KEH Staff Support in the management of construction safety.
3. Adequacy and Effectiveness of DOE and KEH oversight in the area of construction safety.

Related Tiger Team Findings:

Related Tiger Team Action Plan Items:

Other Bases:

Overlapping Issues:

Management, Industrial Hygiene, Training, Oversight/Self-Assessment.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

1. DOE and KEH have construction safety programs that clearly delineate line responsibility and the management means to assure on-site compliance with DOE OSH standards. These requirements are effectively communicated to responsible personnel and appropriate training is provided to assure effective program implementation.
2. DOE and KEH professional OSH staff roles are clearly defined with regard to their respective responsibilities and interaction with project managers/engineers.
3. An independent oversight function exists, both in DOE and KEH, to assure that project managers/engineers and their staff support are effectively and proactively managing safety on construction projects.

Description of Rationale of Approach:

The rationale of the approach is centered on determining whether construction project managers understand, accept, and have the tools (in terms of defined OSH programs, staff assistance and the requisite training) to proactively manage safety on their assigned projects. Furthermore, the review of the

independent oversight function is focused on whether it is providing the necessary feedback to DOE and KEH management on the effectiveness of these programs.

Planned Interviews:

DOE RFO - L. Williams, J. Collins (Project Management), P. Saget, J. Bell (Oversight), R. Holten, D. Evans (Staff Support), DOE Project Managers for selected construction projects (1 project performed by KEH inhouse forces and 1 project performed by subcontractor).

KEH - D. McMyler, W. Ferree, P. Beaudet, V. Chamberlian, J. Mortimer (Project Management), C. Anderson, D. Palmer (Staff Support and Oversight), KEH Project Managers/Engineers and Superintendents on 2 selected projects (1 project performed by KEH inhouse forces and 1 project performed by subcontractor).

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
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	Telephone #:	509/376-7316 509/372-0685	Fax #:	509/376-8153 509/376-6621
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	Telephone #:	509/376-2166	Fax #:	509/376-1166
PNL COUNTERPART	Name:	Patrick Wright Robert Gough		
	Telephone #:	509/376-1634 509/376-1886	Fax #:	509/376-6663 509/376-6663
KEH COUNTERPART	Name:	Dale Johnson		
	Telephone #:	509/376-0363	Fax #:	509/376-3455
HEHF COUNTERPART	Name:	Todd Haugen-Harrison		
	Telephone #:	509/372-0555	Fax #:	509/376-9818

Appendix E

SCHEDULE OF ONSITE ACTIVITIES

SCHEDULE OF ONSITE ACTIVITIES

Charles Grua Corrective Action Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - J. D. Wagoner and J. P. Hamric, RL - J. H. Anttonen, L. E. Little, and L. C. Williams, RL - R. M. Rosselli, J. E. Ollero, and N. M. Highland, RL - J. J. Keating and R. A. Holten, RL	• Interviews - W. Wiley, T. Chikalla, and G. Hoenes, PNL - T. M. Anderson, and J. O. Honeyman, WHC - H. D. Harmon, S. Marchetti, M. A. Payne, Director, and D. J. Newland, WHC	• Interviews - J. G. Cassidy, J. H. Hammond, and H. A. Seiber, WHC - B. Klos and A. Brody, WHC - R. T. French, R. D. Folker, C. E. Anderson, J. A. Carter, and P. H. Bruce, KEH - Dr. W. L. Meader, J. J. Maher, Dr. R. R. Ronish, C. Dilman, and C. L. Ronadie, HEHF	• Interviews - G. D. Carpenter, R. E. Heinemann Jr., J. C. Wiborg, and A. Hawkins, WHC - A. Hawkins, H. Rew, J. C. Wiborg, and D. Webb, WHC - R. Holten and M. Jackson, RL - C. Adair, SWEC - C. Kasch, RL	• Followup Interviews
pm	• Interviews - A. E. Lorenz and R. J. Light, RL - R. P. Saget, G. M. Bell, and C. J. Eisted, RL - R. Christensen, J. Clark, and R. E. Gerton, RL • Daily Debrief	• Interviews - K. R. Jordan, J. W. Hagan, P. R. Praetorius, and A. J. Fisher, WHC • Daily Debrief	• Interviews - R. C. Liikala, T. D. Chikalla, and G. R. Hoenes, PNL • Daily Debrief	• Interviews - G. Hoenes, PNL - M. Arent, HEHF - G. Jones, HEHF - P. Bruce, KEH - M. Witherspoon, KEH - J. E. Van Arsdale, KEH - D. S. Palmer, KEH • Daily Debrief	• Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	am:				
Peggy Harman Self-Assessment Program	- Interviews P. Saget, RL J. Keating, RL R. L. Holten, RL C. Adair, SWEC	- Interviews D. Brown, RL B. Chapman, RL - Document Review	- Interviews L. Kimmel, and T. Hideo, PNL G. King, PNL - Site Tour 325 Facility	- Interviews H. Tjian and E. Harth, PNL with D. Habib	- Interviews R. Holten and C. Kasch, RL C. Dillman, NEHF
	pm	- Interviews P. Bruce, KEH D. Palmer, KEH - Daily Debrief	- Interviews R. Cota, WHC - Daily Debrief	- Interviews C. Veneziano, and J. Collins, RL A. Hawkins, WHC - Daily Debrief	- Followup Interviews - Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	Interviews	Interviews	Interviews	Interviews	Interviews
Robert Campion Oversight/ Directives, Policy, Procedures	- Z. Gale, WHC - J. Gilbert, RL	- G. Hoernes, PNL - W. Latty, PNL - J. Waid, PNL - B. Robertson, PNL - P. Sager, RL - C. Bostad, RL - P. Wright, PNL - J. Weigert, PNL	- T. Haugen-Harrison, HEHF - J. Funk, HEHF - M. McKinney, HEHF - R. Watts, HEHF - J. Maher, HEHF	- J. Hagan, WHC - P. Praetorius, WHC	- D. Templeton, RL - C. Adler, RL
	- R. Holten, RL - K. Cameron, RL - Daily Debrief	- L. Kinnel, PNL - F. Hood, PNL - Daily Debrief	- J. Munch, HEHF - J. Carson, HEHF - Daily Debrief	- M. Wise, WHC - G. Schroeder, WHC - A. Toth, RL - Daily Debrief	- Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Louis Rancitelli Planning, Budgeting and Resource Allocation	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	- Interviews J. D. Wagoner and J. P. Hamric, RL J. H. Anderson, L. E. Little, and L. C. Williams, RL R. M. Rossetti, J. E. Ollaro, and N. M. Highland, RL J. J. Keating and R. A. Hoften, RL	- Interviews R. E. Gerton, RL T. M. Anderson, R. R. DiSibio, and J. O. Honeyman, WHC H. D. Harmon, S. Marchetti, M. A. Payne, and D. J. Newland, WHC	- Interviews F. G. Cassidy, D. B. Klos, A. Brody, D. Lawrence, and H. A. Seiber, WHC R. T. French, R. D. Folker, C. E. Anderson, J. A. Carter, and P. H. Bruce, KEH	- Interviews G. D. Carpenter, R. E. Heinemann Jr., A. R. Hawkins, J. C. Wiborg, and L. L. Humphreys, WHC D. E. Webb, H. E. Rew, D. J. Newland, and J. Hagan, WHC R. Hoften, and M. Jackson, RL C. Adair, Stone & Webster	- Interviews J. Mayer, HEHF
pm	- Interviews A. E. Lorenz and R. J. Light, RL R. P. Saget, G. M. Bell, and C. J. Bosted, RL J. M. Clark and R. W. Christensen, RL - Daily Debrief	- Interviews K. R. Jordan, J. W. Hagan, P. R. Praetorius, and A. J. Fisher, WHC - Daily Debrief	- Interviews - Dr. W. L. Meader, J. J. Maier, Dr. R. R. Rorash, C. Dillman, and G. L. Bonadie, HEHF - Daily Debrief	- Interviews M. Arent and G. Jonas, HEHF - Daily Debrief	Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
- Interviews J. Ollero and S. Hostick, RL J. Gilbert and D. Kranz, RL	- Interviews S. Hostick, RL R. Rosselli, RL	- Interviews J. Boda, DOE-HQ R. Bliss, WHC J. Oswald, WHC W. Wilcox, WHC S. Muller, WHC	- Interviews D. Avant and R. Wible, RL; and K. Sonderman, WHC B. Klos, WHC	- Interviews C. Holmes, PNL R. Lerch, WHC L. Bundy, WHC
- Interviews S. Muller and C. Smith, WHC S. Ortega, RL - Daily Debrief	- Interviews A. Brodie, D. Lawrence, and D. Hernandez, WHC W. Wilson, WHC - Daily Debrief	- Interviews J. Robbins and D. Hernandez, WHC J. Carallo, WHC B. Tibbatts, K. Massey, and P. Alford, RL - Daily Debrief	- Interviews G. Hayward, KEH P. Saget, RL - Daily Debrief	- Interviews J. Crockett, WHC S. Marchetti, WHC - Daily Debrief

William Levitan
Human Resources and
Training

pm

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
- Interviews R. Freeberg, RL R. Hudson, RL N. Werdel, RL	- Interviews B. Holt, RL B. Chapman, RL L. Michaels, WHC	- Interviews R. McLeod, RL R. Stewart, RL	- Interviews F. Calapristi, WHC L. Arnold, WHC L. Hafer, WHC R. Morrison, WHC	- Interviews R. Seget, RL G. Ball, RL C. Bosted, RL M. Thompson, RL
- Interviews J. Erickson, RL - Daily Debrief	- Interviews S. Wisnass, RL P. Pak, RL - Daily Debrief	- Interviews R. Wojtaszek, WHC W. Johnson, WHC - Daily Debrief	- Interviews T. Wintczak, WHC M. Hughes, WHC - Daily Debrief	- Interviews S. Weissberg, RL R. Freeberg, RL - Daily Debrief

William Eckroade
TPA: Environmental
Restoration Program

pm

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
• Interviews - L. Solar, WHC - R. McLeod and E. Goller, RL - M. Thompson, RL	• Interviews - L. Holstrom, WHC - M. Buckmaster, WHC - S. Wisness, RL - B. Foley, RL	• Interviews - R. Hildebrand, RL - M. Furman, RL - R. Bryce, PNL - B. Stewart, RL	• Interviews - J. Erickson, RL - K. Fecit and A. Knepp, WHC - N. Wardell, RL	• Interviews - R. Holten, RL - J. Hennig, RL - M. Tiernan, RL
• Interviews - R. Holt, RL - R. Guarcia, RL - C. Abraham, GAO - D. Bryson, RL • Daily Debrief	• Interviews - L. Rasmussen, RL • Daily Debrief	• Interviews - D. Kelley, WHC - M. Neely and D. Stewart, PNL - A. Harris, RL • Daily Debrief	• Interviews - M. Schwab, WHC - L. Mariya, RL - J. Williams, WHC • Daily Debrief	• Interviews - M. Thompson, RL - T. Wentczak, WHC - G. Koschik, WHC • Daily Debrief

Christine Beiling
Groundwater Protection
Program

pm

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
• Interviews - D. Claussen, RL - R. Pierce, WHC - L. Mamiya, RL - D. Bryson, RL	• Interviews - R. Guercia, RL - E. Dagan, RL - N. Moorer, RL	• Interviews - N. Willis, WHC - H. Boynton, WHC - V. Dunnatt, WHC - R. Stickney, WHC - D. Irby, WHC	• Interviews - H. Tilden, and E. Hauth, PNL - D. Nichols and P. Craig, WHC	• Followup Interviews
• Interviews - B. Sullivan, RL - D. Wasek, RL • Daily Debrief	• Interviews - T. Davis, RL - J. Henning, RL • Daily Debrief	• Interviews - D. Hagel, WHC - R. Holt, RL • Daily Debrief	• Followup Interviews - B. Dixon, K. Dupont, and P. Bodily, KEH - R. Holt, RL • Daily Debrief	• Followup Interviews • Daily Debrief

Don Habib
Rad and Mixed Waste
Management Program

am

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Bill Rhodes Radiation Environmental Monitoring	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - G. D. Carpenter, WHC - J. J. Dorian, WHC - J. Bates, WHC - J. Skolrud, WHC - J. Luke, WHC - B. Erlandson, WHC - R. W. Oldham, WHC - J. A. Rivera, WHC	• Interviews - L. Diediker, WHC - C. D. Wollam, WHC - J. Nichols, WHC - K. Hadley, WHC - J. Schmidt, WHC - D. Alison, WHC - C. Horni, WHC • Site Tour - PUREX PFP - Near Field Air Samplers	• Interviews - G. Patten, PNL - R. Woodruff, PNL - G. R. Hoenes, PNL - A. K. Stalker, PNL - K. Abel, PNL - R. Gray, PNL	• Site Tour - Ambient air sampling station tours • Interviews - E. Damberg, PNL - G. Patton, PNL - R. Woodruff, PNL - A. K. Stalker, PNL - L. Maples, PNL - S. Jette, PNL - P. Gaither, PNL • Tour of 324, 325 Bldgs.	• Interviews - D. Trader, RL - R. Bich, RL - G. M. Bell, RL - R. G. Holt, RL - S. Stites, RL - D. Medley, RL - T. Provast, RL - J. Rasmussen, RL
pm	• Interviews - K. R. Jordan, WHC - J. W. Hagan, WHC • Daily Debrief	• Interviews - J. Schmidt, WHC - G. Crummel, WHC - R. P'Pool, WHC • Site Tour - Near Field Air Samplers • Daily Debrief	• Interviews - D. P. Higby, PNL - S. Bivins, PNL - L. Kimmel, PNL - S. Jette, PNL • Daily Debrief	• Interviews - D. Higby, PNL - A. Mileham, PNL - S. Bivins, PNL - H. Tilden, PNL - C. Nelson, PNL • Tour 329 with A. Stalker and S. Jette, PNL • Daily Debrief	• Interviews - J. Bates, WHC • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Leonard Lojek Quality Assurance Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - G. Bell, RL - C. Bosted, RL - J. Wagoner, RL	• Interviews - R. Moeman, WHC - P. Peacock, WHC - A. J. Fisher, WHC - K. Jordan, WHC	• Interviews - P. Bruce, KEH - G. Foster, KEH - C. Anderson, KEH - J. Arslanian, KEH	• Interviews - F. Hood, PNL - J. Hirsch, PNL - R. Pratt and B. Sachs, PNL - J. Smith, PNL	• Interviews - C. Kasch, RL - P. Saget, RL - R. Holten, RL
pm	• Interviews - T. Bennington, WHC - H. Harmon, WHC - D. Newland, WHC - G. Williamson, WHC - R. Kimura, WHC • Daily Debrief	• Interviews - J. Kautzky, RL • Daily Debrief	• Interviews - A. Friberg and J. Johnson, KEH • Daily Debrief	• Interviews - M. Hamilton, HEHF - J. Guyette, MACTEC - T. Haugen-Harrison, HEHF - J. Carson, HEHF • Attend RL's 5/14/92 Total Quality Weekly Seminar • Daily Debrief	• Followup Interviews • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Robert Powell am Conduct of Operations/ Maintenance	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - L. Eyre, WHC - D. Hamrick, WHC • Site Tour	• Interviews - M. Talbot, WHC - P. Segall, WHC - W. Broce, WHC - L. Walker, WHC	• Interviews - B. Hubbard, KEH - M. Wallace, KEH - G. Brazil, KEH	• Interviews - J. Davidson, RL - J. Schuette, PNL - G. Buckley, PNL - L. Van Fleet, PNL	• Interviews - B. Hill, RL - T. Chikalla, PNL - R. King, PNL - J. Bright, PNL - B. Hawks, PNL
pm	• Interviews - Chas Karney, WHC - Jack Bonewell, WHC - Scott Debbling, WHC - Andy Marshall, WHC - Royal Show, WHC • Daily Debrief	• Interviews - G. Kunkle, WHC - K. S. Watkins, WHC • Daily Debrief	• Interviews - B. Moyers, KEH - J. Bickford, WHC • Daily Debrief	• Interviews - J. W. Wald, PNL - 324 Facility Tour with D. Knowlton, PNL - 325 Facility Tour with L. Maples, PNL • Daily Debrief	• Interviews - K. McMullin, PNL • PNL Tours • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Lorin Brinkerhoff Safety Analysis Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	am				
	• Interviews - H. Wedlick, WHC - D. Wodrich, WHC - L. Duthie, WHC - D. Henry, WHC - J. Wiborg, WHC - A. Greenberg, WHC - R. W. Brown, WHC - T. N. Draper, WHC - J. E. Rude, WHC - P. A. Moorman, WHC	• Interviews - G. Miskho, WHC - D. G. Hamrick, WHC - M. N. Islam, WHC - J. Kasper, WHC - H. Wedlick, WHC - F. Stubblefield, WHC - J. S. Zimmer, WHC - G. Smith, WHC - R. Schlosser, WHC - H. Wedlick, WHC	• Interviews - G. Hoenes, PNL - P. Wright, PNL - S. Allan, PNL - H. Van Tuyl, PNL - T. M. Graham, PNL - K. N. Cartmell, PNL	• Interviews - R. King, PNL - L. Kimmel, PNL - T. Hikido, PNL	• Followup Interviews
	pm				
	• Interviews - M. Islam, WHC - K. O. Fein, WHC - F. E. Stubblefield, WHC - G. Miskho, WHC - J. M. Grigsby, WHC - J. C. Wiborg, WHC - A. R. Schade, WHC - H. Wedlick, WHC - G. Smith, WHC • Daily Debrief	• Interviews - D. House, WHC - R. Mandigo, WHC - H. Wedlick, WHC • Daily Debrief	• Interviews - J. McElroy, PNL - D. Knowlton, PNL - H. W. Slater, PNL • Daily Debrief	• Interviews - B. Norton, PNL - L. Maples, PNL • Site Tour • Daily Debrief	• Followup Interviews • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

