

Summary Report

Inspection of
Environment, Safety, and Health Management
and Emergency Management
at the

Waste Isolation Pilot Plant



August 2002

Office of Independent Oversight and Performance Assurance
Office of the Secretary of Energy

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Abbreviations Used in This Report

AL	Albuquerque Operations Office
CBFO	Carlsbad Field Office
CMT	Crisis Management Team
DOE	U.S. Department of Energy
EM	Office of Environmental Management
EM-5	Office of Safety, Health and Security
EPHA	Emergency Planning Hazards Assessment
ES&H	Environment, Safety, and Health
FSM	Facility Shift Manager
ISM	Integrated Safety Management
ISO	International Standards Organization
OA	Office of Independent Oversight and Performance Assurance
OSO	CBFO Office of Safety and Operations
SO-40	Office of Emergency Operations
TRU	Transuranic
WIPP	Waste Isolation Pilot Plant
WTS	Westinghouse TRU Solutions, LLC

The Secretary of Energy's Office of Independent Oversight and Performance Assurance (OA) conducted an inspection of environment, safety, and health (ES&H) and emergency management programs at the U.S. Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP) in July and August 2002. The inspection was performed as a joint effort by the OA Office of Environment, Safety and Health Evaluations and the Office of Emergency Management Oversight.



Aerial View of WIPP

Background

The Office of Environmental Management (EM) is the lead program secretarial office for WIPP. As such, it has overall Headquarters responsibility for programmatic direction, funding of activities, and ES&H and emergency management at the site, and is responsible for providing overall program guidance and direction to the Carlsbad Field Office (CBFO). At the Headquarters level, the WIPP Office (EM-23) provides program implementation support to EM. Through a formal memorandum of understanding, CBFO receives technical and administrative support in the emergency management area from DOE's Albuquerque Operations Office (AL).

CBFO manages DOE's National Transuranic (TRU) Waste Program Office and the WIPP site. TRU refers to radioactive elements having a greater atomic number than uranium. CBFO

coordinates the TRU program at waste-generating sites and national laboratories, which includes managing the system for collecting, characterizing, and transporting TRU waste. Within CBFO, the Office of Safety and Operations (OSO) provides direction regarding the site ES&H and emergency management program. WIPP is managed and operated by Westinghouse TRU Solutions, LLC (WTS), under contract to DOE.

The mission of the WIPP site is to provide permanent, underground disposal of TRU and TRU-mixed wastes (wastes that also have hazardous chemical components). TRU waste consists of clothing, tools, and debris left from the research and production of nuclear weapons. TRU waste is contaminated with small amounts of plutonium and other TRU radioactive elements. Over the next 35 years, WIPP is expected to receive approximately 175,000 cubic meters of waste from various DOE sites. Since WIPP began operations in March 1999, it has received approximately 1,000 shipments (each shipment contains up to 42 55-gallon drum equivalents). WIPP is now operating at the target goal of approximately 25 shipments per week, with plans for as many as 40 shipments per week by next year.

The WIPP site is located in southeastern New Mexico, approximately 30 miles southeast of Carlsbad, New Mexico, within a remote 16-square-mile tract. The area has a very low population density. Approximately 16 permanent residents live within a 10-mile radius of the site, with the nearest residents about 3.5 miles from the center of the site. WIPP project facilities include excavated rooms 2,150 feet underground in an ancient, stable salt formation, as well as various surface structures designed for transporter unloading and drum transfer to the underground rooms. Eventually, approximately 850,000 55-gallon drum-equivalents of TRU waste will be contained within the underground structure. WIPP activities, which include transport container unloading, drum movement, mining, and facility maintenance, involve various potential hazards that need to be effectively controlled, including

exposure to external radiation, radiological contamination, and various physical hazards associated with mining activities and facility operations (e.g., subsurface hazards, toxic gases, confined space, machine operations, high-voltage electrical equipment, pressurized systems, and noise).

