**Environment, Safety and Health
Progress Assessment**

of the

**Morgantown Energy Technology Center
(METC)**

U.S. Department of Energy
Office of Special Projects
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Executive Summary

EXECUTIVE SUMMARY

This report documents the result of the U.S. Department of Energy's (DOE) Environment, Safety and Health (ES&H) Progress Assessment of the Morgantown Energy Technology Center (METC) in Morgantown, West Virginia. The assessment, which was conducted during the period of June 7 through June 18, 1993 included a selective review of the ES&H management systems and programs of the responsible DOE Headquarters Program Office, the Office of Fossil Energy (FE), DOE-METC, and its contractors.

The ES&H Progress Assessments are part of the Department's continuing effort to institutionalize line management accountability and the self-assessment process throughout DOE and its contractor organizations. The purpose of the METC ES&H Progress Assessment is to provide the Department with an independent assessment of the adequacy and effectiveness of METC's ES&H management programs, systems, and resources to address ES&H requirements and to address and resolve issues. They are not intended to be comprehensive compliance assessments of ES&H activities. The METC Progress Assessment was conducted by a team of 10 professionals from various DOE offices and their support contractors, with expertise in the areas of environment, safety, health, and management.

METC was originally established as the Appalachian Experiment Station in 1954 to perform coal research, petroleum and natural gas research, and mine safety and inspection activities for the Bureau of Mines and the Department of Interior. METC is currently a research and development facility, managed by DOE's Office of Fossil Energy. Its goal is to focus energy research and development to develop engineered fossil fuel systems, that are economically viable and environmentally sound, for commercial application.

There is clear evidence that, since the 1991 Tiger Team Assessment, substantial progress has been made by both FE and METC in most aspects of their ES&H program. The array of new and restructured organizations, systems, and programs at FE and METC; increased assignments of staff to support these initiatives; extensive training activities; and the maturing planning processes, all reflect a discernable, continuous improvement in the quality of the ES&H performance. The Progress Assessment Team was particularly impressed with the many advances that METC has made on many broad ES&H fronts in less than two years, during a period of budget and manpower constraints. The team also noted a dramatic change in attitude towards ES&H acceptance. METC employees were found to be predominantly open, cooperative, and receptive to new and innovative ideas for institutionalizing the ES&H culture into their day to day activities. The total quality management (TQM) concept and philosophy of continuous quality improvement has been widely embraced by METC management and staff. Hard work and commitment by a growing number of enthusiastic ES&H advocates provided a positive environment for the Progress Assessment Team who unanimously agreed that METC is moving well towards ES&H excellence even though many of the plans, programs, systems, and organizations have not had sufficient time to demonstrate their full effectiveness.

DOE-METC has every reason to take pride in the magnitude of its accomplishments in the ES&H area since the Tiger Team visit. The progress noted by the Progress Assessment Team, and documented in this report, demonstrates a sincere commitment by DOE-METC management to continue its efforts to attain ES&H excellence.

Management

Notable among the many FE and METC accomplishments are the expanded, restructured, and/or new ES&H organizations at FE and DOE-METC, as well as management changes and manpower reallocations. FE and METC strategic planning processes are maturing. FE has a strategic plan in place and has provided METC with ES&H planning guidance and DOE-METC has produced a strategic plan that defines its vision for METC. A well-defined and comprehensive training program is evolving at METC. Currently the program is providing a reasonable level of operating and ES&H training to most employees who require it. METC has completed approximately 80 percent of the corrective action tasks resulting from the 1991 Tiger Team Assessment. The METC corrective action tracking system is now starting to be used to capture and process appraisals and self-assessment data. Periodic status reports are provided to METC and FE management and the tracking system data is used to feed the DOE Safety and Health Five-Year Plan for prioritization and budgeting. In addition, FE and METC have each established self-assessment organizations that have developed plans, conducted appraisals, issued reports, and provided training to staff in self-assessment techniques. METC recently completed an ES&H Management Self-Assessment that identified many of the issues raised in this assessment.

Subsequent to the 1991 Tiger Team Assessment, FE established the Office of Self-Assessment (FE-6), which has developed and is implementing an ES&H oversight program. FE has also significantly increased ES&H communications within FE and to the field. DOE-METC has created the organizational framework for objective ES&H oversight as well as expanding the existing safety review mechanism, the Safety Analysis and Review System (SARS), for all processes, facilities, and laboratories including the preparation and evaluation of safety documents. DOE-METC has also made considerable progress and has issued most required ES&H METC Orders, implementing plans and procedures. METC has adequately documented the roles, responsibilities, and authorities; formats; document control procedures; and other administrative procedures for implementing the directives system.

Although FE and METC have made considerable progress, they will need to work to strengthen, expand, and improve many of their ES&H programs and activities. Corrective action and self-assessment programs are still missing fully developed trend analysis, root cause determination, and lessons learned elements; and the conduct and frequency of self-assessment activities need improving. Some key roles, responsibilities, and authorities for many ES&H activities are unclear for both METC and FE. ES&H training for METC employees could be improved by better identifying performance based training needs. The Progress Assessment Team also identified a need for refining the directives system and ensuring that procedures are more consistent and uniformly adhered to. Planning processes were lacking subordinate plans and needed more integration of programmatic ES&H goals. Moreover, the team deemed deficiencies in the areas of DOE-METC oversight and quality assurance as Key Concerns.

Environment

METC has made significant progress in developing and implementing environmental programs since the June 1991 Tiger Team Assessment. METC management has allocated staff and emphasized training for NEPA that has resulted in substantial improvements in the general knowledge level of

technical requirements of NEPA and an appreciation for the role of NEPA as a part of the decision making process. METC's air quality program, although not fully implemented, has appropriate plans in place to support an air quality program.

Many METC and EG&G personnel, especially those with responsibilities for groundwater protection activities, have demonstrated a willingness to develop quality environmental programs that meet or exceed all regulatory and DOE requirements. Additionally, management has concentrated on developing environmental protection programs by providing resources and staff for the development of the Groundwater Protection Management Program, Groundwater Monitoring Plan, NEPA, and the Waste Management Program.

DOE-METC has developed and approved a Quality Assurance/Quality Control Manual that implements METC's quality assurance program. Although DOE-METC has made significant progress toward formal establishment and implementation of the waste management program and the groundwater protection management program, these programs could improve in the areas of formality, quality assurance/quality control, clarification of roles and responsibilities, planning, and oversight.

Safety and Health

METC demonstrated substantial progress in correcting safety and health issues following the 1991 Tiger Team Assessment. A corrective action program was developed, and at the time of the Progress Assessment, nearly all corrective action tasks were considered to be complete. Substantial progress was evident in all safety and health areas evaluated, including the Safety Analysis and Review System (SARS) and development of an industrial hygiene program. Procedures now exist for most aspects of the safety and health program relating to compliance with OSHA. Programs for inspection of welds and control of non-conforming fasteners were determined to represent a strength.

Nevertheless, deficiencies in the METC safety and health program were identified by the Progress Assessment Team, including the lack of a formal requirement for operations control systems and the manner in which operations control limits are addressed in the SARS packages; lack of continuity between DOE-METC and EG&G industrial hygiene procedures; and, lesser noncompliances in the OSHA and industrial hygiene requirements. Other aspects included quality assurance deficiencies in the safety and health area.

Key Concerns, Root Causes, and Strengths

The METC Progress Assessment Team evaluated the concerns, weaknesses, and strengths and identified two key concerns that are considered to be representative of the site's ES&H deficiencies. No immediate concerns were identified.

METC has not implemented a comprehensive ES&H oversight program to provide management with an accurate assessment of the quality of the ES&H program.

DOE Orders require objective oversight of ES&H activities including the performance of periodic functional appraisals of the various safety disciplines (e.g., fire protection, industrial hygiene), ES&H management systems, facility inspections, and review of ES&H assessment documents. In

addition, line organizations are required to perform oversight of their activities including surveillance of operational activities and review of safety documents.

DOE-METC has not performed required, periodic appraisals of ES&H functional disciplines. Although DOE-METC has created the organizational framework to perform objective ES&H oversight, personnel assigned this role are actively engaged in programmatic ES&H activities. This brings into question the objectivity of subsequent reviews performed by these individuals. DOE-METC has not provided adequate line or independent oversight of ES&H activities delegated to and implemented by, its site support contractors, for example, in the confined space program, waste management program, and cafeteria operations. The SARS process, while generally effective in qualitatively evaluating safety documents related to processes, facilities, and laboratories, does not explicitly require the development of an appropriate quantitative safety analysis or operational safety envelope including such things as surveillance requirements, and their technical bases. In addition, the SARS process does not always provide management with a full assessment of the degree of risk entailed in METC activities. Line ES&H oversight activities are informal, infrequent, and limited in scope. In some areas roles, responsibilities, and authorities for oversight activities are not well defined and in some cases they are conflicting such as in the groundwater monitoring, hazardous waste management, and environmental quality assurance programs.

Quality assurance principles have not been fully incorporated into key elements of DOE-METC ES&H activities to ensure compliance with ES&H regulations and Orders.

The lack of fully integrating quality assurance principles into industrial hygiene, groundwater protection, and worker safety activities remain and continue to weaken DOE-METC's ability to foster ES&H excellence. The lack of fully effective appraisal processes that regularly identify ES&H deficiencies in order to provide documentation for a useful corrective action system hinders implementation of ES&H programs that ensure compliance with all ES&H requirements.

Formality is inadequate with respect to change control, validation of corrective actions, documentation of informal surveillances, and communication of deficiencies to management. Also, the assignment of roles and responsibilities for METC personnel are inconsistent and not uniformly understood to ensure that personnel effectively perform their duties. Personnel do not receive substantial performance-based training to ensure that they are capable of performing their assigned work.

METC and site support contractor procedures are inconsistent, and in some cases, do not comply with regulatory requirements; specific procedural elements are omitted and there is evidence of a lack of full adherence to existing procedures.

The team evaluated the key concerns and identified two root causes, leading to the concerns and weaknesses identified during the assessment.

The effectiveness of the METC ES&H program has been limited by a lack of depth and breadth of ES&H expertise and specialized knowledge in key disciplines,

(e.g., lack of professional and regulatory experience). METC has developed its cadre of ES&H professionals through a process of on-the-job training coupled with extensive individual training. While the METC staff exhibits considerable enthusiasm and dedication to achieving ES&H goals, the limited level of professional and regulatory experience has restricted the progress in achieving program objectives. For example, METC has placed a relatively low priority on developing an overall, comprehensive ES&H manual. (As the ES&H knowledge base of the staff grows, the Progress Assessment Team believes the value and utility of this document will become more obvious.) Elements were missing from the confined space program in both DOE-METC and site support contractor procedures. METC oversight of the contracted analytical laboratory work does not address the need for recurrent verification of the subcontractor's quality assurance/quality control (QA/QC) program. METC's Safety Analysis and Review System does not require a quantitative analysis of credible ES&H consequences, nor does it require limiting conditions for operations to be presented in formal, operationally useful documents such as checklists and procedures. METC's laboratory safety program addresses carcinogens, but not acute toxics or reproductive toxins. The METC Chemical Hygiene Plan does not define or identify those chemicals which may be in use at METC that have a high degree of acute toxicity or provisions for control and use of this class of chemicals. FE's limited knowledge base has likewise restricted its ability to help METC in development of an effective ES&H program.

DOE-METC's ongoing pursuit of ES&H excellence has been hampered by the failure of management to define a comprehensive and integrated ES&H program. DOE-METC management's reaction to the trauma of the 1991 Tiger Team Assessment was to order a shutdown of all onsite operations. With that action there began the arduous task of establishing and institutionalizing a positive ES&H culture at METC. In a short space of time there have been many organizational and personnel changes. New programs, new policies, and new procedures were instituted, and extensive training was conducted, all during a period of budget constraints and manpower ceilings. For the most part, the organizational structure of an ES&H program has been defined in organizational charts, mission and function statements, and policies and procedures documents. However, many of the deficiencies identified in this Progress Assessment may be attributed to the absence of a document, or a hierarchical set of documents, that clearly defines and coordinates the totality of an ES&H program, and guides the manner by which such a program is to be implemented. Such an ES&H program document would address all of the elements (many of which were missing and identified as deficiencies in this assessment) of a comprehensive, sitewide program. It would provide an architecture within which to place or reference ES&H-related plans, organizations, roles and responsibilities (both horizontal and vertical), training, oversight, policies, and procedures, etc. For example, the document would require and promote sitewide consistency among METC procedures, and between METC and site support contractor procedures; it would identify all activities that had to receive oversight, who was to perform it, and how it would be done; and it would identify required systems and programs (such as a confined space program). It would be a living document, one that reflects the vision of DOE-METC management, and the practicalities of an ever-changing ES&H universe.

The Progress Assessment Team identified the following strengths:

FE has provided extensive training in the elements of self-assessment to both FE and field personnel.

DOE-METC has developed and implemented a program that combines formal education and on-the-job experience to establish a cadre of new government employees with professional project management expertise, many of whom will be placed in ES&H-related positions.

DOE-METC is developing a model program for screening and prioritizing inactive waste sites for initiating a Preliminary Assessment for offsite research projects.

The FE waste minimization document has been consolidated and packaged to provide an easy reference, "user friendly" document.

DOE-METC has defined and implemented highly effective programs for assuring conformance of fasteners and welds.

METC has implemented a highly effective program to enhance the overall wellness of METC employees.

1.0

Introduction

1.0 INTRODUCTION

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

In June 1989, the Department of Energy 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, 35 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 Department directed that small, focused, ES&H progress assessments be performed. The ES&H Progress Assessment at METC, conducted from June 7 through June 18, 1993 is the eleventh assessment of this new program.

The point of reference for assessing programs at the Morgantown Energy Technology Center was, for the most part, the METC Tiger Team Assessment that was conducted during May and June, 1991. The level of onsite effort for that assessment was approximately 135 person-weeks versus 30 person-weeks for the ES&H Progress Assessment.

The objectives of the METC ES&H Progress Assessment were to develop an updated picture of how METC has progressed since the 1991 Tiger Team Assessment; how effectively METC has corrected the specific Tiger Team deficiencies and the root causes of those deficiencies; and whether the current structure, resources and systems are in place and functioning to identify weaknesses in a timely manner and effectively manage ES&H issues.

Accomplishing these objectives involved performing evaluations of the:

- change in culture and attitude related to ES&H activities;
- effectiveness of DOE and contractor management structures, resources, and systems to address ES&H problems and new ES&H initiatives, resulting from the 1991 Tiger Team Assessment;
- adequacy and effectiveness of the ES&H self-assessment programs of FE and METC management; and,
- 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 DOE manager from the Office of Special Projects (EH-5). Team members, with their areas of responsibility and work-related experience, are identified in Appendix C.

The assessment process consisted of a team planning meeting, initial site visit, offsite review of documents, DOE Headquarters and onsite interviews, observations, inspections, and onsite document review. The Initial Site Visit was conducted May 3 through May 7, 1993. This activity included presentations

by FE and METC personnel; a site/facility tour; the collection of documents for later review; and planning of the assessment. Team members reviewed documents and developed more formal assessment scopes between May 18 and June 4, 1993. Several team members conducted interviews with DOE Headquarters personnel during this period.

The onsite assessment was conducted June 7 through June 18, 1993. During this period the team conducted interviews with DOE-METC and contractor personnel, inspected facilities, developed the results of the assessment, drafted the assessment report, and held a formal closeout with METC 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, METC personnel were invited 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 activities. The horizontal reviews evaluated the existence and adequacy of management structures, systems, and programs for identifying and addressing ES&H problems and requirements. The management systems evaluated included oversight, organization, planning, directives, and training. Horizontal and vertical reviews were also performed on the self-assessment and corrective action programs. Although these two programs are integral parts of ES&H management systems, they are addressed as separate disciplines in this report. The distinction was made because of the importance of these two programs, 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 reviews are used to validate conclusions reached during the horizontal reviews. The ES&H technical areas selected for vertical reviews were groundwater monitoring/quality assurance, waste management, worker safety and OSHA/quality assurance, industrial hygiene, and formality of operations control systems. The selection of the areas for vertical review was based on the results of the 1991 Tiger Team Assessment report and its Action Plan, other assessments, occurrence reports and information obtained during the Initial Site Visit.

The team conducted a review of all of the concerns, weaknesses, and findings and identified key concerns and root causes. The key concerns represent the essence of the weaknesses and deficiencies identified by the team, and the root causes represent the most fundamental reasons that the deficiencies occurred.

The correction of the 1991 Tiger Team findings and their root causes and METC's self-assessment activities were subjects reviewed by all team members in both the horizontal and vertical reviews. The observations of team members related to Tiger Team corrective actions, other corrective actions, and self-assessment activities were consolidated and evaluated from a sitewide perspective. Details of the specific subjects covered by these reviews are provided in Section 2 and Appendix B of this report. The results of the team members' evaluations were categorized into three groups (there were no Immediate Concerns identified by the Progress Assessment Team):

- **Concern.** Any situation or adverse condition that does not meet the requirements of an applicable law, agreement, DOE rule or

Order, DOE procedure, or constitutes a significantly deficient practice not covered by procedure, and is not classified as an Immediate Concern.

- **Weakness.** Any situation which indicates less than optimal performance and could be an indication of more serious problems and is not classified as an immediate concern or concern. The term is also used for any series of situations or adverse conditions related to findings that indicate a degradation in the performance of a program or management system.
- **Strength.** A strength is an example of exceptional performance or achievement of excellence. A strength may be a noteworthy practice, activity, or program that clearly exceeds the acceptable level of performance and that warrants documents supported by findings of fact. Strengths may have general application at 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 execution, results in more effective and improved management or operation performance.

1.2 MORGANTOWN ENERGY TECHNOLOGY CENTER

Morgantown Energy Technology Center is located in Morgantown, West Virginia, approximately 80 miles southwest of Pittsburgh, Pennsylvania, and 210 miles northwest of Washington, D.C. The site occupies 132 acres of gently to moderately sloping terrain. Fifty-nine buildings occupy 45 acres and the remaining 87 acres are undeveloped. METC is bordered on the North by the Baltimore and Ohio Railroad and the Monongahela River. Rural farmland, light and medium density residential areas makeup the east, south, and western borders.

Morgantown Energy Technology Center was originally established as the Appalachian Experiment Station in 1954 to perform coal research, petroleum and natural gas research, and mine safety and inspection activities for the Bureau of Mines and the Department of Interior. METC is currently a research and development facility, managed by DOE's Office of Fossil Energy. Its goal is to focus energy research and development to develop engineered fuel systems, that are economically viable and environmentally compliant, for commercial application. METC is the lead center for several fossil energy programs including (1) coal gasification, (2) fluidized-bed combustion, (3) gas stream cleanup, (4) fuel cells, (5) heat engines, (6) instrumentation and control, (7) oil shales, (8) natural gas, (9) tar sands, and (10) waste management.

METC's fiscal year (FY) 1993 funding of \$421 million is predominantly to fund research and development activities performed by contractors at non-DOE sites. The balance of this funding is to provide program direction for these offsite activities and to fund a small (approximately 5 percent of the total) METC in-house research and development program. The program direction and onsite research and development funding supports over 300 Federal scientists, engineers, technicians, and support staff as well as an approximately equal complement of site support contractor staff employees. More than two thirds of the contractor support staff are employees of EG&G and provide the major source of ES&H support to DOE-METC.

1.3 REPORT STRUCTURE

The results of the assessment are addressed in two main sections of this report. Section 2.0 presents the team's overall evaluation of the results of the Progress Assessment. This includes an identification of key concerns, root causes of the assessment results, a listing of strengths, and overview sections for each area of responsibility. Each overview section provides a summary of the assessment conclusions for each area assessed. Appendix B includes the individual concerns, weaknesses, and strengths.

Each evaluation item is given a unique number that identifies its category. The categories are represented by: C = Concern, W = Weakness, and S = Strength. These letters are followed by a sequential number assigned to each evaluation item within a given category. As an example, the first Management (M) Concern (C) would be written as M/C-1. These identifiers are used in both the body of the report and the appendix.

Where appropriate, discussions are supported by references to specific documents and interviews. These references utilize the unique numbers on the documents and interview lists in the appendices. 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.

For the purposes of this report, "DOE-METC" refers to Federal (Department of Energy) personnel, programs, or operations at METC. "FE" is used to refer to FE Headquarters, and "EG&G" or "site support contractor" refers to other-than-Federal personnel, programs, or operations at METC. The term "METC" is used in a general sense meaning the physical site, or the entirety of employees, programs, or operations.

2.0

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

2.0 PERFORMANCE AND PROGRESS OF METC ES&H PROGRAMS

2.1 OVERVIEW

There is clear evidence that, since the 1991 Tiger Team Assessment, substantial progress has been made by both FE and METC in most aspects of their ES&H program. The array of new and restructured organizations, systems, and programs at FE and METC; increased staff to support these initiatives; extensive training activities; and the maturing planning processes, all reflect a discernable, continuous improvement in the quality of the ES&H performance. The Progress Assessment Team was particularly impressed with the many advances that METC has made on many broad ES&H fronts in less than two years, during a period of budget and manpower constraints. The team also noted a dramatic change in attitude towards ES&H acceptance. METC employees were found to be predominantly open, cooperative, and receptive to new and innovative ideas for institutionalizing the ES&H culture into their day to day activities. The total quality management (TQM) concept and philosophy of continuous quality improvement has been widely embraced by METC management and staff. Hard work and commitment by a growing number of enthusiastic ES&H advocates provided a positive environment for the Progress Assessment Team who unanimously agreed that METC is moving well towards ES&H excellence even though many of the plans, programs, systems, and organizations have not had sufficient time to demonstrate their full effectiveness.

The following sections describe the key concerns, root causes, strengths, and assessment overviews for the Morgantown Energy Technology Center ES&H Progress Assessment.

2.1.1 Key Concerns

The following two key concerns were identified by the METC Progress Assessment Team.

METC has not implemented a comprehensive ES&H oversight program to provide management with an accurate assessment of the quality of the ES&H program.

DOE Orders require objective oversight of ES&H activities including the performance of periodic functional appraisals of the various safety disciplines (e.g., fire protection, industrial hygiene), ES&H management systems, facility inspections, and review of ES&H assessment documents. In addition, line organizations are required to perform oversight of their activities including surveillance of operational activities and review of safety documents.

DOE-METC has not performed required, periodic appraisals of ES&H functional disciplines. Although DOE-METC has created the organizational framework to perform objective ES&H oversight, personnel assigned this role are actively engaged in programmatic ES&H activities. This brings into question the objectivity of subsequent reviews performed by these individuals. DOE-METC has not provided adequate line or independent oversight of ES&H activities delegated to and implemented by, its site support contractors, for example, in the confined space program, waste management program, and cafeteria operations. The SARS process, while generally effective in qualitatively evaluating safety documents related to processes, facilities, and laboratories, does not require the development of an appropriate quantitative

safety analysis or operational safety envelope including such things as surveillance requirements, and their technical bases. In addition, the SARS process does not always provide management with a full assessment of the degree of risk entailed in METC activities. Line ES&H oversight activities are informal, infrequent, and limited in scope. In some areas roles, responsibilities, and authorities for oversight activities are not well defined and in some cases they are conflicting such as in the groundwater monitoring, hazardous waste management, and environmental quality assurance programs.

Quality assurance principles have not been fully incorporated into key elements of DOE-METC ES&H activities to ensure compliance with ES&H regulations and Orders.

The lack of fully integrating quality assurance principles into industrial hygiene, groundwater protection, and worker safety activities remain and continue to weaken DOE-METC's ability to foster ES&H excellence. The lack of fully effective appraisal processes that regularly identify ES&H deficiencies in order to provide documentation for a useful corrective action system hinders implementation of ES&H programs that ensure compliance with all ES&H requirements.

Formality is inadequate with respect to change control, validation of corrective actions, documentation of informal surveillances, and communication of deficiencies to management. Also, the assignment of roles and responsibilities for METC personnel are inconsistent and not uniformly understood to ensure that personnel effectively perform their duties. Personnel do not receive substantial performance-based training to ensure that they are capable of performing their assigned work.

METC and site support contractor procedures are inconsistent, and in some cases, do not comply with regulatory requirements; specific procedural elements are omitted and there is evidence of a lack of full adherence to existing procedures.

2.1.2 Root Causes

The team identified two root causes, leading to the immediate concerns, concerns, and weaknesses identified during the assessment.

The effectiveness of the METC ES&H program has been limited by a lack of depth and breadth of ES&H expertise and specialized knowledge in key disciplines, (e.g., lack of professional and regulatory experience). METC has developed its cadre of ES&H professionals through a process of on-the-job training coupled with extensive individual training. While the METC staff exhibits considerable enthusiasm and dedication to achieving ES&H goals, the limited level of professional and regulatory experience has restricted the progress in achieving program objectives. For example, METC has placed a relatively low priority on developing an overall, comprehensive ES&H manual. (As the ES&H knowledge base of the staff grows, the Progress Assessment Team believes the value and utility of this document will become more obvious.) Elements were missing from the confined space program in both DOE-METC and site support contractor procedures. METC oversight of the contracted analytical laboratory work does not address the need for recurrent verification of the subcontractor's quality assurance/quality control (QA/QC) program. METC's

Safety Analysis and Review System (SARS) does not require a quantitative analysis of credible ES&H consequences, nor does it require limiting conditions for operations to be presented in formal, operationally useful documents such as checklists and procedures. METC's laboratory safety program addresses carcinogens, but not acute toxics or reproductive toxins. FE's limited knowledge base has likewise restricted its ability to help METC in development of an effective ES&H program.

DOE-METC's ongoing pursuit of ES&H excellence has been hampered by the failure of management to define a comprehensive and integrated ES&H program. DOE-METC management's reaction to the trauma of the 1991 Tiger Team Assessment was to order a shutdown of all onsite operations. With that action there began the arduous task of establishing and institutionalizing a positive ES&H culture at METC. In a short space of time there have been many organizational and personnel changes. New programs, new policies, and new procedures were instituted, and extensive training was conducted, all during a period of budget constraints and manpower ceilings. For the most part, the organizational structure of an ES&H program has been defined in organizational charts, mission and function statements, and policies and procedures documents. However, many of the deficiencies identified in this Progress Assessment may be attributed to the absence of a document, or a hierarchical set of documents, that clearly defines and coordinates the totality of an ES&H program, and guides the manner by which such a program is to be implemented. Such an ES&H program document would address all of the elements (many of which were missing and identified as deficiencies in this assessment) of a comprehensive, sitewide program. It would provide an architecture within which to place or reference ES&H-related plans, organizations, roles and responsibilities (both horizontal and vertical), training, oversight, policies, and procedures, etc. For example, the document would require and promote sitewide consistency among METC procedures, and between METC and site support contractor procedures; it would identify all activities that had to receive oversight, who was to perform it, and how it would be done; and it would identify required systems and programs (such as a confined space program). It would be a living document, one that reflects the vision of DOE-METC management, and the practicalities of an ever-changing ES&H universe.

2.1.3 Strengths

The METC Progress Assessment Team identified six strengths in programs or practices as being worthy of note:

FE has provided extensive training in the elements of self-assessment to both FE and field personnel.

DOE-METC has developed and implemented a program that combines formal education and on-the-job experience to establish a cadre of new government employees with professional project management expertise, many of whom will be placed in ES&H-related positions.

DOE-METC is developing a model program for screening and prioritizing inactive waste sites for initiating a Preliminary Assessment for offsite research projects.

The FE waste minimization document has been consolidated and packaged to provide an easy reference, "user friendly" document.

DOE-METC has defined and implemented highly effective programs for assuring conformance of fasteners and welds.

METC has implemented a highly effective program to enhance the overall wellness of METC employees.

2.2 OVERVIEW OF ES&H MANAGEMENT SYSTEMS ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of the FE and DOE-METC management systems as they relate to the aggregate of ES&H programs at METC. The assessment was conducted through a combination of interviews, reviews of key documents, and where appropriate, field inspection of activities and processes. Specific management systems were selected for review based on the 1991 Tiger Team Assessment areas of concern, or because those systems were believed to be highly characteristic of ES&H performance. The management systems specifically assessed at METC were the corrective action program; self-assessment program; oversight; organization; directives system, planning; and training.

There is clear evidence that, since the 1991 Tiger Team Assessment, substantial progress has been made by FE and DOE-METC in most aspects of the ES&H program. The establishment of the FE Office of Self-Assessment (FE-6); development and implementation of the METC Safety Analysis and Review System; the array of new and restructured organizations, systems, and programs at METC; extensive training activity; and the maturing planning processes, all signify a discernable, continuous improvement in the quality of the ES&H performance. The Progress Assessment Team acknowledges this progress, and recognizes that many of the plans, programs, systems and organizations have not had sufficient time to demonstrate their full effectiveness.

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

- Overall, substantial progress has been made in improving the ES&H management systems at FE and METC subsequent to the 1991 Tiger Team Assessment.
- Since the 1991 Tiger Team Assessment, METC has developed a corrective action program to ensure that formally identified deficiencies are captured, addressed by corrective action plans and tracked to closure. Although originally developed for the Tiger Team Assessment, the METC Corrective Action Tracking System is now starting to be used for other formal appraisals. Periodic status reports are provided to METC and FE management. The tracking system data is used for prioritization and budgeting. However, the METC corrective action program is not entirely mature and several of its elements need to be strengthened. In particular, the program does not ensure that informally reported deficiencies are captured and addressed; that data gathered on deficiencies are systematically reviewed for trending and lessons learned purposes; that changes are appropriately documented; and that actions taken are validated to ensure they have been effective in correcting the root causes of the originally identified deficiencies. METC has developed plans to address all

of the identified weaknesses except tracking of informal appraisal findings.

- FE and METC have each established self-assessment organizations that have developed plans, conducted appraisals, issued reports, and provided training to staff in self-assessment techniques. However, neither FE nor DOE-METC have a fully implemented comprehensive self-assessment program. FE's program lacks clear definition of roles, responsibilities, and authorities, has not performed planned appraisals, and does not have fully developed programs for trend analysis, root cause determination, and lessons learned dissemination. Although numerous self-assessment activities are occurring at METC, the program evidences weaknesses in the frequency, formality, and objectivity of appraisals; and lacks fully developed and implemented programs for trend analysis, root cause determination, and lessons learned dissemination, and corrective action. DOE-METC recently completed an ES&H Management Self-Assessment that identified most of the issues found by the Progress Assessment Team.
- Subsequent to the 1991 Tiger Team Assessment, FE established FE-6, that has developed and begun to implement an ES&H oversight program. Although no formal FE appraisals of METC have been conducted to date, FE-6 has performed appraisals that generally fulfill FE's appraisal responsibilities at other sites and gives reason to believe that similarly effective appraisals of METC will be performed by FE. Although DOE-METC has created the organizational framework for objective ES&H oversight it has still not implemented a fully effective oversight program of the METC ES&H functional programs or the activities of its support contractors. DOE-METC has also expanded and further developed the pre-existing safety review mechanism, SARS, for all processes, facilities and laboratories including the preparation and evaluation of safety documents. Procedures and documentation requirements for SARS committee reviews have been developed, are in use, and incorporate a qualitative review of existing activities, new or modified work, construction, restart of programs that were shutdown after the 1991 Tiger Team Assessment, National Environmental Policy Act (NEPA) and other environmental requirements. However, the SARS process does not explicitly require the development of safe operating envelopes or their technical basis and does not always provide management with the full extent of the risk it is accepting.
- New, expanded, and restructured organizations at FE and DOE-METC, as well as management changes and manpower reallocations, signal continued progress in improving the quality of the ES&H program. However, since many of the reorganizations are recent, the personnel lack experience in their new positions, and their roles, responsibilities, authorities, and interfacing relationships are not well-understood throughout FE and METC. However, there is ample evidence that the knowledge and experience base of the ES&H staff is increasing and that this is leading to improved ES&H performance.

- FE and METC strategic planning processes have been maturing. FE has a strategic plan in place and has provided METC with ES&H planning guidance. DOE-METC has produced a strategic plan that defines its vision for METC, but that vision, as well as the FE vision, is primarily programmatically oriented. The planning processes do not fully integrate ES&H and programmatic goals into a single comprehensive planning process to define, guide, and prioritize the METC mission activities. Many of the DOE-METC subordinate implementation plans that would translate strategic and program plans into working level actions, have not been fully developed.
- A well-defined and comprehensive training program is evolving at METC. Currently the program is providing a reasonable level of operating and ES&H training to most employees that require it. However, some deficiencies were observed. For example, job task analysis has not been performed for all DOE-METC employees to identify specific training requirements; there has been insufficient emphasis on performance-based training, as distinguished from awareness training; and mechanisms are lacking to fully evaluate training effectiveness.
- Subsequent to the 1991 Tiger Team Assessment and the establishment of FE-6, FE has significantly increased ES&H communications within FE and to the field. DOE-METC has also made considerable progress and has issued most, if not all, required METC ES&H Orders, implementing plans, and procedures. The DOE-METC Order on the directive system has adequately documented the roles, responsibilities, and authorities; formats; document control procedures; and other administrative procedures for the directives system. However, the METC directives system does not ensure that a common understanding of ES&H requirements is obtained among all parties (FE, all affected DOE-METC organizational units, and site support contractor). Nor does the METC Directives Order require the determination of impacts or development of implementation plans. After requirements have been agreed to they must be converted to policy, procedure, and practice. The Progress Assessment Team found that many METC directives and procedures do not adequately define roles, responsibilities, and authorities; contain ambiguous and undefined terms; and are inadequate to fully implement an activity, leaving the possibility for nonuniform application. A Procedures Review Committee has been established to correct these deficiencies. Furthermore, adherence to procedures appears to be poor, based on review of available audits, appraisals, and implementing activities. In addition, ES&H requirements resulting from local, state, other Federal agencies, Consent Decrees, permits and licenses are not captured by the directive system.

FE and METC have made considerable progress. They will, however, need to work on the deficiencies identified above to continue their path toward ES&H excellence. Two strengths were identified in the management systems area relating to self-assessment training and the Project Manager Development Program.

2.2.1 Corrective Action Program

An integrated, comprehensive corrective action program is an essential management tool for understanding and correcting deficiencies and preventing recurrences. A properly implemented program will enable management to capture all identified deficiencies, track corrective actions, identify trends in deficiencies and corrective actions, and prioritize corrective actions to ensure that resources are utilized to best advantage. Such a program will also disseminate lessons learned information and provide management with the ability to systematically assess the effectiveness of completed corrective actions.

An adequate corrective action program will include systems for capturing ES&H deficiencies and generating corrective action plans to address the deficiencies. Action planning will be integrated with the site budgeting processes and corrective actions will be tracked to closure with periodic status reporting. The corrective action program will trend identified issues and key performance indicators to ensure adverse conditions are identified and addressed and that lessons learned are recognized and disseminated. Root cause analysis will be used as needed in development of action plans to ensure the action taken addresses the underlying problem as well as correcting the visible symptoms.

The corrective action program at METC was assessed following the Performance Objective and Criteria for Action Programs stated in the Environment, Safety and Health Progress Assessment Manual (December 1992), Appendix B-2. This objective requires determining whether DOE and its contractors have formal programs that ensure the effective implementation of their corrective action plans. The assessment was conducted by reviewing selected documentation including policies, procedures, assessments, correspondence, corrective action tracking reports, sample corrective action plans and other pertinent documents, and by interviewing selected METC and FE personnel. The current status and progress made in the corrective action area is summarized below for both METC and FE.

METC

The 1991 Tiger Team Assessment of the Morgantown Energy Technology Center concluded (Tiger Team MF-9):

"There is no coordinated corrective action program at METC to assure that ES&H problems are identified, documented, and resolved in an adequate and timely manner; that required actions have been taken; or that actions taken have been effective in preventing additional occurrences. Although ES&H problems have been identified, and corrective actions have been taken, they have been isolated activities that do not contain all of the components required by the July 31, 1990, Secretarial guidance memorandum."

METC's initial reaction to the 1991 Tiger Team Assessment showed respect for and understanding of the risk implications. The METC Director ordered an immediate shutdown of all onsite activities until the safety of continued operations could be systematically demonstrated. With that action, METC began the hard work of embracing a new ES&H culture. The METC staff has progressed significantly in addressing the need for an effective corrective action

program. Since the 1991 Tiger Team Assessment, METC has developed a corrective action program to ensure that formally identified deficiencies are captured, addressed by corrective action plans and tracked to closure. The METC corrective action program clearly assigns responsibility for specific tasks and milestones to individual employees. Corrective action tasks identify work to be performed, schedules including intermediate milestones, and resources required. METC's corrective action tasks are addressed to specific problems on a root cause basis rather than to individual findings. This approach does cause some difficulty in determining the status of progress against an individual finding or assessment. Status reports on a task and milestone basis are routinely generated to provide METC and FE management an overview of activities in this area. The METC corrective action program also provides for documenting completion of tasks. However, the METC corrective action program is not entirely mature and several of its elements need to be strengthened.

The METC Tiger Team Corrective Action Plan currently includes 116 tasks of which 96 have been reported as completed. No validations have yet been performed to confirm that the actions taken have effectively resolved the deficiencies identified, but a plan and procedure for this activity have been prepared.

The METC Corrective Action Tracking System (MCATS) is an electronic database used to develop and track corrective action plans for identified ES&H deficiencies. METC has a structured procedure in place for the operation of MCATS that defines which issues should be tracked in MCATS. Although originally developed for the Tiger Team Assessment, MCATS was designed to capture future formal assessment findings as well. MCATS is now starting to be used for that purpose. Findings from an occupational medical assessment, the METC ES&H baseline self-assessment, and the recent management self-assessment are being entered. The framework is in place for continuing to use MCATS for formally identified findings. The METC corrective action procedure defines a financial threshold of \$5000 for entry into MCATS, as a means of implementing the graded approach to corrective actions. METC captures some, but not all issues below the \$5000 limit via the work order system. The work order system effectively captures items that require site support contractor activity to correct. Other items, notably management's work place surveillances, are not captured by either MCATS or the work order system. These issues may be lost for trending and lessons learned purposes. The draft Assessment Handbook discusses methodology for determining root cause. Based on interviews, METC is in the preliminary stages of applying these methodologies.

Data entry into the MCATS is strictly controlled. MCATS resides on one computer under password control. The METC Tiger Team Corrective Action Plan Manager approves all entries and all entries are made by one data entry operator. However, until very recently, little to no documentation was developed in support of revisions to the METC Tiger Team Corrective Action Plan, particularly for changes to the schedules. The METC Tiger Team Corrective Action Plan has been quite dynamic, with numerous schedule changes and substantial changes to tasks including elimination of some tasks by combining with others. Furthermore, these changes were not flagged on summary reports provided to FE, making it more difficult for management to monitor progress. The concurrence of FE and METC senior management in these changes and schedule slips for meeting ES&H commitments is not documented. This

approach to change control tends to make senior management very dependent on key personnel in order to maintain a corporate historical base of knowledge. METC has recently taken steps to tighten the corrective action change control process. While the new procedure provides forms for recording justifications and rationale for requested changes, it does not include guidance for preparing a complete and acceptable justification.

The MCATS data are used to support the ES&H budgeting process in annually updating of the Fossil Energy Environment, Safety, and Health Five Year Plan. Corrective action tasks are prioritized in this plan using the DOE-wide risk priority model for five year ES&H plans.

Trending and lessons learned methodologies have not yet been defined for capturing and analyzing many ES&H deficiencies (those below the MCATS \$5000 threshold, those reported via the Occurrence Reporting and Process System, and the informal management surveillances) to ensure that adverse trends and potentially serious accident precursors are identified and addressed. Minor items requiring action by the site support contractor are addressed through the site work order system. The work order system provides for fixing the immediate problem and requires the craftsman doing the work to identify causal factors, but those data are not systematically reviewed or trended. METC's performance indicator program is also in its formative stages. No reports have yet been prepared, but responsibilities for this activity are assigned in the draft Assessment Handbook. METC staff are aware of the need to undertake systematic trending and lessons learned activities and have planned for step-wise future implementation.

The METC corrective action program has not matured to the point where validation of effectiveness of corrective action are integral products of the program. Responsibilities for this function and some tentative methodologies for implementation through the appraisal process have been identified, but in general, the function is not yet being performed. The corrective action program does not procedurally ensure objective validation, e.g., the office assigned to complete task validations was also responsible for managing numerous tasks to completion. Nothing in the procedures prevents future task assignments from resulting in the same situation.

Although not strictly a corrective action program element, the team observed that METC has developed an innovative approach to managing the development of NEPA documentation. Recognizing that virtually all contracted research activities require some level of NEPA documentation, METC has developed a unique computer-based system to facilitate the generation of NEPA documentation by project managers. The computer program, called NEPALAN, is a menu-driven system on METC's local area network that takes the project manager through the information requirements associated with the three types of NEPA actions: categorical exclusions; environmental assessments; and environmental impact statements. In addition, background information is contained in each section to educate the project manager with respect to these NEPA requirements. As a part of this process, NEPA "checklists" within NEPALAN are utilized to structure the analysis process that greatly aids in the consistency of analysis and approach. This program has been sent upon request to multiple DOE off-site locations.

In addition, a NEPA-related METC process is being institutionalized via the issuance of METC's draft procurement handbook. This handbook outlines NEPA

responsibilities and requirements in the procurement process, which ultimately leads to increasing quality assurance/control for incorporating NEPA considerations in all METC procurement actions.

FE

FE has made progress in establishing a corrective action program to encompass all FE elements. Guidance was provided to METC and other FE field elements for tracking and reporting the status of corrective actions, both for the Tiger Team Assessments and other formal appraisals. However, FE has not provided METC guidance on closure of corrective action plans, nor indicated FE's requirements for participation in closure and validation. FE has developed an integrated tracking system to allow senior management to monitor corrective actions throughout FE. While the FE corrective action initiatives demonstrate significant interest and commitment to ES&H excellence, the program exhibits some weaknesses. In particular, data supplied to FE by METC do not summarize revisions to previous schedules. New dates are reported, but the fact that revisions have occurred is not reported. METC's monthly status reports to FE contains very little quantitative data. The narrative portion of the report provides a crisp overview of individual activities, and appears to be very useful.

Progress made in establishing effective corrective action programs for both METC as an individual site and across the entire FE program is encouraging. A good basic structure for corrective action is now in place and plans exist for improvement. Full implementation of these programs will enable management to monitor corrective action progress, make sound decisions in allocating resources, and minimize recurrence of ES&H problems.

The Progress Assessment Team identified one weaknesses relative to the corrective action program that is presented in Appendix B-1 (see Weakness M/W-1, METC Corrective Action Program).

2.2.2 Self-Assessment Program

In the self-assessment area, the Progress Assessment Team evaluated the status of development and implementation of the FE and DOE-METC self-assessment programs. In conducting the review, the team examined each program's compliance with Secretarial guidance that directed all DOE line organizations to develop and implement self-assessment programs that would identify, report, and correct their own ES&H deficiencies. Self-assessment elements that were reviewed included program plans, assessment processes, related management systems, and assessment products to determine if the programs regularly evaluate and report the status and quality of all aspects of ES&H performance. This assessment area was selected because the 1991 Tiger Team Assessment did not find a functioning self-assessment program at FE or METC.

