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INSTITUTIONAL PROGRAMS

This chapter discusses additional institutional programs at WIPP which fulfill the objectives of 10 CFR 830.204, Documented Safety Analysis.¹ A description of the requirements and their implementation is provided for the following programs:

- Management, Organization, and Institutional Safety
- Procedures and Training
- Initial Testing, In-Service Equipment Monitoring, and Maintenance
- Operational Safety
- Emergency Preparedness Program

8.1 Management, Organization, and Institutional Safety Provisions

8.1.1 Introduction

The WIPP facility is managed by Washington Energy and Environment division (WEE), Washington TRU Solutions LLC (WTS). WEE includes other government facilities operated by Washington and WTS draws on these resources as a result of this arrangement.

8.1.2 Requirements

The requirements and guidelines for developing the WTS Management, Organization, and Institutional Safety program are provided in DOE Order 4700.1, Project Management Systems² and DOE/WIPP 103,³ DOE Management Directives for the WIPP.

8.1.3 Organizational Structure, Responsibilities, and Interfaces

Westinghouse and WTS has managed and operated the WIPP facility for the DOE since October 1985. WTS, as the present Management and Operating Contractor (MOC), provides the management staff, sets the safety culture, issues policies, and implements programs.

Several committees have been formed to integrate information regarding environment, safety, health, and radiation protection activities at the WIPP. These committees facilitate the sharing of solutions to common problems and issues.

Additionally, WTS has access to expertise in several disciplines including waste management, risk assessment, safety analysis, environmental services, technical and analytical services, regulatory compliance, transportation, legal, quality assurance (QA), and others, as required.

The Washington Group reviews WEE facility operations, which include the WIPP, to evaluate compliance with applicable policies, plans, procedures, laws and regulations. WTS policy is to conduct all operations so that the health and safety of the employees, the public, and the environment remain protected. This commitment extends to all levels of management, and is reflected in the goals and objectives established for operating facilities.

The corporation has no specific authority regarding the engineering and design, construction, QA, testing, operation, and other activities beyond those carried out by the WTS, as specified in the contract with the DOE. Corporate resources are available and will be committed, as needed, to ensure that WTS activities are conducted safely, correctly, and efficiently. Corporate management plays a vital role in providing appropriate direction for WTS activities by selecting the WTS President and General Manager (GM).

8.1.3.1 Organizational Structure

Responsibility for operating the WIPP facility has been assigned to the MOC organization. Figure 8.1-1 shows the chain of command by which the Assistant Secretary for Environmental Restoration and Waste Management exercises responsibility for the operational safety of the WIPP.

While responsible for all aspects of the WIPP facility, DOE has contracted these scopes of work to various organizations. The MOC is responsible for managing the current and future construction contracts, and to operate the WIPP facility, including all day-to-day operations.

The WTS GM is responsible for the design, operation, maintenance, and modification of the WIPP facility, including the health and safety of employees, and the protection of the environment. The WTS GM has issued policies exercising this responsibility to manage these activities directly, or by delegation of authority. Management functions are performed according to management policies and requirements defined in the operating contract.

8.1.3.2 Organizational Responsibilities

The WTS GM has delegated specific responsibilities to managers for the following WIPP functions:

1. Radiation safety, industrial safety, environmental protection, and regulatory compliance;
2. Operation, control, and maintenance of all surface structures, including the Waste Handling Building and associated equipment; handling and storing radioactive waste on site; transporting hazardous material off-site; transporting salt aboveground; monitoring and operating site utilities including HVAC, power distribution, water and sewer; operating the Central Monitoring System; underground operations including mining, transporting salt underground, hoisting, operating key facility experimental programs; and equipment maintenance;
3. Design of equipment, systems, and facilities for special operations; review of designs proposed by other major Project Participants; design of new or necessary facilities; resolution of technical and operational problems; and maintenance of design configuration;
4. Identification, development and definition of applicable requirements; assistance to management in interpreting and implementing QA program elements; provide performance-based and improvement-oriented independent assessment activities specific to quality improvement; review Federal Registers; review DOE Orders; perform field audits; evaluate audits of other departments; and, act as the Defense Nuclear Facilities Safety Board (DNFSB) point of contact;
5. Planning and scheduling; integration of technical programs, program development and program reporting, strategic planning and long term budget development; programmatic performance; recommend work-scope priorities; and, conduct contingency analyses;
6. Financial resources, accounting, computer services, material and property control, document and procedure review, and procurement services;
7. Coordination of all personnel-related functions supporting facility operations, planning and implementing the general employee technical training programs, and certifying/qualifying the operating staff;

8. Public information programs, governmental affairs, technical outreach and communications; public displays, handouts and brochures, interaction with the electronic and print media, visitor's program at the WIPP, Speaker's Bureau activities, identification and resolution of issues between the WIPP Project and outside institutions, maintain contacts with individual representatives from outside institutions, public relations efforts, and the States and Tribal Education Program (STEP), which is aimed at preparing emergency response personnel bordering the WIPP transportation routes.