David Program Industrial Hygiene Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - R. Zimmerman and P. Hickey, WHC - L. Jordan, WHC - C. Stuart, J. Larson, and C. St. John, WHC	• Interviews - L. Duthie and E. Mead, WHC	• Interviews - M. Rosbach, PNL - M. Rosbach and G. DeWinkle, PNL • Site Tour - 325 Building - 331 Building	• Interviews - R. Hoften, G. Musen, D. T. Evans, and C. K. Kasch, RL	• Followup Interviews • Document Reviews
pm	• Interviews - K. Neumayer and R. Zimmerman, WHC • Site Tour - Major 200 Area Shop Tour with P. Hickey and E. Mead, WHC - Minor 200 Area Shop Tour with P. Hickey and E. Meade, WHC - QA of IH sampling with P. Hickey, A. Lilly, and D. Alexander, WHC • Document Reviews • Close Out Evidence Files • Daily Debrief	• Interviews - B. Heineman, WHC - J. Wiborg and J. Bell, WHC • Daily Debrief	• Interviews - M. Mosbach, PNL - R. Johanson and G. Hoenes, PNL - M. Rosbach, PNL • Site Tour - PNL Laboratories • Document Review • Close Out Evidence Files • Daily Debrief	• Document Review • Close Out Evidence Files • Daily Debrief	• Followup Interviews • Document Review • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Sanji Kanth Occupational Safety Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Site Tour - WHC site visits tour Main Transportation and Shop, Machine Shop and Carpenter Shop with B. Baker • Interviews - B. Baker, WHC - J. S. Majetich, WHC - I. L. Lively, T. Glenn, E. L. Beaudry, M. Dawn, and B. E. Martin, WHC	• Interviews - R. J. Kobelski, WHC - D. R. Henry, WHC - J. W. Hagan, WHC - D. L. McCauley, WHC	• Interviews - L. Hogan, PNL - R. Immele, PNL - P. Rojas, PNL • Tour Bldgs. 350, 350-A, and 350-B, Craft Shops (machine shop, carpenter shop, sheet metal shop, welding booth and paint spray booth) with B. Gough and D. Wright, PNL • Tour Building 324 (hot calls and engineering scale development activities) with B. Gough and D. Wright, PNL	• Site Tour • Interviews (accompanied by M. Kilpatrick) - G. Hoenes, PNL - Pat Wright, PNL	• Followup Interviews
pm	• Interviews - R. P. Saget, RL - G. M. Bell, RL - N. Trahan, WHC - S. Glover, WHC - A. DelaPaz, WHC - J. Harris, and G. Bell, RL • Daily Debrief	• Interviews - J. R. Bell, WHC - R. O. Zimmerman, WHC • Daily Debrief	• Interviews - B. Gough, PNL - D. Wright, PNL - R. A. Holten and D. T. Evans, RL • D. Green, R. Nelson, and D. Evans, RL • Daily Debrief	• Interviews - T. Haugen-Harrison, HEHF • Daily Debrief	• Followup Interviews • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Pat Finn Construction Safety Program	Monday 5/11/92	Tuesday 5/12/92	Wednesday 5/13/92	Thursday 5/14/92	Friday 5/15/92
	• Interviews - J. Collins, RL - S. Potter, RL - L. Williams, RL - R. Brown, RL - R. Holten, RL - D. Evans, RL	• Interviews - D. McMyler, KEH - K. Johnson, KEH - V. Chamberlain, KEH - J. Mortimer, KEH	• Accompany KEH staff (V. Chamberlain, I. Spivey, and D. Johnson) on safety walkthrough of subcontracted projects (W010, 1004, Trench 94 Sub Pit, W172, W011, LERF, Grout Facility)	• Interviews - A. Murth, KEH - P. Rasmussen, RL - S. Smith, RL	• Followup interviews
pm	• Interviews - P. Saget, RL - J. Beil, RL • Daily Debrief	• Interviews - C. Anderson, KEH - D. Palmer, KEH - D. Johnson, KEH - P. Bruce, KEH - P. Wright, KEH • Daily Debrief	• Interviews - R. Hiegel, RL - W. Chin, RL • Daily Debrief	• Interviews - R. Warren, RL - D. Green, RL - R. Nelson, RL • Daily Debrief	• Followup interviews • Daily Debrief

SCHEDULE OF ONSITE ACTIVITIES (Continued)

Saturday 5/16/92	Sunday 5/17/92	Monday 5/18/92	Tuesday 5/19/92	Wednesday 5/20/92	Thursday 5/21/92	Friday 5/22/92
Summary of anticipated concerns/improvement items/strengths due to Team Leader	Reviews and revisions of concerns/improvement items/strengths and overviews	Incorporate comments from Peer Review Round 1	Environment Package to Site Safety and Health and Management concerns/ improvement items/ strengths and overviews due to Team Leader	FAR - Management	Executive Summary and Section 2.1 to Site	Closeout Auditorium
Draft concerns/ improvement items/ strengths and overviews	Management disciplines Peer Review					
Team meeting, discuss concerns/ improvement items/ strengths						
First draft of concerns/ improvement items/ strengths in review by Team Leader	Peer Review Round 1 (2 Groups)	Peer Review Round 2 (3 Groups) Environment concerns/ improvement items/ strengths and overviews due to Team Leader	Management Package to Site FAR - Environment disciplines Safety and Health Package to Site	FAR - Safety and Health Package Room 177 Team Discussion on Draft Executive Summary and Section 2.1	FAR Executive Summary and Section 2.1 Closeout Dry Run	

Appendix F

LIST OF CONTACTS AND INTERVIEWS

LIST OF CONTACTS/INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Date	Organization	Topic
Management			
I-A-1	5/11/92	RL-AMA	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-2	5/11/92	RL-AMT	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-3	5/11/92	RL-Manager	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-4	5/11/92	RL-AMD	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-5	5/11/92	RL-CMP	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-6	5/11/92	RL-BUD	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-7	5/11/92	RL-TTP	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-8	5/12/92	WHC, Tank Farms Remediation System	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-9	5/12/92	WHC, Office of the President	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-10	5/12/92	WHC, ESH&QA	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-11	5/12/92	PNL	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-12	5/13/92	WHC, Human Resources and Administration	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-13	5/13/92	WHC, Technical Training	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-14	5/13/92	HEHF	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-15	5/13/92	KEH	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-16	5/13/92	PNL, Strategic Planning	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-17	5/14/92	WHC, ESH&QA-Environmental Assurance	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-18	5/14/92	WHC, ESH&QA-ESQ Systems and Audit Integration	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-19	5/14/92	RL, TSD	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-20	5/14/92	RL, Quality Program Branch	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-21	5/14/92	Stone and Webster Engineering	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-22	5/14/92	PNL, Laboratory Safety Division	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-23	5/14/92	HEHF, Information Systems	Planning, Budgeting, Resource Allocation and Corrective Action

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

Ref. No.	Date	Organization	Topic
I-A-24	5/14/92	KEH, Independent Assessment	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-25	5/14/92	KEH, PMD	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-26	5/14/92	KEH, Independent Assessment	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-27	5/14/92	KEH, Independent Safety and Health	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-28	5/15/92	HEHF	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-29	5/15/92	HEHF	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-30	5/15/92	HEHF Occupational Health Services Division	Planning, Budgeting, Resource Allocation and Corrective Action
I-A-31	5/15/92	WHC, ESQ Division	Planning, Budgeting, Resource Allocation and Corrective Action
I-B-1	5/11/92	RL	Planning and self-assessment
I-B-2	5/11/92	RL	Role of oversight group in self-assessment program
I-B-3	5/11/92	SWEC	Management and control of data base
I-B-4	5/11/92	WHC	WHC development of self-assessment program
I-B-5	5/12/92	RL	ERP development of self-assessment program
I-B-6	5/12/92	RL	Involvement in self-assessment
I-B-7	5/12/92	KEH	KEH implementation of Self-Assessment
I-B-8	5/12/92	KEH	Actions taken to address self-assessment improvement items
I-B-9	5/13/92	PNL	Implementation of self-assessment program
I-B-10	5/13/92	PNL	Development of self-assessment program
I-B-11	5/13/92	WHC	Development of self-assessment program at WHC division level
I-B-12	5/14/92	PNL	Implementation of waste minimization program
I-B-13	5/14/92	RL	Assessment of Value Engineering Program and philosophy on self-assessment
I-B-14	5/14/92	WHC	Followup questions on development of self-assessment program
I-B-15	5/15/92	RL	Hanford program
I-B-16	5/15/92	HEHF	Development of HEHF program
I-B-17	5/15/92	WHC	Development of RL policy and requirements

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

Ref. No.	Date	Organization	Topic
I-C-1	4/27/92	EM-20	Oversight, Directives, Policies, Procedures
I-C-2	4/27/92	EM-20	Oversight
I-C-3	4/28/92	EM-44	Oversight, Directives, Policies, Procedures
I-C-4	4/28/92	EM-441	Oversight
I-C-5	4/28/92	EM-432	Oversight
I-C-6	4/28/92	EM-331	Oversight, Directives, Policies, Procedures
I-C-7	4/30/92	ER-71	Oversight, Directives, Policies, Procedures
I-C-8	4/30/92	ER-71	Oversight, Procedures
I-C-9	4/30/92	ER-71	Oversight, Procedures
I-C-10	5/11/92	RL-HRD	Directives, Policies, Procedures
I-C-11		This number was intentionally omitted.	
I-C-12	5/11/92	BCSR	Directives, Policies, Procedures
I-C-13	5/11/92	RL-TSD	Directives, Policies, Procedures, and Oversight
I-C-14	5/11/92	RL-BUD	Directives, Policies, Procedures-SMS
I-C-15	5/12/92	RL-CMP	Oversight, Directives, Policies, Procedures
I-C-16	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-17	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-18	5/12/92	PNL	Oversight
I-C-19	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-20		This number was intentionally omitted.	
I-C-21	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-22	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-23	5/12/92	PNL	Directives, Policies, Procedures
I-C-24	5/12/92	PNL	Oversight, Directives, Policies, Procedures
I-C-25	5/13/92	HEHF	Oversight, Directives, Policies, Procedures

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

Ref. No.	Date	Organization	Topic
I-C-26	5/13/92	HEHF	Directives, Policies, Procedures
I-C-27	5/13/92	HEHF	Directives, Policies, Procedures
I-C-28	5/13/92	HEHF	Directives, Policies, Procedures
I-C-29	5/13/92	HEHF	Oversight, Directives, Policies, Procedures
I-C-30	5/13/92	HEHF	Directives, Policies, Procedures
I-C-31	5/13/92	HEHF	Oversight, Directives, Policies, Procedures
I-C-32	5/13/92	HEHF	Directives, Policies, Procedures
I-C-33	5/14/92	WHC	Directives
I-C-34	5/14/92	WHC	Directives, Policies, Procedures
I-C-35	5/14/92	WHC	Oversight, Directives, Policies, Procedures
I-C-36	5/14/92	WHC	Oversight, Procedures
I-C-37	5/14/92	RL	Oversight, Policies, Procedures
I-C-38	5/15/92	RL	Oversight, Policies, Procedures
I-C-39	5/15/92	SWEC	Procedures
I-C-40	5/15/92	RL	Directives, Policies, Procedures
I-C-41	5/15/92	PNL	Directives
I-D-1	4/9/92	RL/BUD	Planning, Budgeting, and Resource Allocation
I-D-2	4/9/92	RL/AMT	Planning, Budgeting, Resource Allocation, and Corrective Action
I-D-3	4/9/92	RL/TSD	Planning, Budgeting, Resource Allocation, and Corrective Action
I-D-4	4/27/92	EM-20	Planning, Budgeting, Resource Allocation, and Corrective Action
I-D-5	4/27/92	EM-6	Planning, Budgeting, Resource Allocation, and Corrective Action
I-D-6	4/27/92	EM-10	Planning, Budgeting, Resource Allocation, and Corrective Action
I-D-7	4/27/92	ER-40	Planning, Budgeting, Resource Allocation
I-D-8	4/27/92	EM-44	Planning, Budgeting, Resource Allocation
I-D-9	4/28/92	EM-432	Planning, Budgeting, Resource Allocation

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

Ref. No.	Date	Organization	Topic
I-D-10	4/28/92	EM-331	Planning, Budgeting, Resource Allocation
I-D-11	5/11/92	RL-AMaintenance	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-12	5/11/92	RL-AMT	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-13	5/11/92	RL-Manager	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-14	5/11/92	RL-AMD	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-15	5/11/92	RL-CMP	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-16	5/11/92	RL-BUD	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-17	5/11/92	RL-TFP	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-18	5/12/92	WHC, Tank Farms Remediation System	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-19	5/12/92	WHC, Office of the President	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-20	5/12/92	WHC, ESH&QA	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-21	5/13/92	WHC, Human Resources and Administration	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-22	5/13/92	HEHF	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-23	5/13/92	KEH	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-24	5/14/92	WHC, ESH&QA-Environmental Assurance	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-25	5/14/92	WHC, ESQ Integration	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-26	5/14/92	WHC, Occupational Support Services Division	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-27	5/14/92	RL, TSD	Planning, Budgeting, Resource Allocation and Corrective Action
I-D-28	5/14/92	HEHF, Information Systems	Planning, Budgeting, Resource Allocation and Corrective Action
Environmental			
I-E-1	4/9/92	RL Human Resources Division	RL personnel allocation process
I-E-2	5/11/92	RL Human Resources Division	RL personnel resources planning
I-E-3	5/11/92	RL Human Resources Division	RL human resources program
I-E-4	5/11/92	WHC Human Resources and Administration	WHC professional development programs
I-E-5	5/11/92	RL Human Resources Division	RL recruiting

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

Ref. No.	Date	Organization	Topic
I-E-6	5/12/92	RL Human Resources Division	RL personnel resources planning
I-E-7	5/12/92	RL Office of Administration	RL position management committee
I-E-8	5/12/92	WHC Environment, Safety, Health, and Quality Assurance Administration	WHC ESQ personnel planning and development/training
I-E-9	5/12/92	WHC Human Resources and Administration	WHC human resources program
I-E-10	5/13/92	WHC Human Resources and Administration	WHC reassignment process
I-E-11	5/13/92	WHC Human Resources and Administration	WHC professional development followup
I-E-12	5/13/92	WHC Facility Operations	WHC personnel resource allocation process
I-E-13	5/13/92	DOE-HQ Environmental Restoration and Waste Management, Waste Management Operations	RL personnel resource allocations
I-E-14	5/13/92	WHC Human Resources and Administration	WHC recruitment programs
I-E-15	5/13/92	WHC Human Resources and Administration	WHC recruitment tracking
I-E-16	5/13/92	RL Budget Division	RL budget allocations for human resources
I-E-17	5/13/92	WHC Environment, Safety, Health, and Quality Assurance Administration	WHC ESQ needs assessments
I-E-18	5/14/92	WHC International Environmental Institute	WHC training
I-E-19	5/14/92	RL Human Resources Division Training and Education Branch, WHC Environmental Institute	RL training and professional development
I-E-20	5/14/92	RL Office of Compliance	RL training
I-E-21	5/14/92	KEH	QTRC and KEH training
I-E-22	5/15/92	PNL	DOE long-term manpower needs study
I-E-23	5/15/92	WHC Environment, Safety, Health, and Quality Assurance Administration	WHC ESQ needs assessment and training
I-E-24	5/15/92	WHC Restoration and Remediation	WHC Environmental Division personnel resource allocations, needs assessment, and training
I-E-25	5/15/92	WHC International Environmental Institute	WHC needs assessments and training
I-E-26	5/15/92	WHC International Environmental Institute	WHC job function analyses and training