The key standards used to assess the progress were the Secretary's January 26, 1990 memorandum; the July 31, 1990 ES&H Self-Assessment Guidance; and the performance objectives and criteria in the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.5 and 2.5.

The approach of this Progress Assessment was to examine the self-assessment programs of FE and DOE-METC by conducting vertical reviews down through

portions of these organizations. Primary emphasis was on the status of development and the effectiveness of these programs, and the adequacy of FE's guidance to DOE-METC. In addition to the vertical reviews, a horizontal review was conducted across these organizations to examine the degree to which the various elements of the self-assessment programs are coordinated and integrated to provide a sitewide picture of ES&H performance at METC. The evaluation was accomplished by reviewing documents, including charters, reports, policies, directives, and procedures, and interviewing FE and METC staff responsible for developing and implementing the self-assessment programs.

Substantial progress is evident in the FE and DOE-METC self-assessment programs in terms of structure, formality, protocols, procedures, and management systems.

With the establishment of the Office of Self-Assessment (FE-6), in late 1991, FE has taken an active role in implementing the DOE self-assessment policy. FE-6 has the responsibility to plan, develop, and coordinate the overall FE self-assessment program. The principal accomplishments of FE in the self-assessment area are (1) a comprehensive Self-Assessment Program Plan and an Implementation Plan; (2) a management appraisal, in May 1993, of FE-6, FE-20, FE-30, and FE-70; (3) management appraisals of several FE field organizations (a May 1993 appraisal of METC has been postponed) with additional appraisals scheduled; (4) self-assessment guidance for use by FE and its field organizations; (5) review of FE program office and field self-assessment plans; and (6) self-assessment training. METC's program offices (FE-20, 30, and 70) have developed self-assessment plans that call for annual internal appraisals, and triennial management appraisals of field organizations.

Despite this solid progress, FE does not as yet have a fully developed and implemented self-assessment program. The self-assessment roles, responsibilities, and authorities of FE-6, between FE-6 and the FE program offices, and between FE and its field organizations lack clear definition and are not well-understood at Headquarters or in the field; FE has recognized the need for clarification, and has established a task force to provide recommendations. Programs for trend analysis, root cause determination, and lessons learned dissemination are in formative stages.

DOE-METC has made significant progress in developing the architecture of a sitewide self-assessment program. There was no such program at the time of the 1991 Tiger Team Assessment, although in anticipation of the Tiger Team visit DOE-METC prepared a baseline self-assessment report. Since that time, DOE-METC has developed a self-assessment implementation Process that provides the form, content, and many of the implementing procedures for a comprehensive program that covers all facilities and ES&H functional and management areas; established the Office of the Chief Engineer, the organization responsible for the overall self-assessment program; incorporated into the program the results of ongoing assessment activities (e.g., appraisals of life safety, fire hazards, lockout/tagout, confined space entry, and special works permits); and provided self-assessment training.

However, weaknesses in elements of the DOE-METC self-assessment program are evident: Surveillances, inspections, and "walkabouts" by line supervisors and managers, the basic building blocks of self-assessment, are not conducted with

sufficient frequency or formality; the oversight program, whose results are essential inputs to the self-assessment process, is not comprehensive or fully implemented; procedures for conducting self-assessment are in draft; programs for trend analysis, root cause determination, and lessons learned dissemination are not complete or fully implemented; performance indicator and Occurrence Reporting and Processing System (ORPS) data is not formally incorporated into the self-assessment process (although such incorporation is planned); the corrective action program does not capture and process all necessary ES&H issues; and self-assessment training, although planned, is not complete.

In May 1993, DOE-METC completed an ES&H Management Self-Assessment. It was a planned, structured and documented appraisal, principally aimed at assessing progress against the METC Tiger Team Corrective Action Plan. In general, the assessment was a satisfactory self-assessment product, and a corrective action plan is being developed. Many of the deficiencies identified in this Progress Assessment were either fully or partially identified by DOE-METC. However, some key management issues were not specifically identified in the report, e.g., lack of objectivity in the oversight function; absence of oversight in many program areas; and interrelationship uncertainties in the waste management, groundwater protection, and industrial hygiene programs.

The Progress Assessment Team identified two weaknesses and one strength related to the self-assessment program, which are presented in Appendix B-1 (see Weakness M/W-2, FE Self-Assessment Program; Weakness M/W-3, DOE-METC Self-Assessment Program; and Strength M/S-1, Self-Assessment Training Provided by FE).

2.2.3 Oversight

In the oversight area, the Progress Assessment Team evaluated the adequacy of the FE and METC programs for oversight of ES&H activities at METC. Since oversight is a component of all areas reviewed, additional elements of ES&H oversight may be detailed in other sections of this report, particularly self-assessment, corrective action program, environmental and safety programs. In conducting this assessment, the Progress Assessment Team looked specifically at the plans, procedures, and documentation detailing how ES&H oversight activities are performed by selected line and independent oversight organizations of FE and METC. Oversight is a vital management system to ensure that ES&H programs are performed in accordance with requirements and that performance is directed towards achieving ES&H excellence. The 1991 Tiger Team Assessment found major deficiencies in the oversight programs to the extent that it was a root cause and a key finding for each of the subteams as well as the subject of many individual findings.

The assessment approach taken by the Progress Assessment Team was to interview FE, DOE-METC, and EG&G personnel responsible for line and independent oversight (including safety committees) and to review pertinent policies, procedures, surveillance and audit reports, safety evaluation documents, and other documents to measure the adequacy of performance.

The key standards used in this assessment include the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Criteria 1.4.2 and 2.4.2; and pertinent DOE Orders, Secretary of Energy Notices (SENs), and policy documents.

ES&H oversight consists of all those activities that assure and inform management that the ES&H program at METC is being effectively implemented. It includes inspections and surveillances by line organizations; the full range of DOE-mandated functional, disciplinary, and management audits and appraisals; performance-based assessments; review of ES&H documents; and ongoing self-assessment programs.

The 1991 Tiger Team Assessment of METC found that FE did not perform oversight of METC ES&H activities, evaluate ES&H performance trends, review METC corrective actions, or review METC ES&H management activities (e.g., planning, staffing, training). Nor did FE provide a lead role or provide timely and formal response to METC in the development and review of self-assessment or quality assurance programs.

The 1991 Tiger Team Assessment also found that DOE-METC was not providing adequate oversight of ES&H activities of its site support contractors, and was not performing required appraisals or NEPA and work order reviews prior to the commencement of activities. Nor was there an independent ES&H review system in place to ensure that compliance with ES&H requirements occurs.

Considerable progress has been made by all organizations in improving their ES&H oversight programs since the 1991 Tiger Team Assessment. Greater formality is evident in all areas of the FE and METC ES&H programs.

Progress in FE's ES&H oversight program is directly related to the creation of the Office of Self-Assessment (FE-6) and the rate at which resources became available to that organization since its establishment in late 1991. Although FE-6 has not conducted a formal ES&H audit of METC to date, one was scheduled for May 1993, but was postponed until after the Progress Assessment. However, FE-6 has developed a comprehensive ES&H oversight program with scheduled audits covering all FE sites each year, documented procedures, performance objectives and criteria based on Tiger Team Assessments, and reporting requirements. FE-6 has already conducted audits of other FE sites and FE Headquarters program offices. Review of these reports indicates that they generally fulfill FE oversight responsibilities and there is reason to believe that similarly effective oversight will be performed at METC. FE has established tracking and trending systems that provide management with processed data on the status of ES&H for decisionmaking. Performance indicators are used and a risk-based prioritization methodology is employed to rank corrective actions. FE has provided guidance and review to METC on ES&H matters in what appears to be a timely fashion. In particular the FE-6 review of the METC Self-Assessment Implementation Plan provided effective and positive input to METC. The METC self-assessment and quality assurance plans have both been reviewed and approved by FE.

DOE-METC has also made considerable progress in the oversight area. Organizationally, it has established the framework for independent ES&H oversight (as required by DOE Orders) by assigning this responsibility to the Chief Engineer and his staff who are part of the Director's Office.

All METC processes, facilities, and laboratories are subjected to a highly structured, manpower and document intensive, safety evaluation process called the Safety Analysis and Review System (SARS). The SARS Committees that implement this program have defined charters, or their equivalent, that generally meet the requirements for advisory safety committees of this type.

Procedures and documentation requirements for committee review are developed, in use, and incorporate review of existing activities, new or modified work, construction, restart of programs that were shutdown after the 1991 Tiger Team Assessment, National Environmental Policy Act, and other environmental requirements.

DOE-METC has also established OSHA, quality assurance, and self-assessment programs. These programs include line management oversight activities such as walkabouts. Some, but not all, of these activities are more formally implemented than others with checklists, training for the staff in performing the surveillance activity, and some form of documentation. None of these line oversight activities, at this time, fully meet the requirements for formality, rigor, documentation, and corrective action follow-up.

Most METC research and development activities are performed by contractors at non-DOE sites. METC has incorporated appropriate ES&H contract clauses in these contracts. Such clauses include "Safety and Health," "Permits and Licenses," and "Environmental Protection." In addition, each contractor is required to execute a "Certificate of ES&H Program" prior to award, and is required to have such a program in place within 60 days of contract initiation. The METC Contracting Officer is given "access and the right to examine" the program.

Notwithstanding the progress made, the Progress Assessment Team identified the following deficiencies:

While DOE-METC has established an organizationally independent ES&H oversight function in the Director's Office under the Chief Engineer, the substantial and continuous participation in programmatic problem solving activities by the individuals involved potentially compromises their independence and objectivity. Although this Office is charged with the responsibility to perform objective functional appraisals (e.g., fire protection, industrial hygiene) required by DOE 5482.1B, only recently have they begun to perform some of this oversight of DOE-METC and site support contractor activities. Furthermore, line oversight of delegated or tasked assignments to site support contractors is not occurring. This is especially important since many of these assigned site support contractor tasks represents essentially the entire METC program.

Almost all METC activities are low hazard, standard industrial laboratory activities. For that small population of METC activities that are not low hazard, the SARS process has been found to have the following deficiencies. The SARS process does not require the development of a quantitative analysis of credible ES&H consequences by the originator or an assessment by the SARS committees. The process does not require the development of a comprehensive safe operating envelope for operations. The minutes of SARS committees do not provide an auditable record of the depth and breadth of its ES&H considerations. As a result, management may not be fully aware of the extent of the risks it is accepting.

The Progress Assessment Team identified one concern related to oversight that is presented in Appendix B-1 (see Concern M/C-1, DOE-METC ES&H Oversight).

2.2.4 Organization

In the organization area, the Progress Assessment Team evaluated the adequacy and effectiveness of the assigned ES&H roles, responsibilities, and authorities of the various organizations within FE and DOE-METC, and the site support contractor, EG&G. The Progress Assessment Team reviewed the adequacy of documentation; the independence and objectivity of the independent ES&H oversight organizations; and how well ES&H roles, responsibilities, and authorities are defined, documented, and understood.

In conducting the assessment, the Progress Assessment Team looked at organizational charts, mission and function statements, manuals, ES&H program plans, Safety Analysis and Review System (SARS) committee charters and procedures, and other relevant documents, and interviewed line program and ES&H managers in the cited organizations. The 1991 Tiger Team Assessment cited a lack of defined and documented ES&H functions, responsibilities, authorities, and accountabilities as the cause of several deficiencies cited.

The key standards against which the site was assessed include the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.2 and 2.2.

A major action taken by FE in the ES&H area since the 1991 Tiger Team Assessment was the establishment of the Office of Self-Assessment (FE-6). FE-6's staff is charged with the responsibility to plan, develop, and coordinate the overall FE self-assessment program; to perform ES&H appraisals of FE field organizations and program offices; and to provide technical ES&H guidance and support. FE-6 has performed a number of appraisals, both of field and Headquarters elements, and is improving its ability to provide ES&H guidance. Furthermore, FE-6 holds semi-annual "ES&H Workshops" attended by field and Headquarters personnel, and conducts monthly teleconferences with all field organizations. Recognizing the need to clarify FE-6's roles, responsibilities, and authorities within FE-6, between FE-6 and the FE program offices, and between FE and its field sites, FE-1 has established a task force to recommend a redefinition and realignment of ES&H roles for FE-6 and all other FE organizations.

DOE-METC has put in place numerous new, expanded, and restructured organizations and programs, and has made management changes and manpower allocations, all designed to establish and carry out its ES&H program in response to DOE requirements. The ES&H Policy, Oversight, and Self-Assessment Group in the Office of the Director; the Office of Program Support and Evaluation (PSE); and Site Development and Management Branch, are significant examples. ES&H staffing at DOE-METC has grown from 2 FTEs at the time of the Tiger Team Assessment to 25 FTEs at the present time.

At the present time, the organizational structure to accomplish the METC ES&H mission has been defined by management in current organizational charts and further amplified with mission and function statements contained in various DOE-METC Orders, policies and procedures documents, and in manuals. Charters for the standing SARS committees have also been issued. Furthermore, the points of contact for ES&H functions at METC have been identified in an ES&H Phone Card that has wide distribution.

This array of new DOE-METC organizations and reassigned personnel has brought new vision and energy to the ES&H program, and brings with it promise of great strides toward ES&H excellence. However, since the reorganizations are recent, the personnel lack experience, and many of the new programs are in formative stages. As a result, deficiencies continue to persist.

The roles, responsibilities and authorities of the ES&H internal independent oversight program (under the direction of the Office of the Chief Engineer), have been defined and documented in Orders, plans, and policies. Yet interviews revealed that the roles are not well-understood throughout the site, even by organizations with which the Chief Engineers's office interacts.

An explanation may lie in the broad range of activities performed by the office's small staff (e.g., independent oversight, QA, emergency response, National Environmental Policy Act). Furthermore, the responsibilities undertaken by the Chief Engineer's staff have raised issues of lack of objectivity in the exercise by the office of the independent oversight function. For example, the office is responsible for the performance of such ES&H programs as NEPA and emergency management, and cannot therefore perform objective oversight of those programs; yet no other METC organization is charged with such oversight responsibility.

Organizational interrelationships between DOE-METC and EG&G regarding important aspects of the industrial hygiene program, the groundwater protection monitoring program, and the waste management program lack sufficient formality and definition.

The annual employee performance appraisal system has been improved by the issuance of a METC Order that recommends inclusion of an ES&H element in the evaluation process. While this communicates to the employee that ES&H is important, and increases their awareness and accountability in this area, the process is not consistently implemented throughout the site. This is in large part because the Order does not apply to all employees, there is an absence of sitewide guidance on how to apply the element, and there are no systems to ensure consistent application. Furthermore, position descriptions for non-ES&H personnel at DOE-METC do not consistently incorporate ES&H responsibilities.

A recent METC Order clarifies the authority of DOE-METC employees to stop imminently hazardous activities that are directly related to their work. However, the Order leaves unanswered the matter of which individuals have the authority to stop imminently hazardous activities that are not related to their work, but which they have observed.

The Progress Assessment Team identified one weakness related to organization, which is presented in Appendix B-1 (see Weakness M/W-4, METC Organization).

2.2.5 Planning

In the planning area, the Progress Assessment Team examined the FE and DOE-METC management systems for planning associated with the operation of METC. Issues examined included the ability of DOE (FE and DOE-METC) to formulate its vision of an integrated METC ES&H and program mission, plan and set priorities, and execute this mission in a planned and disciplined manner. In addition to vertical reviews of program and functional areas, a horizontal review was conducted across the organization to examine the degree to which

various interrelated subordinate planning processes are coordinated and integrated. The planning area was included in the scope of this assessment because the 1991 Tiger Team Assessment noted the absence of an integrated sitewide planning process that incorporates ES&H issues into the programmatic mission, and because many of the other Tiger Team Assessment findings can be related directly to the lack of effective comprehensive planning processes.

The key standards used in this assessment include Secretary of Energy Notice (SEN)-25-90, "Strategic Planning Initiative"; DOE/PE-0099, "Guidelines for Strategic Planning" (July 1991); DOE 4320.1B, "Site Development Planning" (January 7, 1991); and the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.1 and 2.1.

The approach to the assessment involved interviewing a broad spectrum of personnel within FE and DOE-METC who are charged with the responsibility for planning, and reviewing available documentation in this area.

This assessment found that although the strategic planning processes at METC evidence progress, full integration of ES&H and program considerations has not yet occurred. Furthermore, the subordinate implementation planning processes at DOE-METC, that would set priorities for, and guide the accomplishment of ES&H activities, are not complete and fully functioning. Furthermore, the intermediate plans that provide the linkage between the Strategic Plan and the lowest tier operating plans are generally missing. The lowest tier plans, e.g., PIPs, do address ES&H issues and are generally complete.

The strategic and subordinate implementation planning processes of FE and DOE-METC exhibit progress since the 1991 Tiger Team Assessment. FE has issued a strategic plan and associated planning guidance to METC. FE has also provided METC with guidance for producing the ES&H Five-Year Plan including the milestones in developing the plan. The DOE-METC Director has conducted strategic planning exercises and issued a Strategic Plan with specific goals and objectives for the site. The METC Corrective Action Tracking System (MCATS) is utilized to provide planning and budgeting data for corrective action, implementation, and recurring activities.

However, despite this progress, the planning processes have not yet reached full maturity. For example, the METC Strategic Plan is principally a business plan; it does not place strategic importance on institutional ES&H. In the plan, ES&H issues are not prominent considerations in the Vision and the Mission statements, and in the general planning assumptions ES&H is addressed only briefly (e.g., as one of the "key external forces/trends"). The plan describes current and future program opportunities but ES&H is not an element of this view.

In the absence of an ES&H component to the Strategic Plan, it is necessary to examine the METC ES&H Five Year Plan to determine whether ES&H and programmatic planning integration is accomplished by means of the Five Year Plan. The plan does contain specific ES&H goals and objectives, but it is not tied to, nor does it reference, the METC Strategic Plan to establish and foster a formal integrated planning process. What is missing is an integrated strategic plan (or set of planning documents that constitute a plan), that sets out the roles and responsibilities for achieving the stated programmatic and ES&H goals and objectives; establishes milestones for accomplishment; contains mechanisms to measure progress; incorporates correlative mechanisms

to detail and match the relationship of scheduled activities to human and financial requirements; and addresses the interrelationships and sequencing of scheduled activities. Further, while DOE-METC line program managers take the lead in the development of the Strategic Plan, they are not directly involved in the development of the ES&H Five Year Plan.

The most recent Site Development Plan is dated April 1987, despite a DOE requirement (DOE 4320.1B) for the annual development or revision of Site Development and Facility Utilization Plans. However, a site development planning process is underway at METC, and a plan is expected during FY 1993.

While METC has many implementation plans to set priorities for and to guide the work activities throughout METC, a number of these are incomplete or in draft form, and other implementation plans, particularly at middle or lower working levels, have yet to be drafted. For example, an overall plan for ES&H oversight, a long-range plan for ES&H group training, a sitewide corrective action management program plan, and a waste management program plan have not been completed by METC.

Detailed ES&H implementation planning is evolving, and there is evidence that management is committed to conducting their activities in a formal, planned manner. Indeed, the development of operational plans, which would relate to how the product plans will be implemented and which would be expected to include ES&H considerations, are a goal of this year's strategic planning process.

The overall planning process, when fully implemented and integrated, has the potential to provide management with a powerful tool to plan, allocate resources, and control METC activities on a sitewide basis.

The Progress Assessment Team identified one weakness in the area of planning, which is presented in Appendix B-1 (see Weakness M/W-5, DOE-METC Planning).

2.2.6 Directives System

In the area of directives system, the Progress Assessment Team evaluated the adequacy and effectiveness of the guidance provided by DOE (FE and METC) in assuring a common understanding of requirements and expectations and the ability of DOE-METC to convert these requirements into policy, procedures, and practices. The Progress Assessment Team also looked at the DOE-METC process for responding to Federal, state, and local regulatory requirements.

In conducting the assessment, the Progress Assessment Team specifically examined the processes, procedures, and documentation detailing the development, control, distribution, and tracking of DOE directives (e.g., Draft Orders, Orders, Notices, Secretary of Energy Notices), and any required responses or actions and guidance provided through the budget process. The assessment approach taken by the Progress Assessment Team was to review policies and procedures, and to interview responsible personnel to verify their knowledge of, and the actual implementation of, the METC directives policy, and procedure systems. Specific performance objectives in the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992) that were used to judge the adequacy of the METC policy, procedure, and directive systems included Performance Criteria 1.4.1 (Oversight), and 2.4.1 (Directive System).

These areas were selected for assessment because the 1991 Tiger Team Assessment of METC found that FE was not providing DOE- METC with guidance or expectations regarding DOE Orders or budgets, and DOE-METC was not providing formal guidance or expectations to its contractors. DOE-METC was not effectively implementing its ES&H Improvement Plan to develop METC ES&H Orders and had poorly defined directive system roles, responsibilities and authorities. Additionally, there was no consistent, formal functioning system to translate laws, regulations, DOE Orders, and other requirements into site-specific procedures to ensure that all site activities were conducted in compliance with these requirements.

Subsequent to the 1991 Tiger Team Assessment and the establishment of the Office of Self-Assessment (FE-6), FE has significantly increased ES&H communications within FE and to the field. Initially these communications contained little in the way of interpretation and guidance, however, with increasing resources, FE-6 has begun to provide guidance and interpretation of ES&H requirements; specialized assistance; guidance on ES&H planning, particularly in the area of risk-based prioritization methodologies; five year and annual ES&H budget planning; self-assessment plans and programs; and development of an FE-wide reporting and tracking system. It is particularly important that FE provide guidance, interpretation, and expectations regarding ES&H directives to the field since most DOE ES&H Orders are written with nuclear and weapons programs as their focus.

DOE-METC has also made considerable progress and has issued most, if not all, required ES&H METC Orders, implementing plans and procedures. METC 1321.1C, "METC Directive System," now contains specific roles, responsibilities, and authorities for all participants; establishes a Directives Coordinator who acts as a focus for all directive activities; prescribes time limits for issuance of directives; requires biennial review of existing directives and annual review of procedures; and provides formats for the various documents. A document control system for directives has been established and implemented.

A draft revision to the current METC Directive Order will make further improvements in assigning lead organizations for each DOE Order and improving the handling of draft Orders. METC has also developed an effective procedure (METC P 1321.1-1) to govern the generation and revision of procedures but has not yet developed a 'Procedure Writers Guide' that is needed to obtain consistent and effective procedures. METC P 1321.1-1 also establishes a Procedures Review Committee to accomplish the review and approval of new and revised procedures. This is a particularly important activity since many of the directives were generated prior to establishment of this formal program. Many directives are not consistent; do not fully define roles, responsibilities, and authorities; and contain undefined or ambiguous terms. The Committee's annual review is attempting to correct these deficiencies.

METC has also developed and implemented emergency preparedness, event reporting, conduct of operations and maintenance, quality assurance, and corrective action programs that were specifically found lacking during the 1991 Tiger Team Assessment.

Despite the considerable progress made, the Progress Assessment Team identified the following deficiencies regarding the METC directive system.

METC Order 1321.1C does not ensure that a common understanding of ES&H requirements is obtained among all parties (FE, all DOE-METC affected organizations, and site support contractors). Nor does the Order require the determination of impacts or development of implementation plans. Ensuring common understanding goes beyond agreement on substance and intent of the requirement but also includes ensuring a common understanding of the impacts and implementation plan.

ES&H requirements resulting from local, state, other Federal agencies, Consent Decrees, permits and licenses are not captured by the directive system.

Many METC procedures do not adequately define roles, responsibilities, and authorities; contain ambiguous and undefined terms; and are inadequate to fully implement an activity, leaving the possibility for nonuniform application. Furthermore, adherence to procedures appears to be poor, based on review of available audits, appraisals, and implementing activities.

The Progress Assessment Team identified one concern relating to the directive system, which is presented in Appendix B-1 (see Concern M/C-2, Directives System).

2.2.7 Training

In the training area, the Progress Assessment Team evaluated the effectiveness of FE and DOE-METC management systems in developing and maintaining effective ES&H training programs. Specific areas reviewed included plans that define and set priorities for required ES&H and qualification training, development of courses, conduct and evaluation of training, and training records management. This assessment area was selected because the 1991 Tiger Team Assessment identified a number of findings and concerns that were directly related to deficiencies in the DOE-METC training program. The key standards used to assess the progress in addressing these deficiencies were the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.3 and 2.3.

The approach of this assessment was to examine the training programs of DOE-METC and its site support contractor, EG&G, by conducting vertical reviews down through these organizations. Primary emphasis was on effectiveness in defining ES&H training needs, and ensuring that these needs are satisfied. In addition to the vertical reviews through these organizations, a horizontal review across these organizations was conducted to examine the degree to which the various interrelated training requirements are coordinated and integrated on a sitewide basis. The evaluation of METC training program was accomplished by reviewing related documents and interviewing FE, DOE-METC, and EG&G staff. This Progress Assessment concluded that the approach adopted by DOE-METC management in developing and implementing a centrally directed training program, and the progress in achieving such implementation suggests that an effective ES&H training program is emerging at METC.

Historically, METC ES&H training has been inconsistent, decentralized, and informal. The 1991 Tiger Team Assessment reported pervasive deficiencies in the METC ES&H training program. For example, the Tiger Team pointed out the lack of a sitewide training plan or program; the absence of sitewide training standards with the resulting inconsistent implementation of training; and the failure to provide emergency preparedness training. Taken collectively, these

findings pointed to the need for a centralized training program that would ensure that ES&H training needs were identified and fulfilled in a timely and uniform manner.

Since the 1991 Tiger Team Assessment, DOE-METC management has recognized the need for a comprehensive ES&H training program, has given priority to the development of such a program (the largest training budget at METC is for ES&H training), and has taken significant steps to implement one. Currently, there are numerous DOE-METC Orders, policies and procedures to define the training program and its implementation, and the training function has been centralized in the Office of Organization and Human Resources Development Division (HRD). These measures signal a management philosophy that "employee development is of strategic importance in management's planning, prioritizing, and decision making."

DOE-METC has developed an annual training plan process that begins with the distribution of a Request for Individual Training Needs (METC F 3410.4) to all employees, proceeds through supervisor/employee discussions regarding training needs, and culminates in an approved Annual Training Plan that identifies training priorities and allocates resources to the organizational units. The process includes a standing Training Advisory Committee, consisting of a cross-section of DOE-METC employees by job function and rank, to advise the DOE-METC Director on all phases of the training program. However, the Annual Training Plan, although an adequate budgetary device, is not a comprehensive, effective implementation plan. This is because, among other things, it lacks a discussion of short-term goals and objectives, and does not contain an implementation schedule that includes the phasing of activities and milestones that lead to full implementation of such goals and objectives. There is no evidence of a long-range planning process in the training area.

ES&H-related training has become an increasing larger component of the overall training program, both in terms of activity and resources. Furthermore, a significant portion of EG&G's effort is directed to support of the training program. With the assistance of EG&G, DOE-METC recently completed a sitewide Job Task Survey to identify the exposures and physical attributes related to all positions. The data, when validated, will serve to identify specific needs in ES&H training, and can set the stage for a future effort of job task analysis and knowledge skills analysis. Presently, this data is being used to identify target training audiences. A DOE-METC-wide Individual Development Program (IDP) will be initiated in phase with the annual employee performance appraisal cycle; general employee and supervisor IDP training has occurred and IDP Counsellors have been appointed.

FE has made progress in enlarging its role in the training area. For example, the Office of Self-Assessment (FE-6) has made available to METC training in Tiger Team Assessment methodology, National Environmental Policy Act (NEPA), self-assessment, waste minimization, and corrective action tracking systems. FE-6 has also facilitated OS&H Assistance Training Visits to 4 of the 6 field locations. FE-6 compiles a compendium of training courses and schedules for use by field organizations, and is also participating in a DOE task force that is developing training guidelines for employees, supervisors, and safety and health professionals.

While a great deal has been accomplished since the 1991 Tiger Team Assessment, the ES&H training program at METC is not yet fully implemented and functioning

with full effectiveness. The Progress Assessment Team identified several deficiencies in the training area.

The recently established position of Training Officer within the Organization and Human Resources Development Division, provides coordination of all METC training, and performs some oversight activities. However, it is not implementing many of the responsibilities normally associated with a central training office, e.g., training policy development; identification of training needs; establishment of a proposed curriculum of courses to meet those needs; budget development; and training implementation, validation, and evaluation. Support for some of these responsibilities in the ES&H area is provided by the ES&H Training Coordinator. This role was established to provide technical support and needs evaluation in ES&H group training.

Neither job task analysis nor knowledge skills analysis have been performed for all DOE-METC employees to identify specific training requirements. There is no sitewide policy that establishes detailed requirements for conducting such retraining as remedial, refresher, currency, and recertification.

Although DOE-METC management has committed to an increased emphasis on the performance-based training method, most of the training conducted since the 1991 Tiger Team Assessment has been awareness training rather than proficiency or performance-based training.

A METC-wide personnel training, retraining, and certification tracking system that identifies the training requirements for each employee, and the employee's training status, does not exist at METC. Currently, METC maintains a training data base that includes each employee's training record. The data base includes the course title and the training date, but does not include training requirements or dates for retraining.

There are no mechanisms in place to assess and document actual training effectiveness to provide a basis for improving course content or for setting retraining requirements.

The Progress Assessment Team identified one concern and one strength related to the METC ES&H training program, which are presented in Appendix B-1 (see Concern M/C-3, METC ES&H Training; and Strength M/S-2, Project Manager Development Program).

2.3 OVERVIEW OF ENVIRONMENTAL PROGRAM ASSESSMENT

The Progress Assessment Team evaluated the overall effectiveness of METC's environmental protection programs and the oversight of EG&G, METC's primary site support contractor. The assessment was conducted through a combination of interviews with key personnel, tours of selected facilities, and reviews of documents. 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 performance. The environmental disciplines assessed at METC were the groundwater protection management program, quality assurance activities associated with groundwater protection, and waste management.

Based upon the review conducted by the Progress Assessment Team, METC has made substantial progress in developing and implementing environmental programs

since the 1991 Tiger Team Assessment, however, deficiencies remain in the programmatic areas reviewed. There is a general lack of oversight of both DOE-METC and contractor operations for groundwater protection and waste management programs. Additionally, roles, responsibilities, and authorities for these programs are unclear, and some programmatic elements of groundwater protection management and waste management programs are inadequate.

Although not the focus of the Progress Assessment Team, significant improvement in other environmental programs was noted. DOE-METC management has allocated staff and emphasized training for NEPA, which has resulted in substantial improvements in the general knowledge level of technical requirements of NEPA, and an appreciation for the role of NEPA as a part of the decisionmaking process. METC's air quality program, although not fully implemented, has plans in place that are an integral part of the an air quality program for a facility like METC, that has limited air emissions.

Both DOE-METC and EG&G staff are striving to attain compliance with all regulatory requirements and DOE Orders. Many DOE-METC and EG&G personnel, especially those with responsibilities for groundwater protection activities, have demonstrated a willingness to develop a quality monitoring program that meets or exceeds all regulatory and DOE requirements. Additionally, management has placed an emphasis on the development of the METC groundwater monitoring program.

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

- DOE-METC has made significant progress in allocating staff for environmental protection activities. DOE-METC has concentrated on providing resources and staff for the development of the Groundwater Protection Management Program, Groundwater Monitoring Plan and the Waste Management Program. However, conflicting assignments of roles, responsibilities, and authorities and the lack of experience with the requirements of DOE Orders, has limited the effectiveness of oversight of these programs to ensure compliance with appropriate regulations and orders.
- The Tiger Team noted that DOE-METC was lacking a Waste Management Program including a Waste Minimization Program. Steps have been taken to develop a comprehensive waste management program including assignment of a hazardous waste management coordinator; aggressively pursuing recycling and implementation of a waste minimization program; and including a plan, goals, and schedules for completion of process waste assessments. Deficiencies exist in areas of support for continued and future planning, formal documentation of waste characterization data, and oversight of waste sampling and analysis.
- Since the 1991 Tiger Team Assessment, DOE-METC has developed and approved Quality Assurance/Quality Control Manual that implements METC's quality assurance program. The manual has not been fully implemented as evidenced by the lack of formal audits of subcontractors providing analyses of groundwater and waste samples; the lack of formal documentation of surveillance

activity; and inadequacies in elements of both the groundwater protection and waste management programs.

In summary, DOE-METC has made significant progress toward formal establishment and implementation of the waste management program and the groundwater protection management program since the Tiger Team visit in 1991. The concerns observed during this assessment primarily result from insufficient adherence to quality assurance principles. Incorporation of these principles into both programs will assist with continued improvement and full implementation of these programs.

2.3.1 Groundwater Protection Program

The Progress Assessment Team assessed the adequacy of the groundwater protection program, and the plans and procedures that implement the program. Groundwater monitoring quality assurance activities were assessed to determine whether adequate controls are being implemented to assure the validity of data resulting from groundwater monitoring. These areas were selected because the 1991 Tiger Team Assessment identified the lack of groundwater monitoring and quality assurance programs at METC.

The Progress Assessment Team interviewed DOE-METC and EG&G personnel, reviewed documents related to quality assurance and groundwater protection, and observed drilling activities. The Team reviewed corrective action activities pursuant to Tiger Team Assessment findings in groundwater protection and quality assurance. This assessment looked across organizations in a horizontal fashion, as well as a vertical review of the implementation of the groundwater protection program.

The key standards against which the site was assessed include Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992) (Performance Objectives QA.2, Audit/Appraisals/Surveillance; QA.3, Procedures; GW.1, Groundwater Protection Management Program; and GW.2, Groundwater Monitoring Program), and action plans developed in response to the Tiger Team Assessment related to groundwater monitoring and quality assurance.

METC is responsible for groundwater protection management activities not only in Morgantown, West Virginia, but also for sites in Wyoming. Activities for which METC has groundwater responsibility include monitoring groundwater quality at METC and offsite Wyoming groundwater activities at Hanna, Hoe Creek, Rock Springs and RM-1 sites in Wyoming. According to METC's Quality Assurance/Quality Control Manual (QAP) and the Groundwater Protection Management Program (GPMP), the Water Quality Manager (WQM) (under the direction of the Office of Program Support and Evaluation), has responsibility for METC water quality programs, and internal oversight of the groundwater programs is vested in the Chief Engineer's Office. Implementation of groundwater protection activities is vested with site support contractors at each site. Subcontractors are used to perform groundwater sampling and analysis at all sites.

In order to measure progress in the groundwater monitoring area, it is essential to understand that during the 1991 Tiger Team Assessment, METC lacked a Groundwater Management Protection Program Plan, a Groundwater Monitoring Plan, and a Quality Assurance Plan. Some of METC's activities associated with these plans were ongoing but comprehensive formal plans with

implementing procedures were lacking. Staff, with the training and skills to develop and implement these plans, was inadequate. Since the Tiger Team visit, METC has developed and approved a Quality Assurance/Quality Control Manual that implements METC's Quality Assurance Program. DOE-METC has concentrated on dedicating staff and resources to develop both the Groundwater Protection Management Program and the Groundwater Monitoring Plan. Under the direction of the Water Quality Manager, DOE-METC is proceeding with hydrogeologic characterization efforts at METC. Although significant progress has been achieved in developing the groundwater protection program, plans, and procedures, following are some areas where improvement is needed.

Formal internal oversight of the DOE-METC groundwater protection program is inadequate. While informal surveillances occur for field activities at METC and offsite locations in Wyoming, there is inadequate formal oversight and followup on corrective actions to ensure that DOE-METC is complying with Federal and state requirements and DOE and METC Orders. Further, DOE-METC oversight of contractors is inadequate to ensure that contractors, responsible for both groundwater sampling and analysis, are adhering to quality assurance/quality control requirements that ensure quality and defensible data.

Roles, responsibilities, and authorities of DOE-METC managers documented in the GPMP are inconsistent with the QAP and job descriptions, and in some cases, present an organizational conflict of interest. Further, groundwater protection implementation strategies for offsite groundwater activities in Wyoming are inconsistent with the QAP and are not documented in the GPMP.

The Progress Assessment Team identified two concerns and one strength related to the groundwater protection program, which are presented in Appendix B-2 (see Concern E/C-1, Oversight of Groundwater Analytical Laboratories; Concern E/C-2, Groundwater Protection Management Program; and Strength E/S-1, Research Project Inactive Waste Site Prioritization Program).

2.3.2 Waste Management Program

The Progress Assessment Team evaluated the adequacy of the site's waste management and waste minimization programs. The team looked specifically at the formality of management systems to ensure compliance with DOE Orders, state, local, and Federal regulations.

The performance objectives used for this evaluation are the performance objectives and criteria identified in, "Performance Objectives and Criteria for Waste Management" from Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992).

To accomplish the assessment, the Progress Assessment Team interviewed the DOE-METC and EG&G staff associated with waste management, waste minimization, training and documentation activities. The team also inspected several waste producing areas to determine the understanding by waste producers of their waste management responsibilities, and to determine the waste management communication process. Review of program plans, procedures, reports and organization structure was included. The team did not specifically review the technical details of the waste management program, but focused on the systems used by METC to ensure compliance.

In June 1991, the Tiger Team determined that "METC lacks a comprehensive waste management program, and as a result, addresses problems in a reactive mode rather than addressing the root cause behind the systematic problems. METC, therefore, does not provide effective, adaptable implementation of DOE policy for waste management." In addition, the lack of a comprehensive waste management training program and lack of a formal waste minimization program and program plan were included as findings.

Through its continuing mission as a lead DOE center for fossil energy programs like coal gasification, fluidized bed combustion, and gas stream cleanup, METC generates hazardous, sanitary, and low-level radioactive waste. METC low-level radioactive waste consists of excess sources that cannot be returned to the manufacturer. METC is categorized as a generator of hazardous waste and is allowed to accumulate wastes onsite for up to 90 days without a permit. Responsibility for waste management activities at METC is divided among (1) individual DOE and contractor waste producers (laboratories, pilot plants), who are responsible for managing satellite accumulation areas, (2) EG&G which is responsible for managing the 90-day storage area, collection of waste from the satellite accumulation areas, arranging for transport and offsite treatment, storage and disposal, and (3) the ES&H Program Support Division which is responsible for the overall waste management activities.

Progress made since the 1991 Tiger Team Assessment includes the establishment of a formal waste minimization program. A plan, including minimization goals and a policy statement, has been issued to meet the requirements of DOE 5400.1. Awareness training has been provided to all METC staff; a Process Waste Assessment plan including a schedule for completion of assessments has been drafted (D-F-37); a process to establish an affirmative procurement program to meet Executive Order 12780 has begun (D-F-48); and a waste generation and minimization report has been issued (D-F-14). A CHEMTOX data base that will be used for procurement and chemical exchange is planned to be on-line within the next 6 months (I-F-15). In addition, a "grass roots" recycling program has been incorporated into the METC culture.

Additional progress includes the establishment of an expanded, documented, waste management program. The roles and responsibilities for DOE-METC and EG&G staff in the new organization have been formalized in METC Order 5400.1. The DOE-METC reorganization has provided a Solid and Hazardous Waste Manager who is assigned the responsibility of ensuring that EG&G's waste management activities conform to the METC policies and applicable laws and regulations. Hazardous waste and regulatory awareness training has been provided to all METC staff.

The Progress Assessment Team noted other advances that have been made since the 1991 Tiger Team Assessment. Interviews with waste producers revealed that they were adequately knowledgeable of their waste management responsibilities. However, review of environmental sampling and groundwater monitoring procedures and processes revealed that waste handling procedures were not discussed, and the waste management procedures do not identify any activities for non-process generated waste.

EG&G is responsible for determining whether any solid waste is hazardous, if a solid waste producer has any question or doubt (D-F-48). Although this is routinely done, the waste characterization determination for each waste

producing process is not consistently documented or provided to the waste producer.

The RCRA requirements for less than 90-day generators are outlined in 40 CFR 262.34. METC does not meet all of the requirements for a formalized training program or contingency plan.

The METC organization assigns both oversight to assess compliance and responsibility for approving manifests and shipping papers to the METC Environmental Manager (D-F-48). This potential conflict of interest precludes METC from providing an independent verification of compliance.

METC is not currently in compliance with DOE 5820.2A. Although principally aimed at radioactive waste management, METC has accepted the requirements of the Order, and has prepared an implementing Order. METC has not prepared a Waste Management Site Plan as required by the Order, and, more importantly, evidence of a program planning process was not identified. The Order also requires that DOE low-level waste be disposed at a DOE disposal facility. METC has disposed of radioactive low-level waste commercially (I-F-8).

Despite the notable progress that METC has made, the Progress Assessment Team has identified deficiencies in the waste management program. The program does not provide adequate formality, planning or oversight to ensure current and future compliance with DOE, Federal, State and local regulations. This continuing lack of a comprehensive waste management program could negatively impact future activities at METC.

The Progress Assessment Team identified one concern and one strength related to the waste management program, which are presented in Appendix B-2 (see Concern E/C-3, Waste Management Program; and Strength E/S-2, Waste Minimization/Pollution Prevention in the Office of Fossil Energy, Volumes I-III).

2.4 OVERVIEW OF SAFETY AND HEALTH PROGRAM ASSESSMENT

The June 1991 Tiger Team Assessment identified a number of safety and health deficiencies at METC. The safety and health portion of this assessment evaluated METC's progress toward correcting the findings and concerns relating to selected safety and health disciplines. Four functional safety and health areas were evaluated as a part of this Progress Assessment. These areas were Worker Safety and OSHA Program, Quality Assurance, Industrial Hygiene, and Formality of Operations Control Systems. For the purposes of the assessment, the Worker Safety and OSHA Program, and the Quality Assurance functional areas, are discussed jointly.

METC demonstrated substantial progress in correcting safety and health issues following the 1991 Tiger Team Assessment. A corrective action program was developed that identified specific tasks relating to site deficiencies. In addition to controlling physical hazards, procedures were developed for implementing safety requirements in emergency preparedness, industrial safety, occupational medicine, worker safety, fire protection, environmental protection, waste management and NEPA. Many new plans, programs and procedures were prepared establishing the basic elements of a safety and health program. At the time of the Progress Assessment, action on nearly all corrective action tasks were considered to be complete. Substantial progress

was evident in all safety and health areas evaluated. However, a number of deficiencies in the METC safety and health program persist as identified in this Progress Assessment Report.

Based on the team's review of the METC safety and health program, the Progress Assessment Team reached the following conclusions:

- **Worker Safety and OSHA Program/Quality Assurance.** Specific aspects of OSHA compliance have been implemented since the 1991 Tiger Team Assessment. Procedures (such as lockout/tagout and emergency response) now exist for most aspects of the safety and health program relating to compliance with OSHA. Facilities, operations, and laboratories receive routine OSHA-type inspections in conjunction with the SARS annual permit renewal. Nonconformances to OSHA regulations were observed during the site visit, indicating that current OSHA compliance efforts are not fully effective. However, none were serious or presented a significant danger to employees. There is little oversight covering site support contractors or construction contractors.