Throughout the evaluation of ES&H programs, OA reviews the role of DOE organizations in providing direction to contractors and conducting line management oversight of the contractor activities. OA is placing more emphasis on the review of contractor self-assessments and DOE line management oversight in ensuring effective ES&H and emergency management programs. In reviewing DOE line management oversight, OA focused on the effectiveness of EM and CBFO in managing the WIPP contractor, including such management functions as setting expectations, providing implementation guidance, allocating resources, monitoring and assessing contractor performance, and monitoring/evaluating contractor self-assessments. Similarly, OA focuses on the effectiveness of the contractor self-assessment programs, which DOE expects to provide comprehensive reviews of performance in all aspects of ES&H and emergency management.

ES&H Review Scope and Overview

The purpose of the ES&H portion of this inspection was to assess the effectiveness of selected aspects of ES&H management as implemented by WTS under the direction of CBFO. The ES&H portion of the inspection was organized to evaluate three related aspects of the integrated safety management (ISM) program: (1) implementation of selected guiding principles of ISM by CBFO and WTS; (2) CBFO and WTS feedback and continuous improvement systems; and (3) WIPP implementation of the core functions of safety management for various work activities, including mining operations, surface/facility operations, maintenance, waste management operations, environmental monitoring, and subcontracted work.

The OA inspection team used a selective sampling approach to determine the effectiveness of CBFO and WTS in implementing DOE requirements. The sampling approach involves examining selected institutional programs that support the ISM program, such as CBFO and WTS assessment programs. To determine the effectiveness of the institutional programs, the OA team examined implementation of requirements by selected WIPP organizations, including Waste

Operations, Surface Operations, and Mining Development.

As discussed throughout this report, the ISM program at WIPP is generally effective. Although improvements are warranted in some areas, the current programs have contributed to overall effective ES&H performance and a good safety record at WIPP.

Emergency Management Program Review Scope and Overview

In addition to the OA review of CBFO's emergency management oversight and operational awareness activities, this portion of the inspection evaluated progress since the May 2000 OA emergency management program review on upgrading the site emergency management program, which is managed and administered by the WTS Radiation Safety and Emergency Management Department. The inspection team also conducted tabletop performance tests with a sample of the site's key decision-makers to evaluate their ability to employ available tools and skills when responding to postulated emergency conditions.



WIPP Emergency Response Equipment

The results of this review indicate that, overall, CBFO and WTS have effectively addressed nearly all of the weaknesses identified during the May 2002 OA emergency management review. Furthermore, as a consequence of that effort, CBFO and WTS have implemented a hazardous material emergency management program that, with few exceptions, meets Departmental expectations for providing a system that protects responders, site workers, and the public in the event of an emergency at WIPP. However, the OA team identified several programmatic and implementation concerns, including initial response procedures that do not adequately define all of the necessary time-critical actions, inconsistent rigor of procedure usage by initial decision-makers, and

inadequate training program definition for certain key initial responders. CBFO and WTS line management attention is necessary to refine program implementation and ensure that the level of emergency preparedness is maintained as the pace of waste receipt and storage activities increases.

Organization of the Report

Section 2 of this volume provides an overall discussion of the results of the review of the WIPP ES&H and emergency management programs. Section 3 provides OA's conclusions regarding the overall effectiveness of CBFO and WTS management

of the ES&H and emergency management programs. Section 4 presents the ratings assigned as a result of this review. Appendix A provides supplemental information, including team composition. Appendix B identifies the findings that require corrective action and follow-up.

More detailed information on the inspection results is contained in two separate volumes of the report, which were provided to CBFO and WTS management and which are available to other DOE sites on request. Volume I provides more detailed information on the review of the WIPP ES&H programs, and Volume II provides more detailed information on the review of the WIPP emergency management program.

2.1 Positive Attributes

ES&H Positive Attributes

Overall, the ISM program at WIPP is effectively implemented, although improvements are warranted in a few areas. Several positive attributes were identified in the institutional work control systems. Many aspects of ISM implementation at the facility and activity level were also particularly effective.