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

Ref. No.	Date	Organization	Topic
I-E-27	5/15/92	WHC Waste Tank Safety, Operations, and Remediation	Job function analyses and training for the Tank Farm Project
I-F-1	5/11/92	RL Environmental Programs Branch	TPA-ER Administrative Record
I-F-2	5/11/92	RL Environmental Restoration Division	Environmental Restoration Program management systems
I-F-3	5/11/92	RL Environmental Programs Branch	Environmental Restoration Program Planning
I-F-4	5/11/92	RL Environmental Remediation Branch	Environmental Restoration Program
I-F-5	5/12/92	RL Regulatory Policy, Planning and Analysis Branch	Environmental Restoration Policy and Planning
I-F-6	5/12/92	RL Environmental Programs Branch	Self-Assessment, Training, and QA
I-F-7	5/12/92	WHC - Environmental Data Management Center	Administrative Record
I-F-8	5/12/92	RL Environmental Remediation Branch	D&D program, unit manager responsibilities
I-F-9	5/12/92	RL Tri-Party Agreement Branch	TPA Implementation and coordination
I-F-10	5/13/92	RL Environmental Remediation Branch	Unit Manager responsibilities
I-F-11	5/13/92	RL Environmental Remediation Branch	Unit Manager Responsibilities
I-F-12	5/13/92	WHC Environmental Restoration Program	Environmental Restoration Program Planning
I-F-13	5/13/92	WHC Environmental Engineering	Environmental Restoration Program Implementation
I-F-14	5/14/92	WHC Tri-Party Agreement	TPA Coordination
I-F-15	5/14/92	WHC Tri-Party Agreement	TPA Coordination
I-F-16	5/14/92	WHC Comptroller	Overview of Site Management System
I-F-17	5/14/92	WHC Tri-Party Agreement	TPA Coordination
I-F-18	5/14/92	RL Regulatory Policy, Planning and Analysis Branch	Natural Resource Trustee Coordination
I-F-19	5/14/92	WHC Remediations Projects	Environmental Restoration Program
I-F-20	5/14/92	WHC Decommissioning & RCRA Program	D&D Program
I-F-21	5/15/92	RL TPA Branch	TPA Coordination
I-F-22	5/15/92	RL Office of Compliance	Oversight of Env. Rest. Program
I-F-23	5/15/92	RL Environmental Programs Branch	Future Land use
I-G-1	4/9/92	RL/ERB	100 Area/300 Area Groundwater

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

Ref. No.	Date	Organization	Topic
I-G-2	4/9/92	RL/WOB	300 Area Liquid Effluent Program
I-G-3	4/9/92	RL/OCC	S/D-1, Applicability of State Regulations
I-G-4	4/9/92	RL/PSM	5400.1 Groundwater Program
I-G-5	5/11/92	WHC/SLW	300 Liquid Effluent Program
I-G-6	5/11/92	RL/ERB	100 Area Groundwater Issues
I-G-7	5/11/92	RL/TPA	Groundwater Protection Management Plan, Past Practice Strategy
I-G-8	5/11/92	RL/RPA	Groundwater Protection Issues
I-G-9	5/11/92	RL/WOB	Liquid Effluent Program
I-G-10	5/11/92	GAO	GAO Groundwater Audit
I-G-11	5/11/92	RL/WOB	Liquid Effluent Program C018 Project
I-G-12	5/12/92	WHC/ENV	Operable Unit 300 FF-5
I-G-13	5/12/92	WHC/ENV	Operable Unit 200-BP-1
I-G-14	5/12/92	RL/TPA	Groundwater Activities within the TPA
I-G-15	5/12/92	RL/QAB	Audit of 200-BP-1 RI Activities
I-G-16	5/12/92	RL/RPB	216 Permit Process
I-G-17	5/13/92	RL/PSM	Groundwater Surveillance Program
I-G-18	5/13/92	RL/WOB	RCRA Groundwater Issues
I-G-19	5/13/92	PNL/ESD	Groundwater Surveillance Program
I-G-20	5/13/92	RL/ERB	RCRA/CERCLA Integration
I-G-21	5/13/92	WHC/SLW	Liquid Effluent Program
I-G-22	5/13/92	PNL/ESD	RCRA Groundwater Issues
I-G-23	5/13/92	RL/ERB	Geophysics Working Group
I-G-24	5/13/92	DOE-HQ/ENV/WMO	Groundwater Issues
I-G-25	5/14/92	RL/ERB	Groundwater Remediation Issues
I-G-26	5/14/92	WHC/ENV	RCRA/CERCLA Groundwater Issues

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

Ref. No.	Date	Organization	Topic
I-G-27	5/14/92	RL/ERB	HEC Data base, Well Surveys
I-G-28	5/14/92	WHC/ENV	HEIS
I-G-29	5/14/92	RL/WOB	Liquid Effluent Program
I-G-30	5/14/92	WHC/SLW	Liquid Effluent Program
I-G-31	5/15/92	RL/TSD	Groundwater Surveillance Activities
I-G-32	5/15/92	RL/WMD	Liquid Effluent Program
I-G-33	5/15/92	RL/PSM	Groundwater Surveillance Activities
I-G-34	5/15/92	RL/TPA	Groundwater Activities
I-G-35	5/15/92	WHC/ENV	Corrective Action Plan
I-G-36	5/15/92	WHC/SAI	Corrective Action Plan
I-H-1	5/11/92	RL/WMD	RL Oversight
I-H-2	5/11/92	WHC-Restoration and Upgrade Programs	RL Oversight
I-H-3	5/11/92	RL/WMD	RL Oversight
I-H-4	5/11/92	RL/WMD	RL Oversight
I-H-5	5/11/92	DOE/RL/PMD	RL Oversight
I-H-6	5/11/92	RL/WMD	WMD Waste Minimization Program
I-H-7	5/12/92	RL/WMD	RL Oversight
I-H-8	5/12/92	DOE/RL/EAP	Waste Minimization Program Management
I-H-9	5/12/92	DOE/RL/AMO	AMD/WMD Procedures
I-H-10	5/12/92	RL/WMD	WMD Site Representative Program
I-H-11	5/12/92	RL/WMD	RL Oversight
I-H-12	5/13/92	WHC - Solid Waste Engineering Analysis	Waste Acceptance Criteria
I-H-13	5/13/92	WHC - Solid Waste Engineering Analysis	Waste Acceptance Criteria
I-H-14	5/13/92	WHC - Solid Waste Engineering Analysis	Waste Generator Acceptance Documentation Control
I-H-15	5/13/92	WHC - Solid Waste Process Engineering	Waste Generator Certification Program

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

Ref. No.	Date	Organization	Topic
I-H-16	5/13/92	WHC - Solid Waste Process Engineering	Waste Generator Certification Program
I-H-17	5/13/92	WHC, Solid Waste Management	Solid Waste Information Tracking System (SWITS)
I-H-18	5/13/92	RL/EAP	Waste Minimization Program
I-H-19	5/14/92	PNL, Environmental Compliance	Waste Minimization
I-H-20	5/14/92	WHC, Waste Minimization	Waste Minimization
I-H-21	5/14/92	KEH, Environmental Compliance	Waste Minimization
I-H-22	5/14/92	RL, EAP	Waste Minimization
I-H-23	5/15/92	RL, AMO	AMO
I-H-24	5/15/92	RL, WMD	Waste Minimization activities in WMD programs
I-H-25	5/15/92	KEH, Environmental Compliance	Hanford waste chargeback program
I-H-26	5/15/92	KEH, Waste Management	Hanford waste chargeback program
I-H-27	5/15/92	KEH, Cost Accounting	Hanford waste chargeback program
I-H-28	5/15/92	WHC, Solid Waste Engineering Analysis	183H Basin Waste
I-H-29	5/15/92	WHC, Solid Waste Programs	Hanford waste chargeback program
I-I-1	5/11/92	WHC	Radiological Environmental Monitoring Programs
I-I-2	5/11/92	WHC	Radiological Environmental Monitoring Programs, Integration of WHC/PNL Programs
I-I-3	5/11/92	WHC	Tiger Team Action Plan, NESHAP
I-I-4	5/11/92	WHC	Tiger Team Action Plan, NESHAP
I-I-5	5/11/92	WHC	Tiger Team Action Plan, NESHAP
I-I-6	5/11/92	WHC	Tiger Team Action Plan, NESHAP
I-I-7	5/11/92	WHC	Tiger Team Action Plan, NESHAP
I-I-8	5/11/92	WHC	Appraisal, Audits, Surveillances, Inspections
I-I-9	5/11/92	WHC	Tiger Team Action Plan, Management of Programs
I-I-10	5/11/92	WHC	Tiger Team Action Plan, Management of Programs
I-I-11	5/12/92	WHC	PUREX Air Effluent Monitoring

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

Ref. No.	Date	Organization	Topic
I-12	5/12/92	WHC	PUREX Air Effluent Monitoring
I-13	5/12/92	WHC	Closeout of Tiger Team Findings, Funding
I-14	5/12/92	WHC	200 Area Programs
I-15	5/12/92	WHC	Near Field Air Sampling
I-16	5/12/92	WHC	PPP Air Effluent Monitoring
I-17	5/12/92	WHC	PPP Air Effluent Monitoring
I-18	5/12/92	WHC	Tank Farm Air Effluent Sampling
I-19	5/12/92	WHC	Tank Farm Air Effluent Sampling
I-20	5/13/92	PNL	Ambient Air Monitoring
I-21	5/13/92	PNL	Ambient Air Monitoring
I-22	5/13/92	PNL	Effluent Monitoring
I-23	5/13/92	PNL	Tiger Team Finding Closeout, Self-Assessment
I-24	5/13/92	PNL	Subcontractor Laboratory Contract
I-25	5/13/92	PNL	Subcontractor Laboratory Contract
I-26	5/13/92	PNL	Stack Effluent Sampling
I-27	5/13/92	PNL	Self-Assessment
I-28	5/13/92	PNL	Facility Air Effluent Monitoring
I-29	5/14/92	PNL	Tour of far field air samples
I-30	5/14/92	PNL	Followup interview
I-31	5/14/92	PNL	Tour of 325 Building, Effluent monitoring
I-32	5/14/92	PNL	Tour of radiological monitoring systems
I-33	5/14/92	PNL	Tour of radiological monitoring systems
I-34	5/14/92	PNL	Tour of radiological monitoring systems
I-35	5/14/92	PNL	Tour of 324 Building monitoring system
I-36	5/14/92	PNL	Review of sample counting room

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

Ref. No.	Date	Organization	Topic
I-37	5/14/92	PNL	Review of sample counting room
I-38	5/14/92	PNL	Review of sample counting room
I-39	5/14/92	PNL	Tour of 327 building monitoring systems
I-40	5/14/92	PNL	Radiological reports, audits, surveillances
I-41	5/15/92	RL	RL Oversight
I-42	5/15/92	RL	RL Oversight
I-43	5/15/92	RL	RL Oversight
I-44	5/15/92	RL	RL Oversight
I-45	5/15/92	RL	NESHAP Compliance
I-46	5/15/92	RL	Permits
I-47	5/15/92	WHC	NESHAP Compliance
I-48	5/15/92	RL	RL Oversight
Safety and Health			
I-J-1	5/11/92	RL	Assessments
I-J-2	5/11/92	RL	Assessments
I-J-3	5/11/92	RL	Quality Council and TQM
I-J-4	5/11/92	WHC	Plant QA Manual, ORR, RL Oversight
I-J-5	5/11/92	WHC	QA Support
I-J-6	5/11/92	WHC	QC and Operation Procedures, TQM
I-J-7	5/11/92	WHC	Work packages, TQM
I-J-8	5/12/92	WHC	QA Management Plan, audits
I-J-9	5/12/92	WHC	TQM
I-J-10	5/12/92	WHC	Impact Levels, Key QA Objectives
I-J-11	5/12/92	KEH	TQM, QIT, tie to QA
I-J-12	5/12/92	RL	TQM

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

Ref. No.	Date	Organization	Topic
I-J-13	5/13/92	KEH	Independent assessments
I-J-14	5/13/92	KEH	Process Control Packages, QC Procedures
I-J-15	5/13/92	KEH	Quality Management plan, oversight
I-J-16	5/13/92	KEH	Construction oversight
I-J-17	5/13/92	KEH	Verification, Quality Services Manual Tracking
I-J-18	5/14/92	PNL	PNL QA Program
I-J-19	5/14/92	PNL	QA Training
I-J-20	5/14/92	HEHF	Quality Assurance Program
I-J-21	5/14/92	HEHF	TQM
I-J-22	5/15/92	RL	QA Program
I-J-23	5/15/92	RL	Compliance Audits
I-J-24	5/15/92	RL	QA Program
I-J-25	5/11/92	RL	QA Program/Escort
I-K-1	4/8/92	RL	Conduct of Maintenance
I-K-2	4/8/92	WHC	Conduct of Maintenance
I-K-3	4/9/92	WHC	Conduct of Operations
I-K-4	4/9/92	WHC	Conduct of Operations
I-K-5	4/9/92	WHC	Conduct of Operations
I-K-6	4/9/92	WHC	Conduct of Operations
I-K-7	4/9/92	WHC	Conduct of Operations
I-K-8	5/10/92	WHC	Conduct of Operations
I-K-9	5/10/92	WHC	Conduct of Operations
I-K-10	5/11/92	WHC	Conduct of Operations
I-K-11	5/11/92	WHC	Conduct of Operations
I-K-12	5/11/92	WHC	Conduct of Operations

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

Ref. No.	Date	Organization	Topic
I-K-13	5/12/92	WHC	JCS
I-K-14	5/12/92	WHC	JCS
I-K-15	5/13/92	WHC	TTA Concerns
I-K-16	5/13/92	KEH	Conduct of Maintenance
I-K-17	5/13/92	KEH	Conduct of Maintenance
I-K-18	5/13/92	KEH	Conduct of Maintenance
I-K-19	5/13/92	KEH	Concerns Conduct of TTA Maintenance
I-K-20	5/13/92	KEH	TTA Concerns
I-K-21	5/15/92	RL	Conduct of Operations and Maintenance
I-K-22	5/15/92	PNL	Conduct of Operations
I-K-23	5/15/92	PNL	Conduct of Operations and Maintenance
I-K-24	5/15/92	PNL	TTA Concerns
I-K-25	5/15/92	PNL	Conduct of Operations
I-K-26	5/15/92	PNL	Conduct of Operations and Maintenance
I-K-27	5/19/92	WHC	Conduct of Operations and Maintenance
I-L-1	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-2	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-3	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-4	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-5	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-6	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-7	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-8	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-9	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process
I-L-10	5/11/92	WHC	Non-nuclear (300 area water treatment plant) SAR, OSR, ORR process

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

Ref. No.	Date	Organization	Topic
IL-11	5/11/92	WHC	Tank Farm SARs Development
IL-12	5/11/92	WHC	Tank Farm SARs Development
IL-13	5/11/92	WHC	Tank Farm SARs Development
IL-14	5/11/92	WHC	Tank Farm SARs Development
IL-15	5/11/92	WHC	Tank Farm SARs Development
IL-16	5/11/92	WHC	Tank Farm SARs Development
IL-17	5/11/92	WHC	Tank Farm SARs Development
IL-18	5/11/92	WHC	Tank Farm SARs Development
IL-19	5/11/92	WHC	Tank Farm SARs Development
IL-20	5/12/92	WHC	Waste Tank SARs and OSRs
IL-21	5/12/92	WHC	Waste Tank SARs and OSRs
IL-22	5/12/92	WHC	Waste Tank SARs and OSRs
IL-23	5/12/92	WHC	Waste Tank SARs and OSRs
IL-24	5/12/92	WHC	Waste Tank SARs and OSRs
IL-25	5/12/92	WHC	Tank Farm SARs and OSRs
IL-26	5/12/92	WHC	Tank Farm SARs and OSRs
IL-27	5/12/92	WHC	Tank Farm SARs and OSRs
IL-28	5/12/92	WHC	Tank Farm SARs and OSRs
IL-29	5/12/92	WHC	Tank Farm SARs and OSRs
IL-30	5/12/92	WHC	Operational Readiness Reviews
IL-31	5/12/92	WHC	Operational Readiness Reviews
IL-32	5/12/92	WHC	Operational Readiness Reviews
IL-33	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-34	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-35	5/13/92	PNL	PNL SARs, OSRs, and ORRs

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

Ref. No.	Date	Organization	Topic
IL-36	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-37	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-38	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-39	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-40	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-41	5/13/92	PNL	PNL SARs, OSRs, and ORRs
IL-42	5/14/92	PNL	PNL SARs, OSRs, and ORRs
IL-43	5/14/92	PNL	PNL SARs, OSRs, and ORRs
IL-44	5/14/92	PNL	PNL SARs, OSRs, and ORRs
IL-45	5/14/92	PNL	PNL SARs, OSRs, and ORRs
IL-46	5/14/92	PNL	PNL SARs, OSRs, and ORRs
IL-47	5/15/92	DOE/RL	DOE SARs, OSRs, and ORRs
IL-48	5/15/92	DOE/RL	DOE SARs, OSRs, and ORRs
M-C-1	5/11/92	WHC Health and Safety Assurance	Staffing, Hazards Assessment, Hazard Communication, Management Organization, IH Programs Development and Procedures
M-C-2	5/11/92	WHC Occupational Health and Safety, Industrial Hygiene Group	Staffing, Programs, Field Surveillances, Chemical physical Hazard Evaluation, Funding, Professional Development, Internal Procedures, QA Program
M-C-3	5/11/92	WHC Health and Safety Assurance	Hazards Assessments
M-C-4	5/12/92	WHC ESOHSA and OHS	Internal QA Program, and Procedures
M-C-5	5/12/92	WHC ESOHSA	Budgeting, Planning, and Resources
M-C-6	5/12/92	WHC ESOHSA	Budgeting, Planning, and Resources
M-C-7	5/12/92	WHC ESOHSA	Budgeting, Planning, and Resources
M-C-8	5/13/92	PNL Laboratory Safety Div. Ind. Hygiene Group	Budgeting, Planning, Corrective Actions, QA Program, Staffing, and Hazard Assessments
M-C-9	5/13/92	PNL Laboratory Safety	Budgeting, Planning, and Staffing
M-C-10	5/14/92	RL Technical Support Division	RL Corrective Action Plan, Budgeting, QA Program, Staffing, and Planning