In evaluating the quality assurance program as it related to safety and health issues, it was evident that METC had made substantial improvements in some areas. Programs for inspection of welds and control of non-conforming fasteners were determined to represent a strength. Deficiencies were observed in the completeness and quality of oversight for site support contractors and construction contractors. Procedures are often not validated and sometimes do not incorporate all mandatory requirements as in the case of the confined space procedure. Other aspects of safety and health-related quality assurance such as documentation, verification, and validation remained deficient.

- **Industrial Hygiene.** METC has made great strides toward developing an industrial hygiene program at the site. Numerous procedures have been written that formalize and implement DOE and Occupational Safety and Health Administration (OSHA) industrial hygiene requirements such as those for hazard communication and laboratory safety. There is now a baseline from which an industrial hygiene monitoring plan can be developed. One area, the METC wellness program, was identified as a strength. However, there are still industrial hygiene deficiencies at METC. Most relate to portions of the Tiger Team Assessment corrective action tasks that have been planned, but have not yet been completed. Specific required METC programs, plans, and procedures do not fully meet mandatory requirements; there is still not a document defining the entirety of the METC industrial hygiene program. Furthermore, DOE-METC has not conducted oversight of industrial hygiene requirements where there has been delegation of authorities and responsibilities to the site support contractors.
- **Formality of Operations Control Systems.** At the time of the 1991 Tiger Team Assessment, DOE-METC was judged not to have defined or implemented formal operations control systems. The Progress Assessment Team determined that, since the Tiger Team Assessment, much progress has been achieved at METC in this area in

implementing the Safety Analysis and Review System (SARS). However, the requirement for formal operations control systems has not been institutionalized and the format for citing operations control limits in the SARS Packages is deficient.

2.4.1 Worker Safety and OSHA Programs/Quality Assurance

The Progress Assessment Team evaluated DOE-METC management system(s) effectiveness for ensuring worker safety and quality assurance (QA); specifically, the programs that support and ensure effective implementation and oversight of occupational safety and health programs. Interviews of DOE and contractor managers and employees who are assigned the responsibilities relating to occupational safety and health activities and reviews of selected safety and health documents were utilized to provide the input for this report. Visits to site field operations were also conducted to: (1) determine the effectiveness of DOE-METC and EG&G safety and health programs that encompass directing the implementation and enforcement of mandated Occupational Safety and Health Administration (OSHA) standards and regulations, and (2) provide a vertical view of the DOE-METC Occupational Safety and Health (OS&H) program.

The standards against which the site was assessed included 29 CFR 1910, "Occupational Safety and Health Standards," and 29 CFR 1926, "Safety and Health Regulations for Construction." DOE Orders and directives relating to occupational safety and health programs; TSA performance objectives relating to Occupational Safety and Personnel Protection; and OSHA voluntary "Safety and Health Program Management Guidelines" published in Federal Register (January 26, 1989) were also evaluated to determine the OS&H program effectiveness.

To be effective, an occupational safety and health management program includes provisions for identification, evaluation, and prevention or control of general workplace hazards, specific job hazards, and potential hazards that may arise from anticipated workplace conditions. The program should address regulations; moreover, it should attempt to achieve excellence by preventing injuries and illnesses regardless of compliance issues. As workplace size and complexity increases, guidance efforts should also increase to ensure communication of applicable policies and priorities. The DOE-METC OS&H program provides many of these essential elements. For example, roles and responsibilities have been defined (although in some cases they overlap with EG&G), OS&H training receives high priority, and employees are actively involved. Procedures have been written and generally are well defined and call for basic oversight requirements to determine effectiveness.

The 1991 Tiger Team Assessment identified many worker safety and quality assurance/quality control (QA/QC) concerns. These included the lack of a definitive Emergency Preparedness Plan and a sitewide public address system; deficiencies in the welding inspection practices and the confined space entry program; electrical hazards; and the use of low-strength bolts for high-strength applications.

Recognizing these deficiencies, DOE-METC management commitment to excellence provided the catalyst for OS&H program improvement and the resultant improved "safety culture" contributes to a greater safety awareness throughout the site. Coupled with this commitment, the Environment, Safety, and Health

Program Support Division (ESH) (the DOE-METC organization responsible for implementing the occupational safety and health performance at METC) and EG&G (who provide METC line management with day-to-day support of sitewide occupational safety and health matters) formed the foundation for improving the OS&H program at DOE-METC. Overall, DOE-METC has made significant progress in resolving and correcting these Tiger Team findings and concerns. For example, a comprehensive Emergency Preparedness Plan (with implementing procedures) has been developed that includes formal agreements with offsite emergency response facilities. The sitewide public address system is currently in the design stage and has resources dedicated in the Fossil Energy Safety and Health Five-Year Plan. In the METC Tiger Team Corrective Action Plan, Task T0068 provides for identification and correction of OSHA electrical deficiencies. Observations during site field visits did not identify any serious electrical deficiencies. The welding inspection practices have improved. METC Procedure, "Certification of Nondestructive Examination Personnel", provides instructions, defines the responsibilities associated with welding inspections, and provides built-in mechanisms for documentation of QA/QC checks. Also, METC developed an effective procedure to remove all counterfeit bolts from the site that provided assurance that those counterfeit bolts would not be available for use again. Subsequent to that procedure, METC developed the "Bolt Usage Procedure." This procedure formally establishes and defines proper bolt and fastener usage by providing stringent QA/QC requirements which, if adhered to, ensures that DOE-METC will not use counterfeit bolts. Some of the requirements of this procedure include the following: a Certification of Test Report is requested when bolts are ordered; QA/QC requirements that include signatures/logs providing auditable means of verification; and, qualified technicians must inspect the fasteners/bolts to ensure they meet the engineering drawing specifications. Together, the "Bolt Usage Procedure" and METC Procedure, "Certification of Nondestructive Examination Personnel," have been recognized as a strength within the OS&H area.

However, the Progress Assessment Team did observe some deficiencies within the worker safety and OSHA program. Both DOE-METC and EG&G have confined space entry procedures with few inconsistencies and they do not fully comply with 29 CFR 1910.146, "Permit-Required Confined Spaces for General Industry." This standard requires a Confined Space Entry Program. Although the METC procedure contains most of the requirements (in some cases they exceed these requirements) of a Confined Space Entry Program, neither DOE-METC nor EG&G have a confined space program. With the exception of limited oversight of EG&G, DOE-METC does not conduct formal OSHA oversight and inspections of onsite contractors and construction activities nor do they receive OSHA 200 Logs from these contractors. Regarding the QA area of the OS&H program, deficiencies were identified pertaining to the lack of formal requirements in METC procedures to ensure that QA/QC activities have been implemented. Most of the OS&H procedures contain QA/QC requirements; however, they do not provide a mechanism to ensure that such requirements have been met. The OS&H procedures specify a person(s) responsible for conducting the QA/QC requirements of that particular procedure. They do not, however, provide the necessary documentation/method to reflect the completion of those procedural QA/QC duties. Accordingly, the Progress Assessment Team identified these deficiencies as a concern. An interview indicated that DOE-METC has reorganized the problem and that signoff sheets and/or logs verifying the completed requirements will be included in new/revised procedures (I-G-18).

A lack of sufficient and timely FE-adaptable guidance to DOE-METC, regarding the worker safety and OSHA area, was also perceived during the assessment. An interview indicated that a request submitted approximately a year ago for guidance regarding the OSHA Bloodborne Pathogen standard had not been answered. Another request for guidance regarding occurrence reporting went unheeded long enough to prompt DOE-METC to design a procedure without FE guidance (I-G-16). The Progress Assessment Team did conclude that DOE-METC has been receiving more FE guidance in the recent months.

The Progress Assessment Team concluded that significant progress has been made. A strength regarding the "Bolt Usage Procedure" and METC Procedure, "Certification of Nondestructive Examination Personnel" has been identified and many of the issues identified by the 1991 Tiger Team Assessment have been corrected. Regarding this progress, and given the current "safety culture," DOE-METC can correct the deficiencies identified by the Progress Assessment Team and achieve excellence by providing a comprehensive and effective OS&H program.

The Progress Assessment Team identified one concern and one strength related to the worker safety and OSHA program/quality assurance area which are presented in Appendix B-1 (see Concern S/C-1, Implementation of the Worker Safety and OSHA Program; and Strength S/S-1, Quality Assurance for Welds and Fasteners).

2.4.2 Industrial Hygiene Program

In performing the industrial hygiene portion of the progress assessment, the team evaluated the adequacy of DOE-METC's progress toward implementation of industrial hygiene requirements mandated by DOE. The team's efforts focused primarily on the organizational and programmatic aspects of METC's industrial hygiene program as a subset of the overall site ES&H program and on progress made since the 1991 Tiger Team Assessment. While various compliance-related issues were identified during the course of the assessment, the focus was on the adequacy of the industrial hygiene program and a comprehensive compliance assessment was not performed.

The issues addressed include an evaluation of safety and health programs, management support systems, and progress on industrial hygiene-related Tiger Team findings and concerns. Special emphasis was placed on evaluating progress relating to the overall METC safety and health program, the METC confined space program, and the laser safety program, since these were associated with Category II concerns in the 1991 Tiger Team report. METC's progress with respect to industrial hygiene-related Tiger Team corrective action plan tasks was also evaluated.

Performance was evaluated against (1) Performance Objectives 2.2, 2.4, 4.2, and 4.4 in the Environment, Safety and Health Progress Assessment Manual (December 1992); (2) findings and concerns in the 1991 METC Tiger Team report, (3) applicable DOE Orders, (4) OSHA regulations for general industry, and (5) related industry consensus standards identified in DOE 5480.4. METC was also evaluated with respect to commitments in the METC Tiger Team Corrective Action Plan.

The team executed the assessment by conducting interviews with DOE-METC and EG&G personnel associated with the industrial hygiene program; reviewing METC

and EG&G program, policies, and procedures; and physical inspections of selected areas and activities. Two team members participated in a permit-required confined space entry and one team member inspected the two active laser laboratories. Several site locations were inspected in conjunction with a general site briefing.

At the time of the 1991 Tiger Team Assessment, METC had no formal health and safety program, and the informal health and safety programs and procedures in existence were located primarily within the EG&G organization. DOE-METC relied solely on the expertise afforded by the safety committee members, had no safety and health professionals, and performed little health and safety oversight.

DOE-METC had not discharged its responsibility to establish an organization with the role, authority, and responsibility to develop, implement and enforce a health and safety program. METC did have a site safety committee, but this committee was not effective in controlling noncompliance with DOE Orders or OSHA regulations. Program deficiencies identified by the Tiger Team included:

- Hazards had not been identified for all operations.
- Monitoring was not being performed as required.
- Effective audits and inspections were not being performed.
- Key policies and procedures were not in place.
- Mandatory programs had not been established for laser safety, hazard communication, laboratory safety, as well as others.

The Tiger Team identified three Category II Concerns relating to the absence of a health and safety program, confined space entry procedures, and laser safety.

Since the 1991 Tiger Team Assessment, METC has made substantial progress toward establishing the fundamental elements of an industrial hygiene program. DOE-METC established an organization within the Office of Program Support and Evaluation, which was assigned line responsibility for industrial hygiene. This function is staffed with several individuals, including one designated as the site Chemical Hygiene Officer. An ES&H oversight function was also established within the Chief Engineer's office having overall responsibility for oversight of the safety and health program at METC.

METC also developed a series of tasks to correct findings and concerns identified in the METC Tiger Team Corrective Action Plan. For issues relating to industrial hygiene, DOE-METC and EG&G set about to prepare a series of plans and procedures addressing areas where deficiencies were identified in the Tiger Team report. At the time of this Progress Assessment, METC has site directives relating to respiratory protection, personal non-ionizing radiation, protective equipment, confined spaces, laser safety, exhaust ventilation, hearing conservation, laboratory safety, hazard communication, asbestos, carcinogens, and an overall industrial hygiene program. An OSHA-type survey for all operations and facilities covered by the Safety Analysis and Review System (SARS) process has been performed and annual reviews are scheduled.

Two areas relating to industrial hygiene are worthy of special mention. The METC occupational health unit has developed an outstanding employee wellness program that has widespread employee participation and support. Aspects of this program have been integrated into the METC culture. For example, a METC exercise area has been established, furnished and staffed to encourage employees to participate in a sitewide exercise program. The METC cafeteria features special menu selections in support of a current sitewide weight loss program.

In addition, METC uses its safety committee concept to ensure that all facilities, laboratories, and operations receive an annual safety and health review. This review includes a routine OSHA-type inspection and special evaluations such as a laser safety evaluation when applicable.

While progress in establishing requisite safety and health programs at METC was substantial, significant issues and commitments remain unresolved. METC has not yet prepared an ES&H manual in accordance with corrective action Task T0067. Consequently, site guidance has not been established for defining structure, roles, responsibilities, and authorities to adequately define the safety and health program.

METC has written procedures addressing most aspects of an industrial hygiene program, but they are often ambiguous, incomplete, and confusing. For example, there are three DOE-METC procedures and one EG&G procedure relating to respiratory protection, none of which appropriately describe the hierarchy of the other procedures. Procedures frequently do not satisfy technical and administrative requirements of DOE Orders, OSHA regulations, and industry consensus standards. One example is that the confined space procedures for both DOE-METC and EG&G do not require that confined spaces be labeled in accordance with the OSHA regulation or the ANSI standard. In their Chemical Hygiene Plan, DOE-METC did not address reproductive toxins as required by the OSHA regulation.

Roles and responsibilities are often confusing and poorly understood by DOE-METC and EG&G personnel. For example, certain functions have been delegated to EG&G such as the confined space entry program and the respiratory protection program. In both cases, the functional and administrative authorities and responsibilities have been transferred to EG&G (with the caveat that their programs, as a minimum, satisfy METC requirements). EG&G administers these programs with minimal accountability, since DOE-METC normally does not audit, review, or approve EG&G's implementing programs, plans, and procedures. There are currently no established feedback mechanisms to facilitate monitoring of EG&G's performance or to effect corrections within their programs. DOE-METC management was unaware of inconsistencies between DOE-METC respiratory protection procedures and confined space entry procedures and EG&G routine practices. EG&G employees work from their own procedures and are sometimes unaware of the existence of DOE-METC guidance.

Corrective action tasks relating to preparation of an ES&H manual (TASK T0067) and the implementation of an industrial hygiene monitoring program (TASK T0071) have not progressed at a pace near that in the original approved corrective action plan. Other tasks relating to industrial hygiene are reported as being complete, but DOE-METC has not yet implemented a process to validate the status of these tasks. This issue is discussed further in section 2.2.1 of this report.

In most cases, DOE-METC appeared to be generally aware of the issues they had yet to address. DOE-METC continues to progress along on a learning curve with respect to implementing industrial hygiene requirements. Progress is hampered, however, by the absence of an overall ES&H program manual to lend structure and direction to the implementation process.

The Progress Assessment Team identified one concern and one strength in the industrial hygiene area, as cited in Appendix B-3 (see Concern S/C-2, Industrial Hygiene Policies, Programs, and Procedures; and Strength S/C-2, METC Wellness Program).

2.4.3 Formality of Operations Control Systems

The Progress Assessment Team assessed the status of formal operations control systems at METC. The Safety and Health segment of the progress assessment highlighted formality and effectiveness of operations control systems at METC because five concerns and one key concern in the Safety and Health segment of the 1991 Tiger Team Assessment report cited deficiencies in this area.

The primary standards used by the Progress Assessment Team to assess formality of operations control systems were Performance Objectives OA.1 (Site/Facility Organization), OA.2 (Administration), OP.1 (Organization and Administration), and OP.2 (Conduct of Operations) of the Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990); plus DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities" (July 9, 1990); DOE 5481.1B, "Safety Analysis and Review System" (September 23, 1986); and METC Order 5481.1, "Safety Analysis and Review System" (September 12, 1991). The approach to the assessment involved (1) reviewing the documentation pertaining to formal operations control systems established at METC since the 1991 Tiger Team Assessment; (2) interviewing METC and FE management personnel to determine the status of formal operations control systems currently in operational or planning phases; (3) determining the status of the DOE-METC document control system, which is a prerequisite of an effective formal operations control system; and (4) evaluating the effectiveness of the training elements implemented pursuant to the establishment of formal operations control systems.

At the time of the 1991 Tiger Team Assessment, METC was judged not to have implemented formal operations control systems to ensure compliance with DOE requirements on ES&H. Specifically, DOE-METC management had not (1) mandated formal safety assessments stipulating that a facility, equipment unit, or process was safe to operate; (2) imposed formal controls on site operations; (3) required control of all aspects of preparation, review, approval, and implementation of operating procedures; and (4) instituted a formal document control system.

Guidance stipulated in the DOE Order on SARS, DOE 5481.1B, "Safety Analysis and Review System," Chapter II, 4.a.(8), states that the process of safety analysis should address operational limits; moreover, a guideline from the DOE Order on Conduct of Operations, DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," Attachment I, Chapter VIII, C.4, specifies that "Administrative controls should be established to document compliance with requirements of operational limits (limiting conditions of operation)." The 1991 Tiger Team Assessment concluded that no formal operations control systems were in place at METC to ensure compliance with these cited DOE Orders

and to define operational limits that prescribe safety envelopes for individual METC activities (operations, processes, or facilities). Normally, an operations control system would be structured to include safety limits, limiting conditions of operations (LCOs), surveillance requirements, and other constraints (specific to the activity) that are needed to ensure operational safety. In addition, the formal control system should cite the bases (with references if necessary) for all limits and the consequences of exceeding each limit. Also, if appropriate, the system could mandate actions to be taken in the event that specific limits are violated.

Since the 1991 Tiger Team Assessment, DOE-METC management has expanded its Safety Analysis and Review System (SARS) to require assessment and documentation of the safety of all operations. This system, which was established to comply with the requirements of METC Order 5481.1 (D-I-38), has significantly enhanced the formality and the effectiveness of safety assessment for all METC activities. Specifically, SARS assigns three standing committees -- the Laboratory Safety Committee (LSC), the Process Safety Committee (PSC), and the Facilities Safety Committee (FSC) -- the responsibility for assembling, reviewing, and (after judging the information to be adequate and acceptable) recommending for approval "packages" of documentation that attest to the safety of the operation, process, or facility being analyzed. The SARS Package, intended to establish the safety of a specified METC activity, must be approved prior to its construction (if applicable) and/or operation. The approved SARS Packages culminate in the issuance of permits for construction, operation, facility remediation, or facility modification. Since the SARS has been functional, a total of 143 permits have been issued.

In addition, DOE-METC management has made good progress in implementing elements of a training program to support the initiation of SARS at METC. The SARS procedure stipulates special training for all members of the SARS Committees (LSC, PSC, and FSC) (D-I-3). This training was developed and presented by the LSC Chairperson and the DOE-METC ES&H Training Coordinator, with assistance from the DOE-METC Training Officer and training professionals in the EG&G WASC organization (I-I-13). In addition, an initial orientation lecture on the methods and benefits of SARS was presented to all METC personnel. The plan is to repeat this orientation periodically for new personnel.

Another advance has been made in response to the Tiger Team Safety & Health Subteam Concern OA.7-1, in that DOE-METC management has implemented a formal and effective document control system. At the time of the 1991 Tiger Team Assessment, the only controlled documents in the DOE-METC system were METC Orders, DOE-METC procedures were not treated as controlled documents, and there was no central storage repository where current master copies of controlled documents were maintained. Since the 1991 Tiger Team Assessment, the DOE-METC organization has established the position of Directives Coordinator with responsibility for implementing and managing a formal comprehensive document control system. Discussions with DOE-METC personnel revealed that the document control system is now in place and functioning for DOE-METC directives (I-I-8 and I-I-14). Work is currently under way to expand the document control system to include other documents (e.g., as-built drawings) that must also be controlled to fulfill the requirements of formal operations and administrative control systems. The document control system was established by METC Order 1321.1C. DOE-METC procedures are now all

controlled documents, as required by METC Order 1321.1C and in accordance with METC Procedure P 1321.1-1. The DOE-METC Directives Coordinator is responsible for ensuring that all controlled documents in the field are the most current versions and for maintaining a central repository of the master copies of all controlled documents.

DOE-METC has made additional progress by issuing a procedure to provide guidance in applying SARS to METC activities; however, this procedure does not mandate the inclusion of formal operations controls to document compliance with operational limits (as specified in DOE 5480.19), and thereby does not institutionalize the requirement for formal operations control systems to ensure safety of all METC operations (D-I-3). Furthermore, although the DOE-METC SARS Packages address the concept of formal operations controls, the articulation of these controls is obscure and incomplete. In the SARS Packages that have been prepared thus far, the limiting conditions specified to ensure operational safety are dispersed throughout the report, rather than being cited concisely in a single limits section. Moreover, the bases for these limiting conditions are not provided, nor are the consequences of exceeding the specified values of the limiting conditions. The fact that the operations control limits are not conveniently grouped in the SARS Packages complicates determination of their completeness; the omission of the bases of the limiting conditions constrains the judgments that can be applied to their validity during the review process. As a result of all these factors, the Tiger Team Concerns OA.2-1 and OP.1-1 on administrative operations controls have not been completely satisfied, despite the fact that the latest "Corrective Action Plan Annual Update" cites completion of all the Tasks reported to be required for satisfying these Concerns (D-I-10).

The DOE-METC personnel responsible for determining the applicability of conduct of operations (COO) guidelines, as specified in DOE 5480.19, indicated that the process for making this determination has only recently been initiated (I-I-10). The current effort is to collect and analyze the results of a survey of METC managers and supervisors pertaining to the applicability of individual COO guidelines to METC operations, and the status of conformance to these guidelines. The ultimate objective of this effort is to bring METC into compliance with all applicable COO guidelines, including DOE 5480.19, Attachment I, Chapter VIII, C.4, on operations control systems. A goal date for completion of this project has been set for no later than the end of FY 1993.

Although all corrective action tasks reported to be required for satisfying Tiger Team Concerns TS.1-2 and TS.2-2 (pertaining to administrative controls for design and design review) are listed as complete in the latest "Corrective Action Plan Annual Update" (D-I-10), discussions with the DOE-METC personnel revealed that additional documentation is required before the necessary administrative controls will be in place and functioning (I-I-12). A draft of this documentation, which will be incorporated into the DOE-METC Quality Assurance Plan, is currently under review. The document is expected to be issued in September 1993, and the administrative controls for design and design review are expected to be functional by October 1993.

The Progress Assessment Team identified one concern in the area of Formality of Operations Control Systems, which is presented in Appendix B-3 (see Concern S/C-3, Formality of Operations Control Systems).

Appendix A

Summary Table of Concerns, Weaknesses, and Strengths

SUMMARY TABLE OF CONCERNS, WEAKNESSES, AND STRENGTHS

Number	Title	Page
Management		
M/C-1	DOE-METC ES&H Oversight	B-1-1
M/C-2	Directives System	B-1-4
M/C-3	METC ES&H Training	B-1-7
M/W-1	METC Corrective Action Program	B-1-10
M/W-2	FE Self-Assessment Program	B-1-13
M/W-3	DOE-METC Self-Assessment Program	B-1-14
M/W-4	METC Organization	B-1-16
M/W-5	DOE-METC Planning	B-1-18
M/S-1	Self-Assessment Training Provided by FE	B-1-20
M/S-2	Project Manager Development Program	B-1-21
Environment		
E/C-1	Oversight of Groundwater Analytical Laboratories	B-2-1
E/C-2	Groundwater Protection Management Program	B-2-3
E/C-3	Waste Management Program	B-2-5
E/S-1	Research Project Inactive Waste Site Prioritization Program	B-2-7
E/S-2	Waste Minimization/Pollution Prevention in the Office of Fossil Energy	B-2-8
Safety and Health		
S/C-1	Implementation of the Worker Safety and OSHA Program	B-3-1
S/C-2	Industrial Hygiene Policies, Programs, and Procedures	B-3-2
S/C-3	Formality of Operations Control Systems	B-3-5
S/S-1	Quality Assurance for Welds and Fasteners	B-3-7
S/S-2	METC Wellness Program	B-3-8

Appendix B

Concerns, Weaknesses, and Strengths by Discipline

Enumeration:

M	=	Management Systems	C	=	Concern
E	=	Environmental Programs	S	=	Strength
S	=	Safety & Health Programs	W	=	Weakness

Appendix B-1

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

Assessment Concern Number:

M/C-1

Assessment Concern Title:

DOE-METC ES&H Oversight

Performance Objective

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Criteria 2.4.2, states that staff are actively and personally involved in assessment (e.g., appraisals, audit and surveillance) and review of Field Office/Site Office and site contractor activities to ensure that such activities are conducted with formality and rigor and that they comply fully with ES&H requirements established by law, regulation, and DOE policy. Performance Criteria 2.4.2.6 states that independent assessments are performed by qualified Field Office/Site Office personnel who have no administrative or programmatic connection to the activity being assessed.

Concern

The DOE-METC ES&H internal review system does not meet requirements for independence and objectivity and DOE-METC has not performed required ES&H functional appraisals or provided adequate oversight of its support contractors. In addition, the Safety Analysis Review System (SARS) does not always provide management with a full assessment of the degree of risk that may be entailed in METC activities.

Discussion

The 1991 Tiger Team Assessment of METC found that FE did not perform oversight of METC ES&H activities, evaluate ES&H performance trends, review METC corrective actions, or review METC ES&H management activities (i.e., planning, staffing, training). Nor did FE provide a lead role or provide timely and formal response to METC in the development and review of self-assessment or quality assurance programs.

Additionally, the 1991 Tiger Team Assessment found that DOE-METC was not providing adequate oversight of ES&H activities of its site support contractors, performing required appraisals, or providing NEPA and work order reviews prior to the commencement of activities. Nor was there an independent ES&H review system in place to ensure that compliance with ES&H requirements occurs.

Although FE has not conducted a formal ES&H audit of METC to date, one was scheduled and recently postponed until after the Progress Assessment. However, FE-6 has developed a comprehensive ES&H oversight program with scheduled audits of all FE sites each year, documented procedures, performance objectives, and reporting requirements (D-C-5, 101, 103, 105, 106, and 145). FE-6 has conducted audits of other FE sites and FE Headquarters program offices that generally fulfill FE oversight responsibilities, and there is reason to believe that similarly effective oversight will be performed at METC (D-C-108 through D-C-110). FE has established tracking and trending systems that provide management with processed data on the status of ES&H for decisionmaking. Performance indicators are used and a risk-based prioritization methodology is employed to rank corrective actions (D-C-104 and D-C-107). FE has provided guidance and review to METC on many ES&H matters,

in what appears to be a timely fashion, and has reviewed and approved the METC self-assessment and quality assurance plans (D-C-96 through D-C-106 and D-C-138 through D-C-151).

DOE-METC has also made considerable progress by establishing ES&H oversight programs incorporating review of existing activities, new or modified work, construction, restart of programs that were shutdown after the 1991 Tiger Team Assessment, National Environmental Policy Act, and other environmental requirements. DOE-METC has also established OSHA, quality assurance and self-assessment programs, and an organizational framework for independent ES&H oversight as required by DOE Orders.

Assignments to the site support contractor specifically reference applicable METC ES&H Orders, and contracted research and development, which is the dominant METC activity, contain appropriate ES&H clauses.

Notwithstanding the progress made, the Progress Assessment Team identified the following deficiencies:

- While DOE-METC has established an organizationally independent oversight function in the Director's Office under the Chief Engineer, the activities performed by the individuals involved potentially compromise their independence and objectivity. Interviews with the Chief Engineer's staff, who are assigned the internal independent ES&H oversight role, indicate that these personnel are deeply involved in providing day-to-day problem solving activities with the line organizations (I-C-1, 2, 4, and 21). Furthermore, interviews with line managers confirmed this activity (I-C-22 and I-C-27). It is natural and desirable to use the best available ES&H resources to solve real problems, however, a hallmark of an effective ES&H program is objective oversight.
- Functional appraisals (e.g., fire protection, industrial hygiene) required by DOE 5482.1B have not been performed of DOE-METC or site support contractor activities (see E/C-1 through E/C-3 and S/C-1 and S/C-2 for additional information) (I-C-1, 2, 4, 8, and 21).
- DOE-METC has assigned the implementation of significant portions of its ES&H program to site support contractors, predominantly EG&G Washington Analytical Services Center, Inc. (WASC) through direct contractual assignment. This includes programs such as OSHA inspections, confined space, respirator protection, and waste management. Currently, inadequate METC oversight of these activities is occurring to determine compliance with METC ES&H Order requirements (see E/C-1 through E/C-3 and S/C-1 and S/C-2 for additional information) (I-C-1, I-C-3, and I-C-11).
- METC has expanded and further developed its established Safety Analysis and Review System (SARS) to perform safety evaluations of all processes, facilities, and laboratories, with a standing SARS Committee for each area. These SARS reviews are highly structured, labor and document intensive, safety evaluations (D-C-168 and D-C-169). Almost all METC activities are low hazard, standard industrial laboratory activities. However, for that

small population of METC activities that are not low hazard, the SARS process is deficient in the following ways. The SARS process does not require the development of a quantitative analysis of credible ES&H consequences by the originator or an assessment by the SARS committees. The SARS process is based on a subjective qualitative assessment of impacts, primarily based on normal operating conditions, rather than a review of the consequences of accidents or failures. The process does not require the development of a comprehensive safe operating envelope (see S/C-3 for additional information). As a result, management may not be fully aware of the extent of the risks it is accepting (D-C-93, 94, 134, 135, 166, and 167).

- A limited review of SARS packages disclosed a significant number of deficiencies in the material supplied to the committees and in their subsequent assessments. Areas of particular concern were the lack of expected or acceptable ranges for instrument readings or operating conditions on checklists to be used by the research team; undefined administrative procedures; unspecified quantities, pressures, temperatures or other parameters that should be assessed for their ES&H consequences; and the lack of knowledge of radiological safety (it should be noted that radiological activities at METC are minimal) (D-C-93, 94, 134, 135, 166, and 167).
- The minutes of SARS committees do not provide an auditable record of the depth and breadth of its ES&H considerations. They rarely provide reasons for recommended changes of safety significance to the originator's proposal, or for removal of requirements recommended to the committees by the site support contractors review, nor do the minutes provide indication of the committee's specific evaluation of hazards and consequences (D-C-93, 94, 134, 135, 166, and 167).
- Cooperative Research and Development Agreements (CRADAs) do not provide a preliminary assessment of potential ES&H concerns, nor are they reviewed for ES&H concerns before they are submitted to the outside entity (D-C-68; I-C-27). Although the SARS process would be applied prior to initiation of any activities, this occurs too late for the proposer to include any resource allocations or schedule requirements that might result from unreviewed ES&H considerations.

Assessment Concern Number:

M/C-2

Assessment Concern Title:

Directives System

Performance Objective

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Criterion 2.4.1, states that a directives 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 throughout the organization. Performance Criterion 2.4.1.2 states that the directives system ensures common understanding of ES&H requirements, identifies their specific impacts on site activities, and facilitates development of policies and implementing procedures.

Concern

The DOE-METC directives system does not ensure a common understanding of the meaning of new or revised ES&H requirements or the development of impact statements and implementation plans for their execution; does not address requirements originating from other than DOE sources; and does not result in well-defined procedures or their consistent implementation.

Discussion

The DOE directives system is one of the primary mechanisms for communicating DOE requirements, including those for ES&H, throughout the DOE complex. It provides the opportunity for all parties to reach a common understanding of the requirements and to convey their respective expectations regarding implementation.

The 1991 Tiger Team Assessment of METC found that FE was not providing DOE-METC with guidance or expectations regarding DOE Orders or budgets, and DOE-METC was not providing formal guidance or expectations to its contractors. DOE-METC was not effectively implementing its ES&H Improvement Plan to develop METC ES&H Orders and had poorly defined directives system roles, responsibilities and authorities. Additionally there was no consistent, formal functioning system to translate laws, regulations, DOE Orders, and other requirements into site-specific procedures to ensure that all site activities were conducted in compliance with these requirements.

Since most DOE ES&H Orders are written with nuclear and weapons programs as their focus, it is particularly important that FE provide guidance, interpretation, and expectations regarding ES&H directives to the field. FE has significantly increased ES&H communications within FE and to the field (D-C-96 through D-C-106 and D-C-138 through D-C-151). Initially these communications contained little in the way of interpretation and guidance. However, with increasing resources, the Office of Self-Assessment (FE-6) has begun to provide guidance and interpretation of ES&H requirements; specialized assistance; guidance on ES&H planning, particularly in the area of risk-based prioritization methodologies; five year and annual ES&H budget planning; self-assessment plans and programs; and development of an FE-wide tracking system.

DOE-METC has also made considerable progress and has issued most, if not all, required ES&H METC Orders, implementing plans, and procedures. METC Order 1321.1C, "METC Directive System," now contains specific roles, responsibilities, and authorities for all participants and establishes a Directives Coordinator, prescribes time limits for issuance of directives, and requires biennial review of existing directives and annual review of procedures. A document control system for directives has been established and implemented; as have emergency preparedness, event reporting, conduct of operations and maintenance, quality assurance, and corrective action programs, which were specifically found lacking during the 1991 Tiger Team Assessment. A draft revision to the current METC Directive Order will make further improvements in assigning lead organizations for each DOE Order, and improving the handling of draft Orders. A Procedures Review Committee has been established to accomplish the review and approval of procedures and, as part of their annual review, is removing ambiguities and more precisely defining roles, responsibilities and authorities contained in these procedures. METC has also developed an effective procedure (METC P 1321.1-1) to govern the generation and revision of procedures but has not yet developed a 'Procedure Writers Guide' that is needed to obtain consistent and effective procedures (I-C-10 and I-C-18).

Notwithstanding the considerable progress made, the Progress Assessment Team identified the following deficiencies regarding the METC directive system.

- METC Order 1321.1C does not ensure that a common understanding of ES&H requirements is obtained among all parties (FE, other DOE-METC affected organizations, and site support contractor). Nothing in the METC process requires the organization assigned to develop a requirement or directive to coordinate activities with potential stakeholders. Nor does the Order require the determination of impacts or development of implementation plans. Ensuring common understanding goes beyond agreement on substance and intent of the requirement but also includes ensuring a common understanding of the impacts and implementation plan (I-C-8, 10, 18, and 21).
- METC Order 1321.1C only addresses DOE originated directives. Many ES&H requirements result from local, state, other Federal agencies' regulations and are not captured by the directive or any other METC system (I-C-8, 10, 18, and 21).
- Legal review is only for the purpose of determining the need for developing a METC directive to implement an applicable DOE directive. The proposed new revision of this Order would remove counsel entirely from the directive process. Because of the complexity of ES&H, particularly environmental regulations and the possibility of civil and criminal penalties, it is appropriate to include legal review of environmental implementing procedures (I-C-18).
- Reviews performed by the Progress Assessment team of procedures derived from directives, indicates that many procedures do not adequately define roles, responsibilities, and authorities; contain ambiguous and undefined terms; and are inadequate to fully implement an activity, leaving the possibility for nonuniform

application (see Concerns M/C-1, E/C-1, E/C-2, E/C-3, S/C-1, and S/C-2; and Weakness M/W-1). Furthermore, adherence to procedures appears to be deficient based on review of available audits, appraisals, and implementation activities (D-C-16, D-C-17, and D-C-18). This is partly the result of the poor quality of the existing procedures and partly the result of inadequate management oversight and lack of insistence on procedure adherence.

Assessment Concern Number:

M/C-3

Assessment Concern Title:

METC ES&H Training

Performance Objective

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.3 and 2.3, state that formal programs for staff development, training, and certification ensure that only fully qualified personnel are assigned to ES&H programs.

Concern

Elements of the METC ES&H training program, such as centralization of responsibilities, long range planning, retraining, career development, and program evaluation, evidence deficiencies that weaken METC's ability to ensure that personnel at all levels of the organization are qualified and, where required, certified to carry out their assigned duties and responsibilities.

Discussion

An effective ES&H training program ensures that personnel at all levels of the organization are qualified, and where required, certified to carry out their assigned duties and responsibilities. Such a program is founded on clearly defined goals and objectives, and is conducted with the formality, documentation, attained proficiency validation, training effectiveness validation, and recordkeeping commensurate with its essential role in ensuring that only qualified staff are assigned to ES&H activities. Important steps have been taken at METC to develop and fully implement such a program.

Historically, METC ES&H training has been inconsistent, decentralized, and informal. The 1991 Tiger Team Assessment reported pervasive deficiencies in the METC ES&H training program, and identified the need for a centralized training program to ensure that ES&H training needs were identified and fulfilled in a uniform and expeditious manner.

METC has developed an annual training plan process that serves as a framework for its ES&H training program. The Annual Training Plan (D-D-85) includes an overall training budget and cost breakdowns by organizational units. However, this plan is not a comprehensive implementation plan because it lacks, for example, a discussion of short-term goals and objectives (e.g., completion of RCRA mandated training), and an implementation schedule that includes the phasing of activities and milestones leading to full implementation of the goals and objectives.

METC recently completed a sitewide Job Task Survey to identify the exposures and physical attributes related to all positions. The data, when validated, will serve to identify specific needs in ES&H training.

The Progress Assessment Team identified the following deficiencies in the training area:

- In 1992, METC established the position of Training Officer within the Organization and Human Resources Development Division. While this office currently provides, with the assistance of a part-time

ES&H Training Coordinator, coordination of all METC training, and performs some oversight activities, it is not implementing all of the responsibilities normally associated with a central training office such as training policy development; identification of training needs; establishment of a proposed curriculum of courses to meet those needs; budget development; and training implementation, validation, and evaluation. While the office has been properly structured, it has not been fully staffed, and the incumbent does not as yet have the necessary experience or training to exercise all of the assigned responsibilities (I-D-25). Support for some of these responsibilities in the ES&H area is provided by the ES&H Training Coordinator. This role was established to provide technical support and needs evaluation in ES&H group training.

- Neither job task analysis nor knowledge skills analysis have been performed for all DOE-METC employees.
- Most of the training conducted since the 1991 Tiger Team Assessment has been awareness training rather than proficiency or performance-based training. The courses generally provided a survey of the topic, rather than hands-on experience necessary to achieve proficiency. Exceptions are emergency preparedness, first-aid, CPR, and other areas that are inherently performance-based. However, DOE-METC management has committed to an increased emphasis on the performance-based training method (I-D-23 and I-D-28), and performance-based training is underway in the rescue portion of Confined Space Entrant, Forklift/Scissors lift Safety and Payloader Safety Training, as well as being incorporated into the development of the revised Hot-Work/Welding Safety training.
- There is no sitewide policy that establishes detailed requirements for conducting such retraining as refresher, remedial, currency, and recertification.
- Individual Development Programs (IDPs) are not METC-wide as yet; they were done last year in the Environment, Safety and Health Program Support Division. In anticipation of a sitewide IDP program, to be initiated in June 1993 in phase with the annual employee performance appraisal cycle, there has been general employee and supervisor IDP training and IDP Counsellors have been appointed.
- Line managers and supervisors do not receive sufficient training to broaden their overall knowledge of ES&H-related practices, processes and equipment, and to develop supervisory and management skills (I-D-25).
- A METC-wide personnel training, retraining, and certification tracking system that identifies the training requirements for each employee and the employee's training status does not exist at METC. Currently, METC maintains a training data base that includes each employee's training record. The data base includes

the course title and the training date, but does not include training requirements or dates for retraining.

- There is no formal process for evaluating and documenting the effectiveness of training and certification programs. Since the goal of training is enhancement of job performance, the true measure of effectiveness is actual employee job performance; yet there are no mechanisms in place to provide feedback from job performance in order to assess actual training effectiveness and provide a basis for improving course content or for setting retraining requirements. Evaluation of training does not consist simply of determining how many are trained or what the trainees thought of the course; it should ascertain the degree of changed behavior, for without such changed behavior, the training will not be put to use, and will be soon forgotten.

There is much evidence that DOE-METC management is committed to the goal of ES&H excellence and recognizes that a formal, comprehensive ES&H training program is vitally important to achieving this goal. The recent steps that DOE-METC has taken, and the priority it has accorded the program, suggests that a sound ES&H training program is emerging at METC.

Assessment Weakness Number:

M/W-1

Assessment Weakness Title:

METC Corrective Action Program

Performance Objective

Environment, Safety and Health Progress Assessment Manual (December 1992), Appendix B-2, Performance Objectives and Criteria for Action Plan Programs, states that DOE and its contractors should have formal programs that ensure the effective implementation of their Corrective Action Plans.

Weakness

The METC corrective action program does not effectively capture and trend some relevant ES&H deficiencies, develop and disseminate lessons learned, document the bases for corrective action plan revisions, and validate the effectiveness of corrective actions taken.

Discussion

Since the 1991 Tiger Team Assessment, METC has developed a corrective action program to ensure that formally identified deficiencies are captured, addressed by corrective action plans, and tracked to closure. Periodic status reports are provided to METC and FE. However, the METC corrective action program is not entirely mature and several of its elements need to be strengthened. In particular, the program does not ensure that informally reported deficiencies are captured and addressed; that data gathered on deficiencies are systematically reviewed for trending and lessons learned purposes; that changes are appropriately approved and documented; and that actions taken are validated to ensure they have been effective in correcting the root causes of the originally identified deficiencies (D-A-14, 19, 20, 28, 35, and 57; I-A-1, 3, 6, 8, 14, 20, and 24).

- The METC corrective action program does not have a formalized program plan or charter. The METC Corrective Action Procedure and Handbook contains many of the elements of a program plan. However, overall program goals are not explicitly stated. A structure for the overall corrective action program is not defined, i.e., the corrective action tracking system environment is not defined including: software and hardware used, quality control for software, and data entry procedures used. Data entry and operation instructions for the METC Corrective Action Tracking System (MCATS) exist as operator aides but have not been issued as formal, controlled procedures (D-A-57 and D-A-58; I-A-20 and I-A-24).
- The METC corrective action program clearly assigns responsibility for specific tasks and milestones to individual employees. Corrective action tasks identify work to be performed, schedules including intermediate milestones, and resources required (D-A-14).
- METC's corrective action tasks are addressed to specific problems on a root cause basis rather than to individual findings. This approach does cause some difficulty in determining the status of

progress against an individual finding or assessment. Only validation at the completion of the task will allow a completely accurate assessment of progress (I-A-1, I-A-6, and I-A-8).