Scaler Miner Removing Loose Rock in the WIPP Underground

The overall effective ISM program has resulted in an excellent safety record at WIPP. The WIPP site has one of the best safety records in the DOE complex, as measured by such performance indicators as injury rates and environmental incidents. This good safety record is particularly significant considering that a large fraction of the WIPP work activities involve potentially hazardous activities, such as mining and handling containers of radioactive material. The WTS ISM program is mature and effective, with few deficiencies, and has resulted in the good safety record. The workforce demonstrated a safety-conscious approach to work activities and support for ISM programs. Workers were knowledgeable of hazards and controls. CBFO and WTS line managers are also supportive of ISM

and were actively involved in ensuring that safety is an integral part of mission operations and work activities. EM, CBFO, and WTS roles and responsibilities are well defined and understood. WTS has effective processes for identifying applicable requirements and incorporating them into clear and concise procedures and work controls.

CBFO and WTS managers have demonstrated support for continuous improvement, and WTS has applied an aggressive approach to correcting deficient conditions. In accordance with ISM principles, WTS managers, with the support of CBFO, have implemented various initiatives to continuously improve ES&H programs and performance. WTS has established and implemented an extensive program of self-assessments and crosscutting reviews that is effective in identifying and correcting deficient conditions. Various external organizations also perform regulatory inspections at WIPP. WTS has been aggressive in responding to individual deficiencies identified by all appraisals, including the WTS self-assessments, CBFO observations, surveillances, and findings, and external regulator inspections. Further, WTS has regularly analyzed the collective assessment results to identify trends, root causes, and crosscutting issues, and has taken appropriate corrective actions. For example, WTS analyzed trend data and implemented actions to further improve procedural compliance, and analyzed injury data leading to a focused effort to further reduce injuries to hands and fingers. WTS has also proactively solicited ideas for improvement from workers through various programs, such as safety committees, and has used that feedback to improve ES&H programs. These efforts have contributed to the overall good safety performance and continued positive trends in performance measures. WTS has also responded aggressively to the deficiencies identified during this OA inspection and has implemented or initiated corrective action for most of them.

Several WTS initiatives in the industrial hygiene area are effective and proactive. The WTS Industrial Hygiene Status Report and

Assessment Strategy Program is an effective process used by WTS Industrial Hygiene to assess and document workplace exposures, identify appropriate hazard controls, and recommend medical surveillance and industrial hygiene monitoring. The program has been designed with the intent of fulfilling the baseline hazard survey requirements of the DOE worker protection requirements. WIPP is one of the few sites in the DOE complex that is meeting these objectives, as well as meeting the intent of the recent DOE Industrial Hygiene Practices Standard. In addition, the WTS Mine Engineering, Mine Operations, and Industrial Hygiene organizations have been proactive in identifying and analyzing the hazards for diesel particulate matter air contaminants in underground workspaces. Pending Mine Health and Safety Administration regulations for diesel particulate matter will impose considerable technical challenges to controlling mine ventilation systems, and will limit the exposure of workers to diesel particulate matter, a contaminant that had previously not been regulated. At WIPP, initial air sampling for diesel particulate matter has been conducted for a variety of diesel equipment used underground in order to characterize the diesel particulate matter hazard, although the new diesel particulate matter regulations are not yet in effect. In addition, several interim corrective actions to mitigate diesel particulate matter air contaminants have already been identified and implemented (e.g., new tagging procedure).

WTS has developed and defined an effective and proactive environmental management system based on ISM and International Standards Organization (ISO) 14001 concepts and has implemented that system using a suite of environmental management procedures that are technically accurate, concise, and well written. WIPP has obtained and maintains ISO 14001 certification. External requirements, such as those in the Resource Conservation and Recovery Act permit, have been effectively incorporated in operating procedures for management of the environmental aspects of TRU mixed waste disposal. As a result, TRU, TRU mixed, hazardous, and non-hazardous waste operations are being performed as required by environmental regulations. In addition, effective working relationships have been established with external regulators.