8.1.3.3 Staffing and Qualifications

The WTS GM has a Bachelors or advanced degree in engineering or business, or equivalent, and at least 15 years of diverse nuclear plant operations experience, including at least 5 years of department level management or equivalent experience.

8.1.4 Safety Management Policies and Programs

The WIPP objective is to **DO WORK SAFELY**. As stated in MP 1.28,⁴ Integrated Safety Management, the WIPP will systematically integrate safety into management and work practices at all levels of the organization so that the mission is accomplished while protecting the workers, the public, and the environment.

8.1.4.1 Safety Review and Performance Assessment

Facility safety elements are reviewed annually. The WIPP MOC ensures that applicable environment, safety, and health requirements are met according to 10 CFR 830.204, Documented Safety Analysis.¹ The review focuses on the functional areas within the safety program including: industrial safety, fire protection, and hazardous material elements.

WTS procedure WP02-AR3001, Unreviewed Safety Questions Determination,⁷ implements the requirements of 10 CFR 830.203, Unreviewed Safety Question Process.⁸ The procedure includes the screening criteria to determine if a proposed activity requires further evaluation and exemptions for activities that require no screening; the safety evaluation criteria for detailed evaluation of proposed activities and potential issues, identification of the training and appointment requirements for screeners, evaluators, and independent reviewers; documentation requirements and forms; and, identification of the authorization basis documents. Proposed engineering changes, operating procedures and certain controlled document changes, as well as discovered issues are screened and/or evaluated by qualified personnel. A limited number of personnel are trained and designated by department managers to perform the safety evaluations; all independent reviewers are designated by the manager of ES&H. Positive USQ determinations identified by safety evaluators and independent reviews are reviewed by the Nuclear Review Board (NRB) who are also trained safety evaluators.

8.1.4.2 Configuration and Document Control

The WIPP facility was designed and constructed to DOE Order 6430.1,⁹ General Design Criteria for Department of Energy Facilities, draft, dated June 10, 1981, and codes and standards applicable at the time of construction. Facility modifications since that time have been designed according to the revision of DOE Order 6430 and codes and standards applicable at the time of modification. All future modifications shall be designed according to DOE Orders O 420.1, Facility Safety¹⁰, dated October 1995 and O 430.1A, Life-Cycle Asset Management,¹¹ dated August 1995, (as applicable at the time) and all applicable codes and standards as described by SDDs. WP 09, Engineering Conduct of Operations,¹² implements configuration management requirements through the WIPP 09 series Engineering procedures.

WIPP Technical Procedures and Emergency and Alarm Response Procedures are written using guidance provided in WP 15-PS.2, Technical Procedure Writer's Guide.⁵ WP 15-PS.2 references the basic steps for procedure writing found in DOE-STD-1029-92, DOE Writer's Guide for Technical Procedures.⁶ Modifications to operating procedures resulting from an ECO are controlled and implemented through procedure WP 15-PS3002, WTS Controlled Document Processing.¹³ WP 15-PS3002 also provides the process for review, approval, and cancellation of WTS documents controlled by Document Services.

Temporary or permanent changes proposed to the facility are measured against criteria specified in Unreviewed Safety Question Determination, WP 02-AR3001.⁷ USQs are reviewed against the SAR and Technical Safety Requirements (TSR). A safety evaluation documents any change, as mandated by 10 CFR 830.203.⁸

8.1.4.3 Occurrence Reporting

The Occurrence Reporting Process at the WIPP is directed by DOE Order 232.1A, Occurrence Reporting and Processing of Operations Information.¹⁴ The WTS occurrence reporting implementing procedure is WP 12-ES3918, Reporting Occurrences In Accordance With DOE Order 232.1A.¹⁵ This occurrence reporting procedure provides for reporting events to the Facility Manager (FM) or his designee for categorization.