- Status reports on a task and milestone basis are routinely generated to provide METC and FE management an overview of activities in this area. METC reports to FE do not identify that milestones dates have been revised, nor has FE requested that revisions be flagged. The METC corrective action program also provides for documenting completion of tasks. FE has not provided METC guidance on closure of corrective actions (D-A-21, 22, 23, 24, and 57).
- The METC Corrective Action Procedure defines a financial threshold of \$5000 for entry into MCATS, as a means of implementing the graded approach to corrective actions. METC captures some, but not all issues below the \$5000 limit via the work order system. The work order system effectively captures items that require site support contract activity to correct. Other items, notably management's work place surveillances, are not captured by either MCATS or the work order system. These issues are lost for trending and lessons learned purposes (D-A-57; I-A-6, 9, 23, 26 and 27).
- METC also recognizes the need for and has assigned responsibilities for trending, root cause analysis, and lessons learned development, and dissemination. Methods and procedures for accomplishing these functions are still in the formative stages (root cause analysis is more nearly developed than the other listed elements). These functions have been assigned to the Chief Engineer's Office as collateral parts of the self-assessment and oversight programs. No formal lessons learned assessment reports have been done to date. The Chief Engineer's Office plans to issue a lessons learned assessment this fiscal year. METC has made lessons learned presentations at FE's periodic, program wide ES&H conferences. The METC news letter, electronic mail system and interoffice routings are routinely used to informally distribute lessons learned information from a variety of sources including EH safety bulletins (D-A-13, 17, 57, and 64; I-A-6 and I-A-8).
- METC was only recently tasked to implemented a performance indicator program. Planning for this activity as a part of the overall self-assessment program has been started including preparation of a draft procedure and the first draft report (D-A-63).
- Some data on causal factors are collected via the work order system and informally reviewed for common mode failures. Currently, these data are not systematically reviewed and categorized for trending. A Work Order "comments" report is generated weekly and METC has recently initiated distribution of these reports to the ES&H Program Support Division (D-A-61; I-A-6, 23, 24, 26, and 27).

- As originally implemented, the METC corrective action program did not include formal change control. During implementation of the planned tasks, schedules were changed to accommodate changes in conditions, to correct for imperfect initial planning, and to account for variations in funding. These changes were informally controlled by the corrective action program manager, but the rationale for the changes was not documented. METC has recently revised the corrective action procedure to tighten up change control but has not provided guidance and criteria for documenting rationale and justification for changes. The level of FE involvement in action plan changes is not clearly defined and FE concurrence in changes is not formally documented (D-A-57; I-A-1, 3, 20, 22, 24, and 25).
- An informal sampling of corrective action tasks for the Tiger Team Assessment found considerable slippage in schedules originally published. Past change control documentation does not indicate rationale for slips nor does it indicate level of management concurrence in the revision (D-A-19 and D-A-35).
- The Chief Engineer's Office has been designated as the organizational entity to validate the effectiveness of corrective actions. No formal validations have yet been conducted. The Chief Engineer's Office has a potential conflict of interest in that implementation of approximately twenty of the Tiger Team Tasks was managed by that Office. Nothing in the procedures prevents future task assignments from resulting in the same situation. This could easily lead to the objectivity of the validations being subject to question (D-A-17 and D-A-57; I-A-6, I-A-8, and I-A-24).

Assessment Weakness Number:

M/W-2

Assessment Weakness Title:

FE Self-Assessment Program

Performance Objective

A January 20, 1990 directive from the Secretary of Energy requires all line organizations to implement comprehensive self-assessment programs.

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

The ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objective 2.5 states the requirements of a comprehensive, institutionalized self-assessment program.

Weakness

Elements of FE's self-assessment program, such as conduct of planned appraisals, trend analysis, and lessons learned dissemination, are not fully implemented.

Discussion

With the establishment of the Office of Self-Assessment (FE-6), in late 1991, FE has taken an active role in implementing the DOE self-assessment policy. The principal accomplishments of FE in the self-assessment area are (1) a comprehensive Self-Assessment Program Plan and an Implementation Plan; (2) a management appraisal, in May 1993, of FE-6, FE-20, FE-30, and FE-70; (3) management appraisals of several FE field organizations (a May 1993 appraisal of METC has been postponed) with additional appraisals scheduled; (4) self-assessment guidance for use by FE and its field organizations; (5) review of FE program office and field self-assessment plans; and (6) self-assessment training. METC's program offices (FE-20, 30, and 70) have developed self-assessment plans that call for annual internal appraisals, and triennial management appraisals of field organizations.

However, FE does not as yet have a fully developed and implemented self-assessment program:

- The self assessment roles, responsibilities, and authorities of FE-6, between FE-6 and the FE program offices, and between FE and its field organizations lack clear definition and are not well-understood at DOE Headquarters or in the field (I-B-11, 12, 13, and 14).
- FE program offices have not conducted all of the appraisals listed in their self-assessment implementation plans (see D-B-5, D-B-6, and D-B-7; I-B-7, 11, 12, 13, and 14).
- Programs for trend analysis, root cause determination, and lessons learned dissemination are in formative stages (I-B-7).

Assessment Weakness Number:

M/W-3

Assessment Weakness Title:

DOE-METC Self-Assessment Program

Performance Objective

A January 20, 1990 directive from the Secretary of Energy requires all line organizations to implement comprehensive self-assessment programs.

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

The ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objective 2.5, states the requirements of a comprehensive, institutionalized self-assessment program.

Weakness

Elements of the DOE-METC self-assessment program, such as sitewide appraisals, trend analysis, root cause determination, lessons learned dissemination, corrective action, and training are not fully developed and implemented.

Discussion

DOE-METC has made substantial progress in developing and beginning to implement a self-assessment program. Since the 1991 Tiger Team Assessment, when there was essentially no program, DOE-METC has developed a self-assessment implementation process that provides the form, content, and many of the implementing procedures for a comprehensive program that covers all facilities and ES&H functional and management areas; established the Office of the Chief Engineer as the organization responsible for the overall self-assessment program; incorporated into the program the results of ongoing assessment activities (e.g., appraisals of life safety, fire hazards, lockout/tagout, confined space entry, and special works permits); and provided self-assessment training.

However, the Progress Assessment Team noted the following deficiencies in several of the elements of the self-assessment program.

- Line surveillance activities (generally referred to at METC as "walkabouts") do not occur with sufficient frequency, scope, or formality. Those procedures that exist in this area are not consistent throughout the site, and provide mainly for "housekeeping" type of inspections. Walkabouts are seldom formally documented (I-B-6); deficiencies that are found are recorded and tracked on systems that vary with the individual inspectors and are often quite informal. Although there is evidence that DOE-METC is taking steps to increase the frequency and formality of its walkabout program, and training for managers and supervisors is planned, these activities are not complete (D-A-17; I-B-7, I-B-10, and I-B-15).

- DOE-METC has not implemented a comprehensive program of oversight to provide essential information to the self-assessment process on the status of ES&H performance (see Concern M/C-1).
- Many of the implementing procedures for conducting the self-assessment program are incomplete (D-A-17; I-B-6, 15, 16, 17, 18, and 19).
- Programs for trend analysis, root cause determination, and lessons learned dissemination are not complete; there is considerable planning in this area, but implementation is minimal (I-B-7 and I-B-19).
- Performance indicator and Occurrence Reporting and Processing System (ORPS) data is not formally incorporated into the self-assessment process.
- Important aspects of the corrective action program evidence deficiencies that weaken its effectiveness as an element of the self-assessment process (see Weakness M/W-1).

In May 1993, DOE-METC completed an ES&H Management Self-Assessment. It was a planned, structured, and documented appraisal, principally aimed at assessing progress against the METC Tiger Team Corrective Action Plan. A team was selected from various DOE-METC and site support contractor organizations, and the team used performance objectives and criteria from the Environment, Safety and Health Progress Assessment Manual (December 1992). The assessment also followed a draft METC Assessment Handbook. In general, the assessment was a satisfactory self-assessment product, and a corrective action plan is being developed. Many of the deficiencies identified in this Progress Assessment were either fully or partially identified by DOE-METC. However, even where identified, the issues were not treated with great detail. Furthermore, some key management issues were not specifically identified in the report, e.g., lack of objectivity in the oversight function; absence of oversight in many program areas; and interrelationship uncertainties in the waste management, groundwater protection, and industrial hygiene programs. There no evidence in the report of any quality assurance verification process having been incorporated into the assessment methodology.

Assessment Weakness Number:

M/W-4

Assessment Weakness Title:

METC Organization

Performance Objective

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.2 and 2.2, state the requirement that ES&H roles, responsibilities, and authorities of the organization are clearly defined, formally documented, communicated and understood.

Weakness

DOE-METC ES&H organizational and individual roles, responsibilities, and authorities, with respect to internal independent ES&H oversight, interfaces with the site support contractor, stop work authority, employee position descriptions and employee performance evaluations, are not fully defined and clearly understood throughout the site.

Discussion

Consistent and clear definition of individual and organizational roles, responsibilities, authorities and interfaces is particularly important for complex, multifaceted activities such as those embraced in the METC mission. The 1991 Tiger Team Assessment found that the DOE-METC management had not established an organizational structure that provided a clear understanding of ES&H functions, responsibilities, authorities, and accountabilities. Indeed, the Tiger Team was unable to find an organization that had an ES&H-related title or a person with an appropriate ES&H title.

Since the 1991 Tiger Team Assessment, there have been major organizational changes in the ES&H program at METC. At the present time, the organizational structure to accomplish the METC ES&H mission has been defined by management in current organizational charts, and further amplified with mission and function statements contained in various DOE-METC Orders, policies and procedures documents, and in manuals (see Concern M/C-2). Charters and enabling documents for the standing Safety Analysis and Review System (SARS) committees have also been issued.

The following deficiencies were identified by the Progress Assessment Team:

- Although the roles, responsibilities, and authorities of the ES&H internal independent oversight program, (under the direction of the Office of the Chief Engineer), have been defined and documented in Orders, plans, and policies (see Concern M/C-2), interviews revealed that the roles are not well-understood throughout the site, even by organizations with which the office interacts. This has led to uncertainty and duplication of effort. An explanation may lie in the broad range of activities performed by the office's small staff (e.g., independent oversight, QA, emergency response, NEPA). Furthermore, the responsibilities undertaken by the Chief Engineer's staff have raised issues of lack of objectivity in the exercise by the office of the independent oversight function. For example, the office is responsible for the performance of such ES&H programs as National

Environmental Policy Act (NEPA) and emergency management, and cannot therefore perform objective oversight of those programs; yet no other METC organization is charged with such oversight responsibility (see Concern M/C-1).

- Organizational interrelationships between DOE-METC and EG&G regarding important aspects of the industrial hygiene program, the groundwater protection monitoring program, and the waste management program lack sufficient formality and definition (see Concerns E/C-2, E/C-3, and S/C-2).
- The establishment of specific, personal ES&H goals, objectives and performance evaluation measures for all employees is an opportunity for management to communicate its commitment to ES&H excellence. The DOE-METC annual Performance Management System (PMS) is designed to improve performance by providing employees with clear job expectations and timely feedback on results achieved. METC Order 3430.3B recommends the inclusion of ES&H as a "critical" element of the PMS. The Order is applicable only to supervisory employees and is worded generically ("compliance with ES&H laws, regulations, policies, and procedures"). In addition, METC Order 3790.1B, which is applicable to all DOE-METC employees, requires line organizations to "ensure that employee performance standards reflect a high priority for safe and healthful operations." However, there is little formal sitewide guidance provided to managers and supervisors on how the ES&H element is to be utilized (I-D-11, I-D-24, and I-D-29). The lower one goes in the management level, the less guidance is evident. As a result there is a wide diversity among the divisions, and within divisions, on how the element is described and evaluated. Furthermore, position descriptions for non-ES&H personnel at DOE-METC do not consistently incorporate ES&H responsibilities.
- METC Order 5480.4-1, issued during the Progress Assessment, seeks to clarify the area of stop work authority by according every DOE-METC employee the responsibility and authority to shutdown any activity that is "directly related to their work responsibility or function," whenever "the observed activity exhibits an imminent hazard." While this issuance may alleviate some of the widespread uncertainty regarding stop work authority that is evident throughout the site, it does not clearly address the issue of who (other than "independent assessors") has the authority to shutdown imminently hazardous activities with which they are not directly related, but which they have observed. Apparently, the "line manager or ES&H representative" has the authority, but these are not generally understood terms and they are not defined in the Order. If there are other categories of personnel who have received stop work authority at METC (e.g., ES&H professionals or QA professionals), it would seem desirable to restate their authorities in METC Order 5480.4-1 to collect and clearly identify all such authorities in one place.

Assessment Weakness Number:

M/W-5

Assessment Weakness Title:

DOE-METC Planning

Performance Objective

The performance objectives for planning are defined in Secretary of Energy Notice (SEN)-25A, "Strategic Planning Initiative," DOE 4320.1B, "Site Development Planning" (January 7, 1991), and the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Performance Objectives 1.1 and 2.1.

Weakness

The METC strategic planning process does not fully integrate ES&H and programmatic goals to define, guide, and prioritize the accomplishment of the METC mission; METC subordinate implementation plans that would translate strategic and program plans into working level activities, have not been fully developed.

Discussion

Strategic and subordinate implementation planning is the systematic process management uses to define, communicate, and transform its vision for accomplishing its mission into action. The planning process defines the organization's strategic goals and objectives, policies and procedures, resources, organizational relationships, and management systems 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.

The 1991 Tiger Team Assessment reported the absence of a sitewide planning process that fully integrates ES&H requirements into the program mission. Both FE's and METC's planning and budget formulation and execution efforts were aimed at achieving program/project objectives.

The Progress Assessment found that the strategic planning processes are maturing but that full integration of ES&H and program considerations has not yet occurred; that is, the planning processes do not address programmatic and institutional ES&H mission/goals as closely related planning products. Furthermore, the subordinate implementation planning processes at DOE-METC, that would set priorities for, and guide the accomplishment of ES&H activities, are not complete and fully functioning.

The strategic and subordinate implementation planning processes of DOE-METC exhibit progress since the 1991 Tiger Team Assessment. FE has issued a strategic plan and associated planning guidance to METC. The DOE-METC Director has conducted strategic planning exercises and issued a Strategic Plan with specific goals and objectives for the site. The METC Corrective Action Tracking System (MCATS) is utilized to provide planning and budgeting data for both implementation and recurring activities.

However, despite these notable successes, the FE and METC planning processes have not yet reached maturity. For example:

- The METC Strategic Plan is principally a business plan; it does not place strategic importance on institutional ES&H. In the plan, ES&H issues are not prominent considerations in the Vision and the Mission statements, and in the general planning assumptions ES&H is addressed only briefly (e.g., as one of the "key external forces/trends"). The plan describes current and future program opportunities but ES&H is not an element of this view.
- In the absence of an ES&H component to the Strategic Plan, it is necessary to examine the METC ES&H Five Year Plan (D-D-45 and D-D-46) to determine whether ES&H and programmatic planning integration is accomplished by means of the Five Year Plan. The plan does contain specific ES&H goals and objectives, but these are not tied to, or reference, the METC Strategic Plan to foster a formal integrated planning process. What is missing is an integrated strategic plan (or set of planning documents that constitute a plan), that sets out the roles and responsibilities for achieving the stated goals and objectives; establishes milestones for accomplishment; contains mechanisms to measure progress; incorporate correlative mechanisms to detail and match the relationship of scheduled activities to human and financial requirements; and addresses the interrelationships and sequencing of scheduled activities. It may also be noted that DOE-METC line managers are not directly involved in the development of the ES&H Five Year Plan (I-D-27).
- The planning function at METC is not organizationally centralized, but resides in numerous organizational units whose collective responsibility for planning is not clearly defined (I-D-27).
- The most recent Site Development Plan is dated April 1987, despite a DOE requirement (DOE 4320.1B) for the annual development or revision of a Site Development and Facility Utilization Plan. However, a site development planning process is underway at METC, and a plan is expected to be issued during FY 1993.

Furthermore, while METC has many implementation plans to set priorities for and to guide the work activities throughout METC, a number of these are incomplete or in draft form (although some implementation is occurring pending completion or approval); other implementation plans, particularly at middle or lower working levels, have yet to be drafted. An overall plan for ES&H oversight, a long range plan for ES&H group training, a sitewide corrective action management program plan, and a waste management program plan have not been completed by METC. As a consequence, there is a general lack of uniform and consistent sitewide guidance and implementation in such key ES&H areas as oversight, training, corrective action, and waste management.

Operational plans, which would relate to how the product plans will be implemented, and which would be expected to include ES&H considerations, do not exist at METC; a goal of this year's strategic planning process is to develop such operational plans (I-D-27).

Assessment Strength Number:

M/S-1

Assessment Strength Title:

**Self-Assessment Training Provided by
FE**

Strength

FE has provided extensive training in the elements of self-assessment to both FE and field personnel.

Discussion

During the past year, FE has made significant progress in providing training in the self-assessment process to FE Headquarters and field personnel. All key FE-6 managers and staff have received such training. In addition, FE-6 arranged for several two-day, in depth self-assessment training courses that were attended by more than 60 key DOE managers and staff from FE Headquarters and the FE field organizations, including METC.

The training courses were conducted by DOE self-assessment specialists and included such subjects as self-assessment philosophy, integration of self-assessment with other DOE Orders and programs, the self-assessment process, and how to perform self-assessments. Attendees were provided with the most recent guidance and policy materials. Case studies and open discussions were built into the course.

An important objective of the training sessions was to train the attendees who in turn would be prepared to provide self-assessment training to personnel at their respective organizations.

Assessment Strength Number:

M/S-2

Assessment Strength Title:

Project Manager Development Program

Strength

DOE-METC has developed and implemented a program that combines formal education and on-the-job experience to establish a cadre of new government employees with professional project management expertise, many of whom will be placed in ES&H-related positions.

Discussion

In 1991, DOE-METC established the METC Project Manager Development Program (PMDP). The overall purpose of the program is to develop the knowledge, skills, and breadth of work experience required to successfully manage the complex R&D projects that are planned and executed at METC.

The PMDP is designed as a structured 2-year program with three major activities ongoing at the same time (1) a series of rotational assignments in each of the major program functions at METC; (2) a series of business-oriented training courses; and (3) postgraduate education at a nearby university.

The intent of the program is to provide a middle-depth view into the functions occurring within METC and to provide operational/technical background that will be useful to a project manager. A "mentor/sponsor" is assigned to each participant who coordinates the rotational assignments, training, and course work, and is responsible for the participant's periodic performance appraisal.

Thirty-four participants are currently in the program. Four of the present participants are working toward advanced degrees in environmental sciences or occupational safety. Each participant has been given ES&H training appropriate to their rotational assignments. They will have experienced a generally broader set of ES&H disciplines than the overall METC population, because of rotation through assignments involving the full range of functional positions at METC. Notably, effective in July 1993, six of the participants will be placed in ES&H or predominantly ES&H positions at METC, including three in the ES&H Program Support Division, two in the Environmental and Waste Management Division, and one in the Site Development and Management Branch.

Interviews with senior DOE-METC personnel and with some of the participants indicate that the program has been of great benefit both to the participants (as to education, experience, and motivation for continued Federal service), and to the DOE-METC staff who have received valuable services and an infusion of fresh idealism and energy.

Appendix B-2

Assessment Details - Environment Programs/ Concerns, Weaknesses, and Strengths

Assessment Concern Number:

E/C-1

Assessment Concern Title:

Oversight of Groundwater Analytical Laboratories

Performance Objective

Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992), Performance Objective QA.2, states that a program should be in place to provide verification of the effectiveness of the environmental protection activities, including analytical laboratories that provide data on the effectiveness of environmental monitoring activities and adherence to the quality assurance program.

Concern

METC lacks a formal program of oversight of the effectiveness of laboratories that analyze groundwater samples, to ensure compliance with Federal and state regulations and requirements, DOE and METC Orders, METC's Quality Assurance/Quality Control Manual (QAP), and project-specific quality assurance/quality control (QA/QC) plans.

Discussion

The METC QAP establishes the Quality Program at METC and applies to all activities conducted onsite in Morgantown, West Virginia, and offsite at METC leased/owned locations where activities are directed and executed to a significant degree by DOE employees (D-E-30). One of the objectives of the QAP is to ensure that overall work performance, including all METC groundwater monitoring activities, is reviewed and evaluated using a formal assessment process that includes elements such as controlled procedures, assignment of roles and responsibilities, and trending and tracking of corrective actions. The lack of a formal appraisal process that effectively assesses a laboratory's ability to produce valid and representative data contributes to a lack of assurance that groundwater protection activities are being performed in accordance with Federal, state, and local requirements, DOE and METC Orders, METC's QAP, and project specific QA/QC plans.

Currently, METC's site support contractor, EG&G Washington Analytical Services Center, Inc. (WASC), has a subcontractor analyze METC's onsite groundwater samples. EG&G has responsibility for ensuring that the subcontractor performs activities consistent with standard laboratory practice (D-E-20 and D-E-51). EG&G requires QA/QC documentation from the subcontractor and has performed informal surveillance of the laboratory prior to award of a contract. However, EG&G has not performed periodic formal audits to ensure that QA/QC requirements contained in the QA/QC preaward documentation are being implemented, that laboratory certifications are still in effect, and that laboratory activities conform with METC's QAP requirements for laboratory analysis and instrument calibration (I-E-2 and I-E-8).

From 1989 to 1993, METC's groundwater activities at Hoe Creek and Rock Springs were performed by a contractor who subcontracted sampling and analysis services. DOE-METC staff with responsibility for surveillance of the Hoe Creek and Rock Springs groundwater monitoring activities, state that

performance audits of the subcontractor were not performed by the contractor, although such audits were allowed by the terms of the contract (I-E-17).

Currently, a purchase order has been executed between DOE-METC and a contractor to both sample and analyze groundwater from Hoe Creek activities. While DOE-METC staff have made informal observations of the contractor's analytical laboratory activities, performance audits have not performed and DOE-METC has no plans to perform formal audits (I-E-17).

While surveillance activities occur at analytical laboratories, they are not part of a formal appraisal process. METC management expressed the desire to develop and implement an effective appraisal process for all environmental activities. This includes audits of all laboratories that conduct analysis of groundwater samples, and the development and implementation of a formal appraisal process that can provide verification of the effectiveness of these laboratories. Currently, these processes are lacking, and interviews with DOE-METC and EG&G personnel indicate that a formal audit of these laboratories is not scheduled (I-E-4, I-E-5, and I-E-8).

Assessment Concern Number:

E/C-2

Assessment Concern Title:

Groundwater Protection Management Program

Performance Objective

Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992), Performance Objective GW.1, states that a formal groundwater protection management program should be in place that specifies clear roles and responsibilities, has an effective appraisal process to ensure implementation of groundwater activities, and fully documents implementation strategies.

Concern

METC's groundwater protection management program lacks clear definition of roles, responsibilities, and authorities; lacks an adequate appraisal process consistent with METC's Quality Assurance/Quality Control Manual (QAP); and lacks complete documentation of implementation strategies.

Discussion

The METC QAP establishes the Quality Program that applies to all METC activities including the groundwater protection management program that is documented in Section 5.0 of METC Order 5400.1. The groundwater protection management program establishes roles and responsibilities for the program and documents groundwater protection strategies. However, deficiencies exist in the program documentation with respect to these two elements, in addition to oversight process deficiencies.

Roles and Responsibilities

According to METC's QAP, the Chief Engineer is assigned the responsibility for internal oversight of all METC activities. The Chief Engineer has delegated the responsibility for oversight of environmental protection programs to the Environmental Manager (D-E-6). The Water Quality Manager (WQM), who is responsible for development of the GPMP and execution of the Groundwater Monitoring Plan (GMP) receives direction from and reports to the Director of ES&H Program Support Division (PSD) (D-E-26 and D-E-29).

However, the roles and responsibilities of personnel responsible for groundwater protection activities as documented in the GPMP conflict with the QAP and DOE-METC job descriptions. For example:

- The GPMP states that the Environmental Manager directs the activities of the WQM. However, the position description for the WQM mentions that the WQM reports directly to the Director of ES&H PSD.
- The WQM has oversight responsibilities similar to the Environmental Manager and the WQM is currently being performing some oversight activities. This creates an organizational conflict of interest since the line organization is responsible

for internal independent oversight of groundwater protection activities for which they are directly responsible.

- The WQM has responsibility for all METC groundwater protection management activities, although the WQM does not approve or direct groundwater activities at offsite locations that has lead to inconsistencies in implementing groundwater activities offsite (D-E-29; I-E-8).

Oversight Process

One of the objectives of the QAP is to ensure that overall work performance is reviewed and evaluated using a meaningful assessment process and effective corrective actions are taken when deficiencies are detected. Interviews with METC management and staff indicate that a DOE-METC internal audit, appraisal or review of the groundwater monitoring program has not been done and one is not scheduled (I-E-4, I-E-5, and I-E-8). While METC management expressed the desire to develop and implement an effective appraisal process for all environmental activities, to date this process has not been developed.

An ineffective appraisal process at METC contributes to a lack of assurance that groundwater monitoring activities are being performed in accordance with METC's QAP and that monitoring plans meet the requirements of DOE, METC, Federal and state requirements. Additionally, data from laboratories responsible for analysis of groundwater samples can be invalidated if laboratories perform analytical activities inconsistent with accepted laboratory practice (see Concern E/C-1). An effective appraisal process of the analytical laboratory will ensure that data resulting from laboratory analysis is valid and defensible.

Implementation Strategies

The Director of the Program Support Division (PSD) stated that the GPMP is not intended to address offsite groundwater activities. These groundwater activities are going to be handled as specific project plans and not included in the GPMP (I-E-13). This approach is inconsistent with the QAP, which defines "METC" as all those activities conducted onsite in Morgantown, West Virginia and offsite at METC leased/owned locations where activities are directed and executed to a significant degree by DOE employees. This definition includes groundwater activities conducted under the direction of DOE-METC in Laramie, Wyoming; lack of inclusion in the GPMP has resulted in Groundwater monitoring plans for the Hoe Creek and Rock Springs not meeting the requirements set forth in DOE 5400.1 regarding sampling procedures, monitoring networks, and long-term monitoring strategies (D-E-95).

Assessment Concern Number:

E/C-3

Assessment Concern Title:

Waste Management Program

Performance Objective

"Performance Objectives and Criteria for Waste Management" from Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992).

Concern

The DOE-METC waste management program does not provide adequate formality, planning, and oversight to ensure current and future compliance with DOE, Federal, state, and local regulations.

Discussion

- The site support contractor is responsible for determining whether a solid waste is hazardous if a solid waste producer has any question or doubt (D-F-48). Although this is routinely done, the waste characterization determination for each waste producing process is not consistently documented or provided to the waste producer. An environmental sampling protocol is contained in METC Order 5400.1; however, disposal of waste from environmental sampling is not referenced. In addition, appropriate handling and disposal of waste from environmental monitoring and sampling activities is not identified in the waste handling procedure. Without a formal process for the approval and documentation of waste stream characterization data, validation of the characterization cannot be accomplished. A procedure for sampling and analysis of waste was not located in either the site support contractor or DOE-METC procedures.
- The RCRA requirements for less than 90-day generators are outlined in 40 CFR 262.34. Among the requirements are a formalized training program and a contingency plan. Although METC has identified the Emergency Preparedness Plan (EPP) as meeting the requirement for a contingency plan (D-F-48), the EPP does not include all of the regulatory requirements identified in 40 CFR 265.52. However, most of the required information is available in documents referenced in the EPP. METC has trained hazardous waste workers, and has provided waste minimization/hazardous waste awareness training to all staff; however, a formal training program with documentation, training requirements, job descriptions and record-keeping as required by 40 CFR 265.16 does not exist at METC.
- The METC organization assigns both oversight to assess compliance, and responsibility for approving manifests and shipping papers to the METC Environmental Manager (D-F-48). This potential conflict of interest precludes DOE-METC from providing independent verification of compliance. The current METC organization provides DOE-METC program staff to manage the site support

contractor program and review the program activities, but independent verification, and audit is not being completed.

- Although reports documenting audits by the site support contractor of treatment, storage, and disposal facilities were identified, no documentation of oversight of characterization laboratories was located. The lack of oversight to ensure that laboratories are following accepted laboratory practices and protocol may compromise the validity of characterization data generated by the laboratories.
- Currently, METC is not in compliance with DOE 5820.2A. Although this Order is principally aimed at radioactive waste management, METC has accepted the requirements of the Order, and has prepared an implementing Order. METC has not prepared a Waste Management Site Plan as required by the Order, or any document that states that the (1) current and future plans for the program, and (2) supports planning for future compliance. This DOE Order does not define a de minimis for radioactive waste; however, METC has adopted a de minimis by defining radioactive waste as waste material with greater than 0.002 microcuries per gram (D-F-50). The current DOE definition for radioactive waste is contained in the "Performance Objective for Certification of Non-radioactive Hazardous Waste" (November 15, 1991). This Order also requires that DOE low-level waste be disposed at a DOE disposal facility. METC has disposed of radioactive low-level waste commercially (I-F-8).

Assessment Strength Number:

E/S-1

Assessment Strength Title:

**Research Project Inactive Waste Site
Prioritization Program**

Strength

DOE-METC is developing a model program for screening and prioritizing inactive waste sites for initiating a Preliminary Assessment for offsite research projects.

Discussion

A key environmental finding addressed by the Tiger Team dealt with the lack of any program to identify, categorize, and assess inactive waste sites that could have resulted from METC research activities. The Tiger Team was concerned that METC lacked sufficient information to identify and evaluate potential releases of hazardous substances from METC activities including research activities.

DOE-METC realized that fossil energy research funding might have to be reallocated for remediation activities at locations where DOE-METC had past research if a significant number of remediation activities, like those activities ongoing at Hanna, Hoe Creek and Rock Springs, were required. In response to this situation DOE-METC devised an approach and initiated activities to establish a comprehensive program that identifies and evaluates potential releases of hazardous substances from all DOE-METC research projects, screens research projects based on the potential to release hazardous substances to the environment, and prioritizes research activities for initiation of a Preliminary Assessment.

The following DOE-METC activities demonstrate exceptional performance in developing this program to specifically address potential inactive waste sites resulting from past research projects. In order to prioritize and rank inactive waste sites for possible closure, the first step is to identify all the possible DOE-METC research projects. DOE-METC has developed a comprehensive database of 1,846 research-related projects with specific data that is essential for determining whether a project has the potential to release hazardous substances to the environment. This comprehensive data base includes data from many energy technology centers that can be used to prioritize remediation activities. Another essential part of the prioritization process is the validation of information that is contained in the database. DOE-METC is currently validating all entries in the data base by site visits, when necessary, to fill information gaps, to gather this information, and interview personnel responsible for managing and operating research projects.

While prioritization of inactive waste sites is a key component of the Comprehensive Environmental Response, Compensation, and Liability Act process, DOE has yet to develop a model for screening and prioritizing research-related projects for initiating Preliminary Assessments. DOE-METC is developing a model that has applicability to other FE organizations and possibly can be modified to screen and prioritize research-related projects at any DOE operation that has responsibility for research projects.

Assessment Strength Number:

E/S-2

Assessment Strength Title:

**Waste Minimization/Pollution
Prevention In The Office of Fossil
Energy, Volumes I-III**

Strength

The FE waste minimization document has been consolidated and packaged to provide an easy reference, "user friendly" document.

Discussion

FE-6 has prepared a comprehensive document titled Waste Minimization/Pollution Prevention In The Office of Fossil Energy. This document contains waste minimization information including a Waste Minimization Primer; a summary of Federal, DOE, State and other Requirements; a List of DOE contacts; a FE Waste Minimization status report; and Guidance and Model plans for "Waste Minimization and Pollution Prevention Awareness Plans" and for "Process Waste Assessment Plans." In addition, the document contains training slides for each of these subjects. Quick, easy access to an on-the-shelf comprehensive document identifying all current requirements and available resources can aid a new program and a new program manager in implementing a start-up process. Information on activities at other FE sites will support technology transfer and communication of lessons learned as the program matures.

Appendix B-3

Assessment Details - Safety and Health Programs/Concerns, Weaknesses, and Strengths

Assessment Concern Number:

S/C-1

Assessment Concern Title:

Implementation of the Worker Safety and OSHA Program

Performance Objective

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," requires DOE facilities to establish and implement safety and health programs that protect their employees from recognized occupational safety and health hazards. The facility is charged with oversight of contractor safety and health programs and ensuring that program accountability is maintained.

Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990), Performance Objectives PP.1 and OS.1, state that site and facility organization and administration should ensure effective implementation of the personnel protection and occupational safety program. Performance Objectives PP.4, WS.2, and OS.4 require that appropriate surveillance activities be conducted to measure safety and health performance and to ensure the continued effectiveness of controls.

Concern

The worker safety and OSHA program at DOE-METC neither incorporates frequent and effective OSHA inspections of onsite construction and contractor activities nor provides a comprehensive Confined Space Entry Program.

Discussion

The worker safety and OSHA program has resolved many of the issues identified in the 1991 Tiger Team Assessment. However, discrepancies exist in some areas:

- Both DOE-METC and EG&G Confined Space Entry Procedures do not fully comply with 29 CFR 1910.146 in that they lack a formal confined space entry program; they lack requirements for the posting of signs identifying the confined spaces; and, they do not require the use of harnesses and retrieval lines.
- The DOE-METC procedure does not reference 29 CFR 1910.146.
- DOE-METC relies on contractors to "self-inspect."
- DOE-METC does not perform formal OSHA inspections of onsite contractor and construction activities.
- DOE-METC does not receive OSHA 200 logs from contractors as required in 29 CFR 1904, "Recording and Reporting Occupational Injuries and Illnesses."

Assessment Concern Number:

S/C-2

Assessment Concern Title:

**Industrial Hygiene Policies,
Programs, and Procedures**

Performance Objective

Environment, Safety and Health Progress Assessment Manual (December 1992), Performance Objectives 2.4 and 4.4 specify that the directive system provide the necessary and timely site specific policies, interpretations and guidance to ensure full implementation of applicable ES&H laws, regulations, DOE Orders, Secretary of Energy Notices, and other DOE requirements. Performance Objectives 2.2 and 4.2 specify that ES&H roles, responsibilities, authorities, and functions be clearly defined and assigned to the appropriate organizational elements. Performance Objective IH.1 of Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990), states that the expectation that the site organization ensure the effective implementation and control of the industrial hygiene program. Additionally, Performance Objective IH.5 conveys the expectation that the site be in compliance with DOE-prescribed standards for the evaluation and control of occupational health hazards.

Concern

Industrial hygiene-related policies, programs, and procedures currently in force at METC do not incorporate all mandatory requirements and there is no connection between DOE-METC procedures and EG&G's procedures.

Discussion

DOE-METC does not yet have an ES&H manual but has produced various elements of an industrial hygiene program in the form of METC plans and procedures. Most have been written as procedures, even though formal "plans" are required by some OSHA regulations or by DOE Orders. Often these procedures fail to incorporate mandatory administrative or technical requirements. The following are examples of deficiencies identified during the course of the assessment.

- The DOE-METC Chemical Hygiene Plan does not address site requirements for working with reproductive toxins, or chemicals having a high degree of acute toxicity. These topics are required by 29 CFR 1910.1450.
- The DOE-METC confined space permit procedure does provide guidance for posting of confined spaces or use of harnesses and retrieval lines in accordance with 29 CFR 1910.146.
- There is no DOE-METC procedure or program document addressing safety requirements for temperature extremes, sanitation, cross connections between potable and non-potable water systems, or ergonomics related issues. Both the DOE-METC and EG&G industrial hygiene procedures are silent on these issues.
- Personal protective equipment programs do not ensure that appropriate protective equipment, such as respirators or goggles in laser areas, is properly selected or maintained. During the

assessment, laser safety goggles were observed to be in disrepair and stored in an unsanitary condition. Respiratory protection equipment was not being sanitized in accordance with current DOE-METC or EG&G procedures.

- DOE-METC has no program that ensures or verifies that site contractors, their subcontractors, or construction contractors fulfill contractual requirements relating to safety and health. DOE-METC does conduct initial site briefings and training on selected topics such as on confined space permit requirements, but routine inspections or audits are not performed and there is little, if any, documentation of contractor performance.

Existing DOE-METC plans, procedures, and Orders are indistinguishable from one another in terms of format or content. For example:

- 29 CFR 1910.146 requires a confined space entry "program." Although the DOE-METC confined space permit *procedure* has many of the elements of a *program*, it does not fully satisfy applicable regulatory requirements.
- Three DOE-METC procedures exist addressing respiratory protection - P3790.1-121, "Inspection and Maintenance of Personal Protective Equipment"; P3790.1-132, "Respiratory Protection"; and P5480.19-3A, "Personal Protective Equipment." In the aggregate, these procedures provide a description of the DOE-METC respiratory protection program, but none describes the functional relationship between the three procedures.

DOE-METC has been delegated administrative authority and responsibility for the METC respiratory protection program and the METC confined space program to EG&G who has prepared their own implementing procedures. There is no mechanism, however, for establishing continuity between requirements in the DOE-METC procedure and the EG&G procedure that is actually in used in the field.

EG&G procedures are often inconsistent with METC procedures. For example:

- The EG&G procedure for hazard communication specifies use of a National Fire Protection Association labeling system, however, the METC hazard communication procedure specifies a different procedure. Although EG&G stated that their procedure was under revision, no provision for following alternate requirements in the interim was in evidence.
- The DOE-METC confined space permit procedure specifies three different types of confined spaces while the EG&G procedure identifies only one type of confined space. This inconsistency has not been addressed by EG&G or DOE-METC.
- Most EG&G operating procedures relating to industrial hygiene do not reference current DOE-METC procedures. There is no immediate evidence of the hierarchical relationship between EG&G and DOE-METC procedures, plans, and programs.

Although DOE-METC requires EG&G to incorporate DOE-METC requirements as a minimum, DOE-METC does not have a system to periodically appraise, review, or audit EG&G's implementing procedures to ensure that applicable requirements are fulfilled. DOE-METC is generally unaware of whether its expectations from its site support contractor are being realized.

Assessment Concern Number:

S/C-3

Assessment Concern Title:

Formality of Operations Control Systems

Performance Objective

Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990), Performance Objectives OA.1, OA.2, OP.1, and OP.2, all address the requirement for a system of administrative controls for operations to ensure their safety and reliability. In addition, DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities," Attachment I, Chapter VIII, C.4, specifies that administrative controls should be established to document compliance with requirements of operational limits (limiting conditions for operation); and DOE 5481.1B, "Safety Analysis and Review System," Chapter II, 4.a.(8), states that the process of safety analysis should address operational limitations.

Concern

Formal operations control systems have not been fully developed and implemented at METC to ensure operational safety.

Discussion

The DOE Orders cited above mandate formal operations control systems to define operational limits for prescribing safety envelopes for individual operations, processes, or facilities. Normally, an operations control system would include safety limits, limiting conditions of operations (LCOs), surveillance requirements, and other constraints (specific to the operation, process, or facility) that are needed to ensure operational safety. In addition, the formal control system should cite the bases (with references if necessary) for all limits, and the consequences of exceeding each limit. Also, if appropriate, the system could mandate actions to be taken in the event that specific limits are violated.

Since the 1991 Tiger Team Assessment, DOE-METC management has expanded its Safety Analysis and Review System (SARS) to require assessment and documentation of the safety of all operations and has issued a procedure to provide guidance in applying SARS to METC operations, processes, and facilities (D-I-3). Specifically, this procedure defines the functional protocol of the Laboratory Safety Committee, the Process Safety Committee, and the Facilities Safety Committee. However, the DOE-METC SARS procedure does not mandate the inclusion of formal operations controls to document compliance with operational limits (as specified in DOE 5480.19), and thereby does not institutionalize the requirement for formal operations control systems to ensure safety of all METC operations.

Although the DOE-METC SARS Packages address the concept of formal operations controls, the articulation of these controls is obscure and incomplete. The SARS Packages that have been prepared thus far specify limiting conditions to ensure operational safety. However, these limiting conditions are dispersed throughout the report, rather than being cited concisely in a single limits section. Moreover, neither the bases for the limiting conditions, nor the consequences of exceeding the specified values of the limiting conditions, are

provided. The fact that the operations control limits are not conveniently grouped in the SARS Packages complicates determination of their completeness. Also, the omission of the bases of the limiting conditions constrains the judgments that can be applied to their validity during the review process.

Assessment Strength Number:

S/S-1

Assessment Strength Title:

Quality Assurance for Welds and Fasteners

Strength

DOE-METC has defined and implemented highly effective programs for assuring conformance of fasteners and welds.

Discussion

The 1991 Tiger Team Assessment identified a concern relating to the use of low strength bolts for high strength applications. A program to dispose of these and other counterfeit bolts ensuring unavailability for future use was not in place. Also, a Tiger Team concern relating to deficiencies in weld inspection practices was identified. DOE-METC responded by implementing comprehensive and effective procedures to remove counterfeit bolts from the site while ensuring that these bolts would not be available for use again. Subsequent to that procedure, DOE-METC developed the "Bolt Usage Procedure" which ensures that counterfeit bolts and other fasteners will not be used by METC. The "Bolt Usage Procedure" has been developed with stringent quality assurance/quality control (QA/QC) requirements which, when adhered to, ensures that DOE-METC will not use counterfeit bolts. This procedure requires a supplier to provide a Certification of Test Report when bolts/fasteners are ordered; signatures and/or logs to provide an auditable means of QA/QC verification; and, a qualified technician to inspect the fasteners/bolts to ensure they meet the engineering drawing specifications.

Responding to the welding inspection deficiencies, DOE-METC developed METC Procedure 5700.6-2, "Certification of Nondestructive Examination Personnel." This procedure provides specific instructions, requires rigid training and examinations, defines the responsibilities associated with welding inspections, and utilizes built-in mechanisms for documentation of QA/QC checks.

Overall, these procedures are well defined and implemented, ensure effective quality assurance verifications, and abate the related concerns previously identified by the 1991 Tiger Team Assessment.

Assessment Strength Number:

S/S-2

Assessment Strength Title:

METC Wellness Program

Strength

METC has implemented a highly effective program to enhance the overall wellness of METC employees.

Discussion

METC has implemented an outstanding wellness program. This program, entitled "The METCercise Program" has been in operation since the fall of 1987. It includes a variety of health education, behavior modification, physical fitness and rehabilitation opportunities designed to improve the overall health management of employees and individualized well-being. The main objective of this program is to increase the overall wellness of the METC workforce. Program focus is based upon increased physical activity (fitness level) and developing a healthy lifestyle awareness. The program has wide participation and support from the METC workforce.

The following table describes offerings of the METCercise Program for the current year.

Program Element	Description
Lunch & Learn	Seminars and classes taught by the METCercise staff, interns, and community health professionals
Bulletin Boards	Bulletin board layouts on selected topics such as diabetes, nutrition or injuries
Wellnews	A newsletter published jointly by Pittsburgh Corporate Health and the METCercise Program.
Health Educational Handouts	Handouts on specific wellness related topics
Intern Projects	Projects for preparation of special bulletin boards, handouts and training on specific topics.
Weigh to Go	A program designed to assist employees in maintaining weight control during holiday seasons.
Be a Leaner Eater	An overall weight/nutritional education program.
Smoking Cessation	A six-week program to assist employees in quitting smoking.

Program Element	Description
National Employee Health and Fitness Week Health Fair	A joint effort between the METCercise program and the METC Occupational Health Unit (OHU) offering educational materials, testing and screening to METC employees.
Healthy Heart Day	Day designated to blood pressure tests, healthy heart educational materials and dietary information.
Trail Rally	Annual fitness rally.
Health Benefits Fair	Event organized by the Employee Assistance Program. Includes METCercise and OHU participation to answer questions and encourage employee participation in the wellness programs.