WIPP Waste Disposal Process

Emergency Management Program Positive Attributes

Over the past two years, CBFO and WTS have committed considerable effort and resources to addressing the findings and weaknesses identified during the May 2000 OA emergency management program review. As an outgrowth of this effort, CBFO and WTS recognized the need to transform the emergency management program from a base program to a hazardous materials program, and this transformation is nearly complete. Positive attributes of the WIPP emergency management program include:

With very few exceptions, CBFO and WTS have satisfactorily addressed the findings and weaknesses identified during the May 2000 OA emergency management program review. CBFO and WTS developed and implemented numerous corrective actions to address the five findings and various other weaknesses, nearly all of which have been satisfactorily addressed. For example, inappropriate emergency planning hazards assessment (EPHA) material-at-risk assumptions were corrected, and administrative limits were imposed on waste drum curie content to ensure the validity of the EPHA results; improvements were made in the rigor of processes used to track emergency responder qualification status; the transportation-related emergency public information program and the associated roles and responsibilities were formally established; WTS is documenting drills and exercises and tracking findings and improvement items on an ongoing basis; and CBFO (together with EM's Office of Safety, Health and Security—EM-5) is now maintaining an appropriate level of programmatic awareness and providing effective guidance. Success

can be attributed, in part, to the assignment of two additional full-time emergency management staff since the May 2000 emergency management review.

The EPHA serves as an effective foundation for the emergency management program, and WTS has successfully implemented the major elements of an operational emergency hazardous material program. WTS has adopted larger, bounding material-at-risk assumptions as a basis for EPHA release calculations, in combination with an existing broad spectrum of potential emergency events, to produce an EPHA that establishes a firm technical basis for the WIPP emergency management program. The Office of Emergency Operations (SO-40) and EM-5 were instrumental in supporting this effort. In addition, in recognition that the EPHA results indicated a potential for offsite consequences, the site undertook and has essentially completed the challenging task of transforming the previous base program, as defined in DOE Order 151.1A, *Comprehensive Emergency Management System*, into a hazardous materials emergency management program. This effort included establishing an emergency planning zone, developing an entirely new set of response procedures to address required classification and protective-action decision-making activities, and training emergency response personnel in their usage.



WIPP Mine Rescue Team

Drills and exercises are being effectively used to provide responder practice, validate the condition of the various emergency response elements, and promote further improvement. WIPP uses a variety of drill and exercise activities to provide emergency responders the opportunity to practice their response roles and responsibilities. The drills and exercises are thoroughly evaluated and documented, and the annual site exercise is used in

conjunction with CBFO and AL appraisal activities to assess the condition of various programmatic elements. Corrective actions are developed from weaknesses and observations that are identified during drills and exercises and are tracked using the site's commitment tracking system; subsequent drill and exercise activities are used to verify the effectiveness of the corrective actions.

2.2 Program Weaknesses

ES&H Program Weaknesses

Most aspects of the WIPP ISM program are effective, and only one finding that requires a formal corrective action plan was identified. The finding addresses weaknesses in some aspects of hazards analysis processes for certain types of work activities. In addition to the hazard analysis finding, management attention is needed to enhance the formality and rigor of some aspects of CBFO line management oversight activities.

The work control process for some underground operations is not sufficiently documented to ensure that all hazards are adequately identified, analyzed, and documented. In the underground mining and maintenance areas, the WTS organization generally identified and analyzed most hazards, typically through some combination of training and/or job safety analysis and work packages. However, the lack of a well-documented work control process for some underground operations has resulted in hazards at the underground fabrication shop not being identified, analyzed, or documented and may have contributed to the recent accident where a load-haul-dump (LHD) vehicle tipped over. Also, some potential environmental hazards were not sufficiently analyzed, documented, or reported. The skill-of-the-craft program is insufficiently documented to ensure that management expectations are consistently followed.

Some aspects of CBFO line management oversight activities are not sufficiently rigorous and formalized to ensure that management expectations are communicated, understood, and effectively implemented. CBFO is implementing most aspects of its line management responsibilities and is contributing to the overall effective ISM program at WIPP. However, CBFO has not established and documented specific management expectations for OSO line management oversight activities, and their current processes are not rigorous and systematic. A few safety and environmental deficiencies were

identified on this OA inspection that had not been previously identified by CBFO or WTS. CBFO conducts few formal assessments, and most of the CBFO observations are not documented in a manner that enables CBFO to systematically evaluate WTS ES&H performance. Although the CBFO line management oversight program needs to be enhanced, the current CBFO line management oversight processes are implemented. When combined with an effective WTS self-assessment program, the good safety culture of the WIPP workforce, and experienced CBFO safety professionals, the line management oversight program is meeting CBFO management expectations and contributing to the good safety performance at WIPP.