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

Ref. No.	Date	Organization	Topic
M-C-11	5/14/92	RL Technical Support Division/SSB	RL Corrective Action Plan, Contractor Oversight, QA Program, Staffing and Planning, Audits and Surveillances
M-C-12	5/14/92	RL Employee Concerns Program	RL IH Program corrective action plan
I-N-1	5/11/92	WHC	Worker Protection Program Safety Programs
I-N-2	5/11/92	WHC	Safety Meetings, Management Responsibility
I-N-3	5/11/92	WHC	Employee Involvement Training, LO/TO, Commitment
I-N-4	5/11/92	RL	RL Oversight
I-N-5	5/11/92	RL	RL Oversight
I-N-6	5/11/92	WHC	LO/TO - Supervisor Role/Training/Commitment
I-N-7	5/11/92	WHC	Technical Support Role
I-N-8	5/11/92	WHC	Lockout/Tagout
I-N-9	5/12/92	WHC	Management Commitment Goals Objectives/Safety Programs
I-N-10	5/12/92	WHC	Inspection Activities OSHA
I-N-11	5/12/92	WHC	Management Commitment Goals Objectives/Safety Programs
I-N-12	5/12/92	WHC	Lockout/Tagout
I-N-13	5/12/92	WHC	Safety Management Programs
I-N-14	5/12/92	WHC	PSM Implementation
I-N-15	5/13/92	PNL	Training Commitment Hazard Recognition
I-N-16	5/13/92	PNL	LO/TO Safety Meetings Employee Involvement
I-N-17	5/13/92	PNL	Supervisor Training, Involvement, Commitment
I-N-18	5/13/92	PNL	Tour Buildings 324, 350, 350-A and 350-B
I-N-19	5/13/92	PNL	Occupational Safety Programs
I-N-20	5/13/92	PNL	Occupational Safety Programs
I-N-21	5/13/92	RL	RL-Oversight
I-N-22	5/14/92	PNL	Management Elements OSH

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

Ref. No.	Date	Organization	Topic
I-N-23	5/14/92	PNL	Management Elements OSH
I-N-24	5/14/92	HEHF	Safety and Health Program Progress
I-N-25	5/15/92	RL	Maintenance
I-N-26	5/15/92	RL	RL-Role
I-N-27	5/15/92	RL	RL-Role
I-N-28	5/15/92	RL	RL-Role
I-N-29	5/15/92	RL	RL-Role
I-O-1	5/11/92	RL	Construction Project Safety Management
I-O-2	5/11/92	RL	Construction Project Safety Management
I-O-3	5/11/92	RL	Construction Project Safety Management
I-O-4	5/11/92	RL	Construction Project Safety Management
I-O-5	5/11/92	RL	Construction Safety and Tech Support
I-O-6	5/11/92	RL	Construction Safety and Tech Support
I-O-7	5/11/92	RL	Construction Safety Oversight
I-O-8	5/11/92	RL	Construction Safety Oversight
I-O-9	5/12/92	KEH	Construction project safety management
I-O-10	5/12/92	KEH	Construction project safety management
I-O-11	5/12/92	KEH	Construction project safety management
I-O-12	5/12/92	KEH	Construction project safety management
I-O-13	5/12/92	KEH	Construction Safety Program/oversight
I-O-14	5/12/92	KEH	Construction Safety Program
I-O-15	5/12/92	KEH	Construction Safety Program
I-O-16	5/12/92	KEH	Self-Assessment
I-O-17	5/12/92	KEH	Self-Assessment

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

Ref. No.	Date	Organization	Topic
I-O-18	5/13/92	KEH	Walkthrough of subcontracted projects (W010, 1004, Trench 94 Sub Pit, W172, W011, LERF, Grout Facility)
I-O-19		This number was intentionally omitted.	
I-O-20		This number was intentionally omitted.	
I-O-21	5/13/92	RL	Construction project safety management
I-O-22	5/13/92	RL	Construction project safety management
I-O-23	5/14/92	KEH	Subcontractor safety programs
I-O-24	5/14/92	RL	Subcontractor safety programs
I-O-25	5/14/92	RL	Subcontractor safety program
I-O-26	5/14/92	RL	Construction Project Safety Management
I-O-27	5/14/92	RL	Construction Safety Tech Support
I-O-28	5/14/92	RL	Construction Safety Tech Support

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Appendix G

LIST OF SITE DOCUMENTS REVIEWED

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
Management				
D-A-1	None	Verification and Closure of Tiger Team Finding	R. A. Holton Director, Tech Support Division	3/19/92
D-A-2	None	Closure and Change Control of Tiger Team Concerns	R. A. Holton Director, Tech Support Division	4/1/92
D-A-3	RLP 10-04	RL Control and Closure of Deficiencies Identified by External Authorities	Procedure	Draft B
D-A-4	None	Tiger Team Management and Closure Guidelines	Desk Instruction	REV 3 3/31/92
D-A-5	None	RL/SWEC Tiger Team Verification and Closure Guideline	Desk Instruction	Draft 5/7/92
D-A-6	WHC-CM-1-3 MRP 5.1 REV 2	Corrective Action Management System	WHC Manual	4/14/92
D-A-7	None	U.S. Department of Energy, Richland Field Office (RL) Self Assessment Policy and Requirements for the Hanford Site, Revision 0 with Eleven Attachments	Letter to R. A. Holton RL/Willard L. Meader, MD, President HEHF	3/19/92
D-A-8	92-TPA-027	Hanford Site Priorities for the Waste Management Program	Letter Steven H. Wisness to RL	3/3/92
D-A-9	KAP 16-2	Commitment Management	KEH Paul Day US EPA QA Manual	4/4/91
D-A-10	KAP 16-3	Trend Analysis	KEH QA Manual	5/1/91
D-A-11	92 PMD-172	Surveillance Report No. PMD-REP-92-0 12	RL/PMD to KEH	5/13/92
D-A-12	91 FPB 064	Surveillance PMD-KAF-91 OP	RL/PMD to KEH	9/17/92
D-A-13	None	Facts About Hanford: Westinghouse's Role at Hanford	WHC	Undated
D-A-14	PNL-TT-001	PNL Strategic Facilities Plan FY 1992	PNL	12/91
D-A-15	None	Richland Operations Office Mission and Function Statement	DOE	10/7/91
D-A-16	None	Hanford Site Tiger Team Assessment Action Plan	WHC	12/91
D-A-17	None	Hanford Site Tiger Team Assessment Action Plan	WHC	12/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-A-18	None	RL, WHC, PNL, KEH & HEHF Tiger Team Findings and FRPAS - Volume 1 of 2	DOE	4/15/91
D-A-19	None	RL, WHC, PNL, KEH & HEHF Tiger Team Findings and FRPAS - Volume 2 of 2	DOE	4/15/91
D-A-20	KAP 18.0	Audits	KEH	Rev. 1
D-A-21	KAP 18.1.5M1	KEH Modification of Procedure (Auditing)	KEH	Undated
D-A-22	KAP 18.1 REV5	Auditing	KEH	Undated
D-A-23	KAP 18.2 REV2	Surveillance	KEH	Undated
D-A-24	None	WHC Tiger Team Report Summary: Findings, Recommendations, & Planned Actions From Quest Sys.	WHC	Undated
D-A-25	PNL-TT-005	Kimmel/Operations Managers Trend Analyses	PNL	Undated
D-A-26	PNL-TT-002	Institutional Plan FY 1992-1997	PNL	11/91
D-A-27	None	Landlord Program Multi-year Program Plan	WHC	1/20/92
D-A-28	PNL-TT-017	Office of the Laboratory Director - Organization Chart	PNL	Undated
D-A-29	None	Intentionally left blank		Undated
D-A-30	PNL-TT-019	Laboratory Safety Department Organization Chart	PNL	Undated
D-A-31	PNL-TT-043	Flow Chart of Requirements	PNL	Undated
D-A-32	PNL-TT-022	Organization and Management Accountabilities	PNL	2/20/90
D-A-33	PNL-TT-023	Risk Management	PNL	3/4/86
D-A-34	None	Hanford Site Prioritization	WHC	3/11/92
D-A-35	None	Memo re: Closure and Change Control of Tiger Team Concerns	KEH	Undated
D-A-36	WHC-CM-4.2	Quality, Env, Safety Tracking System (Section QI 16.6)	WHC	Rev. 0 1/23/91
D-A-37	None	HEHF List of Tiger Team Findings	M. A. Arent Sr.	5/8/82

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-A-38	None	Lanlord Program Multi-Year Program Plan	J. L. Denning, Manager, Operations Support Services	1/20/92
D-A-39	None	EM Management Plan for Self-Assessment	R. Scott, EM-20	1/6/92
D-A-40	None	Tiger Team Management and Closure Guideline	WHC	Rev. 3 3/13/92
D-A-41	None	PNL Integrated Facilities Planning Procedure	PNL	3/90
D-A-42	None	WHC Tiger Team Report Summary Findings, Recommendations, and Planned Actions (FRPA)	WHC, D. P. Tress	4/2/92
D-A-43	None	Memo re: Non-Standard Operations Assessment at Hanford	Randall C. Smyth, Acting Director Safety and Health Compliance Division, DOE-EM	6/27/91
D-A-44	None	Quality Assurance Requirements and Description	Director, Office of Environmental Restoration and Waste Management	11/12/92
D-A-45	None	EM-22 Oversight of the DOE Richland Field Office	Michael Kleinrock, Director Office of Environmental Oversight	4/23/92
D-A-46	None	EM-020 Office of Quality Assurance and Quality Control Two-Year Strategy	Randal S. Scott, Director Office of Quality Assurance and Quality Control	3/11/91
D-A-47	91EA-VP-SP-002	Surveillance Report No. SU-01-92, EM-20 Surveillance of EM-343 Corrective Action for Deviation and Corrective Action Report (DCAR)	L. D. Vaughn, Quality Assurance Advisor to the Deputy Assistant Secretary for Oversight and Self-Assessment	3/26/92
D-A-48	None	EM-20 Evaluation Schedule	L. D. Vaughn, EM-20	Rev. 0 3/6/92
D-A-49	None	Self-Assessment Policy and Requirements for the Hanford Site	J. D. Waggoner, Manager, RL	Rev. 0 12/17/91
D-B-1	5/3	RL, WHC, PNL, KEH & HEHF Tiger Team Findings and Frpas - Volume 1 of 2	DOE	Undated
D-B-2	6/1	US DOE, RL, Self-assessment Policy and Requirements for Hanford Site REV 0	WHC	Undated
D-B-3	6/2	US DOE Draft Notice - Self Assessment	DOE	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-B-4	6/11	Self-assessment Report - First Qtr FY 1992	DOE	Undated
D-B-5	6/14	Kaiser Engineers Hanford Company's Pilot Self-assessment Report	DOE	Undated
D-B-6	6/17	Graded Approach to Deficiency Tracking and Corrective Action	DOE	Undated
D-B-7	6/18	Priority Planning Grid	DOE	Undated
D-B-8	6/20	US RL Field Office, Self-assess Policy & Requirements for Hanford Site	DOE	Rev. 0
D-B-9	6/25	KEH Management Orientation to Hanford Site Self-assessment Program	KEH	Undated
D-B-10	6/30	Plan and Schedule for Development and Implementation of Enabling Systems	DOE	Undated
D-B-11	6/31	ES&H Self-assessment Interim Program Plan for PNL	DOE	Undated
D-B-12	6/42	EM Management Plan for Self-assessment	DOE	Undated
D-B-13	6/46	ES&H Self-assessment Interim Program Plan for PNL	PNL	Undated
D-B-14	6/58 PNL-TT-049	1992 Environment, Safety and Health Plan	PNL	Undated
D-B-15	7/7	WHC Self-assessment Report-Second Quarter FY 1992	WHC	Undated
D-B-16	8/24 PNL-TT-004	Wiley/Wagoner CY 1992 1st Qtr ES&H Self-assess Program Report	PNL	Undated
D-B-17	8/29 PNL-TT-005	Kimmel/Operations Managers Trend Analysis	PNL	Undated
D-B-18	8/46 WHC-CM-1-3	Corrective Action Management System Sec MRP 5.1 REV2	WHC	Undated
D-B-19	WAC-216	Consent Order for Discharge of Effluents to the Soil	WHC	Undated
D-B-20	None	1st Self-Assessment Report	HEHF	Undated
D-C-1	RLIP 5480.9	Construction Safety and Health Program	RL	6/3/90

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-2	RL 5482.1B	ES&H and QA Appraisal & Surveillance Program	RL	3/4/87
D-C-3	RLIP 4700.1A	Project Management System	RL	10/15/91
D-C-4	RLP 1321.1B	Preparation, Control, and Distribution of RL Procedures	RL	5/24/91
D-C-5	DOE 0000.2D	Directives Checklist and Cross Reference Index as of 2-12-91	DOE Director A&HRM	2/26/91
D-C-6	DOE 1321.1B	Departmental Directives System	DOE	4/7/83 Chg 1, 3/14/85 Chg 2, 9/9/86
D-C-7	RL 1321.1B	Richland Operations office Directives System	RL	5/8/86
D-C-8	RL N 0000.1Q	Directives Checklist as of April 1, 1992	RL	4/14/92
D-C-9	None	RL Procedure Development Committee Charter	RL	11/30/90
D-C-10	RLP 1321.9	Preparation, Control, and Distribution of RL Procedures	RL	5/24/91
D-C-11	RLID 1321.1C	Richland Field Office Directives System	RL	Draft 12/20/91
D-C-12	RLP 1321.1C	RL Directives System Program	RL	Draft 12/20/91
D-C-13	RL MGR-01-91	Richland Operations Office-Site Management System	RL	5/13/91
D-C-14	RL MGR-02-91	Site Management System-Documentation	RL	5/13/91
D-C-15	RL MGR-03-91	Site Management System-Program Management	RL	5/13/91
D-C-16	RL MGR-04-91	Site Management System-RL Work Plans	RL	5/13/91
D-C-17	WHC-CM-1-3, MRP1.1	U.S. Department of Energy Directives	WHC	Draft Rev 5 4/10/92
D-C-18	WHC-CM-1-3, MRP1.1	U.S. Department of Energy Directives	WHC	Rev 4 7/31/91
D-C-19	WHC-CM-3-5 Section 12	Document Control	WHC	Rev 0 11/5/90