Quantitative benefits of the METC wellness programs as documented in the METCercise Yearly Evaluation, October 1992, include:

- continued reduction in all tested risk factors for the development of coronary heart disease; i.e., 6 percent reduction in blood pressure, reductions in cholesterol levels of 3 to 4 percent;
- substantially reduced risk for the development of low back problems, as evidenced by an increase in low back strength of 15 percent and an increase in abdominal strength of 19.8 percent;
- favorable physiological changes from loss of weight and a reduction of body fat by 11.5 percent; and
- numerous individual successes frequently documented on METCercise bulletin boards, for example, the need for certain medications has been eliminated or reduced for some participants.

Various aspects of the program are quantitatively captured and trended on a routine bases. Results are published annually in the METCercise Yearly Evaluation report.

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Appendix C

Biographical Sketches of Team Members

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

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

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

NAME: Ronald E. Alexander

AREA OF RESP: Industrial Hygiene

ASSOCIATION: Environmental Management Associates

EXPERIENCE: 23 years

- Environmental Management Associates, Safety and Environmental Management Consultant
 - Participated in Tiger Team Assessments/Technical Safety Appraisals and EH Oversight Assessments.
 - Contributed to Radiological Protection Program Manuals, Industrial Hygiene Program Manuals, Environmental Protection Program Manuals, and Safety Analysis Documents and Reviews.
 - Provided assistance and training related to OSHA Compliance.
 - Conducted environmental liability assessments, environmental and hazardous waste permitting, and environmental remediation.
- Mason & Hanger-Silas Mason Company, Inc.
 - Departmental Scientist. Managed health physics, industrial hygiene, environmental protection, and waste management programs.
 - Senior Industrial Hygienist/Health Physicist. Responsible for issues related to health physics and industrial hygiene.
 - Industrial Hygienist/Health Physicist. Responsible for field-level activities involving health physics and industrial hygiene.
 - Area Safety Engineer. Responsible for field-level occupational and explosives safety issues in designated plant areas.

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

NAME: Emile I. Boulos

AREA OF RESP: Team Coordinator

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 22 years

- U.S. Department of Energy, Office of Special Projects
 - Served as Deputy Environmental Subteam Leader providing guidance, direction, and assistance to a multidisciplinary group of professionals in the Tiger Team Assessments of the Energy Technology Engineering Center, Canoga Park, California, and Stanford Linear Accelerator Center, Menlo Park, California. Key areas of responsibility included air, radiation, quality assurance/quality control, and self-assessment.
 - Participated as a Coordinator representing the Office of Special Projects in the Tiger Team Assessment of the National Renewable Energy Laboratory, Golden, Colorado; Ames Laboratory, Ames, Iowa; and the Naval Petroleum and Oil Shale Reserves, Casper, Wyoming. Responsible for coordinating all assessment efforts between the site, DOE-Headquarters, and Field Offices.
- U.S. Environmental Protection Agency, Office of Emergency and Remedial Response
 - Project Manager, Superfund/Contract Laboratory program. Managed contracts concerning the development, implementation, and operation of the Contract Laboratory Program in support of Superfund enforcement and other EPA programs (30 laboratories).
 - Project Manager. Planned, directed, and managed a major national project for characterization of air toxics at Superfund sites.
 - Mass Spectroscopist. Responsible for gas chromatograph/mass spectrometer (GC/MS) analyses of environmental samples and evaluation of the analytical data in support of the Superfund program (EPA Region II, New Jersey).
 - Group Leader for U.S. EPA, Industrial Laboratory, Office of Research and Development in New Jersey.
- New Jersey State Medical Examiner
 - Forensic Chemist
- Richhold Chemical Incorporation (RCI), Corporate Research Center
 - Analytical Chemist.

EDUCATION: M.S., Chemistry, New Jersey Institute of Technology
B.S., Chemistry and Physics, Cairo University, Egypt

NAME: Edward F. Branagan, Jr.

AREA OF RESP: Self-Assessment

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 19 Years

- U.S. Department of Energy, Office of Nuclear Energy
 - Supervisory Nuclear Engineer. Principal responsibilities are to manage the Nuclear Assessment Group in the Office of Nuclear Energy (NE), and to conduct multidisciplinary assessments of NE's facilities for the Assistant Secretary for Nuclear Energy.
 - Supervisory Physical Scientist. Managed the Nuclear Facilities Group in the Nuclear Safety Technology Division. Reviewed safety analysis reports and conducted readiness reviews.
- Nuclear Regulatory Commission
 - Section Leader. Managed the Radiological Impact Section and developed criteria for disposal of radioactive wastes.
 - Senior Nuclear Engineer. Reviewed and evaluated: (1) reactor thermal-hydraulic systems; (2) nuclear and thermal-hydraulic aspects of the reactor core; and (3) radiological consequence analyses of postulated accidents.
 - Senior Radiobiologist. Assessed the radiological impacts associated with the operation of nuclear power plants, and testified before the Atomic Safety and Licensing Board.
 - Health Physicist. Assessed the radiological impacts associated with uranium mills and developed mill tailings regulations.
- Haskell Indian Junior College
 - Instructor of Radiation Technology. Taught junior college students the fundamentals of radiation technology and health physics.

EDUCATION: PhD., Radiation Biophysics, Kansas University
B.A., Physics, Catholic University

OTHER: Certified by the American Board of Health Physics

NAME: Robert A. Crowley, P.E., P.L.S.

AREA OF RESP: Groundwater Protection Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 18 Years

- U.S. Department of Energy, Office of Environmental Audit
 - Environmental Engineer. Provides guidance, direction, and assistance to a multidisciplinary group of professionals performing environmental surveys, Tiger Team Assessments, and environmental audits of DOE facilities.
 - Served as Special Assistant for the Paducah Tiger Team Assessment; Team Leader for the Fernald Environmental Management Assessment, the National Institute for Petroleum and Energy Research Tiger Team Assessment, and the Component Development and Integration Facility and Coal-Fired Flow Facility Environmental Audits; Deputy Environmental Subteam Leader for the Brookhaven National Laboratory, Princeton Plasma Physics Laboratory, Solar Energy Research Institute, and Morgantown Energy Technology Center Tiger Team Assessments; and Deputy Team Leader for the Bonneville and Western Power Administration Environmental Audits.
- Federal Energy Regulatory Commission, Office of Hydropower Licensing
 - Civil Engineer. Directed safety and design assessments of energy projects and ensured operational and design compliance with environmental requirements.
- Anne Arundel County Department of Public Works
 - Civil Engineer. Managed projects associated with water quality planning and surface and groundwater hydrology.

EDUCATION: Graduate Studies in Civil Engineering, University of Maryland
B.S., Agricultural Engineering, University of Maryland

OTHER: Registered Professional Engineer, Maryland, Virginia, and District of Columbia

NAME: Lynne Day

AREA OF RESP: Administrative Support

ASSOCIATION: META, Inc.

EXPERIENCE: 16 Years

- META, Inc.
 - Information Management Specialist. Provides administrative support for Environmental Audits; Environmental Management Assessments; Environment, Safety and Health (ES&H) Progress Assessments; and the Environmental Subteam on Tiger Team Assessments at DOE sites.
 - Participant in the Component Development and Integration Facility, Environmental Measurements Laboratory, Alaska Power Administration, and Coal-Fired Flow Facility Environmental Audits; the Uranium Mill Tailings Remedial Action Project Environmental Management Audit; the Continuous Electron Beam Accelerator Facility and Fernald Environmental Management Project Environmental Management Assessments; the Fernald Environmental Management Project, Hanford Site, and Brookhaven National Laboratories ES&H Progress Assessments; and the Solar Energy and Research Institute, Los Alamos National Laboratories, Strategic Petroleum Reserves, and Naval Petroleum Oil Shale Reserves Tiger Team Assessments.
 - Provided administrative support for production of the Environment, Safety and Health Progress Assessment Manual and attended Progress Assessment Training Program.
 - Assisted in production of the draft Administrative Support Procedures and Guidance for the Office of Environmental Audit.
- INNOVA Communications, Inc.
 - Office Administrator. Provided system, office automation, project management, data base management, graphic, and documentation support for a local and wide area network integration firm.
- Sandler & Greenblum
 - Word Processing Departmental Manager. Developed and coordinated activities related to the word processing department for law firm. Responsible for supervision and staffing of word processing department and hardware and software procurement and installations.

EDUCATION: A.A., Computer Science, Strayer College

NAME: David M. Drury

AREA OF RESP: Worker Safety and OSHA/Quality Assurance

ASSOCIATION: Private Consultant

EXPERIENCE: 9 Years

- Private Consultant
 - Participant in Technical Safety Appraisal (TSA) Tiger Team Assessments.
 - Lead Worker Safety Appraiser for three Tiger Team Assessments.
 - Worker Safety Appraiser for Oversight Assessment of Operational Readiness Review at the Savannah River HB Line.
- Monterey Coal Company (MCC) (subsidiary of Exxon, USA)
 - Training Specialist. Coordinated and documented training requirements and individualized assessments for training.
 - Safety Specialist. Analyzed MCC accident statistics, maintained MSHA CFR 30 updates, maintained Illinois Right-to-Know law requirements including MSDSDs. Provided oversight and guidance for accident investigations.
 - Health and Safety Technician. Maintained all health monitoring equipment, conducted air quality and noise sampling, fire protection audits, and self rescuer audits.
 - Safety Inspector. Loss control system, Computer Loss Control Surveillance System, MSHA inspections and worker safety audits, and emergency preparedness system. Conducted accident investigations.
- Exxon, U.S.A.
 - Field Safety Coordinator, Valdez Oil Spill. Conducted state and Federal OSHA inspections of all facilities (barges, petroleum storage areas, vessels, food handling, etc.), worker safety and equipment audits.

EDUCATION: B.S., Industrial Technology, Southern Illinois University
Associates Degree, Mining Technology, Wabash Valley College

OTHER: Ansul Industrial Fire School
National Safety Council Congress & Exposition
Mine Emergency Preparedness
Loss Control Management Training
Loss Control Surveillance System (data processing)
MSHA Instructor Certifications
MSHA Electrical Qualifications
Emergency Medical Technician (EAT-1)
OSHA 24 Hour Hazard Material Certification
OSHA Voluntary Compliance Instructor

NAME: Gregory T. Haugan, Jr.

AREA OF RESP: Technical Editor

ASSOCIATION: META, Inc.

EXPERIENCE: 9 Years

- META, Inc.
 - Technical Editor. Provided technical editing support to DOE during the National Institute for Petroleum and Energy Research Tiger Team Assessment, and the Y-12 Plant ES&H Progress Assessment.
 - Information Management Specialist. Participated in 16 Tiger Team Assessments managing a team responsible for onsite administrative support, report production, and technical editing. Team member on 7 ES&H Progress Assessments providing administrative support, onsite report production and technical editing.
- UDI Contractors, Inc.
 - Project Manager and Administrator. Supervised field operations and managed office administration for a construction management firm. Initiated the corporate safety program and monitored OSHA compliance.
- GLH Inc.
 - Program Analyst. Specialized in research, report writing, and project management software for an information resources management consulting firm.

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

NAME: Marvin J. Laster, Esq.

AREA OF RESP: Planning, Organization, and Training

ASSOCIATION: Private Consultant

EXPERIENCE: 32 Years

- Private consulting in environmental and safety law, management and organization.
 - Participated in Tiger Team Assessments of the Lawrence Livermore National Laboratory, Paducah Gaseous Diffusion Plant, Oak Ridge National Laboratory, Lawrence Berkeley Laboratory, Energy Technology Engineering Center, Sandia National Laboratory-Albuquerque, Stanford Linear Accelerator Center, Idaho National Engineering Laboratory, Ames Laboratory, and National Institute for Petroleum Energy Research as a member of the Management Subteam, and in Progress Assessments of the Mound Plant, the Lawrence Livermore National Laboratory, the Savannah River Site, and the Pantex Plant.
 - Developed the Management Performance Objectives and Performance Criteria (POCs), and Corrective Action Program POCs, currently in use in Tiger Team and Progress Assessments.
 - Developed the ES&H Progress Assessment Manual for use in Progress Assessments.
- U.S. Atomic Energy Commission/U.S. Energy Research and Development Administration/U.S. Department of Energy
 - Assistant Chief Counsel, Office of General Counsel: Chicago Operations Office, Brookhaven Area Office, Princeton Area Office, New York Support Office, and Environmental Measurements Laboratory.
 - Member, Accident Investigation Boards. Participant in annual Laboratory institutional appraisal programs; represented U.S. Government in litigation, claims, and disputes.

EDUCATION: Princeton Fellow, Public and International Affairs,
Princeton University
LL.B., New York University School of Law
B.A., Political Science, Brooklyn College

OTHER: Member, New York State Bar
Recipient, Federal Government Sustained Superior Performance
Awards and other awards
National Institute of Public Affairs (Ford Foundation)
Fellowship

NAME: Leon H. Meyer

AREA OF RESP: Formality of Operations Control Systems

ASSOCIATION: The LHM Corporation

EXPERIENCE: 40 Years

- The LHM Corporation
 - President. Technical expert under contract to Oak Ridge Associated Universities and EG&G Idaho, Inc. Served on 41 Technical Safety Appraisals/Tiger Team Assessments.
- E.I. duPont de Nemours & Company, Savannah River Plant
 - Program Manager. Responsible for safeguards and security, long-range planning, budget coordination, quality assurance, environmental control, energy conservation, and away-from-reactor spent fuel storage.
- E.I. duPont de Nemours & Company, Atomic Energy Division
 - Program Manager, Technical Division. Responsible for the Defense Waste Processing Facility and the LWR Fuel Reprocessing Design Project.
- E.I. duPont de Nemours & Company, Savannah River Laboratory
 - Assistant Director.
 - Director, Separations Chemistry and Engineering Section.
 - Research Manager, Separations Chemistry Division. Responsibilities in areas of chemical separations; plutonium, uranium, and thorium processing; and tritium technology.

EDUCATION: Ph.D., Physical Chemistry, University of Illinois
M.S., Chemistry, Georgia Institute of Technology
B.S., Chemical Engineering, Georgia Institute of Technology

NAME: Diane E. Morton

AREA OF RESP: Waste Management

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 14 Years

- U.S. Department of Energy, Albuquerque Field Office
 - Waste Management Branch, WMOSD. Currently responsible for waste management activities at LANL, including budgets, schedules, and program management. Last assignment included conducting waste management reviews focusing on waste generator/waste management interface at all AL sites and acting as the Waste Minimization Coordinator for AL.
 - Energy Technology Branch, ETWMD, DOE/AL. Responsible for the decontamination and decommissioning program; isotope separation and sales program; and various energy technology programs.
- Kaiser Engineers Hanford
 - A member of the staff of Project Engineers responsible for design and inspection of DOE-funded General Plant Projects and Line Items at the Hanford Plant.
- Rockwell Hanford
 - Responsibilities included construction project management and process engineering for waste management projects and processes.

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

NAME: David Schweller

AREA OF RESP: Oversight and Directives

ASSOCIATION: DBS Associates, Inc.

EXPERIENCE: 39 Years

- DBS Associates, Inc.
 - President. Private consultants in organization, management, safety and security.
 - Participated in 26 Tiger Team/Technical Safety Appraisals, 14 as a member of the Management Subteam, including the first Tiger Team.
 - Assisted EH Office of Special Projects in the development of the follow on Tiger Team program called Progress Assessments and participated in three of these at Fernald, Y-12, and NTS.
 - Assisted EH Office of Special Projects in the development of the Corrective Action Program Guide and Performance Objectives and Criteria. Also assisted in the development of the Tiger Team Guidance Manual, ES&H Progress Assessment Manual, Analysis and Trends from the Last 19 Tiger Teams Report, and the development of EHs oversight program for DOE HQs offices (PSOs).
 - Safety Advisor for DOE Security Inspection and Evaluation (I&E) Teams including the development of a safety guide for use in I&E Inspections.
 - Evaluator for FEMA Nuclear Utility Emergency Drills including Shoreham, Seabrook, and Three Mile Island.
- U.S. Department of Energy, Brookhaven Area Office
 - Manager and Contracting Officer (10 years). Senior Government Official responsible for all aspects of administration and operation of the Brookhaven National Laboratory.
 - Director, Safety Division (14 years).
- U.S. Atomic Energy Commission
 - Reactor Safety Specialist (1 year)
 - Chief, Experimental Physics, Martin Nuclear Division, Middle River, MD (2 years). Designed, built, and operated three zero powered experimental reactor facilities.
 - Reactor Physicist, Combustion Engineering Nuclear Division, Windsor, CT (5 years). Designed, built, and operated three zero powered experimental reactor facilities.

EDUCATION: B.S., Engineering Physics, N.Y.U. College of Engineering

NAME: Thomas E. Williams

AREA OF RESP: Management/Corrective Action Program

ASSOCIATION: U.S. Department of Energy

EXPERIENCE: 20 Years

- U. S. Department of Energy, Idaho Field Office
 - Compliance Management System Coordinator. Responsible for development and implementation of a sitewide compliance implementation at the Idaho National Engineering Laboratory. Formerly team leader for the development of the M&O Section of the INEL Tiger Team Corrective Action Plan.
 - Line management positions in research and development programs, waste management, and laboratory operations.
- Westinghouse Idaho Nuclear Company (and predecessor contractors)
 - Long Range planner responsible for developing and maintaining corporate planning basis document. This document served as a mechanism to identify and prioritize capital projects needed to maintain and enhance facility capabilities.
 - Project engineer responsible for design, construction, and acceptance testing of various general plant and capital equipment projects. Responsibilities included cradle-to-grave coordination of resources required to plan, budget, design, procure equipment and service for, construct and turnover new and remodeled facilities.

EDUCATION: M.E., Chemical Engineering, University of Idaho
B.S., Chemical Engineering, Montana State University

OTHER: Registered Professional Engineer (California)

Appendix D

Progress Assessment Scopes

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Tom Williams	Date:	6/10/93	Rev. #:	2
Telephone #:	208/526-7905	Fax #:	208/526-7910		
Discipline:	Management				
Area of Responsibility:	Corrective Action Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Issue 1: The METC Corrective Action Program will be evaluated to determine if it has been established as a site-wide program which is integrated, comprehensive, and effective for the identification, evaluation, correction, prioritization, tracking, reporting, and closure of environment, safety, health, and quality assurance (ESH&QA) issues, concerns, and findings.

Related Tiger Team Findings:

MF-9, "Corrective Action Program" and MF-8, "FE Oversight."

Related Tiger Team Action Plan Items:

Task T0081, "Develop Occurrence Reporting System;"
Task T0085, "Develop Conduct of Operations Procedures;"
Task T0104, "QA/QC and Corrective Action Programs;" and
Task T0105, "Site Support Contractor ES&H Oversight."

Other Bases:

None.

Overlapping Issues:

Corrective Action will overlap to some extent with all assessment areas.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Environment, Safety and Health Progress Assessment Manual (December 1992),
Appendix B-2, "Performance Objectives and Criteria for Action Plan Programs."

Description and Rationale of Approach:

The approach includes review of applicable documents including program plans, policies, procedures, typical corrective action plans and closure documents, typical occurrence reports, and typical lessons learned publications. Interviews will also be conducted with cognizant and responsible personnel at METC and Headquarters to determine:

- Approaches, systems, and processes utilized to implement, verify implementation, continue corrective activity, report, and communicate status, issues, and resolutions.
- Guidance provided by FE to METC on corrective action implementation and METC's compliance with this guidance.
- Clear definition of closure authority for Tiger Team and other corrective actions by FE.
- Extent to which policies for corrective action have been established and extent to which they are understood by the METC staff.
- Current status of commitments and tasks defined in the METC Tiger Team Corrective Action Plan.
- Use of the METC corrective action program for issues beyond the June 1991 Tiger Team Assessment, including self-assessment findings and observations.
- Ability of METC corrective action program to capture, track, verify, close, and validate ES&H issues and corrective actions. Input will be required from other team members to complete this item.
- Operational controls used to ensure data used for tracking, reporting, trending, validation, and other corrective action elements is current, accurate, and manageable.
- Extent of integration of METC into the FE corrective action program. Extent of FE oversight of METC corrective action program.
- Extent of integration of occurrence reporting into the overall corrective action and lessons learned programs.
- Extent of integration of the corrective action program in the sitewide budgetary process, including capability of the corrective action program to prioritize corrective actions in the context of sitewide budgetary processes and decisionmaking.
- Use of root cause methodology and application of lessons learned to prevent recurrence.

The approach will allow for measurement of the effectiveness of the corrective action programs to provide a usable management tool to ensure completion of corrective actions and closure of issues. The approach should also provide an overall evaluation of the degree to which the corrective action program is integrated into the site management activities.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Jan Wachter		
	Telephone #:	304/291-4607	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Edward F. Branagan, Jr.	Date:	6/10/93	Rev. #:	2
Telephone #:	301/903-6509	Fax #:	301/903-7738		
Discipline:	Management				
Area of Responsibility:	Self-Assessment Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Issue 1: Have FE and METC made sufficient progress in developing and implementing effective self-assessment programs?

Issue 2: Has FE's Headquarter office(s) provided appropriate self-assessment guidance to METC; and has METC reviewed and appropriately implemented this guidance?

Related Tiger Team Findings:

The 1991 Tiger Team Assessment identified two findings associated with self-assessment.

Findings:

SA-1 The METC self-assessment plan does not fully conform in scope, approach, and documentation to DOE guidance provided in the Secretary's July 31, 1990, memorandum on self-assessments.

SA-2 METC's self-assessment activities, including the three-part baseline self-assessment that initiated with program planning in January 1990, are inadequate to ensure compliance with applicable regulations and DOE directives regarding ES&H issues, as outlined in the Secretary's July 31, 1990 guidelines.

Related Tiger Team Action Plan Items:

Task T0107, "Self-Assessment."

Other Bases:

None.

Overlapping Issues:

Overlap exists with all of the other disciplines being assessed since self-assessment activities may be occurring throughout all of the site as well as at FE Headquarters.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

FE's and METC's self-assessment programs will be evaluated against the performance objectives and criteria contained in: (1) DOE's July 31, 1990, "Guidance on Environment, Safety, and Health (ES&H) Self-Assessment;" (2) the ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.5, 2.5, and 4.5; and (3) FE and METC self-assessment guidance.

Description and Rationale of Approach:

DOE's (July 31, 1990 memorandum) guidance directed the DOE line organizations to develop self-assessment programs that would identify, report, and correct their own ES&H deficiencies. It also directed that systems be established to improve performance beyond compliance, towards excellence. Progress made by METC and FE to develop and implement an effective self-assessment program will be assessed. The METC and FE programs will be evaluated against the objectives and criteria identified in the preceding section. The principal elements of the approach are as follows.

Review the principal self-assessment related documents, and interview the principal persons responsible for FE's and METC's self-assessment programs to verify and ascertain their understanding of self-assessment philosophy, process, and DOE requirements; and to identify the extent of personal involvement in the process at all levels. Interview selected staff level personnel involved in self-assessment related activities (e.g., members of the Laboratory Safety Committee, Facility Safety Committee, Process Safety Committee, and/or Site ES&H Committee). Review the products of some of those committees to determine the extent to which they have a role in the self-assessment program. Interact with other team members to better understand the overall implementation and effectiveness of FE's and METC's self-assessment programs. Prepare and document an accurate and balanced assessment of FE's and METC's progress in implementing self-assessment.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Dan McCollum		
	Telephone #:	304/291-4780	Fax #:	304/291-4403
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	David Schweller	Date:	6/10/93	Rev. #:	2
Telephone #:	516/243-5660	Fax #:	516/243-5660		
Discipline:	Management				
Area of Responsibility:	Oversight				

IDENTIFICATION OF ISSUES:

Identification of issues to be addressed:

- Issue 1: Does FE and METC provide sufficient oversight to ensure that all DOE, FE, and METC ES&H requirements are being met by METC and its contractors?
- Issue 2: Do formal systems exist for the review of ES&H documents, facilities, operations, and modifications, by line and independent organizations?
- Issue 3: Are these activities carried out by qualified personnel and are results of the ES&H review process documented, auditable, forwarded to management for action, and of the desired quality.

Related Tiger Team Findings:

Root Causes: Management systems are not in place to direct and facilitate full and effective implementation of ES&H programs for METC activities, including structured, formal assessment systems which include line, management, QA/QC, and outside (independent) appraisals.

Key Findings:

Environmental: Oversight of line organizations and support contractors both onsite and offsite is insufficient to assure DOE Orders are being implemented.

Safety and Health: No independent safety review system has been established by METC management.

Management: FE and DOE-METC do not provide adequate oversight to assure that ES&H programs are properly implemented.

Findings:

- MF-7 METC fails to adequately oversee the actions of its onsite support service contracts or to administer their contracts in a manner that ensures that ES&H requirements are met.
- MF-8 FE line management and EH independent oversight of METC is inadequate to assure that an effective ES&H program exists and that METC ES&H related activities are conducted in accordance with requirements.

Related Tiger Team Action Plan Items:

Action Plan items related to the findings listed above.

Other Bases:

None.

Overlapping Issues:

The oversight area overlaps all areas. Coordination will be required to ensure consistency of findings and reduce the burden on the auditees. Team members performing vertical reviews should convey their findings regarding the oversight performed in their areas.

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

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.4.2, 2.4.2, and 4.4.2.

Description and Rationale of Approach:

Through interviews and review of relevant documents and procedures, and when possible direct observation, the performance of the FE, METC, and EG&G oversight systems will be evaluated. It will be determined if these systems capture all ES&H requirements; have developed adequate and documented plans and procedures; defined roles, responsibilities, and authorities; provide for line and independent review of ES&H activities and documents. Appraisal reports, ES&H document reviews, schedules, and procedures for implementing the oversight program will be evaluated. Interviews with management will be used to determine their commitment and involvement in the ES&H program. Staffing levels, qualifications, and training records will also be reviewed.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	John Notestein		
	Telephone #:	304/291-4232	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	David Schweller	Date:	6/10/93	Rev. #:	2
Telephone #:	516/243-5660	Fax #:	516/243-5660		
Discipline:	Management				
Area of Responsibility:	Directive System				

IDENTIFICATION OF ISSUES:

Identification of Issues to be Addressed:

- Issue 1: Are guidance and expectations provided by FE to METC regarding budgets and directives?
- Issue 2: Does the directive process assure a common understanding between the parties (FE, METC, and site support contractors), and does the process require the development of impact, and implementation plans to meet new or revised ES&H requirements?
- Issue 3: Has METC implemented a formal and consistent process for converting ES&H requirements into policy, practice, and procedure?

Related Tiger Team Findings:

Root Cause: Management systems are not in place to direct and facilitate full and effective implementation of ES&H programs for METC activities. Including a management directive system which clearly establishes ES&H and QA policies and details the requirements for development, use, and control of plans and procedures for all activities.

Key Findings:

Environmental: METC has not developed a comprehensive, formalized environmental management program with policies, delegated responsibilities, and written procedures to ensure that operations are conducted in compliance with DOE Orders.

Safety and Health: A formal administrative control system to ensure compliance with DOE Orders has not been implemented by management.

Management: METC management has not established appropriate compliance management and communication systems and training programs to direct and facilitate the implementation of ES&H programs by all METC employees.

Findings:

- MF-4 DOE-METC does not have a formal, integrated set of systems to translate laws, regulations, DOE Orders, and other requirements into site-specific procedures and to assure compliance with ES&H requirements.

MF-7 DOE-METC fails to adequately oversee the actions of its onsite support service contracts or to administer their contracts in a manner that ensures that ES&H requirements are met.

Related Tiger Team Action Plan Items:

Action Plan items related to the findings listed above.

Other Bases:

None.

Overlapping Issues:

Team members should advise me of the extent to which guidance and direction has been provided in their areas of review. For example, did FE provide guidance on the Self-Assessment Program, environmental orders, conduct of operations, and how good was the guidance.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.4.1, 2.4.1, and 4.4.1.

Description and Rationale of Approach:

Interviews and review of relevant documents and procedures will be used to evaluate the performance of the FE, METC, and EG&G directive systems. In particular, it will be determined if these systems capture all ES&H requirements, ensure that a common understanding of ES&H requirements is arrived at by all the parties involved, if the development of impact and implementation plans are part of the process, and if an effective process is employed to convert ES&H requirements into METC policy, practice, and procedure. Guidance provided by FE to METC for recent programs, budgets, and ES&H directives will be reviewed and the inputs of the rest of the team regarding this guidance will be incorporated. Directive system procedures and files for ES&H directives transmittals for FE, METC, and EG&G will be reviewed. How directives are converted into site policy, practice, and procedure (including approvals), adherence to format and issuance procedures, and the identification of new training requirements will be evaluated.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Gary Pastoria		
	Telephone #:	304/291-4021	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Marvin J. Laster	Date:	6/10/93	Rev. #:	2
Telephone #:	516/367-4148	Fax #:	516/367-4147		
Discipline:	Management				
Area of Responsibility:	Organization				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Is there in place at METC a hierarchy of Documents that identifies the overall organization established to carry out the ES&H program, and fully documents the ES&H organizational goals, objectives, roles, responsibilities and authorities of each organizational unit, as well as their interfacing relationships; do these documents reflect the current situation and are they communicated and well-understood throughout the site; do these documents establish mechanisms to promote line accountability for ES&H; are delegated authorities commensurate with assigned responsibilities?
- Issue 2: Has METC management defined and communicated to its employees individual ES&H goals and objectives; to what extent do METC employees understand management's expectations of them in the ES&H area; are these expectations made a part of their position descriptions and of the employee performance evaluation system?
- Issue 3: Are the ES&H roles, responsibilities and authorities of the various FE organizational units clearly documented, communicated and understood?
- Issue 4: Are the roles, responsibilities, and authorities of the EG&G support contract clearly defined and documented, including the interrelationships with METC organizational elements?

Related Tiger Team Findings:

Root Cause: Management does not fully accept the need for making significant changes in the management and methods of operations at METC to integrate ES&H elements and achieve the necessary level of rigor, formality, and compliance.

Findings:

- MF-1 FE and DOE-METC management have not clearly and consistently communicated and demonstrated a strong commitment to achieving excellence in ES&H for METC activities.
- MF-3 DOE-METC has not established an organizational structure which provides a clear understanding of ES&H functions, responsibilities, authorities, and accountabilities.

Related Tiger Team Action Plan Items:

Pertinent root cause and action plan responses to M/F-1 and M/F-3.

Other Bases:

ES&H Progress Assessment Manual (December 1992); audits and assessments of METC subsequent to the Tiger Team Assessment.

Overlapping Issues:

All Progress Assessment Team members will encounter major elements of this scope in the course of their assessments. I would anticipate receiving from each of them whatever examples of unclear lines of authority, uncertainties as to roles, responsibilities, and authorities, stop/restart work problems, etc. that they encounter in their reviews. Similarly, each identification that I make regarding such matters will be offered in support of team members' concerns.

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

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.2, 2.2, and 4.2.

Description and Rationale of Approach:

The adequacy of management systems for establishing and maintaining an effective organization for the conduct of the ES&H program, and for defining, documenting, and communicating ES&H roles and responsibilities throughout METC, FE, and EG&G organizations will be assessed. Examination will be made of all FE, METC, and EG&G documents that establish and describe the organizational and personal ES&H goals, objectives, roles, responsibilities, and authorities involved in the site activities. Management systems that communicate organizational and personal employee ES&H accountability will be reviewed, e.g., mission and function statements, position descriptions, employee performance evaluation. Lines of decisional authority, including stop work and restart authority, and interfacing relationships among line organizations and between line organizations and ES&H support and oversight groups will be examined. Clarity of relationships at all levels will be reviewed. Formal understandings among and between the various DOE organizations (METC and FE) regarding their respective oversight roles will be reviewed. All of the foregoing will be accomplished by interviews, document review, and field observation. Furthermore, the assignment of ES&H responsibilities to research contractors will be explored by examination of the contractual terms and conditions regularly in use by METC.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	J. Wachter		
	Telephone #:	304/291-4607	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Marvin J. Laster	Date:	6/10/93	Rev. #:	2
Telephone #:	516/367-4148	Fax #:	516/367-4147		
Discipline:	Management				
Area of Responsibility:	Planning				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Has each organization (FE, METC, EG&G) established strategic planning processes, and developed subordinate implementation plans which address all programmatic and ES&H activities on an integrated and prioritized basis?
- Issue 2: Do the sitewide planning and resource allocation processes include procedures 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?
- Issue 3: Are the processes for prioritizing and integrating programmatic and ES&H activities effective?
- Issue 4: How effective are the processes for allocating resources to such activities?

Related Tiger Team Findings:

Root Causes:

Management does not fully accept the need for making significant changes in the management and methods of operation at METC to integrate ES&H elements and achieve the necessary level of rigor, formality and compliance.

Management systems are not in place to direct and facilitate full and effective implementation of ES&H programs for METC activities.

Finding:

- MF-2 DOE-METC does not have an integrated sitewide planning process which incorporates ES&H budgeting, staffing, and training on a prioritized basis.

(Furthermore, many of the Environmental and Safety and Health Subteams' findings can be traced to ineffective or non-existent planning processes.)

Related Tiger Team Action Plan Items:

Pertinent root cause and action plan response to MF-2.

Other Bases:

Self-Assessment Plans; audits and assessments subsequent to the Tiger Team Assessment; FE and METC Strategic Plans; Annual and 5 year Program Plans; METC subordinate ES&H implementation plans such as ES&H program plans, ES&H oversight plans, and human resource management plans; EG&G strategic plans and subordinate ES&H implementation plans such as those noted above.

Overlapping Issues:

All Progress Assessment Team members will be examining subordinate implementation or tactical plans, and resource allocation in their areas of assessment, e.g., corrective action, self-assessment, oversight, training, waste management, industrial hygiene, etc. It is anticipated that each vertical slice will begin with an examination of planning, and I would expect to coordinate with each member as to conclusions.

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

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.1, 1.3.1, 1.5.1, 2.1, 2.3.1, 4.1, and 4.3.1. Also, SEN-25A-91 and the November 27, 1991 Strategic Planning Guidance.

Description and Rationale of Approach:

The principal objective will be to examine the planning and resource allocation processes of FE and METC to determine the progress made in correcting the systemic planning deficiencies identified in the Tiger Team Assessment. EG&G will also be reviewed in this area.

The approach will be to examine the planning processes of FE, METC, and EG&G by reviewing the adequacy of existing strategic plans of these organizations; taking horizontal slices across various levels to examine the degree to which subordinate implementation plans are established, coordinated, and integrated in accordance with the overall strategic planning; and utilizing the efforts of Team members to provide vertical slice information. Emphasis will be on FE's effectiveness in formally articulating its vision of the METC mission, communicating that vision to METC, and FE's ability to hold METC accountable for defining and executing their mission in a planned and disciplined manner. Interviews will be designed to elicit evidence of planning results.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR			
DOE Counterpart	Name:	D. McCollum	
	Telephone #:	304/291-4780	Fax #: 304/291-4469
Contractor Counterpart	Name:	None	
	Telephone #:	n/a	Fax #: n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Marvin J. Laster	Date:	6/10/93	Rev. #:	2
Telephone #:	516/367-4148	Fax #:	516/367-4147		
Discipline:	Management				
Area of Responsibility:	Training				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Are the FE and METC human resource management systems effective in ensuring the availability of sufficient qualified human resources to carry out all DOE and METC ES&H requirements?
- Issue 2: Do management plans effectively define and prioritize the ES&H recruitment, staffing, staff development, and training requirements?
- Issue 3: Do the ES&H training and certification programs include documented training goals and objectives, curricula and training material, testing and recordkeeping. Is this program implemented and demonstrably effective? (Prior to the identification of significant training issues by the 1991 Tiger Team, the site training effort was fragmented and not managed in a manner that ensured successful implementation of ES&H programs. Training deficiencies were pervasive in all sections of the Tiger Team Assessment Report.)

Related Tiger Team Findings:

Root Cause: Management systems are not in place to direct and facilitate full and effective implementation of ES&H programs for METC activities.

Finding:

MF-6 DOE-METC does not have an effective or cohesive sitewide training program for staff development, training, and certification for ES&H activities. As a result, some required training is not performed and the training that is performed is not always given to all personnel who require it, is poorly documented, and is inadequate in depth and breadth.

Related Tiger Team Action Plan Items:

Pertinent root cause and action plan responses to MF-6, and to the numerous concerns identified by the Safety and Health Subteam in the Training and Certification area.

Other Bases:

FE and METC strategic plans, human resource management plans, annual and 5 year program plans, self-assessments. Also, resource management implementation plans such as ES&H staffing plans, ES&H training needs identification and training plans, and individual ES&H performance plans; EG&G strategic plans and subordinate ES&H human resource management implementation plans such as those noted above.

Overlapping Issues:

The review of human resource management as related to activities such as; corrective action management, self-assessment, ES&H programs, and oversight of ES&H functional area activities will be coordinated with Progress Assessment team members who have primary responsibility for evaluating these areas. All team members will be determining if sufficient qualified staff exist to carry out the duties covered by their assigned areas of assessment, and reporting on their conclusions.

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

ES&H Management Performance Objectives and Criteria for Progress Assessments (December 1992), Sections 1.3, 2.3, and 4.3.

Description and Rationale of Approach:

The approach of this assessment will be to examine the human resource management programs of FE, METC, and EG&G by taking both horizontal and vertical cuts through these organizations. Emphasis will be on the DOE's and EG&G's effectiveness in defining their ES&H staffing needs and ensuring that these needs are satisfied. The horizontal cuts through these organizations will examine the degree to which the various interrelated human resource requirements are coordinated and integrated across each organization and in the case of METC on a sitewide basis. 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. 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 pertinent 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 made by other Progress Assessment Team members relative to human resource constraints in their technical areas.

The training programs at METC will be examined to determine if they are formal, comprehensive, and implemented in a professional manner. The capability of these training programs to identify new or revised training needs arising from new and revised directives and policies, self-assessments, internal and external reviews, and corrective actions, will be evaluated. Training program processes to develop structured formal training courses,

qualify trainers, identify individual ES&H training requirements, ensure training is received, evaluate the effectiveness of the training, and to maintain training records, will be reviewed as part of the assessment.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE PROVIDED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	J. Notestein		
	Telephone #:	304/291-4232	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Robert A. Crowley	Date:	6/10/93	Rev. #:	2
Telephone #:	202/586-5486	Fax #:	202/586-5200		
Discipline:	Environmental Programs				
Area of Responsibility:	Groundwater Monitoring/Quality Assurance				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Has a program been established to ensure that METC has effective quality assurance activities for groundwater monitoring?
- Issue 2: Has a program of audits, appraisals, and reviews of contractor performance for groundwater monitoring activities been established by METC?
- Issue 3: Have approved formal sampling procedures been developed for environmental monitoring activities and have they been implemented?
- Issue 4: Is METC progressing toward resolution of groundwater and quality assurance-related Tiger Team Assessment findings according to the approved corrective action plan and are these actions appropriate and effective in resolving the findings?

Related Tiger Team Findings:

GW/BMPF-2, QA/CF-1, QA/CF-2, QA/CF-3, QA/CF-4, EM/CF-1, and EM/CF-2.

Related Tiger Team Action Plan Items:

Same as above.

Other Bases:

Environmental Audit: Fossil Energy Sites in Wyoming, dated August 1992 which specifically mentioned the lack of both DOE oversight and a METC Quality Assurance Plan as Key Findings leading to many of the issue-specific findings contained in the audit report.

Overlapping Issues:

During the conduct of this assessment, coordination with the Safety Specialist assigned responsibility for quality assurance will be established to ensure that several aspects of quality assurance are covered by the Progress Assessment Team. Additionally, it is expected that information gathered from reviews of both groundwater monitoring and quality assurance activities will be disseminated to the Management Specialist assigned to evaluate progress in the area of oversight and the Management Specialist assigned responsibility for Organization, Planning, and Directives. Information on the status of

corrective action activities for groundwater and quality assurance findings will be provided to the specialist evaluating the corrective action program to provide insights on measures to close these findings.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

The following performance objectives contained in the Performance Objectives and Criteria for Conducting DOE Environmental Audits will be evaluated: QA.1, QA.2, QA.3, QA.4, GW.2, and GW.4.

Description and Rationale of Approach:

The approach to the Groundwater Monitoring/Quality Assurance portion of the Progress Assessment is to conduct interviews with METC management and staff who are responsible for both groundwater monitoring and quality assurance activities to assess the status of these activities since the Tiger Team Assessment. Further, a review of documents related to groundwater monitoring and quality assurance will be conducted in order to identify any potential for concerns, weaknesses, and findings for the report.

The METC Tiger Team Assessment Report has documented findings in environmental protection activities that resulted from a lack of adherence to quality assurance elements. This review will focus on both FE's and METC's progress toward development and implementation of a groundwater monitoring program. The review will also include an assessment of the procedures, plans, and programs that ensure quality groundwater data are valid and defensible.

Additionally, a review will be undertaken to determine the status of FE and METC implementation of a program that oversees METC's groundwater monitoring projects to ensure that these projects are conducted in compliance with all Federal, state, and local environmental protection requirements and DOE Orders.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	M. Mallin, M. Guide, J. Notestein		
	Telephone #:	304/291-4192	Fax #	304/291-4469
Contractor Counterpart	Name:	Carmen Romano		
	Telephone #:	304/291-4214	Fax #:	304/291-4403

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Diane Morton	Date:	6/10/93	Rev. #:	2
Telephone #:	505/845-5236	Fax #:	505/845-4664		
Discipline:	Environmental Programs				
Area of Responsibility:	Waste Management Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Issue 1: Has an adequate waste minimization program been implemented at METC that meets all DOE, METC, Federal, state and local requirements?

Issue 2: Has a comprehensive waste management program been established?

Issue 3: Has an effective waste generator and waste handler training program been planned and implemented?

Related Tiger Team Findings:

WM/CF-1 through WM/CF-7 and WM/BMPF-1.

Related Tiger Team Action Plan Items:

See above.

Other Bases:

DOE 5400.1; DOE 5400.3; DOE 5820.2A; reports from audits and assessments conducted since the Tiger Team visit; and performance indicator reports.

Overlapping Issues:

Other Progress Assessment Team members will address organization, planning, and human resources which will overlap training issues. In addition, other team members will be addressing corrective actions, self-assessment and safety. Waste management documentation and formality of operations may overlap with the formal administrative control systems and quality assurance reviews.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance Objectives and Criteria for Waste Management section from Performance Objectives and Criteria for Conducting DOE Environmental Audits (December 1992).

Description and Rationale of Approach:

The assessment will focus on determining the progress made by DOE and EG&G to foster a waste minimization ethic throughout the site; and whether the facility has adopted the cradle to grave requirement of hazardous waste management.

Interviews of waste management staff and waste generators will be used to determine the organizational structure and roles and responsibilities. A comparison between the documented activities and the perceived implementation of activities will be performed to determine the adequacy of the formal program. Training plans and programs will be compared with the roles and responsibilities of staff to determine if training is being provided to the correct personnel.