WIPP Underground Maintenance Shop

Emergency Management Program Weaknesses

A few weaknesses identified during the May 2000 OA emergency management program review have not been effectively addressed, particularly in the areas of event notification and crisis management team (CMT) training. Concerns in the response proficiency of the facility shift managers (FSMs), primarily in the area of protective-action decision-making for site workers, were noted as well. These concerns were due to a combination of weaknesses in the content of emergency plan implementing procedures and in the inconsistent rigor of procedure usage. Specific notable weaknesses include:

The processes and tools for formulating protective actions and then communicating all important information to offsite agencies do not ensure that these critical tasks are completed accurately and in a timely manner, and weaknesses in procedure usage adversely affected FSM performance. The procedure guidance

that is provided for FSMs to formulate protective actions is not sufficiently specific to ensure that the type and extent of protective actions chosen are appropriate for the conditions at hand. In addition, the notification process is hampered by communication tools and implementing procedures that do not facilitate the efficient development and communication of messages that are complete and accurate, include all required recipients, and are timely, particularly after normal working hours. This weakness was also identified during the May 2000 OA emergency management program review. The current notification process has the potential for distracting responders from performing their primary responsibilities of mitigating the emergency and protecting site workers and the public. These procedure deficiencies, along with several instances of poor procedure usage, were primary contributors to weaknesses observed during tabletop performance tests conducted by OA during this inspection that resulted in significant delays in directing protective actions for site workers.

The WTS training program does not provide the structure and content necessary to ensure that FSMs and new CMT members are sufficiently prepared for their roles in an onsite emergency.

The training and qualification process for FSMs does not include initial classroom training in topics unique to the WIPP emergency plan, such as emergency action level usage or protective-action formulation. The process also does not include any requirements for FSM participation in annual retraining or drills and exercises. In addition, although FSMs have been participating in drills and exercises, these activities to date have not addressed extended FSM emergency management decision-making without emergency operations center support being readily available, which would occur after normal working hours or on weekends. Such weaknesses may have contributed to FSM performance difficulties during the tabletop performance tests. Some aspects of the CMT training and qualification program have been strengthened since the May 2000 review, in part due to the transition to a hazardous material program. However, the CMT initial emergency management training module does not contain any examples of practical usage of position-specific procedures or tools, such as emergency action levels (for categorizing/classifying events), and new CMT members are not required to pass a performance-based test prior to being assigned to the emergency response roster. The latter concern was a weakness specifically identified during the May 2000 OA review.

ES&H Program

CBFO and WTS have worked cooperatively to establish and implement an effective ISM program at WIPP. The excellent safety record and the overall good compliance with requirements observed on this OA inspection indicate that the ISM program is well designed and effectively implemented.

CBFO and WTS managers at all levels were actively involved in and supportive of ISM and continuous improvement. CBFO and WTS have worked cooperatively to establish a set of contractual requirements that is appropriate for the hazards and conditions at WIPP. EM, CBFO, and WTS roles and responsibilities are adequately defined. Workers are appropriately empowered to stop work to resolve safety questions and have multiple avenues to express any safety concerns. Management has numerous programs to ensure that workers are involved in safety and to solicit ideas for improvement. A few shortcomings were identified in CBFO and WTS requirements management processes (adherence to a DOE Acquisition Regulation clause requirement for review of orders, administrative errors in Attachment H of the contract, a deficient adherence assessment, failure to include some parts of DOE Manual 435.1 requirements in the standards and requirements identification document, and insufficient identification of underground lighting and hazardous waste operation [HAZWOPER] training requirements) that indicate a need for increased management attention on the formality and rigor of current processes.

The OA team's observation of numerous work activities conducted at WIPP indicates that work activities were conducted safely and, with few exceptions, hazards were identified, appropriate controls were in place, and the work was properly authorized. In most cases, WTS has effectively translated the applicable requirements to clear and concise work instructions. Workers demonstrated a safety-conscious approach to their work activities. Most aspects of environmental

protection programs are effective and have been successfully integrated into ISM.