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-20	WHC-CM-1-3 MRP 2.16	Controlled Manual System	WHC	Rev 6 1/22/92
D-C-21	WHC-CM-1-3 MRP 2.16	Controlled Manual System	WHC	Draft Rev 7 3/31/92
D-C-22	None	CY 1991 ES&H Performance Facilities & Operations	PNL	2/26/92
D-C-23	None	Off-Normal Event Performance	PNL	10/14/91
D-C-24	PNL-MA-569	Laboratory Safety Environmental, Safety and Health Appraisal Program	PNL	Rev 0 2/92
D-C-25	None	Environment, Safety and Health Plan	PNL: W. R. Wiley, Laboratory Director	Undated
D-C-26	MG 9.1.1 PNWD Act No 90-2	Assignment of Accountabilities and Responsibilities for Facility Management and Operation	PNL	3/26/90
D-C-27	MG 11.2	Environment, Safety and Health	PNL	9/27/89
D-C-28	MG 2.0	Organization and Management Accountabilities	PNL	Rev 0 2/2/90
D-C-29	None	Reactor Technology Center (RTC) Environment, Safety & Health (ES&H) Plan	PNL	1/31/92
D-C-30	PAP-70-601	Document Control	PNL	Rev 2 4/25/91
D-C-31	PAP-70-501	Preparation and Approval of Administrative Procedures	PNL	Rev 2 12/6/90
D-C-32	MG 1.0	Policies and Procedures System	PNL	12/29/89
D-C-33	None	DOE SEN-29-91 Performance Indicators for Third Quarter FY 1991	PNL	7/15/91
D-C-34	None	OPE Surveillance Schedule for Fiscal Year 1992	J. R. Hunter, Assistant Manager for Operations, RL	11/18/91
D-C-35	None	Letter to RL Office and Division Directors Re. Office of Compliance Assessments of the Field Office Organization	J. D. Wagoner, Manager, RL	8/26/91
D-C-36	None	RL Directives System Assessment	SWEC	11/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-C-37	OP 1.5	Policy and Procedure System	HEHF	4/25/91
D-C-38	OP 1.1	Vision, Mission and Values Statement	HEHF	3/23/91
D-C-39	None	Letter to HEHF Re. Application of DOE Order 5480.19, Conduct of Operations/Hanford Environmental Health program plan for CY 1991	R. A. Holtan, Director, Safety and Environment Division, RL	11/26/90
D-C-40	None	Tiger Team Assessment Findings Status as of May 8, 1992	HEHF	5/8/92
D-C-41	91-08-045	Tank Farms Project Office Monthly Surveillance Report TFP-GJB-91-013	G. J. Bracken, Chief, Operations Branch, TFP0	10/17/91
D-C-42	None	Richland Operations Office Mission and Function Statement	RL	10/7/91
D-C-43	CMP 10-01	Office of Compliance Surveillance Activities	CMP, RL	Rev 0 10/18/91
D-C-44	RIP 10-01	RL Surveillance Program Procedure	RL	Rev 0 3/30/90
D-C-45	None	Materials and Chemical Sciences Center Environment, Safety and health Plan	PHL	2/92
D-D-1	DOE/EH-0139	Tiger Team Assessment of the Hanford Site, Volume 1 of 2 Volumes	U.S. Department of Energy, Office of Environment, Safety and Health	7/90
D-D-2	DOE/EH-0139	Tiger Team Assessment of the Hanford Site, Volume 2 of 2 Volumes	U.S. Department of Energy, Office of Environment, Safety and Health	7/90
D-D-3	None	Hanford Site Tiger Team Assessment Action Plan, Volume 1 of 2	RL	Undated
D-D-4	None	Hanford Site Tiger Team Assessment Action Plan, Volume 2 of 2	RL	Undated
D-D-5	None	Hanford Environmental Excellence - Strategic Plan	J. D. Waggoner, RL	3/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-6	None	Richland Operations Office Mission and Function Statement	RL	10/7/91
D-D-7	DOE/RL-91-37	Hanford Integrated Planning Process, Hanford Mission Plan-Draft	RL	9/91
D-D-8	DOE/RL-92-07	Hanford Integrated Planning Process, Hanford Mission Plan-Partial Draft	RL	3/31/92
D-D-9	DOE/AD-0015	Hanford Process Review	RL	12/91
D-D-10	DOE/RL-92-20	Hanford Site Development Plan - Draft	RL	3/92
D-D-11	None	HEHF Strategic Planning Process	Hanford Environmental Health Foundation	3/92
D-D-12	None	Pacific Northwest Laboratory Institutional Plan FY 1992-1997	PNL	11/91
D-D-13	DOE/RL-91-31	Hanford Site Waste Minimization Prevention Awareness Program Plan	RL	5/91
D-D-14	WHC-EP-0496	Westinghouse Hanford Company Waste Minimization and Pollution Prevention Awareness Program Plan	P. A. Craig, D. H. Nichols, D. W. Lindsey/WHC	8/91
D-D-15	None	Waste Minimization and Pollution Prevention Program Plan-Kaiser Engineers Hanford Company	Kaiser Engineers Hanford Company	Undated
D-D-16	HEHF-77	Hanford Environmental Health Foundation Waste Minimization and Pollution Prevention Awareness Program Plan	Hanford Environmental Health Foundation	9/91
D-D-17	WHC-EP-0501	Waste Tank Safety, Operations, and Remediation Strategic Plan	P. C. Ohl, R. E. Optiz/WHC	9/91
D-D-18	SD-WM-EV-014	Guide for Writing Facility-Specific Waste Minimization Plans	P. A. Craig/WHC	2/89
D-D-19	DOE/RL 91-50	Environmental Monitoring Plan United States Department of Energy Richland Field Office	RL	11/9/91
D-D-20	WHC-EP-0438	A Guide for Preparing Hanford Site Facility Effluent Monitoring Plans	J.M. Nickels/WHC	7/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-21	WHC-EP-0524	Waste Tank Safety and Operations Program Management	E. F. Mares/WHC	1/92
D-D-22	WHC-EP-0479	Facility Effluent Monitoring Plan for the Tank Farms Facilities	G.M. Crummel, R.D. Gustavson, J. L. Kanoyer, M.P. Moeller/WHC	11/91
D-D-23	None	Safety and Quality Program - Fiscal Year 1992 Work Plans - Draft Rev. 0	K. Jordan/WHC	10/91
D-D-24	None	Westinghouse Hanford Company Staffing Plan	WHC	3/92
D-D-25	None	Multi-Year Program Plan FY-1992 - Advanced Reactor Programs	WHC	1/21/92
D-D-26	None	Westinghouse Hanford Company Tiger Team Report Summary - Findings, Recommendations, and Planned Actions (FRPA)	D. P. Trott/WHC	4/2/92
D-D-27	None	Nuclear Facilities Facility Operations Multi-Year Program Plan - FY-1992-FY-1998 - Draft	WHC	1/31/92
D-D-28	None	Site Management System (SMS), FY 1992 Site Baseline, Performance Assurance	C.E. Anderson/Kaiser Engineers, Hanford	10/1/91
D-D-29	PNL-MA-569	Laboratory Safety - Environment, Safety and Health Appraisal Program	M. L. Rosbach/PNL	2/92
D-D-30	None	Environmental Restoration Decontamination and Decommissioning - FY-1992 Fiscal Year Work Plan	WHC	1/17/92
D-D-31	WHC-MR-0293	Legend and Legacy: Fifty Years of Defense Production at the Hanford Site	M. S. Gerber/WHC	3/92
D-D-32	None	(Draft) Primary Memorandum of Agreement Between Assistant Secretary for Environmental Restoration and Waste Management and The Manager, DOE Field Office, Richland	Department of Energy	Rev. 0 2/5/92
D-D-33	None	Memorandum of Agreement Among The Assistant Secretary for Environmental Restoration and Waste Management The Manager, Richland Field Office and The Assistant Secretary for Nuclear Energy (Draft)	Department of Energy	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-34	None	Memorandum of Agreement Among The Assistant Secretary Office of Environmental Restoration and Waste Management The Manager, Richland Field Office and The Assistant Secretary for Defense Programs (Draft)	Department of Energy	Undated
D-D-35	None	Draft Memorandum of Agreement Among The Assistant Secretary, Office of Environmental Restoration and Waste Management Director, Office of Energy Research and Manager, DOE Field Office, Richland	Department of Energy	Undated
D-D-36	None	Department of Energy Memorandum of Agreement Between Office of New Production Reactors and The Richland Operations Office	D.J. Monetta, J.D. Wagoner, E.L. Ennl/Department of Energy	11/11/91
D-D-37	None	Draft Tri-Party Agreement Among The Assistant Secretary for Environmental Restoration and Waste Management The Director of Civilian Radioactive Waste Management and The Manager of the DOE Field Office, Richland	Department of Energy	Undated
D-D-38	None	Draft Tri-Party Agreement Among The Assistant Secretary for Environmental Restoration and Waste Management The Assistant Secretary for Conservation and Renewable Energy and the Manager of the DOE Field Office, Richland	Department of Energy	Undated
D-D-39	None	Memorandum of Understanding Between The Department of Navy and The Department of Energy for Disposal of Decommissioned, Defueled Submarine Reactor Compartments at the Hanford Site	A. Clark, J. D. Wagoner/U.S. Navy, Department of Energy	12/26/91
D-D-40	None	Memorandum to J.D. Wagoner, Subject: Headquarters (HQ) Management Responsibilities for the Hanford Facilities	L. P. Duffy, R. A. Claytor/Department of Energy	10/28/91
D-D-41	None	Environment, Safety and Health Plan	W. R. Wiley/Battelle, PNL	Undated
D-D-42	None	Best" ("Battelle Essentials & Survival Training) For Managers	Battelle, PNL	Undated
D-D-43	None	PNL Strategic Facilities Plan FY-1992	D.L. Anderson, E.F. Yancey/Battelle, PNL	12/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-44	PNL-MA-569	Environment, Safety and Health Appraisal Program	M. L. Rosbach/Battelle, PNL	2/91
D-D-45	None	Materials and Chemical Sciences Center Environment Safety and Health Plan	J. W. Wald/Battelle, PNL	2/91
D-D-46	None	1992 Environment, Safety and Health Plan for the Facilities and Operations Directorate	T.D. Chakalla/Battelle, PNL	2/03/92
D-D-47	None	PNL Training Questionnaire, Revision 8	Battelle, PNL	3/92
D-D-48	None	Training Course Catalog	Battelle, PNL	Undated
D-D-49	None	Pacific Northwest Laboratory Training Implementation Matrix for DOE 5480.20	Battelle, PNL	11/8/91
D-D-50	RL-MGR-01-91	RL Manager Notice, Subject: Richland Operations Office - Site Management System	J.D. Wagener/RL	5/13/91
D-D-51	RL-MGR-02-91	RL Manager Notice, Subject: Site Management System - Documentation	J.D. Wagener/RL	5/13/91
D-D-52	RL-MGR-03-91	RL Manager Notice, Subject: Site Management System - Program Management	J.D. Wagener/RL	5/13/91
D-D-53	RL-MGR-04-91	RL Manager Notice, Subject: Site Management System - RL Work Plans	J.D. Wagener/RL	5/13/91
D-D-54	RL-MGR-05-91	RL Manager Notice, Subject: Management of the General Support Services Contract	J.D. Wagener/RL	5/13/91
D-D-55	CMP-10-01	Office of Compliance Surveillance Activities	R.P. Saget/RL	10/18/91
D-D-56	CMP-18-01	Conduct of Quality Assurance Audits	R.P. Saget, RL	5/5/91
D-D-57	None	Office of Compliance, Audit Schedule, FY-1992, Revision 2	C.J. Bostad, R.P. Saget/RL	3/30/92
D-D-58	None	Memorandum, Subject: EM Management Plan for Self-Assessment to DOE-HQ EM Management and RL Manager	R.S. Scott/Department of Energy, EM	1/6/92
D-D-59	None	Memorandum, Subject: Energy Research Self-Assessment Program Plan to DOE Field Office Managers	J.F. Decker/Department of Energy, ER	8/2/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-60	None	Memorandum, Subject: Final Manpower Distribution for Environmental Restoration (ER) Program at Northwestern Area Program Field Offices to R.P. Whitfield, EM-40	S. A. Mann/Department of Energy, EM-44	2/6/91
D-D-61	None	Memorandum, Subject: FY-1992 Ceiling/FY-1993 FTE Distribution to W. Wisenbaker, EM-43	S. A. Mann/Department of Energy, EM-44	3/26/92
D-D-62	None	Formal HQ Guidance on 5 Year Planning (excludes guidance received via phone, fax, meetings, etc.)	RL	4/21/92
D-D-63	None	Preliminary Draft, EM-40 Scope, Schedule, and Cost Review, Hanford Site, April 21-24, 1992	Department of Energy, EM-40	Undated
D-D-64	None	Action Items, Richland Baseline Review, April 21-24, 1992	Department of Energy, EM-40	Undated
D-D-65	None	Required DOE-EM, HQ, Safety, Health, and Emergency Responsibilities (Effort by Functional Areas), Volume I, February 1992	BDM and M. H. Chew & Associates, Inc.	Undated
D-D-66	None	Required DOE-EM, HQ, Safety, Health, and Emergency Responsibilities (Effort by DOE Order), Volume II, February 1992	BDM and M. H. Chew & Associates, Inc.	Undated
D-D-67	None	Hanford Environmental Health Foundation, Human Resources Management Plan	Hanford Environmental Health Foundation	Undated
D-D-68	KAP 27.0	Training Program	C.R. Fitzgerald/Kaiser Engineers, Hanford	3/17/91
D-D-69	KAP 21.32.1M1 69	Hazardous Materials Control Program	C. E. Anderson/Kaiser Engineers, Hanford	1/29/92
D-D-70	KAP 20.4	Waste Minimization and Pollution Prevention	C.E. Anderson/Kaiser Engineers, Hanford	3/11/92
D-D-71	KAP 26.1.1M1	Employee Concerns	R. T. French/Kaiser Engineers, Hanford	4/10/92
D-D-72	KAP 26.28.0M1	Employee Assistance Program	R. T. Folker/Kaiser Engineers, Hanford	2/7/91
D-D-73	KAP 21.35.0M1	Fitness for Duty Program/Drug Free Workplace	Kaiser Engineers, Hanford	2/7/91
D-D-74	None	Training Checklist, New Hire Orientation Package	Kaiser Engineers, Hanford	Undated
D-D-75	KAP 27.5	Internal Training	C.R. Fitzgerald/Kaiser Engineers, Hanford	2/15/89