Examples of events that should be reported include, but are not limited to the following: events that could endanger or adversely affect personnel safety or operations, or are contrary to DOE requirements. In addition, the procedure requires the event to be investigated to determine the direct cause, root cause and contributing causes, and to develop corrective actions to prevent recurrence.

The WIPP Lessons Learned Program was established as required by DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities,¹⁶ and is implemented by WTS Management Charter MC 9.20, Lessons Learned Working Group.¹⁷ Management Charter MC 9.20 empowers the Lessons Learned Working Group to administer the Lessons Learned Program, which was implemented to ensure a continuing improvement in plant safety and reliability. Lessons Learned bulletins are developed from information obtained from DOE Safety Notices, Nuclear Regulatory Commission Bulletins, external occurrence reports, internal occurrence reports, internal investigative reports, and other pertinent industry documents. Lessons Learned bulletins are distributed to the WIPP managers for inclusion into their required reading, as applicable.

8.1.4.4 Safety Culture

A safe working environment is the priority at the WIPP. Individuals responsible for performing work are continually evaluating the safety of themselves, the environment, and the facility. This philosophy is directed from the top down within the organization.

The Management approach to Occupational Health and Safety at the WIPP emphasizes the integration of safety into all aspects of the facility mission. WIPP management has communicated its expectations of site personnel and subcontractors regarding safety through policies, procedures, programs, and recognition as discussed in the WIPP Voluntary Protection Program Application, 1994.¹⁸ Senior management infuses the principles of safety to mid-management, mid-management to line management, and this continues until every employee incorporates safety principles into their job.

Top management is "visibly" involved in safety and health programs by establishing goals, approving management policies, providing accountability mechanisms, implementing site tracking systems, participating in employee communications, reviewing injury/illness trends, reviewing Industrial Safety and Hygiene (IS&H) summaries, and providing resources to perform jobs safely. Management support is evidenced by the WIPP Voluntary Protection Program Application, 1994,¹⁸ and application for re-certification in 1999.

The DOE Voluntary Protection Program (VPP) Star Status recognition was awarded to the WIPP because of their comprehensive health and safety program. The VPP program encourages recognition of successful leading- industry injury and illness prevention programs that result in reducing workplace hazards. The WIPP safety program elements including training, employee involvement, management commitment, and hazard prevention and controls were reviewed during the VPP application process. The WIPP Safety program annual reevaluation maintains the appropriate focus on safety to retain VPP Star status.

8.1.4.5 Operational Systems Safety

This aspect of Operational Systems Safety deals with operational controls whose purpose is to detect and control hazards in operational activities. The program is carried out through independent safety review, inspection, and analysis by the Environment, Safety, and Health organization. Specific features of Operational Systems Safety include:

- Design review - Formal, documented design reviews of facilities and equipment are attended by IS&H, as required, in addition to construction packages review, and design specifications. Comments generated are formally resolved, with sign off/concurrence required in the final issued package.
- Procedures review - Operations and maintenance procedures are formally reviewed, and approved, by IS&H personnel, as required, to ensure that hazards inherent in the work are properly controlled. In the process, proper personal protective equipment and other precautions are reviewed.
- Operational readiness analysis - As part of the formal startup process for new facilities and components, IS&H participates in formal readiness analysis, to ensure that safety concerns involving personnel, equipment, and procedures are resolved before operations begin.

- Procurement and subcontract reviews - IS&H reviews of purchase orders, as required, are performed to ensure that purchases of hazardous/toxic substances are known to IS&H, and to ensure that no prohibited materials are purchased. These reviews also ensure that any necessary use precautions are issued to the user when the materials are brought on the site. Subcontract reviews are performed to ensure that DOE and other safety regulations are specified as contract requirements.
- Inspections - Actual compliance with safety requirements is periodically evaluated through scheduled and unannounced inspections, appraisals, and walkthroughs of the workplace by IS&H personnel.
- Fitness-for-Duty - This policy is applicable to all WTS personnel, and is relative to the ability of any employee to perform his/her job in a safe and healthful manner. The Fitness-for-Duty Program includes the identification and disposition of substance or alcohol use or abuse problems, and physical or psychological impairment problems of any kind.¹⁹