The assessment will include the review of any guidance provided by FE Headquarters; training plans and records; audit records of treatment, storage, and disposal subcontractors; waste minimization plans, goals, and accomplishments; waste management documents including procedures and plans; and a review of the formality of communications between waste handlers and waste generators.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	J. Kovach, Dr. J. Cook		
	Telephone #:	304/291-4282, 304/291-4718	Fax #:	304/291-4469
Contractor Counterpart	Name:	Carmen Romano		
	Telephone #:	304/291-4214	Fax #:	304/291-4403

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	David M. Drury	Date:	6/10/93	Rev.#:	2
Telephone #:	217/854-3387	Fax #:	217/854-2717		
Discipline:	Safety and Health				
Area of Responsibility:	Worker Safety and OSHA Programs				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Has METC management defined and implemented a definitive occupational safety and health (OS&H) program which is consistently enforced throughout the site?
- Issue 2: Has METC management formalized and implemented comprehensive programs, policies, and procedures to ensure that proactive OS&H compliance activities are conducted throughout the site by a trained and qualified staff?
- Issue 3: Does METC management establish clear goals and objectives in order to allocate appropriate resources for developing, approving, and implementing OS&H programs, policies, and procedures?
- Issue 4: Does METC have specific and measurable OS&H goals and objectives reflected in managerial, supervisory, and OS&H professional staff performance appraisal plans?

Related Tiger Team Findings:

The Safety and Health Section of the Executive Summary stated, "Of the 150 concerns presented in the Safety and Health section of this report, 13 are designated as Category II." The WS Sections WS.3-1, 3-2, 3-3, 4-1, 4-2, 4-3, 4-4, and 4-5 of the 1991 Tiger Team report included deficiencies in the Hazard Communication Program, Confined Space Entry Program, noncompliance with Federal regulations on Emergency Plans and Fire Prevention Plans, and electrical hazards.

The Executive Summary, Probable Root Causes (Section 2.3.2) stated, "Management has not been proactive in identifying OS&H issues or in assuring compliance with OS&H rules and regulations. Further, when management has been made aware of OS&H programmatic deficiencies, it has not aggressively pursued corrective actions or attempted to address root causes." Also, "In the prioritization of resources, OS&H requirements were deferred to complete other projects."

Related Tiger Team Action Plan Items:

See above.

Other Bases:

Appraisals and self-assessments conducted after the June 1991 Tiger Team Assessment.

Applicable DOE Orders and OSHA standards and regulations including Conduct of Operations.

OSHA voluntary "Safety and Health Program and Management Guidelines."

Overlapping Issues:

Self-assessment, corrective actions, planning, training, organization, staffing, policy and procedures, and oversight.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

Performance Objectives and Criteria for Technical Safety Appraisals at DOE Facilities and Sites (June 1990), Performance Criteria located in Sections WS.1-5; OS.1-3, 1-4, 1-8, 1-9, 2-8, 2-9, 3-1, 3-6, 5-3, and 5-4; PP.1-3, 1-4, 1-8, 1-10, 2-8, 2-9, 3-1, 3-5, 5-6, and 5-7.

Description and Rationale of Approach:

Interviews with managerial, supervisory, and professional field staff coupled with document reviews, physical reviews of programs, and accident/incident statistics will establish METC's effort to implement an effective OS&H program.

Visits to the METC R&D facilities will provide a vertical sampling of management's effort for OS&H oversight, tracking and trending of OS&H issues, OS&H monitoring programs, commitment to training and development of OS&H personnel, and for accountability of OS&H programs and personnel.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Jenny Tennant		
	Telephone #:	304/284-4830	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	David M. Drury	Date:	6/10/93	Rev.#:	2
Telephone #:	217/854-3387	Fax#:	217/854-2717		
Discipline:	Safety and Health				
Area of Responsibility:	Quality Assurance				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Issue 1: Has METC management developed and initiated a quality assurance program to assure that safety and health activities affecting quality are performed according to DOE requirements?

Issue 2: Has METC management provided quality assurance training for inspectors or site personnel?

Related Tiger Team Findings:

Section 2.2.1, "Safety and Health Key Concerns," indicated, "METC has no approved Quality Assurance Program. Administrative programs and controls are not developed and implemented to ensure that activities affecting quality are performed according to DOE requirements."

Section 4.5.2.2., QV.1, "Quality Programs," listed two concerns: Concern QV.1-1 - Contrary to DOE 5700.6B and ASME NQA-1, administrative programs and controls are not developed and implemented by DOE-METC and EG&G to ensure that activities affecting quality are carried out according to specified requirements. Concern QV.1-2 - Contrary to DOE 5680.20, personnel do not receive appropriate training on applicable elements of DOE 5700.6B and ASME NQA-1.

Related Tiger Team Action Plan Items:

Same as above.

Other Bases:

DOE 5700.6C, "Quality Assurance;" and DOE 5480.19, "Conduct of Operations."

Overlapping Issues:

Self-assessment, training, organization, staffing, policy and procedures, corrective actions, and oversight.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

QV.1-2, 1-5, 1-7, 2-1, 3-3, 3-5, 3-7, 4-1, 4-2, 4-6, 5-7, 6-2, 6-4, 6-5, and 6-8.

Description and Rationale of Approach:

Interviews with managerial, supervisory, and professional field staff and document review will establish METC's effort to implement an effective Quality Assurance program in the safety area; an effective tracking system to ensure proposed corrective actions are completed; an instrument calibration program; and provisions to ensure that appropriate procured materials are properly inspected.

Visits to the METC R&D facilities will provide a vertical sampling of management's effort for QA oversight, tracking and trending of ES&H issues, and QA monitoring programs.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	Jenny Tennant		
	Telephone #:	304/284-4830	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Ron E. Alexander	Date:	6/10/93	Rev. #:	2
Telephone #:	806/353-2205	Fax #:	806/353-9249		
Discipline:	Safety & Health				
Area of Responsibility:	Industrial Hygiene Program				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

- Issue 1: Has METC established safety and health programs implementing applicable industrial hygiene requirements?
- Issue 2: Is professional industrial hygiene support available at METC and its principal site support subcontractors and are these talents being utilized effectively?
- Issue 3: Is the site progressing toward resolution of industrial hygiene related Tiger Team concerns in accordance with the approved action plan and have actions taken to date proven effective?

Related Tiger Team Findings:

Personnel Protection Findings and Concerns:

PP.1-1, PP.1-2, PP.1-3, PP.2-1, PP.2-2, PP.2-3, PP.2-4, PP.2-5, PP.2-6, PP.3-1, PP.3-2, PP.3-3, PP.3-4, PP.4-1, PP.4-2, PP.5-1, and PP.5-2

Medical Services Findings and Concerns:

MS.3-4 and MS.5-1.

Worker Safety Findings and Concerns:

WS.3-1, WS.3-2, and WS.3-3.

Related Tiger Team Action Plan Items:

See METC action plan relating to concerns noted above.

Other Bases:

Other bases for this portion of the Progress Assessment will include any METC self-assessment reports, trend analyses, Program Office audits and appraisals.

Overlapping Issues:

Other members of the Progress Assessment Team will be addressing the same issues and management performance objectives as will be addressed in this portion of the assessment. The portion of the 1991 Tiger Team report dealing with Organization and Administration and self-assessment issues will, in

particular, be subject to review by multiple team members. Resulting information will be assimilated by the team through team meetings, report writing, and the peer review process into a consolidated position.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

In performing this portion of the Progress Assessment, selected performance objectives from the Environment, Safety and Health Management Performance Objectives and Criteria for Progress Assessments (December 1992) will be evaluated as indicated in the following table. Since this portion of the appraisal is oriented toward performance in the area of industrial hygiene, the review will be focused toward review of these criteria as they relate to industrial hygiene issues. In addition, the industrial hygiene portion of the assessment will consider the industrial hygiene performance objectives in Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990).

Description and Rationale of Approach:

This portion of the assessment will be performed primarily through interviews and document reviews. There will be a number of field inspections where necessary to gain an understanding of the hazards present at the site and related issues.

Documentation and interviews will focus on safety and health related issues, programs, practices, and procedures. The assessment will determine the basis for the industrial hygiene program at METC and track that program through the selected performance objectives. Emphasis will be placed on evaluating progress on Tiger Team findings/concerns relating to industrial hygiene and progress on selected concerns will be validated. Field inspections will be used to support vertical slice reviews of the METC confined space and laser safety programs.

As a point of reference, the assessment will evaluate METC industrial hygiene performance against the 1991 Tiger Team Report, the approved corrective action plan for METC, Environment, Safety and Health Management Performance Objectives and Criteria for Progress Assessments (December 1992), industrial hygiene performance objectives from, Performance Objectives and Criteria for Technical Safety Appraisals at Department of Energy Facilities and Sites (June 1990), and applicable DOE Orders.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	J. Kovach		
	Telephone #:	304/291-4282	Fax #:	304/291-4469
Contractor Counterpart	Name:	M. Brantmayer		
	Telephone #:	304/291-4366	Fax #:	304/291-4403

**PROGRESS ASSESSMENT SCOPE
MORGANTOWN ENERGY TECHNOLOGY CENTER (METC)**

Name:	Leon H. Meyer	Date:	6/10/93	Rev. #:	2
Telephone #:	706/860-5099	Fax #:	706/860-5099		
Discipline:	Safety and Health				
Area of Responsibility:	Formality of Operations Control Systems				

IDENTIFICATION OF ISSUES:

Identification of Issues to Be Addressed:

Issue 1: Has METC management implemented a system of formal operations control documents to comply with DOE requirements and with its own Order, METC 5481.1?

Issue 2: Have pertinent members of the METC organization been trained to understand and use the operations control system(s) to achieve the maximum benefits to the ES&H program that can be derived from the implementation of formal controls?

Issue 3: Are the principles of Conduct of Operations factored into the structure of the formal operations control systems? Specifically: (1) do control system standards establish expected performance levels and define responsibilities in site operations; (2) are limiting conditions for operation clearly stipulated; (3) are procedures prepared, reviewed, approved, and maintained in a way that ensures adherence to the formal administrative controls; and (4) does the implementation program for the operations control systems include training program elements that assure an appropriate understanding and appreciation of the methods and benefits of administering the controls?

Related Tiger Team Findings:

Root Causes:

Management systems are not in place to direct and facilitate full and effective implementation of ES&H programs for METC activities.

Management does not fully accept the need for making significant changes in the management and methods of operation at METC to integrate ES&H elements and achieve the necessary level of rigor, formality, and compliance.

Key Concerns:

A formal administrative control system to ensure compliance with DOE Orders has not been implemented by management (Safety & Health Subteam).

Concerns:

No system of administrative control documents and practices, needed in part to comply with METC 5481.1, has been established and formalized (OA.2-1).

No comprehensive system of formal administrative controls has been imposed upon site operations. This is required, in part, by METC 5481.1 (OP.1-1).

DOE-METC has no formal document control system (OA.7-1).

Contrary to DOE 6430.1A, Section 7.a., "Policy," and Section 8.b., "Responsibilities," DOE-METC does not have effective administrative controls for design and design reviews (TS.1-2).

Numerous deficiencies exist in the DOE-METC procedures for implementing an effective administrative control system (TS.2-2).

Related Tiger Team Action Plan Items:

The Draft Action Plan (July 19, 1991) for the 1991 Tiger Team Assessment of the Morgantown Energy Technology Center addresses the Root Causes, Key Concerns, and Concerns cited above.

Other Bases:

DOE 5480.19, "Conduct of Operations Requirements for DOE Facilities;" DOE 5481.1B, "Safety Analysis and Review System;" and METC 5481.1, "Safety Analysis and Review System."

Overlapping Issues:

Overlap exists with the Progress Assessment Oversight and Directives functional areas. Additional overlap may exist with other functional areas in some of the Conduct of Operations topics to be assessed.

ASSESSMENT APPROACH:

Performance Objectives to be Evaluated:

For the purposes of this assessment, conditions at METC pertaining to Formality of Operations Control Systems will be examined against Performance Objectives OA.1, OA.2, OP.1, and OP.2 of the Performance Objectives and Criteria for Technical Safety Appraisals at DOE Facilities and Sites (June 1990).

Description and Rationale of Approach:

The 1991 Tiger Team Assessment of METC cited specific deficiencies in the formality of operations control systems needed to ensure an effective ES&H program. The ensuing METC corrective action plan defined program elements to address these deficiencies. Progress in implementing these corrective actions will be assessed by:

- Reviewing the documentation of any formal operations control systems that have been established since the 1991 Tiger Team Assessment.
- Interviewing METC (and perhaps FE) management personnel to determine the status of formal operations control systems currently in operational or planning phases.

- Interviewing METC nonmanagement and contractor (EG&G-WASC) personnel to evaluate the effectiveness of the implementation and training program elements pursuant to the establishment of formal operations control systems.

The overall judgment on the quality of formal operations control systems and on the benefits that have accrued to the METC ES&H program as a result of their implementation will be based on these assessment activities.

Planned Interviews:

Refer to Appendix F in this report.

Additional Documents Needed:

Refer to Appendix G in this report.

TO BE COMPLETED BY DOE FIELD OFFICE AND SITE CONTRACTOR				
DOE Counterpart	Name:	J. Notestein		
	Telephone #:	304/291-4232	Fax #:	304/291-4469
Contractor Counterpart	Name:	None		
	Telephone #:	n/a	Fax #:	n/a

Appendix E

Schedule of Onsite Activities

SCHEDULE OF ONSITE ACTIVITIES MAY 1993

Sun. 5/2/93	Mon. 5/3/93	Tues. 5/4/93	Wed. 5/5/93	Thurs. 5/6/93	Fri. 5/7/93	Sat. 5/8/93
Offsite	Travel Training Badging Team Meeting Draft Work Scopes	Site Briefings Site Tour Review Work Scopes	Interviews Daily Reports Team Meeting Document Review	Interviews Review Team Members' Work Scopes Daily Reports Team Meeting Document Review	Peer Review Work Scopes Submit Document Requests Develop Headquarters Interview Lists Team Leader Closeout With Site	Offsite

JUNE 1993

Sun. 6/6/93	Mon. 6/7/93	Tues. 6/8/93	Wed. 6/9/93	Thurs. 6/10/93	Fri. 6/11/93	Sat. 6/12/93
Travel Team Meeting	Interviews Daily Report Daily Debrief	Interviews Develop 1-Liners Daily Report Daily Debrief	Interviews Review Team Members' 1-Liners Team Meeting Peer Review 1-Liners Develop Overviews, Concerns, and Weaknesses Daily Report Daily Debrief	Develop Overviews, Concerns, and Weaknesses	Develop Overviews, Concerns, and Weaknesses Review Team Members' Overviews, Concerns, and Weaknesses Begin Peer Review of Overviews, Concerns, and Weaknesses Draft Section 1	Continue Peer Review of Overviews, Concerns, and Weaknesses Revise Overviews, Concerns, and Weaknesses Based on Peer Review

SCHEDULE OF ONSITE ACTIVITIES
JUNE 1993 (continued)

Sun. 6/13/93	Mon. 6/14/93	Tues. 6/15/93	Wed. 6/16/93	Thurs. 6/17/93	Fri. 6/18/93	Sat. 6/19/93
Complete Draft Overviews, Concerns, and Weaknesses	Draft Overviews, Concerns, and Weaknesses to Site	Factual Accuracy Reviews of Overviews, Concerns, and Weaknesses	Factual Accuracy Review of Section 1, Summary Overviews, Key Concerns, and Strengths	Finalize Report	Closeout - A.M.	Offsite
Develop Strengths	Team Meeting to Develop Key Concerns	Incorporate Factual Accuracy Review Comments into Report Sections	Team Meeting with Site to Develop Root Causes	Final Report to Duplicating	Leave Site Before Noon	
Review Strengths and Revised Overviews, Concerns, and Weaknesses	Peer Review of Strengths	Section 1, Summary Overviews, Key Concerns, and Strengths to Site for Review	Peer Review of Executive Summary	Closeout Rehearsal		
	Develop Key Concerns and Summary Overviews	Develop Executive Summary	Incorporate Changes to Report Based on Factual Accuracy Review	Prepare for Departure		
	Team Member Review of Summary Overviews, Key Concerns, and Section 1		Develop Individual Slides and Narratives for Closeout			
	Conference Call With FE to Review Report Sections		Executive Summary to Site; Revise Executive Summary			
	Key Concerns, Summary Overview, and Section 1 Peer Review					

Appendix F

List of Contacts and Interviews Conducted by the Progress Assessment Team

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Date	Organization	Topic
Corrective Action Program (Tom Williams)			
I-A-1	5/5/93	METC, PSE, ESH	Planning, budgeting, tracking, lessons learned, trending, MCATS data base, and occurrence reporting
I-A-2	5/5/93	EG&G	Corrective action plan, management responsibility, ES&H issues, reporting, and interaction with regulatory agencies
I-A-3	5/5/93	METC, PSE, IRD	MCATS data base, information management, ES&H trending, lessons learned, and root cause analysis
I-A-4	5/5/95	METC, PTM	Action plan development, METC Orders, and NEPA documentation
I-A-5	5/5/93	METC, PSE, ESH	Corrective actions for NEPA program, tracking system for NEPA documents, and lessons learned information sharing
I-A-6	5/5/93	METC, DIR	Occurrence reporting, emergency response program, ORPS reports, lessons learned and MCATS data base
I-A-7	5/6/93	METC, PTM, FRM	Research and development, ES&H responsibilities, and contracts
I-A-8	5/6/93	METC, DIR	Action plan verification, validation, and closure processes
I-A-9	5/6/93	METC, TBD	Restart process, SAR review, facility walkdowns, TQM, and ES&H budget
I-A-10	5/6/93	METC, OJD, HRD	Training and occupational medicine action plan items, QA/QC procedures, training, and TQM
I-A-11	5/6/93	METC, PTM, EWM	R&D contract work, ES&H concerns, NEPA documentation, and METC Orders
I-A-12	5/6/93	METC, DIR	Action plan verification and validation, NEPA documentation, contracts, and ES&H responsibilities
I-A-13	5/6/93	METC, TBD, TSP	Corrective action program, laboratory restart effort, identification of ES&H issues, SARs, and MCATS data base
I-A-14	5/19/93	FE-6	Corrective action, oversight, budgeting, and extent of contact with METC
I-A-15	5/19/93	FE-30	Corrective action, responsibility for ES&H oversight, budget, and METC management review
I-A-16	5/19/93	FE-6	FE-6 roles and responsibility, corrective action, and change control
I-A-17	6/7/93	EG&G	Training
I-A-18	6/7/93	EG&G	Management of tasks, lessons learned, trending, and shutdown authority
I-A-19	6/7/93	METC, DIR	Corrective action program, budget and scheduling issues, MCATS, and TQM
I-A-20	6/7/93	TRESP	Data input, report generation, monthly reporting requirements, and MCATS
I-A-21	6/7/93	METC, PSE, ESH	Responsibilities, offsite wastes, waste characterization, lessons learned, procurement, and environmental restoration
I-A-22	6/7/93	METC, PSE	Roles and responsibilities, TQM, self-assessment, and corrective action
I-A-23	6/8/93	METC, PSE, EOS	Tasks under corrective action plan, work order processes, trending of root causes

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-A-24	6/8/93	METC, DIR, PSE, ESH	Root cause methodology, planned validation process, policy issues, roles and responsibilities, oversight, lessons learned, and corrective action procedures
I-A-25	6/8/93	METC, DIR	METC Action Plan, funding, schedule changes, and ES&H tracking
I-A-26	6/9/93	METC, PSE, POB	Work Order System: ES&H data collection, trending, and distribution
I-A-27	6/9/93	EG&G	EG&G work order system
I-A-28	6/9/93	METC, PSE, IRD	METC directives system
Self-Assessment Program (Edward F. Branagan, Jr.)			
I-B-1	5/5/93	METC, PTM, CCB	Self-assessment
I-B-2	5/6/93	METC, TBD, TBP/ Laboratory Safety Committee	Self-assessment
I-B-3	5/6/93	METC, DIR	Self-assessment
I-B-4	5/6/93	METC, PSE, SDM/ Facilities Safety Committee	Self-assessment
I-B-5	5/6/93	METC, TBD, CMB/ Process Safety Committee	Self-assessment
I-B-6	5/6/93	METC, TBD	Self-assessment
I-B-7	5/6/93	METC, DIR	Self-assessment
I-B-8	5/6/93	METC, PTM	Self-assessment
I-B-9	5/6/93	METC, DIR	Self-assessment
I-B-10	5/11/93	METC, Safety and Health	Self-assessment
I-B-11	5/17/93	FE-6	Self-assessment
I-B-12	5/18/93	FE-33	Self-assessment
I-B-13	5/18/93	FE-20	Self-assessment
I-B-14	5/26/93	FE-70	Self-assessment
I-B-15	6/3/93	METC, Safety and Health	Self-assessment
I-B-16	6/7/93	METC, TBD, GAS	B-12 Gasifier
I-B-17	6/7/93	METC, TBD, TSP	Self-assessment
I-B-18	6/7/93	METC, TBD, TSP	Analytical Support Cluster Leader
I-B-19	6/9/93	METC, Safety and Health	Self-assessment

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
Oversight and Directives Systems (David Schweller)			
I-C-1	5/5/93	METC, DIR	Directives and oversight
I-C-2	5/5/93	METC, DIR	Directives and oversight
I-C-3	5/5/93	EG&G	Directives and oversight
I-C-4	5/5/93	METC, DIR	Directives and oversight
I-C-5	5/5/93	METC, PSE, SDM	Directives and oversight
I-C-6	5/5/93	METC, PSE	Directives and oversight
I-C-7	5/5/93	METC, PSE, ESH	Directives and oversight
I-C-8	5/5/93	METC, PSE, ESH	Directives and oversight
I-C-9	5/6/93	METC, PSE, ESH	Directives and oversight
I-C-10	5/6/93	METC, PSE, ESH/ Procedures Review Committee	Directives and oversight
I-C-11	5/6/93	EG&G	Directives and oversight
I-C-12	5/6/93	METC, TBD, TBP/ Laboratory Safety Committee, CBM/ Process Safety Committee	Directives and oversight
I-C-13	5/19/93	FE-6	Directives and oversight
I-C-14	5/19/93	FE-30	Directives and oversight
I-C-15	5/19/93	FE-70	Directives and oversight
I-C-16	5/19/93	FE-6	Directives and oversight
I-C-17	5/20/93	FE-1	Directives and oversight
I-C-18	6/7/93	METC, PSE, IRD	Directives
I-C-19	6/7/93	METC, PSE, ESH	Directives and oversight
I-C-20	6/7/93	METC, DIR	General ES&H
I-C-21	6/7/93	METC, DIR	Directives and oversight
I-C-22	6/7/93	METC, PTM, TBD	Directives and oversight
I-C-23	6/8/93	METC, PSE, ESH	Directives and oversight
I-C-24	6/8/93	METC, DIR	General ES&H
I-C-25	6/8/93	METC, PTM, CCB, PPE	Directives and oversight
I-C-26	6/9/93	METC, PSE	Directives and oversight

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-C-27	6/9/93	METC, TBD, TBP	Directives and oversight, CRADAs
Organization, Planning, and Training (Marvin J. Laster)			
I-D-1	5/5/93	METC, DIR	Organization
I-D-2	5/5/93	METC, DIR	Organization and planning
I-D-3	5/5/93	EG&G	Training
I-D-4	5/5/93	METC, DIR	Organization
I-D-5	5/5/93	METC, PSE, SDM	Site development
I-D-6	5/5/93	METC, PSE	Organization and training
I-D-7	5/5/93	METC, PSE, ESH	PMDP
I-D-8	5/5/93	METC, PSE, ESH	Organization
I-D-9	5/6/93	METC, OID, HRD	Training
I-D-10	5/6/93	METC, DIR	CRADAs and subcontracts
I-D-11	5/6/93	METC, OID, HRD	Training
I-D-12	5/6/93	METC, PSE, ESH	Training
I-D-13	5/6/93	EG&G	Organization
I-D-14	5/19/93	FE-6	Organization
I-D-15	5/19/93	FE-6	Training
I-D-16	5/19/93	FE-6	Planning
I-D-17	5/19/93	FE-30	Organization and planning
I-D-18	5/19/93	FE-30	Organization
I-D-19	5/19/93	FE-70	Organization
I-D-20	5/19/93	FE-6	Organization
I-D-21	5/20/93	FE-1	Planning and organization
I-D-22	6/7/93	METC, DIR	Planning
I-D-23	6/7/93	METC, PSE, ESH	Training
I-D-24	6/7/93	METC, PTM	Organization and training
I-D-25	6/7/93	METC, OID, HRD	Training
I-D-26	6/8/93	METC, PSE, ESH	Organization and training
I-D-27	6/8/93	METC, DIR	Organization

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-D-28	6/8/93	EG&G	Training
I-D-29	6/8/93	METC, TBD	Organization
I-D-30	6/8/93	METC, DIR	Planning, organization, and training
I-D-31	6/8/93	METC, DIR	Planning, organization, and training
I-D-32	6/9/93	METC, PSE	Organization and training
Groundwater Protection Program (Robert A. Crowley)			
I-E-1	5/5/93	EG&G	Groundwater monitoring
I-E-2	5/5/93	EG&G	Water monitoring, soil/sediment/biota
I-E-3	5/5/93	EG&G	Groundwater monitoring
I-E-4	5/5/93	METC, DIR	Quality assurance oversight
I-E-5	5/6/93	METC, DIR	Oversight of environmental monitoring programs
I-E-6	5/6/93	METC, PSE, ESH	Remediation activities groundwater monitoring
I-E-7	5/6/93	METC, PSE, ESH	Offsite remediation activities
I-E-8	5/6/93	METC, PSE, ESH	Groundwater monitoring
I-E-9	6/7/93	METC, PTM, PST	Quality assurance direction for offsite activities
I-E-10	6/7/93	EG&G	Safety training
I-E-11	6/7/93	METC, PSE, PEB	Quality assurance assistance
I-E-12	6/7/93	METC, PSE, ESH	Groundwater monitoring/QA
I-E-13	6/7/93	METC, PSE, ESH	Roles and responsibilities of program support division
I-E-14	6/8/93	METC, PSE, ESH	Implementation of ES&H QA program
I-E-15	6/8/93	EG&G	Groundwater sampling
I-E-16	6/8/93	METC, PSE, ESH	Environmental monitoring
I-E-17	6/8/93	METC, PSE, ESH	Groundwater monitoring/QA
I-E-18	6/9/93	EG&G	Laboratory audits
Waste Management Program (Diane Morton)			
I-F-1	5/5/93	METC, PSE, SDM	Conduct of operations
I-F-2	5/5/93	METC, PSE, ESH	Environmental compliance
I-F-3	5/5/93	METC, PSE, ESH/ Procedures Review Committee	Radiation safety and waste minimization
I-F-4	5/5/93	METC, PSE, ESH	Hazardous waste management

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-F-5	5/5/93	METC, DIR	Environmental management
I-F-6	5/6/93	METC, PSE, ESH	Waste management
I-F-7	5/6/93	METC, PSE, ESH	Recycling
I-F-8	5/6/93	EG&G	Hazardous waste management
I-F-9	5/18/93	FE-6	Headquarters waste minimization/waste management guidance
I-F-10	6/7/93	EG&G	Tour/walk waste storage areas
I-F-11	6/7/93	METC, PSE, ESH	Tiger Team closeouts, budget prioritization, procurement, and waste minimization activities
I-F-12	6/7/93	METC, PSE, ESH	ES&H training
I-F-13	6/7/93	METC, Procedures Review Committee	Rad waste management
I-F-14	6/9/93	FE-6	Waste Management Plan
I-F-15	6/8/93	METC, PSE, ESH	Generating processes, review procedures/documentation, and walk generating processes
I-F-16	6/9/93	EG&G	EG&G training
I-F-17	6/9/93	METC	Directives system change control
Worker Safety and OSHA/Quality Assurance (David M. Drury)			
I-G-1	5/5/93	METC, DIR	QA/QC management
I-G-2	5/5/93	METC, PSE, ESH	ES&H HazCom
I-G-3	5/5/93	METC, PSE, SDMI Facilities Safety Committee	Facilities Safety Committee
I-G-4	5/5/93	METC, PSE, ESH	Training/safety committees
I-G-5	5/6/93	METC, TBD, CBM/ Process Safety Committee	Process safety committee
I-G-6	5/6/93	EG&G	EG&G safety programs
I-G-7	5/6/93	METC, TBD, TBP/ Laboratory Safety Committee	Site ES&H committee
I-G-8	5/6/93	METC, PSE, EOS	CAP facility safety tasks
I-G-9	5/19/93	FE-6	FE ES&H support
I-G-10	5/19/93	FE-6	FE ES&H support
I-G-11	5/19/93	FE-6	FE ES&H support
I-G-12	5/19/93	FE-6	FE ES&H support
I-G-13	5/19/93	FE-13	Counterfeit Bolt Program

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
I-G-14	5/19/93	EH-32.2	Counterfeit Bolt Program
I-G-15	6/7/93	METC, PSE, ESH	METC ES&H Program
I-G-16	6/7/93	METC, DIR	METC ES&H Program
I-G-17	6/7/93	EG&G	EG&G ES&H Program
I-G-18	6/8/93	METC, PSE, ESH	ES&H QA program
I-G-19	6/8/93	METC, PSE, ESH	OSHA program
I-G-20	6/10/93	METC, PSE, EOS	Bolt usage/welding inspections
Industrial Hygiene Program (Ron E. Alexander)			
I-H-1	5/5/93	EG&G	Industrial hygiene
I-H-2	5/5/93	METC, PSE, ESH	Industrial hygiene
I-H-3	5/5/93	METC, PSE, ESH	Industrial hygiene
I-H-4	5/5/93	METC, DIR	Industrial hygiene
I-H-5	5/5/93	EG&G	Industrial hygiene
I-H-6	5/5/93	EG&G	Industrial hygiene
I-H-7	5/5/93	METC, PSE, ESH/ Procedures Review Committee	Industrial hygiene
I-H-8	5/6/93	METC, PSE, ESH	Industrial hygiene
I-H-9	5/6/93	METC, DIR	Industrial hygiene
I-H-10	5/6/93	METC, PSE, ESH	Industrial hygiene
I-H-11	5/6/93	EG&G	Industrial hygiene
I-H-12	5/6/93	EG&G	Industrial hygiene
I-H-13	5/6/93	EG&G	Industrial hygiene
I-H-14	5/6/93	METC, TBD, TBP/ Laboratory Safety Committee	Industrial hygiene
I-H-15	5/6/93	EG&G	Industrial hygiene
I-H-16	6/7/93	METC	Industrial hygiene
I-H-17	6/7/93	EG&G	Industrial hygiene
I-H-18	6/8/93	EG&G Contractor	Industrial hygiene
I-H-19	6/9/93	EG&G	Confined spaces, industrial hygiene

LIST OF CONTACTS AND INTERVIEWS CONDUCTED BY THE PROGRESS ASSESSMENT TEAM (Continued)

Ref. No.	Date	Organization	Topic
Formality of Operations Control Systems (Leon H. Meyer)			
I-I-1	5/5/93	METC, DIR	Formal operations control systems
I-I-2	5/5/93	EG&G, WASC	Formal operations control systems
I-I-3	5/5/93	METC, PSE, ESH	Formal operations control systems
I-I-4	5/5/93	METC, PSE	Formal operations control systems
I-I-5	5/6/93	METC, DIR	Formal operations control systems
I-I-6	5/6/93	METC, PSE, ESH	SARS
I-I-7	5/6/93	METC, DIR	Formal operations control systems
I-I-8	6/7/93	METC, PSE, IRD, PEB	Document control
I-I-9	6/7/93	METC, TBD, ESH, PSE, TBPI Laboratory Safety Committee; CBM/ Process Safety Committee; SDM/ Facilities Safety Committee	SARS
I-I-10	6/7/93	METC, PSE, SDM	Conduct of operations
I-I-11	6/7/93	METC, OID, HRD	SARS Training
I-I-12	6/7/93	METC, PSE, PEB	Formal administrative controls for design
I-I-13	6/8/93	METC, PSE, ESH	SARS Training
I-I-14	6/8/93	METC, PSE	Reprise

Appendix G

List of Site Documents Reviewed by the Progress Assessment Team

LIST OF SITE DOCUMENTS REVIEWED BY THE PROGRESS ASSESSMENT TEAM

Ref. No.	Doc. No.	Title/Description	Document Author/ Issuing Organization	Revision/ Issue Date
Corrective Action Program (Tom Williams)				
D-A-1	METC-009 (29)	Listing of Industrial Hygiene Tasks and Their Related Findings (Status of Industrial Hygiene Related Tiger Team Concerns)	METC	None indicated
D-A-2	METC-010 (29)	METC Corrective Action Plan Tracking System Milestone Dates by Class re: Industrial Hygiene (Environment) (Status of Industrial Hygiene Related Tiger Team Concerns)	METC	4/28/93
D-A-3	METC-025 (28)	Environmental Baseline Characterization of the Morgantown Energy Technology Center, Preliminary Draft Report	METC	2/93
D-A-4	METC-026 (28)	Data Deficiency Report for the Site Characterization of the Morgantown Energy Technology Center	METC	1/93
D-A-5	METC-030 (28)	Quality Assurance Project Plan (QAPP) for the Morgantown Energy Technology Center	METC	1/29/93
D-A-6	METC-051	Office of Fossil Energy Self-Assessment Program Plan	FE	3/20/92
D-A-7	METC-052	Office of Self Assessment Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	3/93
D-A-8	METC-056	Office of the Deputy Assistant Secretary for Coal Technology Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-A-9	METC-062	Fossil Energy Safety and Health Five-Year Plan	FE	7/92
D-A-10	METC-069	METC Mission and Function Statement	METC	None indicated
D-A-11	METC-071	METC Order 5480.4-1 re: General On-Site Environment, Safety and Health Responsibilities	Office of Program Support and Evaluation/METC	4/2/93
D-A-12	METC-072	Manpower Analysis - SD&MB	METC	4/2/93
D-A-13	METC-075	METC News and ES&H Newsletter re: ES&H and Total Quality Management	METC	Various
D-A-14	METC-118 (26)	METC Procedure P 5700.6-45A re: Management of Corrective Action Planning, Execution, and Budgeting Processes (METC Tracking System Procedures, also includes DOE O 5700.6-42 (see METC-070))	Office of the Director/METC	4/26/93
D-A-15	METC-119 (26)	METC Tracking System Sample Standard Report	METC	3/3/93
D-A-16	METC-120 (26)	METC Tracking System Guidance including Monthly Updates, Task Change/Rewrite and Corrective Action Plan Change Request	METC	4/30/93
D-A-17	METC-121 (6, 26)	METC Draft Procedure P5700.6-XX re: Assessment Handbook	METC	None indicated
D-A-18	METC-122 (26)	METC's ES&H Monthly Status Report for April 1993	METC	4/93
D-A-19	METC-133 (5)	Corrective Action Plan Annual Update	METC	4/19/93
D-A-20	METC-136 (8)	Draft METC Corrective Action Plan for Fossil Energy Sites in Wyoming	METC	8/17/92

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-A-21	METC-137 (8)	Tiger Team Remedial Action Status Reports for 12/92	J. Wachter/METC	1/5/93
D-A-22	METC-138 (8)	Tiger Team Remedial Action Status Reports for 1/93	J. Wachter/METC	2/2/93
D-A-23	METC-139 (8)	Tiger Team Remedial Action Status Reports for 2/93	J. Wachter/METC	3/3/93
D-A-24	METC-140 (8)	ES&H Monthly Status Report	J. Wachter/METC	3/31/93
D-A-25	METC-141 (9)	Memorandum to all DOE/METC Personnel re: METC's Strategic Plan (with attached plan)	F. Crouse/METC	8/14/92
D-A-26	METC-142 (10)	Environment, Safety and Health Oversight Staffing Needs Analysis (and transmittal memorandum)	J. Notestem/METC	4/25/93
D-A-27	METC-147 (11)	Safety and Health Five Year Plan Submission	METC	4/27/92
D-A-28	METC-148 (11)	METC Corrective Action Plan, Resource Schedule and Cost Plan	METC	4/15/93
D-A-29	METC-150 (11)	Preliminary Disposition of Tiger Team, RCRA, and CERCLA Funds for FY 1993	J. Wachter/METC	11/1/92
D-A-30	METC-152 (11)	FY 1994 Presidential and Planning Budgets - Environmental Restoration	J. Wachter/METC	4/1/93
D-A-31	METC-177 (14)	METC Procedure P 5480.19.4 re: Appointment and Responsibility -- Area, Facility, and Responsible Custodians	Office of Program Support and Evaluation/METC	9/24/92
D-A-32	METC-224 (24)	METC ES&H Information and Data Management Systems	METC	None indicated
D-A-33	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-A-34	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-A-35	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-A-36	METC-246	METC Occurrence Reports through 3/1/93	METC	3/93
D-A-37	METC-247	DOE Order 5000.3B re: Occurrence Reporting and Processing of Operations Information	METC	2/22/93
D-A-38	METC-249	METC Procedure No. P 5000.3-1 re: Occurrence Classification and Reporting	Office of the Director/METC	6/22/92
D-A-39	METC-251	METC Procedure P 5480.4-11 re: OTBD Safety and Health Responsibilities	Office of Technology Base Development/METC	None indicated
D-A-40	METC-252	Memorandum re: Notes from Inspection of Dan's Lab	R. Anderson/METC	10/30/92
D-A-41	METC-253	Memorandum re: Notes from Walk-thru of B-12 1/29/93	W. Lowry/METC	2/16/93
D-A-42	METC-254	NEPA Document Tracking System Design Specifications	METC	None indicated
D-A-43	METC-255	NEPA Tracking System Data Base	METC	5/4/93
D-A-44	METC-256	Memorandum re: Task Masters and Task Leaders for Open Tasks	D. Overcash/METC	5/5/93
D-A-45	METC-262	Memorandum re: Director's Office Reassignments and Responsibility Changes	T. Bechtel/METC	3/28/91

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-A-46	METC-265	METC Response to the Occupational Medical Program Appraisal at the Morgantown Energy Technology Center with Attached MCAIS Information	METC	12/92
D-A-47	METC-286	Guidance for FE Environment, Safety and Health (ES&H) Five-Year Plan Process FY 1995 with attached Agenda for Workshop and Transmittal Memorandum	FE-6	None indicated
D-A-48	METC-287	Memorandum re: FE-Wide Corrective Action Tracking System	J. Randolph/FE-6	6/1/92
D-A-49	METC-288	Memorandum re: Corrective Action Tracking System Training	C. Zamuda/FE-6	7/7/92
D-A-50	METC-289	Memorandum re: Office of Fossil Energy Corrective Action Tracking System	C. Zamuda/FE-6	7/21/92
D-A-51	METC-290	Memorandum re: Data Requirements: ES&H Monthly Status Report	C. Zamuda/FE-6	3/3/93
D-A-52	METC-291	Memorandum re: ES&H Corrective Action Tracking and Reporting System	C. Zamuda/FE-6	4/23/93
D-A-53	METC-292	Memorandum re: Office of Fossil Energy (FE) Tiger Team Corrective Action Tracking System	C. Zamuda/FE-6	6/30/92
D-A-54	METC-293	Office of Fossil Energy Environment, Safety and Health Status Report	FE	4/93
D-A-55	METC-353	Draft Summary of Data Bases	METC	None indicated
D-A-56	METC-354	Instructions for Manipulating METC Project Data Base	METC	Unknown
D-A-57	METC-361	METC Procedure P 5700.6-45B re: Management of Corrective Action Planning, Execution, and Budgeting Processes	Office of Program Support and Evaluation/METC	6/3/93
D-A-58	METC-369	METC Corrective Action Tracking System Manual	METC	Various
D-A-59	METC-370	Memorandum re: TMS Update	METC	None indicated
D-A-60	METC-371	Weekly Comment Report (Week 36)	METC	6/4/93
D-A-61	METC-372	Work Order Information Sheets	METC	Various
D-A-62	METC-377	The Bechtel Report Weekly Action Plan Update	METC	6/7/93
D-A-63	METC-070 (6)	METC Operating Plan O 5700.6-42 re: ES&H Self-Assessment Implementation Plan	Office of the Director/METC	11/17/92
D-A-64	METC-420	Lessons Learned Presentation	J. Wachter/METC	2/93
Self-Assessment Program (Edward F. Branagan, Jr.)				
D-B-1	METC-050	Office of Fossil Energy Organization Chart	FE	3/2/93
D-B-2	METC-051	Office of Fossil Energy Self-Assessment Program Plan	FE	3/20/92
D-B-3	METC-052	Office of Self Assessment Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	3/93
D-B-4	METC-054	Office of Fossil Energy, Office of Self Assessment, Mission and Functions Statement (including Office of Self Assessment Organization Chart)	FE	None indicated

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-5	METC-056	Office of the Deputy Assistant Secretary for Coal Technology Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-B-6	METC-057	Office of the Deputy Assistant Secretary for Advanced Research and Special Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan (with attached transmittal memorandum)	FE	12/16/92
D-B-7	METC-058	Office of the Deputy Assistant Secretary for Gas and Petroleum Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-B-8	METC-064	Schedule of Office of Self Assessment Appraisals (FE)	FE	None indicated
D-B-9	METC-070 (6)	METC Operating Plan O 5700.6-42 re: ES&H Self-Assessment Implementation Plan	Office of the Director/METC	11/17/92
D-B-10	METC-079	ES&H Management Self-Assessment	B. Armstrong/METC	5/7/93
D-B-11	METC-081	Morgantown Energy Technology Center A Life Safety Study (External Reviews/Audits)	J. Jensen/EG&G	2/92
D-B-12	METC-082	Fire Hazards Analysis Report (External Reviews/Audits)	EG&G Florida	3/92
D-B-13	METC-083	METC Lockout/Tagout Self-Assessment with Attached Transmittal Memorandum	D. McCollum/METC	8/8/91
D-B-14	METC-084	METC Confined Space Entry Self-Assessment with Attached Transmittal Memorandum	B. Armstrong/METC	11/4/91
D-B-15	METC-085	Special Work Permits Audit with Attached Transmittal Memorandum	J. Tennant/METC	1/27/92
D-B-16	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-B-17	METC-133 (5)	Corrective Action Plan Annual Update	METC	4/19/93
D-B-18	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-B-19	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-B-20	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-B-21	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-B-22	METC-245	Self-Assessment Guidance Document	EH-5/DOE	12/92
D-B-23	METC-262	Memorandum re: Director's Office Reassignments and Responsibility Changes	T. Bechtel/METC	3/28/91
D-B-24	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-B-25	METC-264	TQM Goal and Objectives	METC	2/14/92
D-B-26	METC-266	METC Notice N 5700.6 re: Self-Assessment Activities for Calendar Year 1993	Office of the Director/METC	1/20/93
D-B-27	METC-267	Approval Page for Morgantown Energy Technology Center Environment, Safety, and Health Self-Assessment Implementation Plan	J. Randolph/FE	12/30/92