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-D-76	KAP 27.1.1M3	Training System Administration	C.E. Anderson/Kaiser Engineers, Hanford	10/29/91
D-D-77	None	Hanford Environmental Restoration, Major System Acquisition, Draft Project Plan	R.D. Wojtaszek/WHC	1/17/92
D-D-78	None	Site Management System (SMS), FY 1992 Site Baseline, Performance Assurance	Kaiser Engineers, Hanford	10/1/91
D-D-79	None	Self-Assessment Policy and Requirements for the Hanford Site, Rev. 0	RL	12/17/91
D-D-80	None	Letter, Subject: CY 1991 First Quarter ES&H Self-Assessment Program Report to J. D. Wagoner	W.R. Wiley/Battelle, PNL	1/31/92
D-D-81	None	Letter, Subject: Fiscal Year 1992 Waste Management Work Scope Prioritization to T.M. Anderson	J.D. Wagoner/RL	10/17/91
D-D-82	None	Mission, Roles/Responsibilities, and Program Management Assignments	RL	4/27/92
D-D-83	None	Site Management System Health, Safety, and Quality Work Breakdown Structure	RL	7/31/91
D-D-84	None	Letter to John D. Wagoner from W. R. Wiley, Subject: CY 1991 First Quarter ES&H Self-Assessment Program Report	W. R. Wiley/PNL	1/31/92
D-D-85	None	Memorandum, Subject: Results of Self-Assessment	RL-TSD/R. A. Holton	3/27/92
D-D-86	None	Site Management Plan	RL	4/92
D-D-87	None	Audit Schedule, FY 1992	RL-CMP/R. P. Saget	3/30/92
D-E-1	DOE/RL-91-37	Hanford Integrated Planning Process Hanford Mission Plan, Draft	RL	9/91
D-E-2	9101284 R1	Mission Transition Training Strategy Plan	RL	9/91
D-E-3	None	Westinghouse Hanford Company Mission Transition Training Plan	WHC	1/91
D-E-4	DOE/RL-92-20	Hanford Site Development Plan Draft	RL	3/92
D-E-5	None	Westinghouse Hanford Company Staffing Plan	WHC	3/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-6	None	Westinghouse Hanford Company Staffing (monthly reports of staff numbers from 10/89 to 03/92)	WHC	Various
D-E-7	None	FY 1992 Ceiling/FY 1993 FTE Distribution (memo to W. Wisenbaker)	S. A. Mann	3/26/92
D-E-8	None	FY 1994 FTE Estimates	C. Johnson	4/16/92
D-E-9	None	RL Order 3510.1 Position Management	RL	10/5/88
D-E-10	RL No. 92-13	Hanford Site Priorities for the Waste Management Program (message to all RL employees)	J. D. Wagoner	2/5/92
D-E-11	None	Ceiling Allocation for FY 1992	J. J. Keating	1/27/92
D-E-12	None	Final Manpower Distribution for Environmental Restoration (ER) Program at Northwestern Area Program Field Offices (memo to R. P. Whitfield)	S. A. Mann	2/6/92
D-E-13	None	FY 1994 Internal Review Budget (IRB) Staffing Call (memo to J. E. Dieckhoner)	J. D. Wagoner	4/7/92
D-E-14	None	Exit Interview Procedure	RL	Undated
D-E-15	TS-107	The Classifier's Handbook	Office of Personnel Management	8/91
D-E-16	None	Supervisory Guide to Individual Development Planning	RL	Undated
D-E-17	None	RL 3410.2B Employee Development Program	RL	6/10/88
D-E-18	None	Hanford Site Tiger Team Assessment Action Plan	RL	12/91
D-E-19	DOEEH-0139	Tiger Team Assessment of the Hanford Site	DOE	7/90
D-E-20	MRP4.23	Management Requirements and Procedures, Educational Assistance Program	WHC	12/14/90
D-E-21	None	Training Charter (Draft)	RL, Employee Development Branch, Human Resources Division	2/92
D-E-22	CH 4.1, Rev 0	Organization Charts and Charters, Technical Training Draft	WHC	3/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-23	None	RL Environmental Management Education Work Force Pipeline Strategic Plan	RL	4/30/93
D-E-24	None	Recruitment Organization Strategic Plan	WHC	8/91
D-E-25	None	FY 1992 Field Office Staffing Requirements Federal Staffing Call (memo Field Office Managers)	J.E. Dieckhoner	3/5/92
D-E-26	None	Environmental Restoration and Waste Management Manpower Needs Assessment: U.S. Department of Energy Complex	Holmes, C.W., R.E. Lewis, S.T. Hunt, M.G. Finn	4/92
D-E-27	None	Long-Term Workforce Projections at the Hanford Site	Holmes, C.W. and R.E. Lewis	4/92
D-E-28	None	FY 1993 Staffing Management Plan (memo to J.E. Dieckhoner)	J.D. Wagoner	5/92
D-E-29	DOE/RL-92-07	1992 Hanford Mission Plan	RL	4/27/92
D-E-30	None	Human Resources Development Course Catalogue	WHC/HRD	5/1/92
D-E-31	None	Employee Profile System Instruction Booklet	WHC	2/92
D-E-32	None	Effective Performance Appraisals	WHC/HRD	Undated
D-E-33	None	Fiscal Year 1992 Federal Equal Opportunity Recruitment Plan Richland Field Office (RL)	RL	Undated
D-E-34	None	Training Program Plan, Training and Education Branch	RL	5/10/92
D-E-35	None	Site Representative Program	RL	Undated
D-E-36	None	Revised FY 1993 Staffing Requirements for the Environmental Restoration and Waste Management (EM) Program (memo to Acting Under Secretary, S-3)	L.P. Duffy	4/23/92
D-E-37	None	ESQ Total Quality Action Plan, Initiative ESQ2/WHC2	WHC ESQ Division	2/25/92
D-E-38	None	ESQ ADM Total Quality Action Plan, Initiative TQIP ESQ/ADM 92.1	WHC ESQ Division	1/20/92
D-E-39	WHC-IP-0625 Guide 4.8	ESQ Administrative Manual, ESQ Qualifications and Training Plan (Draft)	WHC ESQ Division	8/28/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-E-40	BHARC-709/92/017	1991 WHC/BCSR Organizational Climate Survey Final Report	Battelle Human Affairs Research Centers	4/92
D-E-41	None	QTRC Course Catalogue Summer/Fall 1992	Quality Training and Resource Center	1992
D-E-42	None	Quality Training and Resource Center Management Plan	QTRC Steering Committee	11/89
D-E-43	WHC-CM-2-15	Training Administration Manual	WHC	4/2/92
D-E-44	WHC-CM-5-7	Tank Farms Administration Manual	WHC	Various
D-E-45	None	Briefing Package to Leo Duffy on the EM-50 Manpower Needs Assessment	Holmes, C.	5/92
Environmental				
D-F-1	None	Hanford Federal Facility Agreement and Consent Order (volume 2 of 2)	State of Washington Department of Ecology, U.S. EPA, DOE	1992
D-F-2	DOE/RL 91-45 (revision 1)	Hanford Site Baseline Risk Assessment Methodology	RL	3/92
D-F-3	None	Hanford Environmental Restoration Manof System Acquisition Draft Project Plan	WHC	11/7/92
D-F-4	DOE/RL 90-28 (Rev. 0)	Environmental Restoration Remedial Action Quality Assurance Requirements Document	RL	Undated
D-F-5	None	Hanford Strategic Plan	RL	Undated
D-F-6	None	Staff Instruction No. 1 Waste Management Division/ Environmental Restoration Division Surveillance Program	RL	8/26/88
D-F-7	RL-TPA-90-0001	Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Handbook	RL	6/11/91
D-F-8	DOE/RL-91-37	Hanford Mission Plan	RL	9/91
D-F-9	None	Hanford Environmental Restoration Roadmap	Advanced Sciences, Inc.	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-F-10	None	Hanford Environmental Restoration Baseline Summary FY 1992 - FY 1998	WHC/Army Corps of Engineers	4/92
D-F-11	None	Internal Memo: Restoration and Remediation Division Self-Assessment Reports, Second Quarter Fiscal Year 1992	WHC	4/24/92
D-F-12	None	Richland Operations Office Mission and functional Statement October 7, 1991	RL	10/7/91
D-F-13	RL 92-08	Draft Hanford Environmental Restoration Project Plan	RL	4/92
D-F-14	None	ERD Self-Assessment Procedure	RL	Undated
D-F-15	None	Staff Assignments list - ERB	RL	Undated
D-F-16	None	Staff Assignments List - EPB	RL	Undated
D-F-17	None	Memorandum - Permit Application for 100-vent Pipe Removal	RL	4/23/92
D-F-18	RL 92-07	1992 Hanford Mission Plan	RL	4/27/92
D-F-19	DOE/RL 90-28 Rev. 1 Draft A	Draft Environmental Restoration Quality Assurance Program Requirements for the Hanford Site	RL	3/92
D-F-20	WHC-EP-0231-4	Surplus Facilities and Resource Conservation Recovery Act Closure Program Plan	WHC	10/91
D-F-21	None	Action Plan for Implementation of the Hanford Consent Order and Compliance Agreement		5/89
D-F-22	DOE/RL-92-2	Hanford Federal Facility Agreement and Consent Order Quarterly Progress Report for the Period Ending December 31, 1991	RL	2/92
D-F-23	DOE/RL-91-41	Hanford Federal Facility Agreement and Consent Order Quarterly Progress Report for the Period Ending September 30, 1991	RL	11/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-F-24	DOE/RL-91-41	Hanford Federal Facility Agreement and Consent Order Quarterly Progress Report for the Period Ending September 30, 1991	RL	8/91
D-F-25	None	draft Workplan for Developing Tri-Party Agreement Management Training Program	WHC	1/13/92
D-F-26	None	internal memorandum: ER Program Milestones & N-Springs IRM	DOE-ERD	4/3/92
D-F-27	Appraisal CMP-SES-AP-91-01	Appraisal Report: Westinghouse Hanford Company Hanford Expedited Response Actions (May - June 1991)	DOE-CMP	7/22/91
D-F-28	None	Memorandum: Office of Compliance Assessment of the Field Office Organization	RL	8/26/91
D-F-29	None	Hanford Future Site Use Project Working Group Charter:	Hanford Future Site Use Working Group	Undated
D-F-30	None	Hanford Future Site Use Project Working Group Members List	Hanford Future Site Use Working Group	Undated
D-F-31	None	Hanford Future Site Use Project Working Group Groundrules	Hanford Future Site Use Working Group	Undated
D-F-32	None	Draft Hanford Remedial Action EIS Notice of Intent	RL	Undated
D-F-33	WHC-IP-0662	Environmental Engineering Group indoctrination	WHC	4/18/91
D-F-34	WHC-IP-0623	Environmental Engineering Group Procedures Manual	WHC	2/7/92
D-F-35	RL-9104	Hanford Site Past Practice Strategy	RL	3/92
D-F-36	None	Letter re: Hanford Past Practice investigation Strategy Document	Ecology	3/17/92
D-G-1	25-6	Hanford Site Groundwater Protection Management Program	RL	10/89
D-G-2	17-58	Memo re: Draft Proposal Information Regarding Integration of RCRA and CERCLA Groundwater Sampling at the 300 Area	L. C. Hulstrom/WHC	4/15/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-G-3	17-60	Draft: Proposed Sample Analysis and Data Validation Strategy for Hanford Site Environmental Investigation	Golden Associates/WHC	5/5/92
D-G-4	17-59	Draft: Audit Report Sampling and Analysis Activities for 200-BP R1/FS	RL/Office of Compliance	5/12/92
D-G-5	13-15	Liquid Effluent Treatment Programs FY 1992 Workplan	F. L. Ashworth, Jr., D. E. Kelley/WHC	1/92
D-G-6	2-77	Liquid Effluent Treatment Programs Multi-Year Program Plan, Volume 1	F. L. Ashworth, Jr./WHC	2/5/92
D-G-7	17-62	Consent Order No. DE 91 NM-177	State of Washington, Department of Ecology	12/23/91
D-G-8	None	Correspondence to J. M. Henning re: 300 Area Waste Minimization Monthly Report, March 1992	J. R. Kelly/WHC	4/7/92
D-G-9	WHC-EP-0394-3	Ground Water Maps of the Hanford Site	WHC	6/91
D-G-10	PNL-7396	Hanford Site GW Surveillance for 1989	PNL	6/90
D-G-11	PNL-7693	Water-Table Elevations on the H Site	PNL	1990
D-G-12	PNL-7964	Env Surv Master Sampling Schedule	PNL	1/92
D-G-13	2-84	Gw Env Surv Program Strategy for the Hanford Site	PNL	12/89
D-G-14	PNL-7872	GW Sample Collection and Analysis Plan for GW Surv Project	PNL	12/91
D-G-15	DOE/RL-91-37	Hanford Integrated Planning Process Hanford Mission Plan	WHC	9/91
D-G-16	None	Hanford Site Tiger Team Assessment Action Plan	WHC	Undated
D-G-17	None	Draft Hanford Federal Facility Agreement and Consent Order Voi 2 of 2	DOE	Undated
D-G-18	PNL-7930	Hanford Site Environmental Report for Calendar Year 1990	PNL	Undated
D-G-19	RL-92-2	Hanford Agreement/Consent Order Quarterly Progress Report	DOE	12/31/91
D-G-20	None	Tri-Party Agreement Milestones - All Milestones & Targets by Milestone	WHC	3/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-G-21	DOE/RL-9104	Hanford Site Past Practice Strategy	DOE	3/92
D-G-22	None	Character: Working Group Hanford Future Site Uses Project	Hanford Future Sites Uses Working Group	5/5/92
D-G-23	4-1	Hanford Mission Plan	WHC/RL	12/91
D-G-24	4-2	Richland Operations Office, Mission and Function Statement	RL	10/7/91
D-G-25	10-8	Draft Cost Benefit and Study of the Application of Borehole Geophysics to Hanford CERCLA Programs	Goldier Assoc. Inc./WHC	4/91
D-G-26	10-7	Confined Aquifer Pathways	PNL	9/30/91
D-G-27	None	Analytical Support Services for RCRA and CERCLA Samples Audit 91-03	RL Office of Compliance Audit Report	3/91
D-H-1	None	Waste Minimization and Pollution Prevention Program Plan	KEH	1991
D-H-2	HEHF-77	Waste Minimization and Pollution Prevention Program Plan	HEHF	9/91
D-H-3	WHC-EP-0496	Waste Minimization and Pollution Prevention Program Plan	P. Craig et. al/WHC	8/91
D-H-4	PNL-MA-822	Waste Minimization and Pollution Prevention Program Plan	E. Harth/PNL	9/91
D-H-5	WHC-SD-WM-EV-029	Waste Minimization Plan for Advanced Reactors and Related Facilities	R. Bloom/WHC	5/90
D-H-6	WHC-SD-WM-EV-030	Waste Minimization-Environmental Compliance-Hanford Patrol Department	H. Wilson/WHC	5/90
D-H-7	WHC-SD-WM-EV-043	Waste Minimization Plan 300 Area Stream and Water Utilities	L. Jordan/WHC	11/89
D-H-8	WHC-SD-WM-EV-044	Waste Minimization Plan Protective Equipment Decontamination Facility	S. Abin/WHC	11/89
D-H-9	WHC-SD-WM-EV-045	Waste Minimization Plan - Fleet Operations, Transportation, and Maintenance Services	A. Poor/WHC	12/89
D-H-10	WHC-SD-WM-EV-046	Waste Minimization Plan - Safeguards and Security Maintenance & Standards Laboratory	H. Ward/WHC	12/89

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-H-11	WHC-SD-WM-EV-014	Guide for Writing Facility - Specific Waste Minimization Plans	P. Craig/WHC	2/89
D-H-12	90060398 R3	Semiannual Waste Minimization Status Report	R. Powell/WHC	12/91
D-H-13	90060398 R2	Semiannual Waste Minimization Status Report	R. Powell/WHC	6/91
D-H-14	DOE/RL-91-31	Hanford Site Waste Minimization and Pollution Prevention Plan	RL	5/91
D-H-15	DOE/RL-92-06	Hanford Site Annual Dangerous Waste Report, Volume 5, CY 1991	RL	2/92
D-H-16	DOE/RL-92-25	Hanford Site Annual Waste Reduction Report	RL	3/92
D-H-17	None	Waste Minimization Program-Hanford Update	E. Dagan/RL	3/92
D-H-18	None	Storage/Disposal Approved Record (Example)	WHC	1992
D-H-19	85151-91-MMS-153	B Plant Radioactive and Hazardous Solid Waste Volume Forecast	WHC	8/21/91
D-H-20	WHC-SD-WM-DP-020	1991 Preliminary Solid Waste Forecast Summary	L. Fort/WHC	8/30/91
D-H-21	None	Richland Operations Offices Mission and Function Statement	RL	10/7/91
D-H-22	SW-100-110	Solid Waste Plant Operating Procedure-Receive/Store/Stage Radioactive Solid Waste Central Waste Complex	WHC	B-0/Undated
D-H-23	SW-100-110	Solid Waste Plant Operating Procedure-Operate the 2403-WA Mixed Waste Storage Facility	WHC	B-0/Undated
D-H-24	SW-100-050	Solid Waste Plant Operating Procedure-Receive and Store and/or Bury Radioactive Waste	WHC	B-0/Undated
D-H-25	SW-100-020	Solid Waste Plant Operating Procedure-Receive/Assay/Store TRU Waste in 224-T	WHC	A-6/Undated
D-H-26	WHC-CM-1-2	Organization Charts and Charters, Level 1	WHC	3/18/92
D-H-27	None	Position Description, Program GS-13	RL	Current