References for Section 8.1

1. 10 CFR 830.204, Documented Safety Analysis.
2. DOE Order 4700.1, Project Management Systems, March 6, 1987 (For reference only, superseded by DOE O 430.1A).
3. DOE/WIPP 103, DOE Management Directives for WIPP.
4. MP 1.28, Integrated Safety Management Policy.
5. WP 15-PS.2, Technical Procedure Writer's Guide.
6. DOE-STD-1029-92, DOE Writer's Guide for Technical Procedures
7. WP 02-AR3001, Unreviewed Safety Questions Determination
8. 10 CFR 830.203, Unreviewed Safety Question Process.
9. DOE Order 6430.1, General Design Criteria Manual for DOE Facilities (draft), June 10, 1981 (For reference only, superseded by DOE O 420.1 and DOE O 430.1A).
10. DOE Order O 420.1, Facility Safety.
11. DOE Order O 430.1A, Life-Cycle Asset Management.
12. WP 09, Engineering Conduct of Operations.
13. WP 15-PS3002, WTS Controlled Document Processing.
14. DOE Order 232.1A, Occurrence Reporting and Processing of Operations Information, August 1997.
15. WP 12-ES3918 , Reporting Occurrences in Accordance with DOE Order 232.1A.
16. DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.
17. WTS Management Charter MC 9.20, Lessons Learned Working Group.
18. Westinghouse Electric Corporation, Waste Isolation Division Voluntary Protection Program Application, 1994.
19. WTS Managers Reference Guide Section 007