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-B-28	METC-280	Table re: Partial Listing of the Degrees and Years of Experience of Members of the METC Site ES&H Committee	METC	None indicated
D-B-29	METC-281	Memorandum re: Power Systems Program Review with Attached Agenda	J. Siegel/FE-232	9/2/92
D-B-30	METC-282	Strategic Plan for Office of Gas and Petroleum Technologies Environment, Safety and Health	FE	5/93
D-B-31	METC-293	Office of Fossil Energy Environment, Safety and Health Status Report	FE	4/93
D-B-32	METC-294	Environment, Safety, and Health Management Appraisal of the Strategic Petroleum Reserve Project Management Office	Strategic Petroleum Reserve Headquarters and FE-6	4/9/93
D-B-33	METC-295	Management Appraisal of the Naval Petroleum and Oil Shale Reserves, Colorado, Utah, and Wyoming and John Brown Engineering Corporation	FE-6	5/11/92 5/15, '92
D-B-34	METC-296	Management Appraisal of Naval Petroleum and Oil Shale Reserves Headquarters	FE-6	6/16/92 6/19/92
D-B-35	METC-297	FE Environment, Safety and Health Conference Call Agenda and Minutes	FE-6	4/14/93
D-B-36	METC-363	PSE AD Walkaround Documents	B. Armstrong/METC	Various
Oversight and Directives Systems (David Schweller)				
D-C-1	METC-008 (29)	METC Operating Plan 0 3790.1-6 re: Site Occupational, Safety, and Health Review Committee (SOSHR)	Office of Resource Management/METC	9/11/91
D-C-2	METC-030 (28)	Quality Assurance Project Plan (QAPP) for the Morgantown Energy Technology Center	METC	1/29/93
D-C-3	METC-054	Office of Fossil Energy, Office of Self Assessment, Mission and Functions Statement (including Office of Self Assessment Organization Chart)	FE	None indicated
D-C-4	METC-062	Fossil Energy Safety and Health Five-Year Plan	FE	7/92
D-C-5	METC-064	Schedule of Office of Self Assessment Appraisals	FE	None indicated
D-C-6	METC-065	Office of Fossil Energy Environment, Safety and Health Status Report, Office of Self Assessment	FE	3/93
D-C-7	METC-068	Memorandum to B. Armstrong, METC re: ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J. Wachter/METC	3/4/93
D-C-8	METC-070 (6)	METC Operating Plan 0 5700.6-42 re: ES&H Self-Assessment Implementation Plan	Office of the Director/METC	11/17/92
D-C-9	METC-071	METC Order 5480.4-1 re: General On-Site Environment, Safety and Health Responsibilities	Office of Program Support and Evaluation/METC	4/2/93
D-C-10	METC-072	Manpower Analysis - SD&MB	METC	4/2/93
D-C-11	METC-076	1992 Audit of P 5480.19-41, Transportation of Hazardous Materials (and attached transmittal memorandum)	J. Tennant/METC	3/19/92

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-C-12	METC-079	ES&H Management Self-Assessment (in progress)	B. Armstrong/METC	3/7/93
D-C-13	METC-080	Office of Occupational Medicine Occupational Medical Program Appraisal for Morgantown Energy Technology Center with attached transmittal memorandum (External Reviews/Audits)	METC	9/14/92 9/17/92
D-C-14	METC-081	Morgantown Energy Technology Center A Life Safety Study (External Reviews/Audits)	J. Jensen/EG&G	2/92
D-C-15	METC-082	Fire Hazards Analysis Report (External Reviews/Audits)	EG&G Florida	3/92
D-C-16	METC-083	METC Lockout/Tagout Self-Assessment with Attached Transmittal Memorandum	D. McGinnis/METC	8/8/91
D-C-17	METC-084	METC Confined Space Entry Self-Assessment with Attached Transmittal Memorandum	B. Armstrong/METC	11/4/91
D-C-18	METC-085	Special Work Permits Audit with Attached Transmittal Memorandum	J. Tennant/METC	1/27/92
D-C-19	METC-086 (27)	METC Procedure P5481.1-1A re: Safety Analysis and Review System (SARS) and attached Synopsis of Changes to P5481.1-1A	Office of Technology Base Development	4/15/93
D-C-20	METC-087 (27)	Charter for the METC Site Environment, Safety, and Health Committee	METC	4/93 (Rev 2)
D-C-21	METC-088 (27)	METC Order 1321.1C re: METC Directives System	Office of Program Support and Evaluation/METC	7/29/92
D-C-22	METC-089 (27)	METC Job Description re: Resource Manager (Armstrong)	METC	None indicated
D-C-23	METC-090 (27)	METC Job Description re: Senior Science Advisor/ Interdisciplinary General Engineer or Physical Scientist (Notestein)	METC	None indicated
D-C-24	METC-091 (27)	METC Job Description re: Safety and Occupational Health Manager (McCollum)	METC	None indicated
D-C-25	METC-092 (27)	METC Job Description re: Environmental Protection Specialist (Ganz)	METC	None indicated
D-C-26	METC-093 (27)	METC Job Description re: Supervisory General Engineer or Supervisory Physical Scientist (Wachter)	METC	None indicated
D-C-27	METC-094 (27)	METC Job Description re: General Engineer/Physical Scientist (Martin)	METC	None indicated
D-C-28	METC-095 (27)	METC Job Description re: General Engineer (Miller)	METC	None indicated
D-C-29	METC-096 (27)	METC Job Description re: Chemist (Kovach)	METC	None indicated
D-C-30	METC-097 (27)	METC Job Description re: Environmental Protection Specialist (Brown, Van Ooteghem, Buvinger, Dolezal)	METC	None indicated
D-C-31	METC-098 (27)	METC Job Description re: General Engineer/Physical Scientist (Spears, Sharum, Mallin, Hsiao)	METC	None indicated
D-C-32	METC-099 (27)	METC Job Description re: General Engineer/Physical Scientist (Tennant, Dubis, Lowry, Cook, Mullens)	METC	None indicated
D-C-33	METC-100 (27)	METC Job Description re: Environmental Geologist (Guide)	METC	None indicated

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-34	METC-101 (27)	METC Job Description re: Site Development and Management Branch Chief (Cutright)	METC	None indicated
D-C-35	METC-102 (27)	METC Job Description re: General Engineer (Maintenance) Site Development and Management Branch (Kanosky)	METC	None indicated
D-C-36	METC-103 (27)	METC Job Description re: General Engineer (Facilities) Site Management Branch (Covatch)	METC	None indicated
D-C-37	METC-104 (27)	METC Job Description re: General Engineer (Utilities) Site Development and Management Branch (Mitch, Spengler)	METC	None indicated
D-C-38	METC-105 (27)	METC Job Description re: Administrative Support Specialist (Pookey)	METC	None indicated
D-C-39	METC-106 (27)	METC Job Description re: Student Trainee (Engineering and Physical Science)	METC	None indicated
D-C-40	METC-107 (27)	Memorandum re: DOE-METCEG&G Contract No. DE-AC21-90MC26328, WBS No 001D ES&H Support Area Employees (ADM) List	EG&G	4/29/93
D-C-41	METC-108 (27)	EG&G Job Description re: Clerk I	EG&G	None indicated
D-C-42	METC-109 (27)	EG&G Job Description re: Sr. Clerk	EG&G	None indicated
D-C-43	METC-110 (27)	EG&G Job Description re: Technician I	EG&G	None indicated
D-C-44	METC-111 (27)	EG&G Job Description re: Engineering Assistant	EG&G	None indicated
D-C-45	METC-112 (27)	EG&G Job Description re: Systems Analyst Assistant	EG&G	None indicated
D-C-46	METC-113 (27)	EG&G Job Description re: Engineering I	EG&G	None indicated
D-C-47	METC-114 (27)	EG&G Job Description re: Systems Analyst I	EG&G	None indicated
D-C-48	METC-115 (27)	EG&G Job Description re: Systems Analyst II	EG&G	None indicated
D-C-49	METC-116 (27)	EG&G Job Description re: Systems Analyst IV	EG&G	None indicated
D-C-50	METC-117 (27)	EG&G Job Description re: Systems Analyst V	EG&G	None indicated
D-C-51	METC-118 (26)	METC Procedure P 5700.6-45A re: Management of Corrective Action Planning, Execution, and Budgeting Processes (METC Tracking System Procedures, also includes DOE O 5700.6-42 (see METC-070))	Office of the Director/METC	4/26/93
D-C-52	METC-121 (6, 26)	METC Draft Procedure P5700.6-XX re: Assessment Handbook	METC	None indicated
D-C-53	METC-122 (26)	METC's ES&H Monthly Status Report for April 1993	METC	4/93
D-C-54	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-C-55	METC-128 (4)	EG&G WASC (Morgantown Operations) Statement of Services	EG&G	12/92
D-C-56	METC-129 (4)	EG&G WASC FY 1993 Task Assignments	EG&G	None indicated

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-57	METC-130 (4)	Statement of Work for Site Security Services for the Morgantown Energy Technology Center	Watkins Security	None indicated
D-C-58	METC-134 (6)	Quality Assurance/Quality Control Manual	METC	10/16/92
D-C-59	METC-135 (8)	Environmental Audit of the Fossil Energy Sites in Wyoming	EH-24/DOE	8/92
D-C-60	METC-137 (8)	Tiger Team Remedial Action Status Reports for 12/92	J. Wachter/METC	1/5/93
D-C-61	METC-138 (8)	Tiger Team Remedial Action Status Reports for 1/93	J. Wachter/METC	2/2/93
D-C-62	METC-139 (8)	Tiger Team Remedial Action Status Reports for 2/93	J. Wachter/METC	3/3/93
D-C-63	METC-142 (10)	Environment, Safety and Health Oversight Staffing Needs Analysis (and transmittal memorandum)	J. Notestein/METC	4/25/93
D-C-64	METC-143 (10)	ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J. Wachter/METC	3/4/93
D-C-65	METC-144 (10)	Initial Staffing Analysis/Documentation for ES&H Program Support Division	METC	5/92
D-C-66	METC-145 (10)	EG&G ES&H Staffing for Baseline ES&H Support and CAP	EG&G	12/4/92
D-C-67	METC-153 (11)	Site Support Contractor (EG&G) Information including FY93 Task Assignment and Excerpt for Subtasks 1 and 5; Statement of Services for Subtasks 1 and 5; Chain of Command for ES&H Activities; and Draft EG&G Organization Chart	EG&G	Various
D-C-68	METC-170 (12)	Program Implementation Plan, Cooperative Research and Development (CR&D) (PFA 945)	METC	12/92
D-C-69	METC-173 (14)	METC Order 5480.19 re: Conduct of Operations Requirements for: METC Facilities	Office of the Director/METC	9/6/91
D-C-70	METC-177 (14)	METC Procedure P 5480.19-4 re: Appointment and Responsibility -- Area, Facility, and Responsible Custodians	Office of Program Support and Evaluation/METC	9/24/92
D-C-71	METC-178 (14)	METC Procedure P 5480.19-5 re: Visitor Control	Office of Program Support and Evaluation/METC	5/18/92
D-C-72	METC-179 (14)	METC Procedure P 5480.19-8 re: Providing Operations Instructions	Office of Resource Management/METC	10/31/91
D-C-73	METC-180 (14)	METC Procedure P 5480.19-13 re: Safety Monitors	Office of Resource Management/METC	9/20/91
D-C-74	METC-182 (14)	METC Procedure P 5480.19-15 re: Identification of Emergency Shutdown and Safety Interlock Systems	Office of Resource Management/METC	10/25/91
D-C-75	METC-183 (14)	METC Procedure P 5480.19-17 re: Documentation of Notifications	Office of the Director/METC	3/10/92
D-C-76	METC-196 (14)	METC Procedure P 3790.1-42A re: Work Permits with Attached Synopsis of Changes	Office of Program Support and Evaluation/METC	3/11/93
D-C-77	METC-197 (14)	Conduct of Operations Survey Prepared for METC	EG&G	1/21/92

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-C-78	METC-210 (15)	METC Order 4200.1-3 re: Environmental Safety and Health and Quality Assistance Control in R&D Contracts and Financial Assistance Awards	Office of Program Support and Evaluation/METC	5/15/92
D-C-79	METC-211 (15)	Draft Procurement Handbook	METC	Various
D-C-80	METC-219 (19)	Memorandum re: Facilities Safety Committee (SARS) Status Report	H. Spengler/METC	4/14/93
D-C-81	METC-220 (19)	Laboratory Safety Committee (SARS) Restart Status	METC	4/13/93
D-C-82	METC-221 (19)	Process Safety Committee (SARS) Fact Sheet (Status Report)	METC	4/21/93
D-C-83	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-C-84	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-C-85	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B. Armstrong/METC	4/20/93
D-C-86	METC-238	Presentation re: METC Site Summary	METC	None indicated
D-C-87	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-C-88	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-C-89	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-C-90	METC-242	Cultural Survey Results	S. Haber/BNL	12/17/92
D-C-91	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-C-92	METC-264	TQM Goal and Objectives	METC	2/14/92
D-C-93	METC-277	FSG SARS, Operating Permit Package including Risk Analysis, ES&H Assessment, Response to ES&H Assessment, Meeting Minutes	METC	Various
D-C-94	METC-278	F&G SARS, Construction Permit, NMDSG Relocation, including Risk Analysis ES&H Assessment, Response to ES&H Assessment, Meeting Minutes	METC	Various
D-C-95	METC-279	EG&G Environmental, Safety, and Health Plan	EG&G	None indicated
D-C-96	METC-282	Memorandum re: 1993 Revision of the Department of Energy (DOE) Radiological Control (Radcon Manual)	C. Zamuda/FE-6	4/5/93
D-C-97	METC-283	Memorandum re: DOE Safety and Health Program Requirements	C. Zamuda/FE-6	3/8/93
D-C-98	METC-284	Memorandum re: Implementation of the DOE RadCon Manual in the Office of Fossil Energy	J. Randolph/FE-6	8/4/92
D-C-99	METC-285	Memorandum re: FE Participation in the Occupational Safety and Health Worker Protection Pilots	J. Randolph/FE-6	8/19/92

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-C-100	METC-286	Guidance for FE Environment, Safety and Health (ES&H) Five Year Plan Process FY 1995 with attached Agenda for Workshop and Transmittal Memorandum	FE-6	None indicated
D-C-101	METC-287	Memorandum re: FE-Wide Corrective Action Tracking System	J. Randolph/FE-6	6/1/92
D-C-102	METC-288	Memorandum re: Corrective Action Tracking System Training	C. Zamuda/FE-6	7/7/92
D-C-103	METC-289	Memorandum re: Office of Fossil Energy Corrective Action Tracking System	C. Zamuda/FE-6	7/21/92
D-C-104	METC-290	Memorandum re: Data Requirements: ES&H Monthly Status Report	C. Zamuda/FE-6	3/3/93
D-C-105	METC-291	Memorandum re: ES&H Corrective Action Tracking and Reporting System	C. Zamuda/FE-6	4/23/93
D-C-106	METC-292	Memorandum re: Office of Fossil Energy (FE) Tiger Team Corrective Action Tracking System	C. Zamuda/FE-6	6/30/92
D-C-107	METC-293	Office of Fossil Energy Environment, Safety and Health Status Report	FE	4/93
D-C-108	METC-294	Environment, Safety, and Health Management Appraisal of the Strategic Petroleum Reserve Project Management Office	Strategic Petroleum Reserve Headquarters and FE-6	4/9/93
D-C-109	METC-295	Management Appraisal of the Naval Petroleum and Oil Shale Reserves, Colorado, Utah and Wyoming and John Brown Engineering Corporation	FE-6	5/11/92 5/15/92
D-C-110	METC-296	Management Appraisal of Naval Petroleum and Oil Shale Reserves Headquarters	FE-6	6/16/92 6/19/92
D-C-111	METC-297	FE Environment, Safety and Health Conference Call Agenda and Minutes	FE-6	4/14/93
D-C-112	METC-298	Position Description for Safety & Occupational Health Manager	V. Stagliano/FE	10/3/91
D-C-113	METC-299	Position Description for Security Officer	C. Zamuda/FE-6	7/24/92
D-C-114	METC-300	Position Description for Supervisory Physical Scientist	V. Stagliano/FE	9/27/91
D-C-115	METC-301	Position Description for Program Specialist	C. Zamuda/FE-6	7/13/92
D-C-116	METC-302	Position Description for Environmental Scientist (GS-15)	C. Zamuda/FE-6	1/8/93
D-C-117	METC-303	Position Description for Environmental Scientist	V. Stagliano/FE	9/27/91
D-C-118	METC-304	Fossil Energy Organization Chart	FE	11/5/92
D-C-119	METC-305	Mission and Function Statements for Office of the Assistant Secretary for Fossil Energy	FE	None indicated
D-C-120	METC-306	Mission and Function Statements for Office of the Deputy Assistant Secretary for Management	FE	None indicated
D-C-121	METC-307	Mission and Function Statements for Office of the Deputy Assistant Secretary for Fuels Programs	FE	None indicated
D-C-122	METC-308	Mission and Function Statements for Office of the Deputy Assistant Secretary for Coal Technology	FE	None indicated

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-123	METC-309	Mission and Function Statements for Office of the Deputy Assistant Secretary for Gas and Petroleum Technology	FE	None indicated
D-C-124	METC-310	Mission and Function Statements for Office of the Deputy Assistant Secretary for Advanced Research and Special Technologies	FE	None indicated
D-C-125	METC-311	Mission and Function Statements for Deputy Assistant Secretary for Strategic Petroleum Reserves	FE	None indicated
D-C-126	METC-312	Organizational Chart for Strategic Petroleum Reserve Field Organization	FE	None indicated
D-C-127	METC-313	Mission and Function Statements for Strategic Petroleum Reserve Project Management Office	Info & Admin Services Div/SPR	None indicated
D-C-128	METC-314	Mission and Function Statements for Deputy Assistant Secretary for Naval Petroleum and Oil Shale Reserves Fossil Energy	FE	None indicated
D-C-129	METC-315	Mission and Function Statements for Office of Engineering and Operations Management	FE	None indicated
D-C-130	METC-316	Mission and Function Statements for Office of Business Management and Development	FE	None indicated
D-C-131	METC-317	Mission and Function Statements for Office of Planning and Technical Assurance	FE	None indicated
D-C-132	METC-318	Organizational Chart for Naval Petroleum and Oil Shale Reserves	NPSR	None indicated
D-C-133	METC-319	Mission and Function Statements for Naval Petroleum Reserves In California by Division/Branch	FE	None indicated
D-C-134	METC-321	SARS Package - Construction Permit re: PyGas Plastic Cold Model for Building 6, Area 104 (and related documentation)	Process Safety Committee/METC	5/11/93
D-C-135	METC-322	SARS Package - Operating Permit re: High Pressure Bench-Scale Hot Gas Desulfurization Unit for Building 3, Area 150 (and related documentation)	Process Safety Committee/METC	8/26/92
D-C-136	METC-323	High and Low Pressure Laboratory-Scale Hot Gas Desulfurization Units Project Restart Plan (and related and supplementary documentation)	C. Everitt and S. Monaco/EG&G	7/9/92
D-C-137	METC-324	METC Procedure P 1321.1.1 re: Procedure Generation and Revision Process	Office of Program Support and Evaluation/METC	5/25/93
D-C-138	METC-325	Memorandum re: Assessment of Hoisting and Rigging Safety Program in the Office of Fossil Energy	FE 6	3/8/93
D-C-139	METC-326	Memorandum re: Additional Guidance on Electrical Safety Assessments in the FE	FE-6	12/2/92
D-C-140	METC-327	Memorandum re: Significance of Imminent Danger and Willful Occupational Safety and Health Violations in FE	FE-6	12/2/92
D-C-141	METC-328	Memorandum re: DOE Confined Space Program Guidance Manual	FE-6	8/11/92
D-C-142	METC-329	Memorandum re: DOE and DOL Memorandum of Understanding	FE 6	10/1/92

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-C-143	METC-330	Memorandum re: Guidance Documents on the OSHA Rule on Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119)	FE-6	4/13/93
D-C-144	METC-331	Memorandum re: Essential Use Survey for Halon Fire Extinguishing Agent	FE-6	8/4/92
D-C-145	METC-332	Memorandum re: FE NEPA Guidance Manual	FE-6	12/4/92
D-C-146	METC-333	Memorandum re: Additional Guidance for FE ES&H Five-Year Plan for FY 1995	FE-6	3/10/93
D-C-147	METC-334	Memorandum re: Variance Request from OSHA Standard 1910.110(b)	FE-6	4/9/93
D-C-148	METC-335	Memorandum re: Comments on Draft METC Self-Assessment Implementation Plan	FE-6	11/23/92
D-C-149	METC-336	Memorandum re: FY 1995 Five-Year Safety and Health Planning Process in FE	FE-6	11/18/92
D-C-150	METC-337	Memorandum re: Therm-Lag 330 Fire Barrier Systems Protecting Structural Members or Electrical Raceways from Fire Damage at DOE Nuclear and Non-Nuclear Facilities	FE-6	8/12/92
D-C-151	METC-338	Draft ES&H Roles and Responsibilities of the Office of Fossil Energy Organizational Elements	FE	6/4/93
D-C-152	METC-352	METC Order 1321.1D re: METC Directives System (revisions undated)	Office of Program Support and Evaluation/METC	None indicated
D-C-153	METC-368	Memorandum re: New Directions for Environment, Safety and Health and What it Means for the Office of Fossil Energy (with attachments)	C. Zamuda/FE-6	5/20/93
D-C-154	METC-378	Management of the Environment, Safety and Health Program of the Office of Self Assessment, The Office of Coal Technology, The Office of Advanced Research and Special Technology and the Office of Gas and Petroleum Technology	FE	5/93
D-C-155	METC-380	METC Operating Plan 3790.1-6 re: Site Occupational, Safety, and Health Review Committee	Office of Resource Management/METC	9/11/91
D-C-156	METC-381	METC Procedure 3790.1-93 re: Site ES&H Committee Inspections	Office of Program Support and Evaluation/METC	3/17/93
D-C-157	METC-382	METC Procedure 3790.1-92A re: Procedures for Performing OSHA-Type Inspections	Office of Program Support and Evaluation/METC	3/11/93
D-C-158	METC-383	METC Order 5480.4 re: Environmental Protection, Safety and Health Protection	Office of the Director/METC	9/10/91
D-C-159	METC-384	METC M 5480.9 re: Construction Safety and Health Program	Office of the Director/METC	9/19/91
D-C-160	METC-385	METC Procedure 5480.4-2 re: Construction Safety and Health	Office of Resource Management/METC	1/7/92
D-C-161	METC-386	METC Operating Plan 3790.1-2 re: Reporting and Investigation of Unsafe or Unhealthful Working Conditions	Office of Resource Management/METC	9/11/91

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-162	METC-387	METC Order 5400.1-1 re: Tracking and Maintenance of Environmental, Safety and Health Records	Office of the Director/METC	None indicated
D-C-163	METC-388	METC Notice re: Self-Assessment Activities for CY 1993	METC	1/20/93
D-C-164	METC-389	Memorandum re: Allocation of FY 1993 Environmental Restoration Funds	FE-6	10/16/92
D-C-165	METC-390	Memorandum re: Approved Office of Self Assessment Program Plan	FE-1	3/24/92
D-C-166	METC-391	Excerpts from LSC SARS Review Operating Permit METC-LSC-92-0027	METC	Unknown
D-C-167	METC-392	Excerpts from LSC SARS Review of METC-LSC-0026.1 Construction Permit	METC	Unknown
D-C-168	METC-086 (27)	METC Procedure P5481.1-1A re: Safety Analysis and Review System (SARS) and attached Synopsis of Changes to P5481.1-1A	Office of Technology Base Development	4/15/93
D-C-169	METC-415	METC Order 5481.1 re: Safety Analysis and Review System	Office of the Director/METC	9/12/91
Organization, Planning, and Training (Marvin J. Laster)				
D-D-1	METC-001 (29)	METC Operating Plan 0 3790.1-14 re: Occupational Safety for Non-Federal Research Associates, Inc.	Office of the Director/METC	9/5/91
D-D-2	METC-006 (29)	METC Operating Plan 0 3790.1-6 re: Site Occupational, Safety, and Health Review Committee (SOSHR)	Office of Resource Management/METC	9/11/91
D-D-3	METC-014 (29)	Previous 2 Years Budget for Industrial and Chemical Hygiene Activities	J. Wachter/METC	4/29/93
D-D-4	METC-028 (28)	Cultural Resource Management Plan for Morgantown Energy Technology Center, Draft Report	C. Goodwin, Principal Investigator	11/92
D-D-5	METC-030 (28)	Quality Assurance Project Plan (QAPP) for the Morgantown Energy Technology Center	METC	1/29/93
D-D-6	METC-039 (28)	METC ES&H Monthly Status Report for February 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	2/93
D-D-7	METC-046 (28)	Memorandum to J. Wachter, METC re: Explanation of ES&H Training Requirements (and Attached Training Authorization and Certificates for Various METC Employees)	W. Lowry/METC	4/29/93
D-D-8	METC-051	Office of Fossil Energy Self-Assessment Program Plan	FE	3/20/92
D-D-9	METC-052	Office of Self Assessment Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	3/93
D-D-10	METC-054	Office of Fossil Energy, Office of Self Assessment, Mission and Functions Statement (including Office of Self Assessment Organization Chart)	FE	None indicated
D-D-11	METC-056	Office of the Deputy Assistant Secretary for Coal Technology Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92

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-12	METC-057	Office of the Deputy Assistant Secretary for Advanced Research and Special Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan (with attached transmittal memorandum)	FE	12/16/92
D-D-13	METC-058	Office of the Deputy Assistant Secretary for Gas and Petroleum Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-D-14	METC-062	Fossil Energy Safety and Health Five-Year Plan	FE	7/92
D-D-15	METC-063	Office of Fossil Energy ES&H Training Courses/Schedules and DOE Training Contacts/Coordinators	Office of Self Assessment/DOE	10/1/92
D-D-16	METC-064	Schedule of Office of Self Assessment Appraisals	FE	None indicated
D-D-17	METC-065	Office of Fossil Energy Environment, Safety and Health Status Report, Office of Self Assessment	FE	3/93
D-D-18	METC-068	Memorandum to B. Armstrong, METC re: ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J Wachter/METC	3/4/93
D-D-19	METC-069	METC Mission and Function Statement	METC	None indicated
D-D-20	METC-070 (6)	METC Operating Plan 0 5700.6-42 re: ES&H Self-Assessment Implementation Plan	Office of the Director/METC	11/17/92
D-D-21	METC-071	METC Order 5480.4-1 re: General On-Site Environment, Safety and Health Responsibilities	Office of Program Support and Evaluation/METC	4/2/93
D-D-22	METC-072	Manpower Analysis - SD&MB	METC	4/2/93
D-D-23	METC-075	METC News and ES&H Newsletter re: ES&H and Total Quality Management	METC	Various
D-D-24	METC-077	Memorandum to J. Randolph, FE-1 re: 1000 - Management Control and Financial System Evaluation with Attached Completed Corrective Actions, Management Control Plan, Report on Financial Management System Evaluation for FY 1992, Report on ES&H Self-Assessment Activities, and Report on Safeguards & Security Self-Assessment Activities	T Bechtel/METC	10/14/92
D-D-25	METC-079	ES&H Management Self-Assessment (in progress)	B. Armstrong/METC	3/7/93
D-D-26	METC-086 (27)	METC Procedure P5481.1-1A re: Safety Analysis and Review System (SARS) and attached Synopsis of Changes to P5481.1-1A	Office of Technology Base Development	4/15/93
D-D-27	METC-087 (27)	Charter for the METC Site Environment, Safety, and Health Committee	METC	4/93 (Rev. 2)
D-D-28	METC-093 (27)	METC Job Description re: Supervisory General Engineer or Supervisory Physical Scientist (Wachter)	METC	None indicated
D-D-29	METC-094 (27)	METC Job Description re: General Engineer/Physical Scientist (Martin)	METC	None indicated
D-D-30	METC-096 (27)	METC Job Description re: Chemist (Kovach)	METC	None indicated

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-31	METC-101 (27)	METC Job Description re: Site Development and Management Branch Chief (Cutright)	METC	None indicated
D-D-32	METC-111 (27)	EG&G Job Description re: Engineering Assistant	EG&G	None indicated
D-D-33	METC-118 (26)	METC Procedure P 5700.6-45A re: Management of Corrective Action Planning, Execution, and Budgeting Processes (METC Tracking System Procedures, also includes DOE O 5700.6-42 (see METC-070))	Office of the Director/METC	4/26/93
D-D-34	METC-121 (6, 26)	METC Draft Procedure P5700.6-XX re: Assessment Handbook	METC	None indicated
D-D-35	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-D-36	METC-128 (4)	EG&G WASC (Morgantown Operations) Statement of Services	EG&G	12/92
D-D-37	METC-129 (4)	EG&G WASC FY 1993 Task Assignments	EG&G	None indicated
D-D-38	METC-133 (5)	Corrective Action Plan Annual Update	METC	4/19/93
D-D-39	METC-134 (6)	Quality Assurance/Quality Control Manual	METC	10/16/92
D-D-40	METC-141 (9)	Memorandum to all DOE/METC Personnel re: METC's Strategic Plan (with attached plan)	F. Crouse/METC	8/14/92
D-D-41	METC-142 (10)	Environment, Safety and Health Oversight Staffing Needs Analysis (and transmittal memorandum)	J. Notestem/METC	4/25/93
D-D-42	METC-143 (10)	ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J. Wachter/METC	3/4/93
D-D-43	METC-144 (10)	Initial Staffing Analysis/Documentation for ES&H Program Support Division	METC	5/92
D-D-44	METC-145 (10)	EG&G ES&H Staffing for Baseline ES&H Support and CAP	EG&G	12/4/92
D-D-45	METC-146 (11)	METC ES&H Five Year Plan for Fiscal Years 1995 - 1999	METC	3/9/93
D-D-46	METC-147 (11)	Safety and Health Five Year Plan Submission	METC	4/27/92
D-D-47	METC-148 (11)	METC Corrective Action Plan, Resource Schedule and Cost Plan	METC	4/15/93
D-D-48	METC-153 (11)	Site Support Contractor (EG&G) Information including FY 1993 Task Assignment and Excerpt for Subtasks 1 and 5; Statement of Services for Subtasks 1 and 5, Chain of Command for ES&H Activities; and Draft EG&G Organization Chart	EG&G	Various
D-D-49	METC-170 (12)	Program Implementation Plan, Cooperative Research and Development (CR&D) (PFA 945)	METC	12/92
D-D-50	METC-173 (14)	METC Order 5480.19 re: Conduct of Operations Requirements for METC Facilities	Office of the Director/METC	9/6/91
D-D-51	METC-177 (14)	METC Procedure P 5480.19-4 re: Appointment and Responsibility - Area, Facility, and Responsible Custodians	Office of Program Support and Evaluation/METC	9/24/92
D-D-52	METC-178 (14)	METC Procedure P 5480.19-5 re: Visitor Control	Office of Program Support and Evaluation/METC	5/18/92

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-53	METC-180 (14)	METC Procedure P 5480.19-13 re: Safety Monitors	Office of Resource Management/METC	9/20/91
D-D-54	METC-210 (15)	METC Order 4200.1-3 re: Environmental Safety and Health and Quality Assurance Control in R&D Contracts and Financial Assistance Awards	Office of Program Support and Evaluation/METC	5/15/92
D-D-55	METC-211 (15)	Draft Procurement Handbook	METC	Various
D-D-56	METC-213 (16)	Index of EG&G WASC Operational Policies and Procedures Manual	EG&G	4/15/93
D-D-57	METC-218 (18)	Index of all ES&H-Related Training Courses (also see Item No. 28)	METC	None indicated
D-D-58	METC-219 (19)	Memorandum re: Facilities Safety Committee (SARS) Status Report	H. Spengler/METC	4/14/93
D-D-59	METC-220 (19)	Laboratory Safety Committee (SARS) Restart Status	METC	4/13/93
D-D-60	METC-221 (19)	Process Safety Committee (SARS) Fact Sheet (Status Report)	METC	4/21/93
D-D-61	METC-224 (24)	METC ES&H Information and Data Management Systems	METC	None indicated
D-D-62	METC-234	EG&G ES&H and Site Management Support to METC Organization Charts	METC	None indicated
D-D-63	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-D-64	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-D-65	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B Armstrong/METC	4/20/93
D-D-66	METC-238	Presentation re: METC Site Summary	METC	None indicated
D-D-67	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-D-68	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-D-69	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-D-70	METC-242	Cultural Survey Results	S. Haber/BNL	12/17/92
D-D-71	METC-243	FY 93 Training Plan for Morgantown Energy Technology Center with attached Transmittal Memorandum to T. Bechtel, METC	METC	12/15/92
D-D-72	METC-244	FY 93 Training Plan for the Office of Program Support and Evaluation/Acquisition and Assistance Division with Attached Transmittal Memorandum to N. Howton, METC	METC	11/92
D-D-73	METC-251	METC Procedure P 5480.4-11 re: OTBD Safety and Health Responsibilities	Office of Technology Base Development/METC	None indicated
D-D-74	METC-257	METC Operating Plan O 3790.1-5 re: Environment, Safety, and Health Training	Office of Resource Management/METC	9/11/91
D-D-75	METC-258	Planning List for FY 1993 ES&H Training List	METC	10/26/92

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-76	METC-259	Safety and Health Inspection Guide for Offices (Attachment I-1 to DOE 3790.1B)	METC	1/7/93
D-D-77	METC-262	Memorandum re: Director's Office Reassignments and Responsibility Changes	T. Bechtel/METC	3/28/91
D-D-78	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-D-79	METC-264	TQM Goal and Objectives	METC	2/14/92
D-D-80	METC-268	FOIA Version of EG&G Contract (NOTE: Non-Disclosure Statement Required for Further Review)	EG&G	9/26/90
D-D-81	METC-269	PMRS/PPMS Performance Rating Form Used for Employee Performance Evaluations	DOE	4/86
D-D-82	METC-279	EG&G Environmental, Safety, and Health Plan	EG&G	None indicated
D-D-83	METC-364	Brochure re: Project Manager Development Program	METC	None indicated
D-D-84	METC-365	Guide to the Operation of METC's Project Manager Development Program (and transmittal memorandum)	N. Howton/METC	None indicated
D-D-85	METC-366	Memorandum re: 3410 - Input for FY 93 METC Annual Training Plan	C. Zuchelkowskii/METC	7/16/92
D-D-86	METC-379	FE-6 Workshops and Conference Calls	METC	6/9/93
D-D-87	METC-414	Memorandum re: FY 1995 Five-Year ES&H Plan	FE-6	11/18/92
Groundwater Protection Program (Robert A. Crowley)				
D-E-1	METC-025 (28)	Environmental Baseline Characterization of the Morgantown Energy Technology Center, Preliminary Draft Report	METC	2/93
D-E-2	METC-026 (28)	Data Deficiency Report for the Site Characterization of the Morgantown Energy Technology Center	METC	1/93
D-E-3	METC-027 (28)	Biota Sampling and Analysis Plans for the Morgantown Energy Technology Center	METC	10/92
D-E-4	METC-028 (28)	Cultural Resource Management Plan for Morgantown Energy Technology Center, Draft Report	C. Goodwin, Principal Investigator	11/92
D-E-5	METC-029 (28)	Soil Sampling and Analysis Plan for the Morgantown Energy Technology Center	METC	1/29/93
D-E-6	METC-030 (28)	Quality Assurance Project Plan (QAPP) for the Morgantown Energy Technology Center	METC	1/29/93
D-E-7	METC-034 (28)	Exploratory Soil Borings and Temporary Monitoring Wells, Sampling and Analysis for Contaminants	J. Ganz, METC	8/21/92
D-E-8	METC-035 (28)	Memorandum re: On-Site Drilling (Exploratory Soil Borings and Temporary Monitoring Wells)	M. Guide/METC	10/9/92
D-E-9	METC-036 (28)	Memorandum to M. Guide, METC, re: DOE-METC/EG&G Contract No. DE-AC21-90MC26328; WBS No. 35BAB CAP Environmental Support: Groundwater, Analysis of Soil Boring Samples (Exploratory Soil Borings and Temporary Monitoring Wells)	M. Thomas/EG&G	12/28/92

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-10	METC-037 (28)	Letter to M. Thomas, EG&G re: Laboratory Testing - Soil Triad Project No. 92342 (Exploratory Soil Borings and Temporary Monitoring Wells)	R. Simar/Triad Engineering	12/22/92
D-E-11	METC-038 (28)	Memorandum to M. Guide/METC re: DOE-METC/EG&G Contract No. DE-AC21-90MC26328; WBS No. 35BAB, CAP Environmental Support: Groundwater, Analyses of Sediment Standard (Exploratory Soil Borings and Temporary Monitoring Wells)	M. Thomas/EG&G	1/29/93
D-E-12	METC-039 (28)	METC ES&H Monthly Status Report for February 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	2/93
D-E-13	METC-040 (28)	METC ES&H Monthly Status Report for March 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	3/93
D-E-14	METC-041 (28)	METC ES&H Monthly Status Report for April 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	4/93
D-E-15	METC-042 (28)	Memorandum to M. Guide, METC, re: Revised Groundwater Sampling Schedule with Attached Schedule	M. Thomas/METC	3/19/93
D-E-16	METC-043 (28)	Memorandum re: Monitoring Well Sampling Plan with Attached Schedule	M. Guide/METC	2/7/93
D-E-17	METC-044 (28)	Groundwater Monitoring Results from 2/10/93 - 2/11/93	METC	2/10/93 - 2/11/93
D-E-18	METC-045 (28)	Groundwater Monitoring Results from 3/22/93	METC	3/22/93
D-E-19	METC-046 (28)	Memorandum to J. Wachter, METC re: Explanation of ES&H Training Requirements (and Attached Training Authorization and Certificates for Various METC Employees)	W. Lowry/METC	4/29/93
D-E-20	METC-047 (28)	METC Order 5400.1 re: General Environmental Protection Program	Office of the Director/METC	6/3/93
D-E-21	METC-048 (28)	METC Draft Order 5400.1 re: General Environmental Protection Program, Groundwater Monitoring Plan (Attachment 7-8) Plates	Office of the Director/METC	Various
D-E-22	METC-049 (28)	METC Draft Order 5400.1 re: General Environmental Protection Program, Appendices: Groundwater Monitoring Plan	Office of the Director/METC	Various
D-E-23	METC-069	METC Mission and Function Statement	METC	None indicated
D-E-24	METC-090 (27)	METC Job Description re: Senior Science Advisor/ Interdisciplinary General Engineer or Physical Scientist (Notestein)	METC	None indicated
D-E-25	METC-092 (27)	METC Job Description re: Environmental Protection Specialist (Ganz)	METC	None indicated
D-E-26	METC-093 (27)	METC Job Description re: Supervisory General Engineer or Supervisory Physical Scientist (Wachter)	METC	None indicated
D-E-27	METC-094 (27)	METC Job Description re: General Engineer/Physical Scientist (Martin)	METC	None indicated
D-E-28	METC-098 (27)	METC Job Description re: General Engineer/Physical Scientist (Spears, Sharum, Mallin, Hsiao)	METC	None indicated

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-29	METC-100 (27)	METC Job Description re: Environmental Geologist (Guide)	METC	None indicated
D-E-30	METC-134 (6)	Quality Assurance/Quality Control Manual	METC	10/16/92
D-E-31	METC-142 (10)	Environment, Safety and Health Oversight Staffing Needs Analysis (and transmittal memorandum)	J. Notestein/METC	4/25/93
D-E-32	METC-149 (11)	FY 1993 Environmental Restoration Projects	T. Bechtel/METC	11/13/92
D-E-33	METC-150 (11)	Preliminary Disposition of Tiger Team, RCRA, and CERCLA Funds for FY 1993	J. Wachter/METC	11/1/92
D-E-34	METC-151 (11)	Final Disposition of ES&H Funds (AW03) (Tiger Team) for FY 1993	J. Wachter/METC	12/15/92
D-E-35	METC-153 (11)	Site Support Contractor (EG&G) Information including FY93 Task Assignment and Excerpt for Subtasks 1 and 5; Statement of Services for Subtasks 1 and 5; Chain of Command for ES&H Activities; and Draft EG&G Organization Chart	EG&G	Various
D-E-36	METC-193 (14)	METC Procedure P 5480.19-42 re: Sample Handling, Packaging, and Shipping (Sampling Protocol)	Applied Science Division/METC	8/15/91
D-E-37	METC-201 (15)	Agreement between State of Wyoming Department of Environmental Quality and DOE re. DOE METC Fossil Energy Site Clean-Up Agreement	State of Wyoming/METC	None indicated
D-E-38	METC-216 (17)	Laramie Project Office Phone Sheet	METC	None indicated
D-E-39	METC-243	FY 93 Training Plan for Morgantown Energy Technology Center with attached Transmittal Memorandum to T. Bechtel, METC	METC	12/15/92
D-E-40	METC-244	FY 93 Training Plan for the Office of Program Support and Evaluation/Acquisition and Assistance Division with Attached Transmittal Memorandum to N. Howton, METC	METC	11/92
D-E-41	METC-258	Planning List for FY 1993 ES&H Training List	METC	10/26/92
D-E-42	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-E-43	METC-264	TQM Goal and Objectives	METC	2/14/92
D-E-44	METC-270	Groundwater Sampling Plan for HOE Creek UCG Site Quarterly Sampling	DOE	8/91
D-E-45	METC-271	Quarterly Groundwater Monitoring for the Hoe Creek Underground Coal Gasification Site, Campbell County, Wyoming	METC	9/91
D-E-46	METC-272	Memorandum re: Designation of Performance Monitor for Task Order 006 (DE-AT21 92MC29067), "Environmental Assessment (EA) of the Morgantown Energy Technology Center (DOE/METC) Facility," Under Interagency Agreement DE-AC21-91MC28086	J. Martin/METC	2/16/93
D-E-47	METC-273	Memorandum re: USACE Task 006, Update Regarding Status of U.S. Army Corps of Engineers Task 006 - Site Environmental Assessment (Performance Monitors)	T. Vero/METC	2/23/93
D-E-48	METC-274	Interagency Agreement between DOE and U.S. Army Corps of Engineers	J. Martin/DOE	5/18/92
D-E-49	METC-275	Interagency Agreement between DOE and Tennessee Valley Authority	G. Bolyard/DOE	4/20/92