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-H-28	None	Hanford Environmental Management Program (HEMP) Multi-Year Program Plan and FY 1992 Program Plan	WHC	1/92
D-H-29	None	Site Representative Program Plan, Draft	Tom Davies/RL, WMD	5/92
D-H-30	None	WMD Site Representative Program, Presentation	Tom Davies/RL, WMD	3/10/92
D-H-31	None	Site Representative Program, Current Situation	Tom Davies/RL, WMD	3/19/92
D-H-32	None	Solid Waste Program FY 1992 Work Plan	WHC	Rev. 1 3/16/92
D-H-33	WHC-EP-0363	Solid Waste Program Plan	WHC	Rev. 1 1/8/91
D-H-34	None	Solid Waste Project List	WHC	12/4/91
D-H-35	WHC-CM-1-1	Management Policies, Level 1	WHC	3/26/92
D-H-36	WHC-CM-1-3	Management Requirements and Procedures	WHC	4/14/92
D-H-37	WHC-SD-WM-002	Radioactive Solid Waste Tracking System Conceptual Definition	B. Mayancsik/WHC	9/89
D-H-38	WHC-SD-WM-UM-010	SWITS Users Manual	WHC	Current
D-H-39	WHC-EP-0063-3	Hanford Site Solid Waste Acceptance Criteria	N. Willis and G. Triner/WHC	9/91
D-H-40	None	Solid Waste Engineering Analysis (87231)	WHC	Current
D-H-41	None	Waste Storage/Disposal Request (example)	WHC	1992
D-I-1	None	Tiger Team Assessment of the Hanford Site	DOE-HQ	7/90
D-I-2	None	Preliminary Environmental Survey	DOE-HQ	Undated
D-I-3	WHC-MR-0293	Legend and Legacy: Fifty Years of Defense Production at the Hanford Site	M. S. Gerber/DOE-HQ	Rev. 0 3/92
D-I-4	WHC-CM-7-11	ALARA Program Manual	WHC	12/7/90
D-I-5	WHC-CM-4-10	Radiation Protection	WHC	6/18/91
D-I-6	WHC-CM-7-6	Environmental Compliance Verification Program Manual	WHC	3/25/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-I-7	PNL-TT-003	Listing of Audits	PNL	Undated
D-I-8	WHC-CM-4-9	Radiological Design	WHC	8/26/91
D-I-9	WHC-EP-0528	Quality Assurance Project Plan for Radioactive Airborne Emissions	WHC	2/92
D-I-10	WHC-EP-0528	Data Compilation and Reporting	WHC	Undated
D-I-11	WHC-CM-4-2	Quality Assurance Manual	WHC	4/88
D-I-12	WHC-IP-0692	Health Physics Procedures Manual	WHC	Undated
D-I-13	WHC-EP-0438	A Guide for Preparing Hanford, Site Facility Effluent Monitoring Plans	WHC	7/91
D-I-14	WHC-EP-0440	Facility Effluent Monitoring Plan, Determinations for the 200 Area Facilities	WHC	11/91
D-I-15	WHC-EP-0481	Facility Effluent Monitoring Plan for the T-Plant	WHC	10/91
D-I-16	WHC-EP-0468	Facility Effluent Monitoring Plan for the Plutonium-Uranium Extraction Facility	WHC	11/91
D-I-17	WHC-EP-0479	Facility Effluent Monitoring Plan for the Tank Farms Facilities	WHC	11/91
D-I-18	WHC-EP-0476	Facility Effluent Monitoring Plan for the Plutonium Finishing Plant	WHC	11/91
D-I-19	WHC-IP-D697	Effluent Monitoring Program - 200/600 Areas	WHC	7/31/90
D-I-20	WHC-EP-0491	Management Plan for Facility Effluent Monitoring Plan Activities	WHC	8/91
D-I-21	WHC-EP-0446	Quality Assurance Project Plan for Facility Effluent Monitoring Plan Activities	WHC	6/91
D-I-22	WHC-EP-0498	Unit Dose Calculation Methods and Summary of FEMP Determinations	WHC	11/91
D-I-23	DOE/RL 91-50	Environmental Monitoring Plan, U.S. DOE, Richland Field Office	PNL	11/9/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-I-24	None	Environmental Monitoring and Characterization Coordination	R. K. Woodruff/PNL	3/25/92
D-I-25	None	NESHAPS Permitting Activities for the Hanford Site	WHC	Undated
D-I-26	9253260	Environmental Monitoring and Characterization Coordination	G. D. Carpenter/WHC	5/5/92
D-I-27	8956005	Implementation of Memorandum of Understanding: Surface Environmental Monitoring and Assessment Programs	G. D. Carpenter/WHC	10/12/89
D-I-28	None	Environmental Compliance Verification Program	J. Rivera/WHC	Undated
D-I-29	312200-91-064	Environmental Protection SCI Report No. 92.03EP200-026, PFP Radioactive Airborne Effluent Sampling and Monitoring	L. Diediker/WHC	3/19/92
D-I-30	312200-92-062	Environmental Protection SCI Report No. 92.03EP200-024, 241-AP Radioactive Airborne Effluent Sampling and Monitoring	L. Diediker/WHC	3/19/92
D-I-31	312200-92-061	Environmental Protection SCI Report No. 92.03EP200-023, 241-AP Radioactive Airborne Effluent Sampling and Monitoring	L. Diediker/WHC	3/19/92
D-I-32	WHC-EP-0545	PUREX Plant Comparison with 40 CFR 61 Subpart H and other Referenced Guidelines for Stack 291-A-1	J. L. Geiger, et. al/WHC	Undated
D-I-33	DOE/RL-92-0030 Draft	Radionuclide Air Emissions Report for the Hanford Site Calendar Year 1991	L. Diediker, et. al/WHC	Undated
D-I-34	None	PNL RAD-Air Operations Manual	PNL	Undated
D-I-35	None	PNL RAD-Air Engineering Documents	PNL	Undated
D-I-36	None	PNL Facility Radionuclide Emission Sampling Systems	PNL/Radiological Engineering	12/91
D-I-37	PNL-MA-660	FEMP for the 324 Facility	PNL	11/91
D-I-38	PNL-MA-661	FEMP for the 325 Facility	PNL	11/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-I-39	PNL-MA-662	FEMP for the 327 Facility	PNL	11/91
D-I-40	PNL-MA-663	FEMP for the 3720 Facility	PNL	11/91
D-I-41	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	1/9/92
D-I-42	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	1/13/92
D-I-43	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	1/17/92
D-I-44	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	2/7/92
D-I-45	None	Letter from Acker to IT Corp. March 1992 Monthly Meeting	W. L. Acker, Jr./PNL	2/25/92
D-I-46	None	Responses to Agenda Items, 3/6/92 Contract Meeting	IT Corp.	Undated
D-I-47	None	Monthly Meeting Minutes, 3/6/92 Draft	PNL	Undated
D-I-48	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	3/11/92
D-I-49	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	3/23/92
D-I-50	None	Letter from Acker to IT Corp.	W. L. Acker, Jr./PNL	3/23/92
D-I-51	None	Database Printout for Collection and Analysis Reports, Error Reports, Analysis Update, Late Sample Report, Outstanding Anomalous Data Report, Anomalous Data Report, Logic Check Error Report	PNL	Undated
D-I-52	9002163	Letter from RL to EPA Region X	R. D. Izatt/RL	5/14/90
D-I-53	9101774	Letter from RL to EPA Region X	E. A. Bracken/RL	5/7/91
D-I-54	None	Letter from EPA Region to RL	G. O'Neal/EPA Region X	6/3/91
D-I-55	9105676	Letter from RL to EPA Region X	R. D. Izatt/RL	11/21/91
D-I-56	None	List of Environmental Inspection	WHC	Undated
D-I-57	31200-92-063	SCI Report 9203 EP 200-025	L. P. Diediker/WHC	3/19/92
D-I-58	31500-92-030	SCI Report 92 ERI-001	J. J. Dorian/WHC	3/17/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-I-59	ASP-91-033	PNL Process Quality Department Surveillance Report	PNL	10/30/91
D-I-60	92-018-ASP	PNL Process Quality Department Surveillance Report	PNL	2/14/92
D-I-61	WHC-EP-0527	Environmental Releases for Calendar Year 1990	WHC	3/92
D-I-62	WHC-CM-1-3	Management Requirements and Procedures	WHC	4/8/92
D-I-63	91-RPB-027	Addition of Stack with Potential to Exceed Threshold Off-Site Dose	R. D. Izatt/RL	11/29/91
D-I-64	9200495	Letter from EPA Region X to RL	F. J. McCormick/EPA Region X	1/10/92
D-I-65	None	Letter from EPA Region X to RL	F. J. McCormick/EPA Region X	2/6/92
D-I-66	None	Letter from EPA Region X to RL	J. Leitch/EPA Region X	4/21/92
D-I-67	9005061	Letter from RL to EPA Region X	R. D. Izatt/RL	11/28/90
D-I-68	None	Letter from EPA Region X to RL	D. Rasmussen	11/15/91
Safety and Health				
D-J-1	WHC-CM-4-2	Quality Assurance Manual, Safety, Quality Assurance and Security	WHC	4/88
D-J-2	WHC-CM-1-2	Organization Charts and Charters, Total Quality, Manual, Section CH 14.1	WHC	Rev. 0 3/18/92
D-J-3	WHC-CM-1-2	Organization Charts and Charters, President's Total Quality Council, Section CHCC.2	WHC	Rev. 3 3/18/92
D-J-4	WHC-CM-1-1	Management Policies, Total Quality, Section MP 1.3	WHC	Rev. 2 3/26/92
D-J-5	None	Total Quality Improvement Plan	WHC	5/13/91
D-J-6	None	Flowchart re: Policies, Requirements and Procedure Manual Hierarchy	WHC	Undated
D-J-7	None	5700.6C Implementation Schedule (Draft Ref f 5/4)	WHC	Undated
D-J-8	None	Safety and Quality Program, Fiscal Year 1992 Work Plans, Draft	Ken Jordan, Program Manager/WHC	Rev. 0 10/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-J-9	None	Memorandum re: Fast Flux Test Facility (FFTF) Corrective Action Plan in Response to Quality Assurance Inspection (QAI) of August 1991 with attached Comments on FFTF Corrective Action Plan to R. Hunter, NE-47	Owen W. Lowe, Director/Office of Nuclear Energy, RL	1/22/92
D-J-10	None	Memorandum re: Final Response to Quality Assurance Inspection at the Fast Flux Test Facility (FFTF) with attached Response to DOE QA Audit NE-80 to R. A. Hunter, NE-47, DOE-HQ	OPD-JME/RL	1/9/92
D-J-11	None	Memorandum re: Response to Quality Assurance Inspection at Fast Flux Test Facility to R. A. Hunter, NE-47, DOE-HQ	OPD-JME/RL	11/1/91
D-J-12	NE-80/91/7	Quality Assurance Inspection of the Fast Flux Test Facility	DOE, Nuclear Energy Office of Nuclear Energy Self-Assessment	8/91
D-J-13	WHC-EP-0494	Hanford Site Grout Facilities Quality Assurance Program Plan	WHC	Rev. 0 1/92
D-J-14	None	George Westinghouse Total Quality Awards, Application Guidelines	WHC	1992
D-J-15	None	Quality Management Program	KEH	Rev. 0 2/13/92
D-J-16	None	Draft MOP - Problems Deserve Solution	KEH	Undated
D-J-17	None	1992 KEH Integrated Audit Schedule	KEH	Rev. 1 4/6/92
D-J-18	None	Corrective Action Team (CAT) Monthly Report	KEH	4/21/92
D-J-19	None	Site Management System (SMS) FY 1992 Site Baseline	KEH	10/1/91
D-J-20	None	Real Quality Plans (Draft)	KEH	Undated
D-J-21	None	Continuous Improvement Steering Group Charter and Project Plan	PNL	3/25/92
D-J-22	PNL-MA-70	Quality Assurance Program (3 parts)	PNL	3/2/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-J-23	None	Implementation Plan for incorporating Criteria of DOE 5700.6C into PNL's Work Activities	PNL	4/92
D-J-24	PNL-TT-050	Quality Programs Directorate ES&H Plan	PNL	1/31/92
D-J-25	PNL-TT-051	Environment, Safety and Health Plan, 1992	PNL	1/30/92
D-J-26	PNL-TT-052	WHC ES&H Plan for CY 1992	PNL	Rev. 1 4/13/92
D-J-27	PNL-TT-053	Earth and Environmental Sciences Center ES&H Plan	PNL	1/30/92
D-J-28	PNL-TT-055	1992 ES&H Plan for Facilities and Operations Directorate	PNL	2/3/92
D-J-29	PNL-TT-054	Materials and Chemical Sciences Center ES&H Plan, February 1992	PNL	3/4/92
D-J-30	PNL-TT-049	Laboratory Programs, 1992 ES&H Plan	PNL	Undated
D-J-31	PNL-TT-048	Continuous Improvement: A Process for Excellence	PNL	Undated
D-J-32	PNL-TT-080	Quality Assurance Audit Reports (collection)	PNL	1991 to 1992
D-J-33	PNL-TT-072	Audit Schedules (collection)	PNL	1990 to 1992
D-J-34	OP2.2	Quality in HEHF	HEHF	3/10/92
D-J-35	None	HEHF Quality Assurance Program Plan	HEHF	Undated
D-J-36	None	FY 1992 Program Plan for HEHF	HEHF	7/92
D-J-37	None	Memo re: Verification and Closure of Tiger Team Findings	R. A. Holten, RL	3/19/92
D-J-38	None	QA Manual for the Richland Operations Office	RL	9/29/89
D-J-39	None	Office of Compliance Procedure Manual (Implementing Procedures-CMPXX-XX)	RL	1991-92
D-J-40	None	Management Appraisal of WHC ESH & QA Organizations	RI	March-May 1992
D-J-41	None	Memo re: Status of Total Quality Management (TQM) Initiative	J. D. Wagoner, RL	7/10/91
D-K-1	WAC-SP-0708	Westinghouse Conduct of Operations Manual	Document	7/1/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-K-2	WHC-CM-8-7	Operations Support Services Manual	Co. Document	4/17/92
D-K-3	WHC-CM-6-4	Hanford Hoisting and Rigging Manual	Co. Document	5/23/90
D-K-4	Preliminary Report	Hanford Site Lock and Tag Procedure	DOE	4/92
D-K-5	Draft Report	Hanford Site Preliminary Action Plan	DOE	1/91
D-K-6	WHC-4-3 Vol. 3	Program G-1	WHC Manual	8/19/91
D-K-7	WHC-CM-1-1	Job Control System	WHC Manual	9/23/91
D-K-8	WHC-CM-8-8	Job Control System	WHC Manual	7/3/91
D-K-9	PNL-MA-43	OSSO Locks and Tags	PNL Manual	7/91
D-K-10	PNL Report	PNL Self Assessment	PNL Report Memo/Van Fleet	3/92
D-K-11	WHC Report	WHC Self Assessment - 4330-4A	WHC/D. P. Kerwick	11/91
D-K-12	PNL Procedure	PNL-43 - OSSO Lock & Tag	PNL Manual	7/91
D-K-13	RI	Draft - Hanford Site Lock & Tag	RI Draft Procedure	5/92
D-L-1	WHC CM-4-46	Nonreactor Facility Safety Analysis Manual	Nuclear Safety and Radiological Analysis	Rev. 6 7/19/91
D-L-2	WHC-CM 1-3 MRP 5112	Identification and Resolution of Unreviewed Safety Questions	ESQ/Safety	Rev. 0 12/4/90
D-L-3	WHC-CM 4-30 S1-03	Safety Evaluation of Facility Operational Readiness	Health and Safety Assurance	Rev. 2 1/2/92
D-L-4	WHC-CM-1-1 MP 5.6	Nuclear Facility Safety	Safety	Rev. 3 9/30/88
D-L-5	WHC-CM 1-3 MRP 5-50	Operational Readiness Review	SQS/Safety	Rev. 1 3/30/90
D-L-6	WHC-CM-1-3 MRP 6.15	Facility Shutdown, Standby and Transfer	Operations Support Services	Rev. 0 1/9/90
D-L-7	WHC-CM 1-3 MRP 5.46	Safety Classification of Systems, Components and Structures	ESQ/Health and Safety Assurance	Rev. 4 8/28/91

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-L-8	WHC-CM 1-3 MRP 5.43	Impact Levels	ESQ/Quality Assurance	Rev. 6 4/24/92
D-L-9	WHC-CM 1-3 MRP 5.23	Nuclear Facility Safety	ESQ Health and Safety Assurance	Rev. 5 3/24/92
D-L-10	PNL-CSCI ORP-001	Operational Readiness Plan for Cesium 137 Encapsulation Project	Richard Hazelton Cesium 137 Project	Rev. 0 3/91
D-L-11	PNL-MA 97	Operational Readiness Review System	W. J. Bjorklund, Lab. Safety Dept.	4/87
D-L-12	PNL-7861	Cesium Chloride Encapsulation Safety Evaluation Procurement	J. M. Seay, Project Manager	9/91
D-L-13	PNL-MA-44	Safety Analysis	D. E. Lucas, Lab. Safety Dept.	4/90
D-L-14	None	A Practical Approach to Hazard Classification	D.E. Lucas, Lab. Safety Dept.	Rev. 1 3/91
D-L-15	SCSYSTM IMP	Interim Procedures for Implementation of Safety Classification	Lab. Safety Dept.	Rev. 0 6/91
D-L-16	EVALPROC SAR	Procedures for the Evaluation of SARs, OSRs, and OS	D. E. Lucas, Safety and Risk Assessment	Rev. 2. 11/91
D-L-17	None	324 Bldg.: Operational Safety Requirements Checklist	Waste Technology Center	4/90
D-L-18	PNL-TT 035	Status of PNL's SARs and OSRs	Les Davenport	3/92
D-L-19	PNL MG 11.3	Safety Review System	Director PNWD	3/15/91
D-L-20	None	Draft EM Policy and Guidance for Readiness Determinations	Randal S. Scott, Director, Office of Quality Assurance and Quality Control	2/6/92
D-M-1	92-170	Implementation Plan For WHC-CM-4-3	R. Zimmermann/WHC	3/4/92
D-M-2	050187B	WHC Hazardous Material Checklist	R. Zimmermann/WHC	Undated
D-M-3	9100319B R5	Chemical and Physical Agent Work Environment Worker Stress Inventory	R. Heineman/WHC	4/1/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-M-4	1H.1-1(1),00-01	Certification of Corrective Action Completion TTA-90-0000-IH.1-1(1)	R. Zimmermann/WHC	4/30/92
D-M-5	None	May Housekeeping Inspections 200 Area Conducted by Line Supervision	K.Ekstrom to J. Garbrick/WHC	6/11/92
D-M-6	FDS-8620-R	WHC Financial Data System Cost Account Plan 1MDM04 Ver 1992	R. Zimmermann/WHC	11/5/91
D-M-7	None	WHC FY92 Midyear Review FYTD Budget Status	R. Zimmermann/WHC	4/21/92
D-M-8	None	WHC Supervisor Weekly Inspection Log Hazardous Waste Storage Area	D. Herman/WHC	Undated
D-M-9	None	WHC Chemical Physical Hazards Evaluation 294E Power House & Facilities 200E Area Preparation by HEHF	D. Quilici/HEHF for WHC	3/91
D-M-10	920151	WHC Industrial Hygiene Appraisal Report 200E Area to RL from WHC	R. Heineman	3/27/92
D-M-11	None	WHC Manager Safety Inspections 284-E Area February to April 92	J.Tallert	2/4/92
D-M-12	9291843	RL Health and Safety Inspection 200E Area CMP-OSH-01-91	N.Highland/RL	3/10/92
D-M-13	None	WHC OSHA Evaluation of 282-E Area	S.Albino, L.Jordan/WHC	91
D-M-14	None	WHC Industrial Safety Field Survey Reports 284E Area 12/91	G.Mikelson/WHC	12/10/91
D-M-15	9004482B R1	WHC Safety Related Observations 200 E Steam Plant WHC to N.Highland RL	G.Board/WHC	11/1/90
D-M-16	WHC-CM-1-2	WHC Organization Charts and Charters ESH&QA	None	11/26/91
D-M-17	None	WHC Industrial Hygiene Program FY 92 Work Plan and Budget Summary	M.Heyland/WHC	9/30/91
D-M-18	None	WHC to D. Pegram DOE/HQ EH-41 Summary of Corrective Actions and WHC Progress to Date	R. Zimmermann/WHC	5/11/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-M-19	WHC-CM-4-3	WHC Procedure Facility and Operational Inspections	J. Hagan/WHC	10/20/89
D-M-20	None	WHC Management Self Assessment of OSHA Compliance 272, 277 Areas	J. Majetich/WHC	2/20/92
D-M-21	None	WHC Senior Management Overview Program Field Visit Report 100K Area	H. Harmon/WHC	4/24/92
D-M-22	None	WHC Industrial Hygiene Standards And Requirements Milestones and Resources	R. Zimmermann/WHC	2/27/92
D-M-23	None	WHC Summary Report Health and Safety Appraisals/Surveillances	R. Zimmermann/WHC	2/24/92
D-M-24	None	WHC internal memo MSDS Standard on the Hanford Network	R. Kobelski/WHC	3/21/91
D-M-25	91003319B R4	WHC Chemical and Physical Agent Worker Stress Inventory WHC to RL	K. Jordan/WHC	12/26/91
D-M-26	91003319B	RL to All Contractors Chemical and Physical Agent Work Environment Worker Stress Inventory	R. Holten/RL	1/11/91
D-M-27	91-168	WHC to all managers Hazard Communication Program Lessons Learned	H&S Integration and Policy/WHC	Undated
D-M-28	None	WHC Site Services Safety Assurance IH&S Compliance Inspection Completed Inspections	SSSA ISHC/WHC	1992
D-M-29	None	WHC SSSA Occupational Safety and Health Assessment of Area 623A & B	SSSA D. Henry/WHC	4/1/92
D-M-30	None	WHC Occupational Safety and Health Compliance Evaluation Guide Checklist	SSSA/WHC	10/16/91
D-M-31	None	WHC Hazard Communication Evaluation Guide Checklist	SSSA/WHC	9/20/91
D-M-32	None	WHC Site Services Safety Assurance Industrial Health and Safety Compliance Inspection Program Policy, Procedure and Work Plan	SSSA/WHC	5/11/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-M-33	None	WHC Self Assessment Report for Health and Safety Assurance	D.Henry/SSSA/WHC	4/23/92
D-M-34	None	WHC DOE Order and OSHA Compliance Self Assessment	Health Safety Integration and Policy/WHC	12/17/91
D-M-35	SES9207618	RL Compliance Audit of WHC 284 E & W Power Plants	R. Hohen/RL	2/25/92
D-M-36	C017078	RL H Evaluation of WHC Hearing Conservation Program by HEHF	HEHF to R. Hohen/RL	1/3/92
D-M-37	272-3202	Westinghouse Corporate Audit of WHC IH Program	D. Whittier to K. Jordan/WHC	12/18/91
D-M-38	C017079	RL by HEHF Evaluation of Hazard Communication Programs of Hanford	R. Noorman to R. Hohen/RL	4/14/92
D-M-39	004000	WHC Manager Safety Training Course #004000 Lesson Plans	WHC	4/28/92
D-M-40	None	WHC Charter Health and Safety Assurance IH Standards and Requirements	WHC	3/10/92
D-M-41	Multiple	WHC Certification of Verification of Completion of Corrective Action 1990 Tiger Team Assessment (All IH Related Corrective Actions)	WHC	4/21/92
D-M-42	None	Supervisors Orientation to Occupational Safety in DOE Prepared by PNL for RL	PNL	Undated
D-M-43	WHC-CM-4-40	WHC Industrial Hygiene Manual	WHC	5/1/92
D-M-44	None	WHC Management Safety Training Student Manual	WHC	Undated
D-M-45	None	WHC Hazard Evaluation Workshop Student Manual	WHC	Undated
D-M-46	None	Battelle ES&H Policy Statement	W. Wiley PNL Lab Director	92
D-M-47	None	PNL Status of 1990 TT Corrective Action Plan	M. Rosbach/PNL	5/13/92
D-M-48	None	PNL Noise Monitoring Program	IH Dept/PNL	Undated
D-M-49	None	PNL Users Guide Chemical Management System-Draft	PNL	3/92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-M-50	PNL-A-43	PNL IH Program Manual Section IH 4.0 Hazard Monitoring Program-Draft	PNL	4/92
D-M-51	SAF-HM-020	PNL Lesson Plan Chemical Hygiene Program	PNL	Undated
D-M-52	None	PNL Life Sciences Center Chemical Management Plan	PNL	4/4/90
D-M-53	None	PNL Molecular Biology Section Safety Plan	PNL	4/92
D-M-54	None	PNL Cell Biology Section Safety Job Specific Training Outline	PNL	Undated
D-M-55	None	PNL Job Specific Training Questionnaire	PNL	12/91
D-M-56	375-2201	PNL ES&H Interim Self Assessment Program Plan	PNL to RL	1/30/92
D-M-57	1500	PNL Industrial Hygiene Staffing Plan	M. Rosbach/PNL	6/24/91
D-M-58	PNL-MA-569	PNL ES&H Appraisal Program	M. Rosbach/PNL	2/92
D-M-59	SAF-HM-020	PNL Laboratory Chemical Hygiene Training Lesson Plan	M. Rosbach/PNL	Undated
D-M-60	PNL-MA-43	PNL IH Manual Section IH 2.0 Chemical Hygiene Plan	M. Rosbach/PNL	7/91
D-M-61	SAF-HM-001	PNL Battelle Lesson Plan Hazard Communication	M. Weiler/PNL	Undated
D-M-62	PNL-MA-43	PNL IH Manual Section IH 1.0 Hazard Communication Program	M. Rosbach/PNL	7/91
D-M-63	None	PNL ES&H Plan Earth And Environmental Sciences Center	L. Bohm/PNL	1/92
D-M-64	None	PNL Chemical Management and Hygiene Plan Environmental Sciences Center	L. Bohm/PNL	2/92
D-M-65	None	PNL Earth Sciences Center GJT Training Questionnaire Checklists ES&H, Reading Assignments, Health Monitoring, Chemical Hygiene, Rad Worker	PNL	2/92
D-M-66	None	RL Corrective Action Tracking System Data Summary Report All Assessments Audits and Surveillances 8/90 to 8/91	RL	5/14/92
D-M-67	None	RL Health and Safety Forum Minutes 1991 to 1992	RL	91-92