Although most hazards are effectively analyzed and controlled, certain aspects of hazards analysis processes need to be enhanced to ensure that all hazards are adequately identified, analyzed, and documented. Areas that need additional management attention include the formality of work control processes for some underground activities (e.g., fabrication shop and ground control), some environmental concerns and radiological controls, the skill-of-the-craft program for low-hazard work, WIPP visitor training, and the hazard analysis templates used by work planners and line managers.

The feedback and continuous improvement programs at WIPP are effective in identifying and correcting deficiencies. WTS conducts frequent self-assessments, and external organizations perform regulatory reviews. WTS, with the support of CBFO, has been aggressive in correcting individual deficiencies in a timely manner. WTS has also systematically analyzed the root causes of identified deficiencies and analyzed trends, and used the results to achieve improvements in ES&H performance. CBFO personnel are actively involved in monitoring contractor performance, are maintaining operational awareness, and are contributing to improvements by identifying problems to WTS for corrective action. However, the CBFO program



TRUPACT-II Shipment Approaching WIPP Site

is not rigorous and relies primarily on the expertise and initiative of the individual CBFO personnel.

Overall, the ISM program at WIPP is effectively implemented and is resulting in safe operations. Work observed by the OA team was performed with a high regard for safety and environmental protection. While some deficiencies were identified, CBFO and WTS have a good understanding of the remaining deficiencies and have a demonstrated history of taking effective corrective actions.

Emergency Management Program

CBFO and WTS have made notable progress in addressing the findings and weaknesses identified during the May 2000 OA emergency management program review. All of the findings, with one exception, have been satisfactorily addressed and closed, and nearly all of the weaknesses have been appropriately addressed. As a result, most aspects of the WIPP emergency management program have been strengthened. Most significant is the incorporation of larger, technically defensible material-at-risk quantities into the EPHA, whose output consequently determined that a potential exists for offsite consequences following certain low-probability, high-consequence events. As a result, WTS implemented a hazardous materials emergency management program. Based on previous analysis, WIPP was required to have only a base program. Several aspects of this resource-intensive transition are noteworthy, including WTS's commitment to adequately staff the effort and the relatively short timespan required for program development and implementation. In addition, training, drill, and exercise activities were expanded to retrain emergency responders on the fundamentals of the more complex emergency management system; validate the new program processes and tools; and provide emergency responders the practice opportunities necessary to become proficient. CBFO has been actively involved in the program transition effort and has teamed with AL, EM-5, and SO-40 to provide effective guidance and line management oversight.

The transition to the hazardous materials emergency management program is essentially complete, although additional effort is needed in several

of the program elements, particularly in the area of processes and procedures for conducting event notifications and formulating protective actions for site workers. The process for conducting notifications is cumbersome, which not only inhibits timely completion of notifications but also distracts operators from other critical response duties, as demonstrated during tabletop performance tests conducted by OA during this inspection. In addition, the current set of emergency plan implementing procedures does not contain the necessary level of specificity to permit FSMs to consistently formulate appropriate protective actions, particularly for site workers. FSM performance during tabletop performance tests was also adversely impacted by several instances in which existing procedures were either not used or improperly used, which directly contributed to excessive delays in communicating protective actions to site workers.

Other weaknesses were noted as well, a few of which were also identified during the May 2000 OA emergency management review. For example, the FSM and CMT training programs do not ensure that responders are fully prepared for their emergency response duties. Furthermore, as would be expected of a new hazardous materials emergency management program, implementing plans and procedures contain numerous relatively minor organizational and content weaknesses, such as inconsistencies and areas requiring further definition. These will need to be addressed to ensure that all program elements are appropriately integrated and all response roles and responsibilities are clearly understood.

CBFO and WTS efforts to implement a hazardous materials emergency management program at WIPP have been generally successful. However, as demonstrated by the tabletop performance tests conducted as part of this inspection, the program needs further refinement. Continued line management attention is necessary to ensure that implementation of all the program elements is completed, particularly in the areas of emergency response procedure content and usage. In addition, looking forward, it is essential that CBFO and WTS line management carefully consider how to accommodate substantial increases in waste receipt and storage activities while maintaining an adequate level of emergency preparedness.