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-E50	METC-276	Copies of Joe Martin Notes for Oversight of Remediation Activities	J. Martin/	None indicated
D-E51	METC-279	EG&G Environmental, Safety, and Health Plan	EG&G	None indicated
D-E52	METC-282	Memorandum re: 1993 Revision of the Department of Energy (DOE) Radiological Control (Radcon Manual)	C. Zamuda/FE-6	4/5/93
D-E53	METC-283	Memorandum re: DOE Safety and Health Program Requirements	C. Zamuda/FE-6	3/8/93
D-E54	METC-284	Memorandum re: Implementation of the DOE RadCon Manual in the Office of Fossil Energy	J. Randolph/FE-6	8/4/92
D-E55	METC-285	Memorandum re: FE Participation in the Occupational Safety and Health Worker Protection Pilots	J. Randolph/FE-6	8/19/92
D-E56	METC-286	Guidance for FE Environment, Safety and Health (ES&H) Five-Year Plan Process FY 1995 with attached Agenda for Workshop and Transmittal Memorandum	FE-6	None indicated
D-E57	METC-287	Memorandum re: FE-Wide Corrective Action Tracking System	J. Randolph/FE-6	6/1/92
D-E58	METC-288	Memorandum re: Corrective Action Tracking System Training	C. Zamuda	7/7/92
D-E59	METC-289	Memorandum re: Office of Fossil Energy Corrective Action Tracking System	C. Zamuda/FE-6	7/21/92
D-E60	METC-290	Memorandum re: Data Requirements: ES&H Monthly Status Report	C. Zamuda/FE-6	3/3/93
D-E61	METC-291	Memorandum re: ES&H Corrective Action Tracking and Reporting System	C. Zamuda/FE-6	4/23/93
D-E62	METC-292	Memorandum re: Office of Fossil Energy (FE) Tiger Team Corrective Action Tracking System	C. Zamuda/FE-6	6/30/92
D-E63	METC-293	Office of Fossil Energy Environment, Safety and Health Status Report	FE	4/93
D-E64	METC-294	Environment, Safety, and Health Management Appraisal of the Strategic Petroleum Reserve Project Management Office	Strategic Petroleum Reserve Headquarters and FE-6	4/9/93
D-E65	METC-295	Management Appraisal of the Naval Petroleum and Oil Shale Reserves, Colorado, Utah and Wyoming and John Brown Engineering Corporation	FE-6	5/11/92 5/15/92
D-E66	METC-296	Management Appraisal of Naval Petroleum and Oil Shale Reserves Headquarters	FE-6	6/16/92 6/19/92
D-E67	METC-297	FE Environment, Safety and Health Conference Call Agenda and Minutes	FE-6	4/14/93
D-E68	METC-298	Position Description for Safety & Occupational Health Manager	V. Stagliano/FE	10/3/91
D-E69	METC-299	Position Description for Security Officer	C. Zamuda/FE-6	7/24/92
D-E70	METC-300	Position Description for Supervisory Physical Scientist	V. Stagliano/FE	9/27/91
D-E71	METC-301	Position Description for Program Specialist	C. Zamuda/FE-6	7/13/92
D-E72	METC-302	Position Description for Environmental Scientist (GS-15)	C. Zamuda/FE-6	1/8/93

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-73	METC-303	Position Description for Environmental Scientist	V. Stagliano/FE	9/27/91
D-E-74	METC-304	Fossil Energy Organization Chart	FE	11/5/92
D-E-75	METC-305	Mission and Function Statements for Office of the Assistant Secretary for Fossil Energy	FE	None indicated
D-E-76	METC-306	Mission and Function Statements for Office of the Deputy Assistant Secretary for Management	FE	None indicated
D-E-77	METC-307	Mission and Function Statements for Office of the Deputy Assistant Secretary for Fuels Programs	FE	None indicated
D-E-78	METC-308	Mission and Function Statements for Office of the Deputy Assistant Secretary for Coal Technology	FE	None indicated
D-E-79	METC-309	Mission and Function Statements for Office of the Deputy Assistant Secretary for Gas and Petroleum Technology	FE	None indicated
D-E-80	METC-310	Mission and Function Statements for Office of the Deputy Assistant Secretary for Advanced Research and Special Technologies	FE	None indicated
D-E-81	METC-311	Mission and Function Statements for Deputy Assistant Secretary for Strategic Petroleum Reserves	FE	None indicated
D-E-82	METC-312	Organizational Chart for Strategic Petroleum Reserve Field Organization	FE	None indicated
D-E-83	METC-313	Mission and Function Statements for Strategic Petroleum Reserve Project Management Office	Info & Admin Services Div/SPR	None indicated
D-E-84	METC-314	Mission and Function Statements for Deputy Assistant Secretary for Naval Petroleum and Oil Shale Reserves Fossil Energy	FE	None indicated
D-E-85	METC-315	Mission and Function Statements for Office of Engineering and Operations Management	FE	None indicated
D-E-86	METC-316	Mission and Function Statements for Office of Business Management and Development	FE	None indicated
D-E-87	METC-317	Mission and Function Statements for Office of Planning and Technical Assurance	FE	None indicated
D-E-88	METC-318	Organizational Chart for Naval Petroleum and Oil Shale Reserves	NPOS	None indicated
D-E-89	METC-319	Mission and Function Statements for Naval Petroleum Reserves in California by Division/Branch	FE	None indicated
D-E-90	METC-367	Letter re: Quarterly Groundwater Monitoring Methodology Change, Hoe Creek RDI and Rock Springs TFN 1 1/222	R. Shaffer/WY Department of Environmental Quality	None indicated
D-E-91	METC-394	Proposal for Analytical Laboratory Services for EG&G Washington Analytical Services Center, Inc.	Technical Testing Laboratories	1/93
D-E-92	METC-395	Statement of Work from Analytical Laboratory Services	Analytical Laboratory Services	10/1/92
D-E-93	METC-396	Quality Assurance/Quality Control Plan	Technical Testing Laboratories	9/1/92

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-E-94	METC-413	Draft ES&H Roles and Responsibilities of the Office of Fossil Energy Organizational Elements	FE	6/11/93
D-E-95	METC-135 (8)	Environmental Audit of the Fossil Energy Sites in Wyoming	EH-24/DOE	8/92
Waste Management Program (Diane Morton)				
D-F-1	METC-025 (28)	Environmental Baseline Characterization of the Morgantown Energy Technology Center, Preliminary Draft Report	METC	2/93
D-F-2	METC-059	Waste Minimization/Pollution Prevention in the Office of Fossil Energy, Volumes I-III	FE	Various
D-F-3	METC-066	1992 Annual Report on Waste Generation and Waste Minimization Progress	FE	3/16/93
D-F-4	METC-067	METC Operating Plan O 5400.1-6 re: Waste Minimization and Pollution Prevention Awareness	Office of Program Support and Evaluation/DOE	None indicated
D-F-5	METC-122 (26)	METC's ES&H Monthly Status Report for April 1993	METC	4/93
D-F-6	METC-123	Treatment Storage Disposal Facility (TSDF) Audit Report/List (NOTE combines previous 123, 124 and 125)		
D-F-7	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-F-8	METC-128 (4)	EG&G WASC (Morgantown Operations) Statement of Services	EG&G	12/92
D-F-9	METC-146 (11)	METC ES&H Five Year Plan for Fiscal Years 1995 - 1999	METC	3/9/93
D-F-10	METC-168 (12)	Waste Management Program FY 93 Program Implementation Plan (PFA 940)	METC	12/92
D-F-11	METC-198	Hazardous and Radioactive Mixed (HARM) Waste Management and Disposal (RCRA)	METC	5/4/93
D-F-12	METC-199	METC Order 5400.3 re: Hazardous and Radioactive Mixed (HARM) Waste Management and Disposal (cancelled)	Office of the Director/METC	9/6/91
D-F-13	METC-200	METC Procedure P 5400.3-1 re: Hazardous Waste Management and Disposal	Office of Resource Management/METC	9/17/91
D-F-14	METC-225 (25)	1992 Annual Report on Waste Generation and Waste Minimization Progress as Required by SEN-37-92 and DOE Order 5400.1	Office of Program Support and Evaluation/DOE	4/23/93
D-F-15	METC-226 (25)	Waste Minimization and Pollution Prevention Awareness Program	METC	Unknown
D-F-16	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-F-17	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-F-18	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B. Armstrong/METC	4/20/93
D-F-19	METC-238	Presentation re: METC Site Summary	METC	None indicated

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-20	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DDE	6/91
D-F-21	METC-240	METC Tiger Team Corrective Action Plan (and annual update)	METC	9/20/91
D-F-22	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-F-23	METC-257	METC Operating Plan O 3790.1-5 re: Environment, Safety, and Health Training	Office of Resource Management/METC	9/11/91
D-F-24	METC-339	Operating Policy and Procedure 9510 re: Hazardous Waste Management and Disposal	C. Romano/EG&G	12/14/90
D-F-25	METC-340	METC Procedure P 3790.1-1A re: Specialized Clothing Requirements for Handling Tars, Oils, and Solvents	Office of Technology; Base Development/METC	4/30/93
D-F-26	METC-341	METC Procedure P 3790.1-4A re: Handling of Compressed Gases and Compressed Gas Cylinders (including Flammable, Oxidizing, Toxic, and Corrosive Gases)	Office of Technology Base Development/METC	5/22/92
D-F-27	METC-342	METC Procedure P 3790.1-39A re: Chemical Hood Usage	Office of Program Support and Evaluation/METC	3/11/93
D-F-28	METC-343	METC Procedure P 3790.1-46A re: Handling, Use, and Storage of Hazardous Materials	Office of Technology Base Development/METC	3/3/93
D-F-29	METC-344	METC Procedure P 3790.1-13A re: Chemical Inventory and Acquisition of Material Safety Data Sheets (MSDSs)	Office of Technology Base Development/METC	3/3/93
D-F-30	METC-345	METC Procedure P 3790.1-8 re: Handling and Working with Carcinogenic Materials	Applied Science Division/METC	8/13/91
D-F-31	METC-346	METC Procedure P 3790.1-84 re: Laboratory Sink and Drain Use	Office of Applied Science and Technology	9/10/91
D-F-32	METC-347	Hazardous Waste/Waste Minimization Training Information (memoranda, schedules, briefing materials, etc.)	EG&G	Various
D-F-33	METC-348	METC Order 5500.1 re: Emergency Management System	Office of the Director/METC	9/10/91
D-F-34	METC-349	METC Procedure P 5500.3-1 re: Emergency Response Procedures	Office of the Director/METC	2/18/93
D-F-35	METC-350	METC Operating Plan O 5500.3-1 re: METC Emergency Response Plan	Office of the Director/METC	2/9/93
D-F-36	METC-351	METC Operating Procedure METC-PSC-92-0002.1 re: Procedures for Operating the Proteus Diesel Engine	M. McMillian/METC	2/7/92
D-F-37	METC-355	Draft METC Order 5400.1-11 re: Conducting Process Waste Assessments	Office of Program Support and Evaluation/METC	None indicated
D-F-38	METC-356	METC Order 6430.1 re: General Design Criteria	Office of Resource Management/METC	10/8/91
D-F-39	METC-357	METC Annual Hazardous Waste Report (with attached cover letter)	J. Ganz/METC	1991
D-F-40	METC-358	METC Order 3790.1B re: Federal Employee Occupational Safety and Health Program	Office of the Director/METC	9/10/91

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-F-41	METC-359	EG&G Operating Policy and Procedure 8400 re: Control of the B-16 Building	R. Wotring/EG&G	12/26/91
D-F-42	METC-360	EG&G Operating Policy and Procedure 8044 re: Control of the B-16 Compressed Gas Cylinder Storage Area	R. Wotring/EG&G	7/15/91
D-F-43	METC-362	METC Operating Procedure METC-LSC-92-0029.1 re: PAH Characterization	S. Laney/METC	10/5/92
D-F-44	METC-373	METC Job Task Survey	METC	None indicated
D-F-45	METC-374	METC ES&H Training Courses Linked to Target Audience Identifiers	METC	None indicated
D-F-46	METC-375	Memorandum re: Affirmative Procurement Program Implementing Resource Conservation and Recovery Act (RCRA) and Waste Minimization Requirements to R. Jarr, METC	J. Wachter/METC	6/1/93
D-F-47	METC-376	Resource Conservation and Recovery Act (RCRA) Agency Summary Report for Fiscal Year 1992 (with attached transmittal memorandum)	J. Martin, R. Jarr/METC	11/30/92
D-F-48	METC-400	METC Order 5400.1-5 re: Hazardous and Radioactive Mixed (HARM) Waste Management and Disposal	Office of the Director/METC	6/3/93
D-F-49	METC-401	affirmative Procurement Documents	METC	6/1/93
D-F-50	METC-418	METC Order 5820.2 re: Radioactive Waste Management	METC	10/8/91
Worker Safety and OSHA/Quality Assurance (David M. Drury)				
D-G-1	METC-001 (29)	METC Operating Plan O 3790.1-14 re: Occupational Safety for Non-Federal Research Associates, Inc.	Office of the Director/METC	9/5/91
D-G-2	METC-002 (29)	METC Operating Plan O 3790.1-11 re: Chemical Hygiene Plan	Office of Applied Science and Technology/METC	9/5/91
D-G-3	METC-003 (29)	METC Operating Plan O 3790.1-17 re: Hazard Communication Plan	Office of the Director/METC	9/6/91
D-G-4	METC-004 (29)	METC Order 5400.3-1 re: Asbestos Management Program	Office of Resource Management/METC	12/13/91
D-G-5	METC-005 (29)	METC Operating Plan O 3790.1-18 re: Carcinogen Control Plan	Office of Resource Management/METC	1/24/92
D-G-6	METC-006 (29)	METC Operating Plan O 3790.1-6 re: Site Occupational, Safety, and health Review Committee (SOSHRC)	Office of Resource Management/METC	9/11/91
D-G-7	METC-008 (29)	OSHA Accident/Incident Records	METC	1991 and 1992
D-G-8	METC-011 (29)	METC Laser Survey (Description of Class 3/4 Laser and Other Laser Inventory)	S. Woodruff, LSO/METC	4/30/93
D-G-9	METC-012 (29)	METC Procedure P 3790.1-12 re: Hearing Conservation Procedure	Office of Management Resource/METC	10/7/91

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-G-10	METC-013 (29)	Memorandum to C. Loudin re: DOE-METC/EG&G Contract No. DE-AC21-90MC26328; WBS No. J2EE ES&H Services: Hearing Conservation Program List (PJR) with attached list	B. McCabe/EG&G	4/28/93
D-G-11	METC-016 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-34 re:P Accident/Incident Investigation and Reporting	Office of Resource Management/METC	8/29/91
D-G-12	METC-017 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-40A re: Exhaust Ventilation System Evaluations (with attached Synopsis of Changes)	Office of Program Support and Evaluation/METC	3/29/93
D-G-13	METC-018 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-92A re: Procedures for Performing OSHA-Type Inspections (with attached Synopsis of Changes)	Office of Program Support and Evaluation/METC	3/11/93
D-G-14	METC-019 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-121 re: Inspection and Maintenance of Personal Protective Equipment	Office of Resource Management/METC	10/24/91
D-G-15	METC-020 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-132 re: Respiratory Protection	Office of Program Support and Evaluation/METC	10/20/92
D-G-16	METC-021 (29)	Industrial Hygiene Field Operating Procedure P 5400.3-2 re: Asbestos Management	Office of Resource Management/METC	8/26/91
D-G-17	METC-022 (29)	Industrial Hygiene Field Operating Procedure P 5480.19-3A re: Personal Protective Equipment	Office of Resource Management/METC	10/11/91
D-G-18	METC-023 (29)	Industrial Hygiene Field Operating Procedure P 5480.19-13 re: Safety Monitors	Office of Resource Management/METC	9/20/91
D-G-19	METC-024 (29)	Material Safety Data Sheets Inventories	METC	Various
D-G-20	METC-028 (28)	Cultural Resource Management Plan for Morgantown Energy Technology Center, Draft Report	C. Goodwin, Principal Investigator	11/92
D-G-21	METC-030 (28)	Quality Assurance Project Plan (QAPP) for the Morgantown Energy Technology Center	METC	1/29/93
D-G-22	METC-039 (28)	METC ES&H Monthly Status Report for February 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	2/93
D-G-23	METC-040 (28)	METC ES&H Monthly Status Report for March 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	3/93
D-G-24	METC-041 (28)	METC ES&H Monthly Status Report for April 1993 with attached Memorandum to I. Stern, FE-6	J. Wachter/METC	4/93
D-G-25	METC-046 (28)	Memorandum to J. Wachter, METC re: Explanation of ES&H Training Requirements (and Attached Training Authorization and Certificates for Various METC Employees)	W. Lowry/METC	4/29/93
D-G-26	METC-051	Office of Fossil Energy Self-Assessment Program Plan	FE	3/20/92
D-G-27	METC-052	Office of Self Assessment Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	3/93

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-28	METC-053	The Safety Connection (DOE/EH-0245)	DOE	Winter 92/93
D-G-29	METC-056	Office of the Deputy Assistant Secretary for Coal Technology Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-G-30	METC-057	Office of the Deputy Assistant Secretary for Advanced Research and Special Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan (with attached transmittal memorandum)	FE	12/16/92
D-G-31	METC-058	Office of the Deputy Assistant Secretary for Gas and Petroleum Technologies Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	12/92
D-G-32	METC-062	Fossil Energy Safety and Health Five-Year Plan	FE	7/92
D-G-33	METC-063	Office of Fossil Energy ES&H Training Courses/Schedules and DOE Training Contacts/Coordinators	Office of Self Assessment/DOE	10/1/92
D-G-34	METC-064	Schedule of Office of Self Assessment Appraisals	FE	None indicated
D-G-35	METC-065	Office of Fossil Energy Environment, Safety and Health Status Report, Office of Self Assessment	FE	3/93
D-G-36	METC-068	Memorandum to B. Armstrong, METC re: ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J. Wachter/METC	3/4/93
D-G-37	METC-070 (6)	METC Operating Plan O 5700.6-42 re: ES&H Self-Assessment Implementation Plan	Office of the Director/METC	11/17/92
D-G-38	METC-071	METC Order 5480.4-1 re: General On-Site Environment, Safety and Health Responsibilities	Office of Program Support and Evaluation/METC	4/2/93
D-G-39	METC-072	Manpower Analysis - SD&MB	METC	4/2/93
D-G-40	METC-073	Office of Fossil Energy Self-Assessment Program Plan Implementing Guidelines (NOTE: This document is contained within document METC-051)	FE	None indicated
D-G-41	METC-074	METC Operating Plan O 5500.10-1 re: METC Emergency Readiness Assurance Plan	Office of the Director/METC	1/20/93
D-G-42	METC-079	ES&H Management Self-Assessment (in progress)	B. Armstrong/METC	3/7/93
D-G-43	METC-080	Office of Occupational Medicine Occupational Medical Program Appraisal for Morgantown Energy Technology Center with attached transmittal memorandum (External Reviews/Audits)	METC	9/14/92 - 9/17/92
D-G-44	METC-081	Morgantown Energy Technology Center A Life Safety Study (External Reviews/Audits)	J. Jensen/EG&G	2/92
D-G-45	METC-082	Fire Hazards Analysis Report (External Reviews/Audits)	EG&G Florida	3/92
D-G-46	METC-083	METC Lockout/Tagout Self-Assessment with Attached Transmittal Memorandum	D. McCollum/METC	8/8/91
D-G-47	METC-084	METC Confined Space Entry Self-Assessment with Attached Transmittal Memorandum	B. Armstrong/METC	11/4/91
D-G-48	METC-085	Special Work Permits Audit with Attached Transmittal Memorandum	J. Tennant/METC	1/27/92

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-49	METC-086 (27)	METC Procedure P5481.1-1A re: Safety Analysis and Review System (SARS) and attached Synopsis of Changes to P5481.1-1A	Office of Technology Base Development	4/15/93
D-G-50	METC-087 (27)	Charter for the METC Site Environment, Safety, and Health Committee	METC	4/93 (Rev 2)
D-G-51	METC-091 (27)	METC Job Description re: Safety and Occupational Health Manager (McCollum)	METC	None indicated
D-G-52	METC-096 (27)	METC Job Description re: Chemist (Kovach)	METC	None indicated
D-G-53	METC-099 (27)	METC Job Description re: General Engineer/Physical Scientist (Tennant, Dubis, Lowry, Cook, Mullens)	METC	None indicated
D-G-54	METC-104 (27)	METC Job Description re: General Engineer (Utilities) Site Development and Management Branch (Mitch, Spengler)	METC	None indicated
D-G-55	METC-106 (27)	METC Job Description re: Student Trainee (Engineering and Physical Science)	METC	None indicated
D-G-56	METC-110 (27)	EG&G Job Description re: Technician I	EG&G	None indicated
D-G-57	METC-113 (27)	EG&G Job Description re: Engineering I	EG&G	None indicated
D-G-58	METC-114 (27)	EG&G Job Description re: Systems Analyst I	EG&G	None indicated
D-G-59	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-G-60	METC-128 (4)	EG&G WASC (Morgantown Operations) Statement of Services	EG&G	12/92
D-G-61	METC-130 (4)	Statement of Work for Site Security Services for the Morgantown Energy Technology Center	Watkins Security	None indicated
D-G-62	METC-131 (-)	Statement of Work for PACE Training and Evaluation Center	Unknown	None indicated
D-G-63	METC-133 (5)	Corrective Action Plan Annual Update	METC	4/19/93
D-G-64	METC-134 (6)	Quality Assurance/Quality Control Manual	METC	10/16/92
D-G-65	METC-138 (8)	Tiger Team Remedial Action Status Reports for 1/93	J. Wachter/METC	2/2/93
D-G-66	METC-139 (8)	Tiger Team Remedial Action Status Reports for 2/93	J. Wachter/METC	3/3/93
D-G-67	METC-140 (8)	ES&H Monthly Status Report	J. Wachter/METC	3/31/93
D-G-68	METC-142 (10)	Environment, Safety and Health Oversight Staffing Needs Analysis (and transmittal memorandum)	J. Notestein/METC	4/25/93
D-G-69	METC-143 (10)	ES&H Program Support Division Structure, Staffing Needs, and Staffing Development	J. Wachter/METC	3/4/93
D-G-70	METC-146 (11)	METC ES&H Five Year Plan for Fiscal Years 1995 - 1999	METC	3/9/93
D-G-71	METC-147 (11)	Safety and Health Five Year Plan Submission	METC	4/27/92
D-G-72	METC-172 (14)	DOE Order 5480.19 re: Conduct of Operations Requirements for DOE Facilities	Office of Nuclear Energy/DOE	5/18/92
D-G-73	METC-173 (14)	METC Order 5480.19 re: Conduct of Operations Requirements for METC Facilities	Office of the Director/METC	9/6/91

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-G-74	METC-174 (14)	METC Procedure 5480.19-1A re: Lockout/Tagout	Office of Program Support and Evaluation/METC	4/8/93
D-G-75	METC-175 (14)	METC Procedure P 5480.19-2A re: Confined Space Entry (NOTE: This document has been superseded by 3790.1-42A)	Directives Coordinator/METC	3/11/93
D-G-76	METC-176 (14)	METC Procedure P 5480.19-3A re: Personal Protective Equipment	Office of Resource Management/METC	10/11/91
D-G-77	METC-177 (14)	METC Procedure P 5480.19-4 re: Appointment and Responsibility -- Area, Facility, and Responsible Custodians	Office of Program Support and Evaluation/METC	9/24/92
D-G-78	METC-180 (14)	METC Procedure P 5480.19-13 re: Safety Monitors	Office of Resource Management/METC	9/20/91
D-G-79	METC-182 (14)	METC Procedure P 5480.19-15 re: Identification of Emergency Shutdown and Safety Interlock Systems	Office of Resource Management/METC	10/25/91
D-G-80	METC-194 (14)	METC Procedure P 5480.19-43 re: Occupational Health Program for Employees of METC	Office of Applied Science and Technology/METC	8/29/91
D-G-81	METC-195 (14)	METC Procedure P 5480.19-44 re: Safe Climbing of Towers	Office of Program Support and Evaluation/METC	11/4/92
D-G-82	METC-196 (14)	METC Procedure P 3790.1-42A re: Work Permits with Attached Synopsis of Changes	Office of Program Support and Evaluation/METC	3/11/93
D-G-83	METC-200	METC Procedure P 5400.3-1 re: Hazardous Waste Management and Disposal	Office of Resource Management/METC	9/17/91
D-G-84	METC-201 (15)	Agreement between State of Wyoming Department of Environmental Quality and DOE re: DOE METC Fossil Energy Site Clean-Up Agreement	State of Wyoming/METC	None indicated
D-G-85	METC-203 (15)	Memorandum of Understanding between the Monongalia County Hazardous Incident Response Team and the DOE METC for Emergency Preparedness and Response	METC	3/8/93
D-G-86	METC-204 (15)	Memorandum of Understanding between the Monongalia Emergency Centralized Communications Agency and DOE METC for Emergency Preparedness and Response	METC	12/23/92
D-G-87	METC-205 (15)	Memorandum of Understanding between the Morgantown Fire Department and DOE METC for Emergency Preparedness and Response	METC	1/93
D-G-88	METC-206 (15)	Memorandum of Understanding between the Morgantown Policy Department and DOE METC for Emergency Preparedness and Response	METC	1/20/93
D-G-89	METC-207 (15)	Memorandum of Understanding between the Ruby Memorial Hospital and DOE METC for Emergency Preparedness and Response	METC	7/92
D-G-90	METC-208 (15)	Memorandum of Understanding between the Monongalia General Hospital and DOE METC for Emergency Preparedness and Response	METC	7/92

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-91	METC-209 (15)	Memorandum of Understanding between the Monongalia County Emergency Services, Inc. (MCES) and DOE METC for Emergency Preparedness and Response	METC	8/92
D-G-92	METC-210 (15)	METC Order 4200.1-3 re: Environmental Safety and Health and Quality Assurance Control in R&D Contracts and Financial Assistance Awards	Office of Program Support and Evaluation/METC	5/15/92
D-G-93	METC-214 (17)	METC Phone Card	METC	3/8/93
D-G-94	METC-218 (18)	Index of all ES&H-Related Training Courses (also see Item No. 28)	METC	None indicated
D-G-95	METC-219 (19)	Memorandum re: Facilities Safety Committee (SARS) Status Report	H. Spengler/METC	4/14/93
D-G-96	METC-220 (19)	Laboratory Safety Committee (SARS) Restart Status	METC	4/13/93
D-G-97	METC-221 (19)	Process Safety Committee (SARS) Fact Sheet (Status Report)	METC	4/21/93
D-G-98	METC-224 (24)	METC ES&H Information and Data Management Systems	METC	None indicated
D-G-99	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-G-100	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-G-101	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B. Armstrong/METC	4/20/93
D-G-102	METC-238	Presentation re: METC Site Summary	METC	None indicated
D-G-103	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-G-104	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-G-105	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-G-106	METC-242	Cultural Survey Results	S. Haber/BNL	12/17/92
D-G-107	METC-249	METC Procedure No. P 5000.3-1 re: Occurrence Classification and Reporting	Office of the Director/METC	6/22/92
D-G-108	METC-251	METC Procedure P 5480.4-11 re: OTBD Safety and Health Responsibilities	Office of Technology Base Development/METC	None indicated
D-G-109	METC-252	Memorandum re: Notes from Inspection of Dan's Lab	R. Anderson/METC	10/30/92
D-G-110	METC-253	Memorandum re: Notes from Walk-thru of B-12 1/29/93	W. Lowry/METC	2/16/93
D-G-111	METC-257	METC Operating Plan O 3790.1-5 re: Environment, Safety, and Health Training	Office of Resource Management/METC	9/11/91
D-G-112	METC-259	Safety and Health Inspection Guide for Offices (Attachment 1-1 to DOE 3790.1B)	METC	1/7/93
D-G-113	METC-260	Checklist - Guide to Help the METC Safety Inspector during Monthly Inspection in Looking for Violations	METC	None indicated

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-114	METC-261	OSHA Inspection Results (Appendix D of Attachment XII of P 54841.1.1)	P. Zanussi/METC	3/30/93
D-G-115	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-G-116	METC-264	TQM Goal and Objectives	METC	2/14/92
D-G-117	METC-279	EG&G Environmental, Safety, and Health Plan	EG&G	None indicated
D-G-118	METC-320	Preliminary Draft Report - Environmental Baseline Characterization of the Morgantown Energy Technology Center	METC	2/93
D-G-119	METC-402	METC Draft Procedure re: Procurement Process	METC	6/3/93
D-G-120	METC-403	METC Procedure P 5700.6.2 re: Certification of Nondestructive Examination Personnel	Office of Resource Management/METC	11/1/91
D-G-121	METC-404	METC Draft Procedure re: Quality Levels and Material Traceability Requirements	METC	6/7/93
D-G-122	METC-416	METC Procedure P 5700.6.38 re: Bolt Usage Procedure	Office of Applied Science/METC	8/28/91
D-G-123	METC-417	EG&G OPP 9240 re: Confined Space Entry	EG&G	11/20/92
Industrial Hygiene Program (Ron E. Alexander)				
D-H-1	METC-001 (29)	METC Operating Plan O 3790.1.1-1 re: Occupational Safety for Non-Federal Research Associates, LLC	Office of the Director/METC	9/5/91
D-H-2	METC-002 (29)	METC Operating Plan O 3790.1.11 re: Chemical Hygiene Plan	Office of Applied Science and Technology/METC	9/5/91
D-H-3	METC-003 (29)	METC Operating Plan O 3790.1.17 re: Hazard Communication Plan	Office of the Director/METC	9/6/91
D-H-4	METC-004 (29)	METC Order 5400.3-1 re: Asbestos Management Program	Office of Resource Management/METC	12/13/91
D-H-5	METC-005 (29)	METC Operating Plan O 3790.1.18 re: Carcinogen Control Plan	Office of Resource Management/METC	1/24/92
D-H-6	METC-006 (29)	METC Operating Plan O 3790.1.6 re: Site Occupational, Safety, and Health Review Committee (SOSHR)	Office of Resource Management/METC	9/11/91
D-H-7	METC-007 (29)	METC Operating Plan O 3790.1.7A re: METC Federal Employee Industrial Hygiene Program	Office of Applied Science and Technology/METC	3/10/92
D-H-8	METC-008 (29)	OSHA Accident/Incident Records	METC	1991 and 1992
D-H-9	METC-009 (29)	Listing of Industrial Hygiene Tasks and Their Related Findings (Status of Industrial Hygiene Related Tiger Team Concerns)	METC	None indicated
D-H-10	METC-010 (29)	METC Corrective Action Plan Tracking System Milestone Dates by Class re: Industrial Hygiene (Environment) (Status of Industrial Hygiene Related Tiger Team Concerns)	METC	4/28/93

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	METC-011 (29)	METC Laser Survey (Description of Class 3/4 Laser and Other Laser Inventory)	S. Woodruff, LSO/METC	4/30/93
D-H-12	METC-012 (29)	METC Procedure P 3790.1-12 re: Hearing Conservation Procedure	Office of Management Resource/METC	10/7/91
D-H-13	METC-013 (29)	Memorandum to C. Loudin re: DOE-METC/EG&G Contract No. DE-AC21-90MC26328; WBS No. J2EE ES&H Services: Hearing Conservation Program List (PJR) with attached list	B. McCabe/EG&G	4/28/93
D-H-14	METC-014 (29)	Previous 2 Years Budget for Industrial and Chemical Hygiene Activities	J. Wachter/METC	4/29/93
D-H-15	METC-015 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-19A re: Industrial Hygiene Monitoring and Surveying	Office of Program Support and Evaluation/METC	10/20/92
D-H-16	METC-016 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-34 re: Accident/Incident Investigation and Reporting	Office of Resource Management/METC	8/29/91
D-H-17	METC-017 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-40A re: Exhaust Ventilation System Evaluations (with attached Synopsis of Changes)	Office of Program Support and Evaluation/METC	3/29/93
D-H-18	METC-018 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-92A re: Procedures for Performing OSHA-Type Inspections (with attached Synopsis of Changes)	Office of Program Support and Evaluation/METC	3/11/93
D-H-19	METC-019 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-121 re: Inspection and Maintenance of Personal Protective Equipment	Office of Resource Management/METC	10/24/91
D-H-20	METC-020 (29)	Industrial Hygiene Field Operating Procedure P 3790.1-132 re: Respiratory Protection	Office of Program Support and Evaluation/METC	10/20/92
D-H-21	METC-021 (29)	Industrial Hygiene Field Operating Procedure P 5400.3-2 re: Asbestos Management	Office of Resource Management/METC	8/26/91
D-H-22	METC-022 (29)	Industrial Hygiene Field Operating Procedure P 5480.19-3A re: Personal Protective Equipment	Office of Resource Management/METC	10/11/91
D-H-23	METC-023 (29)	Industrial Hygiene Field Operating Procedure P 5480.19-13 re: Safety Monitors	Office of Resource Management/METC	9/20/91
D-H-24	METC-024 (29)	Material Safety Data Sheets Inventories	METC	Various
D-H-25	METC-051	Office of Fossil Energy Self-Assessment Program Plan	FE	3/20/92
D-H-26	METC-052	Office of Self Assessment' Environment, Safety and Health Self-Assessment Program Implementation Plan	FE	3/93
D-H-27	METC-064	Schedule of Office of Self Assessment Appraisals	FE	None indicated
D-H-28	METC-069	METC Mission and Function Statement	METC	None indicated
D-H-29	METC-073	Office of Fossil Energy Self-Assessment Program Plan Implementing Guidelines (NOTE: This document is contained within document METC-051)	FE	None indicated

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-30	METC-080	Office of Occupational Medicine Occupational Medical Program Appraisal for Morgantown Energy Technology Center with attached transmittal memorandum (External Reviews/Audits)	METC	9/14/92 9/17/92
D-H-31	METC-084	METC Confined Space Entry Self-Assessment with Attached Transmittal Memorandum	B. Armstrong/METC	11/4/91
D-H-32	METC-085	Special Work Permits Audit with Attached Transmittal Memorandum	J. Tennant/METC	1/27/92
D-H-33	METC-096 (27)	METC Job Description re: Chemist (Kovach)	METC	None indicated
D-H-34	METC-099 (27)	METC Job Description re: General Engineer/Physical Scientist (Tennant, Dubis, Lowry, Cook, Mullens)	METC	None indicated
D-H-35	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-H-36	METC-181 (14)	METC Procedure P 5480.19-14 re: Applicable Design Codes and Standards	Office of Resource Management/METC	8/27/91
D-H-37	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-H-38	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-H-39	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B. Armstrong/METC	4/20/93
D-H-40	METC-238	Presentation re: METC Site Summary	METC	None indicated
D-H-41	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-H-42	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-H-43	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-H-44	METC-242	Cultural Survey Results	S. Haber/BNL	12/17/92
D-H-45	METC-245	Self-Assessment Guidance Document	EH-5/DOE	12/92
D-H-46	METC-250	Letter to R. Kyle, Monongalia County Local Emergency Planning Committee re: Tier II Report for METC with Attached Report	D. McCollum/METC	2/25/93
D-H-47	METC-251	METC Procedure P 5480.4-11 re: OTBD Safety and Health Responsibilities	Office of Technology Base Development/METC	None indicated
D-H-48	METC-259	Safety and Health Inspection Guide for Offices (Attachment I-1 to DOE 3790.1B)	METC	1/7/93
D-H-49	METC-260	Checklist - Guide to Help the METC Safety Inspector during Monthly Inspection in Looking for Violations	METC	None indicated
D-H-50	METC-261	OSHA Inspection Results (Appendix D of Attachment XII of P 54841. -1)	P. Zanussi/METC	3/30/93
D-H-51	METC-263	METC TOM Steering Committee Charter	METC	None indicated

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-52	METC-264	TOM Goal and Objectives	METC	2/14/92
D-H-53	METC-393	METC PDU Alternative Sites Investigation Sampling and Analysis Action	METC	Unknown
D-H-54	METC-405	EG&G OPP9310 re: Respiratory Protection	EG&G	4/1/87
D-H-55	METC-406	EG&G OPP9320 re: Industrial Hygiene Monitoring and Employee Exposure Documentation	EG&G	11/4/92
D-H-56	METC-407	EG&G OPP9330 re: Hearing Conservation	EG&G	11/23/92
D-H-57	METC-408	EG&G OPP9340 re: Calibration, Maintenance and Repair of Industrial Hygiene Equipment	EG&G	4/20/93
D-H-58	METC-409	EG&G OPP9350 re: Carcinogen Control Program	EG&G	4/1/87
D-H-59	METC-410	EG&G OPP9360 re: Hazard Communication Program	EG&G	5/1/89
D-H-60	METC-411	EG&G OPP9380 re: Industrial Hygiene Exposure Characterization	EG&G	11/3/92
D-H-61	METC-412	EG&G OPP9390 re: Chemical Hygiene Plan	EG&G	4/9/93
D-H-62	METC-419	METCercise Yearly Evaluation	METC	10/92
Formality of Operations Control Systems (Leon H. Meyer)				
D-I-1	METC-046 (28)	Memorandum to J. Wachter, METC re: Explanation of ES&H Training Requirements (and Attached Training Authorization and Certificates for Various METC Employees)	W. Lowry/METC	4/29/93
D-I-2	METC-071	METC Order 5480.4-1 re: General On-Site Environment, Safety and Health Responsibilities	Office of Program Support and Evaluation/METC	4/2/93
D-I-3	METC-086 (27)	METC Procedure P5481.1-1A re: Safety Analysis and Review System (SARS) and attached Synopsis of Changes to P5481.1-1A	Office of Technology Base Development	4/15/93
D-I-4	METC-087 (27)	Charter for the METC Site Environment, Safety, and Health Committee	METC	4/93 (Rev. 2)
D-I-5	METC-088 (27)	METC Order 1321.1C re: METC Directives System	Office of Program Support and Evaluation/METC	7/29/92
D-I-6	METC-089 (27)	METC Job Description re: Resource Manager (Armstrong)	METC	None indicated
D-I-7	METC-090 (27)	METC Job Description re: Senior Science Advisor/ Interdisciplinary General Engineer or Physical Scientist (Notestein)	METC	None indicated
D-I-8	METC-091 (27)	METC Job Description re: Safety and Occupational Health Manager (McCollum)	METC	None indicated
D-I-9	METC-127 (3)	METC A Catalyst for Technology Development (Technology Transfer Report 1990)	METC	None indicated
D-I-10	METC-133 (5)	Corrective Action Plan Annual Update	METC	4/19/93
D-I-11	METC-139 (8)	Tiger Team Remedial Action Status Reports for 2/93	J. Wachter/METC	3/3/93
D-I-12	METC-171 (14)	Conduct of Operations Listing of Relevant Orders/Procedures	METC	None indicated

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-13	METC-173 (14)	METC Order 5480.19 re: Conduct of Operations Requirements for METC Facilities	Office of the Director/METC	9/6/91
D-I-14	METC-197 (14)	Conduct of Operations Survey Prepared for METC	EG&G	1/21/92
D-I-15	METC-212 (16)	Index of all DOE-METC ES&H-related directives (orders, notices, plans, and procedures)	METC	4/23/93
D-I-16	METC-213 (16)	Index of EG&G WASC Operational Policies and Procedures Manual	EG&G	4/15/93
D-I-17	METC-218 (18)	Index of all ES&H-Related Training Courses (also see Item No. 28)	METC	None indicated
D-I-18	METC-219 (19)	Memorandum re: Facilities Safety Committee (SARS) Status Report	H. Spengler/METC	4/14/93
D-I-19	METC-220 (19)	Laboratory Safety Committee (SARS) Restart Status	METC	4/13/93
D-I-20	METC-221 (19)	Process Safety Committee (SARS) Fact Sheet (Status Report)	METC	4/21/93
D-I-21	METC-224 (24)	METC ES&H Information and Data Management Systems	METC	None indicated
D-I-22	METC-235	Environmental, Safety & Health Awareness Brochure at Morgantown Energy Technology Center	METC	1/93
D-I-23	METC-236	Tiger Team Remedial Action Summary of FE Field Site Activity	METC	1992
D-I-24	METC-237	Presentation re: METC ES&H General "Facts and Figures" Presentation to the Progress Assessment Team	B. Armstrong/METC	4/20/93
D-I-25	METC-238	Presentation re: METC Site Summary	METC	None indicated
D-I-26	METC-239	Tiger Team Assessment of the Morgantown Energy Technology Center	EH-5/DOE	6/91
D-I-27	METC-240	METC Tiger Team Corrective Action Plan	METC	9/20/91
D-I-28	METC-241	Site Facts: Morgantown Energy Technology Center	METC	5/93
D-I-29	METC-251	METC Procedure P 5480.4-11 re: OTBD Safety and Health Responsibilities	TBD/METC	None indicated
D-I-30	METC-263	METC TQM Steering Committee Charter	METC	None indicated
D-I-31	METC-264	TQM Goal and Objectives	METC	2/14/92
D-I-32	METC-279	EG&G Environmental, Safety, and Health Plan	EG&G	None indicated
D-I-33	METC-324	METC Procedure P 1321.1-1 re: Procedure Generation and Revision Process	OPSE/METC	5/25/93
D-I-34	METC-397	SARS Package, PyGas Plastic Cold Flow Model Project	Process Safety Committee/METC	5/93
D-I-35	METC-398	SARS package, Hot Gas Desulfurization Units Project	Process Safety Committee/METC	7/8/92
D-I-36	METC-399	METC Procedure 1321.1-1 re: Procedure Generation and Revision Process	OPSE/METC	5/25/93
D-I-37	METC-079	ES&H Management Self-Assessment (in progress)	B. Armstrong/METC	3/7/93
D-I-38	METC-415	METC Order 5481.1 re: Safety Analysis and Review System	Office of the Director/METC	9/12/91

Appendix H

List of Acronyms

LIST OF ACRONYMS

Acronym/ Abbreviation	Definition
AAD	Acquisition and Assistance Division
CCB	Clean Coal Branch
CMB	Combustion/Cleanup Projects Division
COO	Conduct of Operations
CRADA	Cooperative Research and Development Agreements
DIR	Office of the Director
DOE	U.S. Department of Energy
DOE-METC	U.S. Department of Energy - METC Operations
EG&G	EG&G-Washington Analytical Services Corporation, Inc.
EH	DOE Office of Environment, Safety, and Health
EH-5	Office of Special Projects
EOS	Engineering and Operations Support Division
EPP	Emergency Preparedness Plan
ES&H	Environment, Safety, and Health
ESH	ES&H Program Support Division
EWM	Environmental and Waste Management Division
FE	DOE Office of Fossil Energy
FE-6	FE Office of Self-Assessment
FRM	Fuels Resources Management Division
FSC	Facilities Safety Committee
FY	Fiscal Year
GMP	Groundwater Monitoring Plan
GPMP	Groundwater Protection Management Program
HRD	Organization and Human Resources Development Division
IDP	Individual Development Program
IRD	Information Resources Development and Support Division
LCO	Limiting Conditions of Operations
LSC	Laboratory Safety Committee
MCATS	METC Corrective Action Tracking System

LIST OF ACRONYMS (continued)

Acronym/ Abbreviation	Definition
METC	Morgantown Energy Technology Center
NEPA	National Environmental Policy Act
OHU	Occupational Health Unit
OID	Office of Institutional Development
ORPS	Occurrence Reporting and Processing System
OS&H	Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEB	Project Engineering Branch
PMS	Performance Management System
PSC	Process Safety Committee
PSD	Program Support Division
PSE	Office of Program Support and Evaluation
PSO	Program Secretarial Officer
PST	Power Systems Technology Division
PTM	Office of Product Technology Management
QA	Quality Assurance
QAP	METC Quality Assurance/Quality Control Manual
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SARS	Safety Analysis and Review System
SDM	Site Development and Management Branch
SEN	Secretary of Energy Notice
TBD	Office of Technology Base Development
TBP	Technology Base Program Development Division
TQM	Total Quality Management
TSP	Technology Support Projects Division
WASC	Washington Analytical Services Center, Inc.
WQM	Water Quality Manager

END

**DATE
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11/10/93