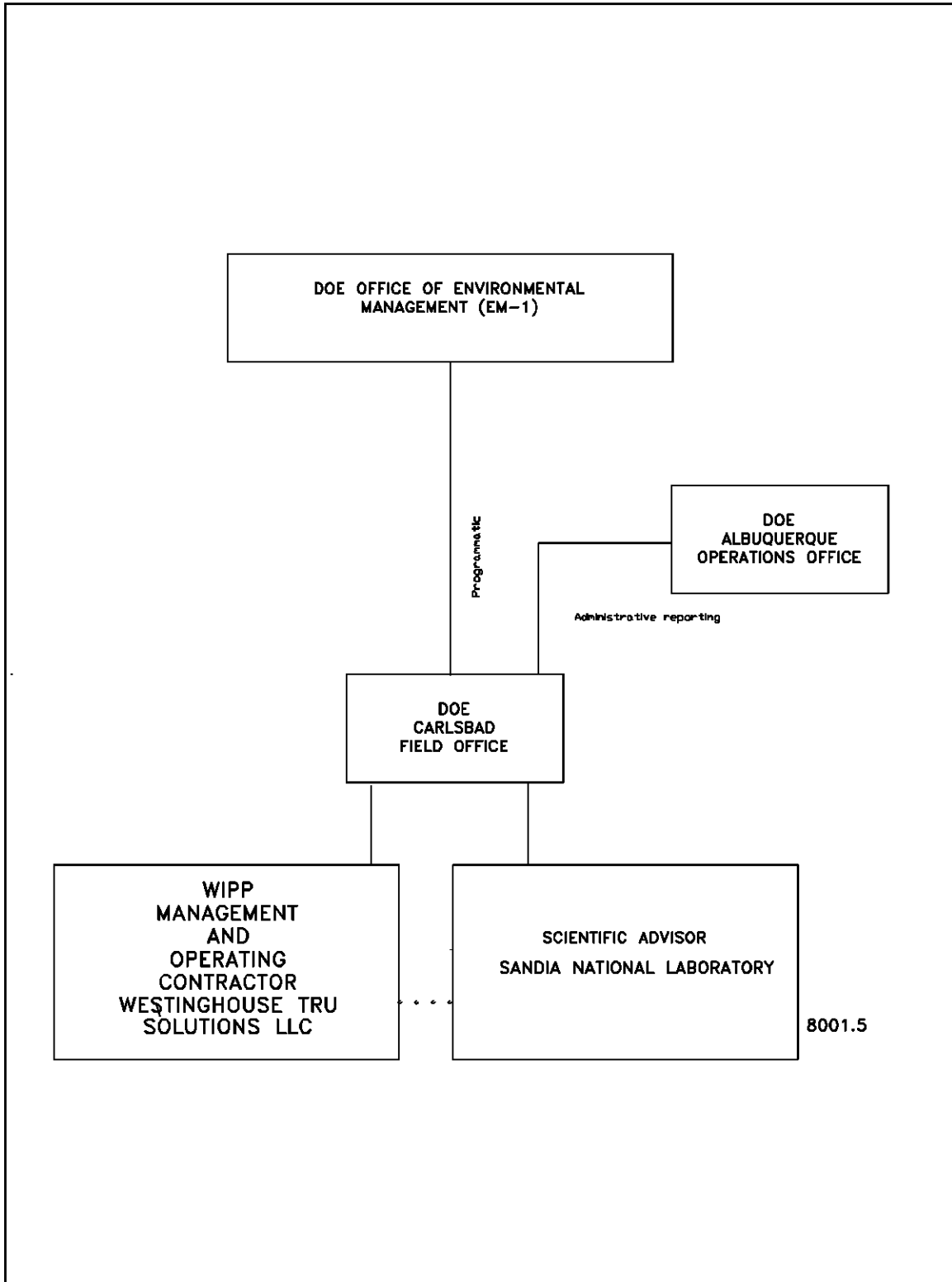


Figure 8.1-1, WIPP Facility Operations Responsibility

8.2 Procedures and Training

8.2.1 Introduction

The WIPP training program is organized and managed to facilitate planning, directing, evaluating, and controlling a systematic training process that fulfills job-related needs and regulatory requirements. The MOC is responsible for establishing and administering the overall training program for WIPP personnel. Operations procedures are provided to ensure the facility is operated within its safety basis.

8.2.2 Requirements

Minimum requirements for the selection, qualification, and training of personnel at the WIPP are specified in DOE Order 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.¹ The minimum requirements for procedures are specified in DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.²

8.2.3 Procedures Program

Formal written operating procedures are prepared for all developments and modifications that would affect the safety and/or the design purpose of the facility as defined in the PSAR. Procedures govern configuration control of the facility and those systems designated defense-in-depth in Chapter 5. In addition, maintenance and calibration procedures are used to insure compliance with the safety basis of the site, as defined in this PSAR. Work on defense-in-depth structures, systems, and components (SSCs) is controlled procedurally.

Procedures are established to ensure the satisfactory preparation and thorough review of the operating procedures and any modifications to the procedures that may be necessary.

A master file of operating procedures is kept current, and controlled copies are available. The QA requirements for procedures are discussed in Chapter 9.

8.2.3.1 Development of Procedures

Procedure selection or need is required when a defined task or activity is to be performed, which meets one of the following criteria: (1) accomplishes work or activities defined in the WP-13-1, WTS Quality Assurance Program Description (QAPD),³ or creates quality records, (2) provides specific direction for the operating equipment and/or systems included in the configuration management process, (3) provides specific direction for physical activities that require repeatability and documented results, as described in WP 15-PS.2.⁴ The cognizant organization manager assigns a technically competent person, as defined in the WTS QAPD,³ to develop the technical content of the document. Additionally, the cognizant organization manager determines which organizations will review the procedure, verifying its technical content and requirements, and the validation process, to determine if the procedure can be performed as written. An Unreviewed Safety Question (USQ) screening is performed by a qualified individual per WP 02-AR3001, Unreviewed Safety Questions Determination.⁵

Revisions to procedures are processed according to WP 15-PS3002, WTS Controlled Document Processing.⁶ According to WP 15-PS3002, a proposed revision is prepared and processed by the cognizant organization. A review of the changes by all affected groups is the minimum requirement for revisions. Processing through USQ screening is required for all but minor changes.

Following successful completion of the technical review and validation process, the document package is sent to the Document Review Committee for final review, then the procedure is approved for use by a cognizant organization manager.

8.2.3.2 Maintenance of Procedures

Procedures undergo a periodic review during which a technically competent person must review the procedure for any new or existing requirements, cancellations, deletions, or additions. The change process allows for procedure changes that require immediate correction. Changes to the procedures mandate a technical review that must be signed off by the cognizant organization manager and a technically competent person before issuance as an approved change.

8.2.4 Training Program

The training program for employees, visitors, and subcontractors at the WIPP facility is a formally organized and continuing program. Training programs address the training of WIPP personnel and any site subcontractors in job-related training subjects spanning all levels of the organization, from fundamental technical skills and speciality training, to supervisory and management skills training. A formal Training Program for the WIPP facility operation staff and technical support personnel has been established. Training program policies and procedures define job function, responsibility, authority, and accountability of WTS personnel involved in managing, implementing, and conducting training.