4.0 Ratings

The ratings reflect the current status of the reviewed elements of the WIPP programs:

Safety Management System Ratings

Guiding Principle #2 – Clear Roles and Responsibilities EFFECTIVE PERFORMANCE
Guiding Principle #5 – Identification of Standards and Requirements EFFECTIVE PERFORMANCE

Feedback and Improvement

Core Function #5 –Feedback and Continuous Improvement EFFECTIVE PERFORMANCE

WIPP Implementation of Core Functions for Selected Work Activities

Core Function #1 – Define the Scope of Work EFFECTIVE PERFORMANCE
Core Function #2 – Analyze the Hazards EFFECTIVE PERFORMANCE
Core Function #3 – Establish Controls EFFECTIVE PERFORMANCE
Core Function #4 – Perform Work Within Controls EFFECTIVE PERFORMANCE

Emergency Planning

Hazards Survey and Hazards Assessments EFFECTIVE PERFORMANCE
Program Plans and Procedures NEEDS IMPROVEMENT

Emergency Preparedness

Training, Drill, and Exercise Program EFFECTIVE PERFORMANCE
Emergency Public Information EFFECTIVE PERFORMANCE

Emergency Response

WTS Emergency Response Decision-Making NEEDS IMPROVEMENT
CBFO Emergency Response EFFECTIVE PERFORMANCE

Readiness Assurance

DOE Assessments and Performance Monitoring EFFECTIVE PERFORMANCE
Contractor Assessments and Issues Management EFFECTIVE PERFORMANCE

APPENDIX A

SUPPLEMENTAL INFORMATION

A.1 Dates of Review

Scoping Visit	May 29-30, 2002
Onsite Inspection Visit	July 29-August 8, 2002
Report Validation and Closeout	August 20-22, 2002

A.2 Review Team Composition

A.2.1 Management

Glenn S. Podonsky, Director, Office of Independent Oversight and Performance Assurance
Michael A. Kilpatrick, Deputy Director, Office of Independent Oversight and Performance Assurance
Patricia Worthington, Director, Office of Environment, Safety and Health Evaluations
Thomas Staker, Deputy Director, Office of Environment, Safety and Health Evaluations
Charles B. Lewis, Director, Office of Emergency Management Oversight
Kathy McCarty, Deputy Director, Office of Emergency Management Oversight (Team Leader)

A.2.2 Quality Review Board

Michael Kilpatrick	Patricia Worthington
Charles Lewis	Dean Hickman
Robert Nelson	

A.2.3 Review Team

Kathy McCarty, Team Leader
Bill Miller, ES&H Topic Lead
Steven Simonson, Emergency Management Topic Lead

Emergency Management

Jeff Robertson
David Schultz

Safety Management Systems

Jack Riley
Steve Kirchhoff
Al Gibson (Feedback and Improvement)

Technical Team

Mike Gilroy
Vic Crawford
Joe Lischinsky
Jim Lockridge
Edward Stafford

A.2.4 Administrative Support

Sandra Pate
Tom Davis

APPENDIX B

SITE-SPECIFIC FINDINGS

Table B-1. Site-Specific Findings Requiring Corrective Action Plans

ES&H FINDING STATEMENT
The work control process for some underground operations (e.g., ground control and fabrication) is not sufficiently documented to ensure that all hazards are adequately identified, analyzed, and documented.
EMERGENCY MANAGEMENT FINDING STATEMENTS
Waste Isolation Pilot Plant (WIPP) emergency plans, implementing procedures, and supporting notification systems do not ensure that the appropriate protective actions and other required event information are communicated in a timely and accurate manner to site workers and offsite jurisdictions, as required by DOE Order 151.1A, <i>Comprehensive Emergency Management System</i> .
During tabletop performance tests, WIPP facility shift managers did not consistently demonstrate effective and timely use of available resources, plans, and procedures to protect emergency responders and site workers from unacceptable consequences in the event of a hazardous material release, as required by DOE Order 151.1A.