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-M-68	None	RL Employee Concerns Tracking System Investigations/Findings Summary Data Report 91 to 2/92	L. Musen/RL	2/3/92
D-M-69	PLIP 5480.SCF	RL Implementing Procedure Safety Concerns Program	RL	3/22/92
D-M-70	None	RL HEHF Site Hazard Communication Program Evaluations	R. Holten/RL	5/8/92
D-M-71	None	RL OSPB Surveillance Schedule FY92	RL OSPB	9/6/91
D-M-72	RLP-10-01	RL Surveillance Program Procedure	L. Musen/RL	3/30/90
D-M-73	None	RL OSPB TSD Surveillance Inspection Log FY 92	RL	Undated
D-M-74	RL-5483.1B	Implementation Procedure OSH Program for DOE Contractors	RL	5/31/89
D-M-75	RLIP 5480.10	Implementation Procedure for DOE Order 5480.10 IH Program	RL	7/30/90
D-M-76	None	RL Memorandum to all contractors RE: H&S Responsibilities at Hanford	R. Holten/RL	7/12/91
D-M-77	None	RL Memorandum to all contractors RE: Chemical and Physical Agent Work Environment Worker Stress Inventory	R. Holten/RL	1/11/91
D-M-78	None	RL Status of 1990 TT Corrective Actions	R. Holten/RL	5/6/92
D-M-79	None	RL Type B Investigation Report Tank Farm Vapor Exposures	D. Brown/RL	4/28/92
D-M-80	None	RL TT Findings Verification Schedule and Status Report	RL TSD	4/15/92
D-M-81	None	RL TSD Status Report Corrective Action Tracking System Assessment and Findings	RL SD	4/13/92
D-N-1	None	RL Mission and Function Statement	DOE	10/91
D-N-2	None	RL Self Assessment Policy and Requirements	WHC	Undated
D-N-3	PNL-TT-012	Env, Safety and Health Plan/Policy Plan Policy Statement and Philosophy	PNL	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-N-3	PNL-TT-014	1992 Env, Safety and Health Plan for the Facilities and Operations	PNL	Undated
D-N-4	WHC-SP-0564-24	WHC Health and Safety Performance Report	WHC	12/91
D-N-5	WHC-SP-0564-23	WHC Health and Safety Performance Report	WHC	11/91
D-N-6	WHC-SP-0564-22	WHC Health and Safety Performance Report	WHC	10/91
D-N-7	None	Computerized Accident/Incident Reporting System-- Monthly Report	WHC	1/92
D-N-8	None	Computerized Accident/Incident Reporting System (CAIRS) 4th Quarter, CY 1991	WHC	Undated
D-N-9	None	WHC Open Conditions Summary Report Sorted By Document Type - From Quest System	WHC	Undated
D-N-10	PNL-MA-569	Lab Env, Safety and Health Appraisal Program Manual	PNL	Undated
D-N-11	PNL-TT-026	Emergency Preparedness	PNL	Undated
D-N-12	PNL-MA-43	Industrial Hygiene, Occupational Safety & Fire Protection System	PNL	Undated
D-N-13	None	Health and Safety Assurance Industrial Hygiene standards and Requirements	WHC	Undated
D-N-14	None	Environmental, Safety, Health & Quality Assurance Organization Charts	WHC	Undated
D-N-15	None	Health and safety Appraisals/Surveillances	WHC	2/92
D-N-16	WHC-CM-4-3	Vol1: Industrial Safety Manual (Safety Standards)	WHC	Undated
D-N-17	WHC-CM-4-3	Vol2: Industrial Safety Manual (Safety Guides)	WHC	Undated
D-N-18	WHC-CM-4-3	Vol3: Industrial Safety Manual (Safety Programs)	WHC	Undated
D-N-19	WHC-CM-4-3	Vol4: Industrial Safety Manual (H&S Programs - Hazard Waste Operations)	WHC	Undated
D-N-20	WHC-CM-4-3	Vol1 Sect CM-7 Rev2: Contractor Safety Interface	WHC	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-N-21	None	Health and Safety Responsibilities at Hanford	WHC	Undated
D-N-22	None	List of Safety Manuals, and other Pertinent ES&H Manuals	HEHF	Undated
D-N-23	None	Status Report: 29 CFR 1910.119 Process Safety Management Of Highly Hazardous Chemicals	WHC	Undated
D-N-24	None	WHC Process Safety Management of Highly Hazardous Chemicals	WHC	Undated
D-N-25	None	WHC Process Safety Management Of Highly Hazardous Chemicals	WHC	Undated
D-N-26	WHC-CM-4-2)	Quality, Env, Safety Tracking System	WHC	Undated
D-N-27	None	Computerized Accident/Incident Reporting System-Monthly Report	WHC	2/92
D-N-28	None	Computerized Accident/Incident Reporting System (CAIRS) CY 1991-Update	WHC	Undated
D-O-1 through D-O-8	None	Intentionally omitted		Undated
D-O-9	4	KEH Mission Function Statement	KEH	Undated
D-O-10	14	Kaiser Engineers Hanford Company's Pilot Self-Assessment Report	DOE	Undated
D-O-11	21	KAP 18.0 Rev. 1: Audits	KEH	Undated
D-O-12	22	KAP 18.1.5M1: KEH Modification of Procedure (Auditing)	KEH	Undated
D-O-13	23	KAP 18.1 Rev. 5: Auditing	KEH	Undated
D-O-14	24	KAP 18.2 Rev. 2: Surveillance	KEH	Undated
D-O-15	25	KEH Management Orientation to Hanford Site Self-Assessment Program	KEH	Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-0-16	26	KEH Self-Assess RPT - Overview of Industrial Safety and Health Program	KEH	Undated
D-0-17	27	1992 KEH Integrated Audit Schedule	KEH	Undated
D-0-18	28	Quality Surveillance Tracking Log	KEH	Undated
D-0-19	28	Trend Analysis Injuries/Illnesses 1988 Through 1991	KEH	Undated
D-0-20	29	KEH ES&H Action Tracking System	KEH	Undated
D-0-21	30	Attachment 1 - Management Assessment Response Compilation	KEH	Undated
D-0-22	31	Internal Management Status Report	KEH	Undated
D-0-23	15	RLIP 5480.9: Construction Safety and Health Program	DOE	Undated
D-0-24	28	Kaiser Administration Procedures - Volume 1 (Table of Contents)	KEH	Undated
D-0-25	29	Draft Contractor Industrial Safety and Health Program	KEH	Undated
D-0-26	3	List of ES&H Training Courses	KEH	Undated
D-0-27	12	Listing of Kaiser Administration Procedures	KEH	Undated
D-0-28	16	KEH Listing of Manuals	KEH	Undated
D-0-29	30	Kaiser Administrative Procedures - Volume II	KEH	Undated
D-0-30	39	Kaiser Administrative Procedures - Volume III	KEH	Undated
D-0-31	None	Intentionally omitted		Undated
D-0-32	None	Intentionally omitted		Undated
D-0-33	42	Kaiser Administrative Procedures - Volume I	KEH	Undated
D-0-34	43	Subcontracts and Procurement	KEH	Undated
D-0-35	RLIP 4700.1A	Project Management System	RL	10/15/91
D-0-36	None	Evaluation Report for Kaiser Engineers Hanford	International Loss Control, Inc.	3/9-13/92
D-0-37	None	Intentionally omitted		Undated

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
D-0-38	KEH-0848.00	Prejob Planning Review and Approval Form	KEH	7/81
D-0-39	None	Letter, RL to Contractors, Subject: Construction Safety Contractor Overview	RL, Const. Div. R. W. Brown	11/3/87
D-0-40	None	Letter, RL to Contractors Health and Safety Responsibilities at Hanford	RL, Wagoner	7/12/91
D-0-41	RLIP 4700.1A	Project Management System	RL	10/15/91
D-0-42	None	Evaluation Report for Kaiser Engineers Hanford	ILCI	3/92
D-0-43	None	Richland Project Management Briefing Package	RL L. C. Williams	8/14/90
D-0-44	None	Prejob Planning Review and Approval Form	KEH	7/91
D-0-45	None	Intentionally omitted		Undated
D-0-46	None	Intentionally omitted		Undated
D-0-47	KAP 21.12.1M2	Revision for Kaiser Admin. Proc. for Prejob Planning and Job Safety Analysis	KEH	4/28/92
D-0-48	None	Letter re: RL to Contractors, Subject: Assignment Matrix, Integrated Management Team	L. C. Williams/RL	2/26/92
D-0-49	None	Summary of Major Accidents 1943-1988	RL	3/3/89
D-0-50	None	Richland Operations Office Mission and Function Statement	RL	10/7/91
D-0-51	None	DOE Investigation Board Report on Fall Related Fatality	RL	5/92
D-0-52	None	Comprehensive Appraisal of the Kaiser Engineers Hanford Company (KEH) Safety Management Program	RL	6/9/89

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Appendix H

CAUSAL FACTOR DEFINITIONS

LIST OF POTENTIAL CAUSAL FACTORS

Causal Factor	Definition
Policy	Evaluate if ineffective, outdated, or nonexistent policies contributed to the finding.
Policy Implementation	Ascertain if written policies, reflecting Federal, state, and local laws and regulations, codes, and standards were appropriately disseminated, implemented, and updated. If not, is this a contributing factor to the finding.
Procedures	Identify if written procedures have been prepared to effectively implement site policy, DOE Orders, and Federal, state and local laws and regulations were a contributing factor to the finding. Determine if a lack of familiarity or availability of those procedures contributed to the finding.
Personnel	Identify if the lack of educational and work experience for personnel holding responsible positions contributed to the finding. Determine if the level of personnel knowledge about the technical aspects of their jobs contributed to the finding.
Resources	Ascertain if the number of personnel assigned to a job contributed to the finding. Evaluate if inadequacies in facilities and equipment were a contributing factor to the finding.
Training	Identify if inadequate personnel training on implementing site policy, DOE orders, and applicable Federal, state, and local laws and regulations was a contributing factor to the finding.
Change	Evaluate if changes in site mission, function, operation and established requirements, which rendered existing policies or procedures inadequate or inappropriate, were contributing factors to the finding. Evaluate if the timeliness and effectiveness of changes to site and DOE policy, and the implementing procedures, were a contributing factor to the finding.
Risk	Evaluate if the site personnel responsible for a situation contributing to a finding have assessed and were aware of the relative degree of risk involved in the action.

LIST OF POTENTIAL CAUSAL FACTORS (Continued)

Causal Factor	Definition
Safety	Determine if inadequacies in the site's safety program, or lack thereof, contributed to the finding. Evaluate if appropriate level of importance has been given to the safety aspects of the operation(s) being evaluated, and, if not, is it a contributing factor to the finding.
Appraisals, Audits/Reviews	Determine if ineffective or insufficient appraisals, audits and reviews, and/or inadequate follow-up, were contributing factors to the finding.
Design	Evaluate if inadequate design of a system was a contributing factor to the finding.
Human Factors	Ascertain if human factors, such as fatigue or deliberate circumvention of a safety system, were contributing factors to the findings.
Quality Assurance/ Control	Identify if inadequacies in the quality assurance/control program were causal factors in the identified finding.
Barriers & Controls	Determine if inadequacies in established barriers and controls, both administrative and physical, including operational readiness, routine inspections and preventive maintenance, and/or a lack of these controls, contributed to the finding.
Supervision	Identify if ineffective supervisory controls for implementing policies, directives, procedures, standards, laws, etc. were a contributing factor to the finding.

Appendix I

LIST OF ACRONYMS

LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Definition
ADS	Activity Data Sheet
AMO	Assistant Manager for Operations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMP	Office of Compliance
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy-Headquarters
EM	Office of Environmental Restoration and Waste Management
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ERB	Environmental Restoration Branch
ERD	Environmental Restoration Division
ES&H	Environment, Safety and Health
FEMP	Facility Effluent Monitoring Plan
FSAR	Final Safety Analysis Report
FSB	Facilities Services Branch
FY	Fiscal Year
GAO	Government Accounting Office
GPMPP	Groundwater Protection Management Program Plan
HEHF	Hanford Environmental Health Foundation
HEIS	Hanford Environmental Information System
HIPP	Hanford Integrated Planning Process
HPT	Health Physics Technician/Technologist
HSADB	Hanford Self-Assessment Data Base
KAP	Kaiser Administrative Procedure
KEH	Kaiser Engineers Hanford
KOP	Kaiser Operating Procedure
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
OPD	Operations Division
ORR	Operational Readiness Review
OSHA	Occupational Safety and Health Administration
OSR	Operations Safety Requirement
PE	Project Engineer
PNL	Battelle Pacific Northwest Laboratory

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

Acronym/ Abbreviation	Definition
POC	Performance Objectives and Criteria
PPE	Personal Protective Equipment
PSM	Process Safety Management
PSO	Program Secretarial Officer
PWA	Process Waste Assessment
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RL	Department of Energy-Richland Field Office
SAR	Safety Analysis Report
SEN	Secretary of Energy Notice
SLR	Solid and Liquid Waste Remediation
SMP	Site Management Plan
SMS	Site Management System
SWEC	Stone and Webster Engineering Corporation
TPA	Tri-Party Agreement (Between the U.S. Department of Energy, U.S. Environmental Protection Agency, and State of Washington Department of Ecology)
TQM	Total Quality Management
TSD	Technical Support Division
TTA	Tiger Team Assessment
USQ	Unreviewed Safety Questions
WHC	Westinghouse Hanford Company
WMD	Waste Management Division
WOB	Waste Operations Branch

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9/21/92