The primary objective of the WIPP facility training program is to prepare personnel to operate the WIPP in a safe and environmentally sound manner. To achieve this objective, the training program provides all employees with training relevant to their positions. Full-time employees at the WIPP, regardless of employer, and including those not directly involved in waste handling activities, receive an introduction to the Resource Conservation and Recovery Act (RCRA) and emergency preparedness within 30 days of employment as part of the General Employee Training (GET). In this way, everyone at the WIPP is given a basic understanding of regulatory requirements and emergency procedures. Employees in hazardous or mixed waste management positions receive additional classroom and on-the-job training designed specifically to teach them how to perform their duties safely, and to ensure the facility's compliance with the regulations. Hazardous/mixed waste management personnel receive the required training before being allowed to work unsupervised.

8.2.4.1 Development of Training

The training program is organized and managed to facilitate planning, directing, evaluating, and controlling a systematic training process that fulfills job-related needs and considers regulatory requirements. Implementation of training at the WIPP is a shared effort between the functional groups and the training section. WIPP training and qualification programs are included in the following areas:

- Operations (Facility Operations, Waste Operations, Underground Operations)
- Maintenance Operations
- Environmental and Radiological Control
- Industrial Safety and Hygiene
- Engineering
- Quality Assurance
- Technical Training

Training to support qualification programs is based on a systematic approach to training (SAT). A graded approach has been used to align the training program to the needs of the WIPP site. The WIPP application of the SAT methodology is described in detail in the WIPP Training Program, WP 14-TR.01.⁷ A product of this process is a training program designed to meet the skill and knowledge needs for the evaluated task or job. Through this process, the final program elements will be defined, including training frequency. Each training program is carefully developed and periodically re-evaluated to ensure relevance to the course objectives, compliance with the regulations, and support of the goal of safe and environmentally sound operations at the WIPP. This process is useful because it compels managers and training staff to look critically at each position, and to determine the necessary training program for each employee to fully develop their necessary expertise. If regulatory guidelines require, or task performance should dictate continuing or recurrent training, it is established at this point.

The Technical Training Section is responsible for administering training programs, for complying with training standards affecting both regular and contract personnel, and for maintaining current and accurate records reflecting the training of each employee. Records activities follow an approved "Records Inventory and Disposition Schedule," reviewed and updated at least annually, to comply with federal codes, policies, or directives concerning training records administration.

8.2.4.2 Maintenance of Training

Training programs are periodically reviewed, focusing on changes in job scope, task, performance, procedure, and regulation. Training programs are approved and authorized by appropriate line management and WIPP Training management before being implemented or revised.

Because changes are anticipated, to maintain qualifications, a qualified employee will re-qualify on applicable qualification cards every two years in order to maintain their qualification. Employees re-qualify only on infrequent or abnormal tasks. This re-qualification focuses on continuing training in tasks that are critical to safety, or are difficult, or infrequently performed. This commitment to refresher training ensures a proficient and safe workforce.

8.2.4.3 Modification of Training Materials

When it is decided that existing programs require revision, a formal process is implemented to ensure program quality is maintained and enhanced.

Using the combined efforts of WIPP training and cognizant personnel, programs are revised and updated. These updates may be due to changes in task performance, modifications to equipment or noted human factors deficiencies. At the completion of program modification, cognizant line management and WIPP training must approve any revision before implementation. The amount and type of training required in the permits will be maintained, and additional training is at the discretion of the WIPP.

References for Section 8.2

1. DOE Order 5480.20A, Personnel Selection, Qualification, Training Requirements for DOE Nuclear Facilities.
2. DOE Order 5480.19, Conduct Of Operations Requirements For DOE Facilities.
3. WP 13.1, WTS Quality Assurance Program Description.
4. WP 15-PS.2, Technical Procedure Writer's Guide
5. WP 02-AR3001, Unreviewed Safety Questions Determination.
6. WP 15-PS3002, WTS Controlled Document Processing.
7. WP 14-TR.01, WIPP Training Program.

8.3 Initial Testing, In Service Equipment Monitoring , and Maintenance

8.3.1 Introduction

The MOC is responsible for testing and maintaining the equipment and systems at the WIPP.

8.3.2 Requirements

The plans and provisions for initial testing and in-service monitoring, are provided in DOE-STD-3009, Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports ¹. The requirements for maintaining DOE property is provided in DOE Order 433.1, Maintenance Management Program for DOE Nuclear Facilities.²

8.3.3 Initial Test Program

8.3.3.1 Start-up Testing & Preoperational Checkout

Equipment and systems important for continued and safe operation of the WIPP facility shall undergo start-up testing before operation. A post modification retest, a type of start-up test, is performed after changes are made to equipment or systems. The start-up testing shall verify established design criteria, prove functional requirements, and safe operation. The WIPP Start-Up Test Program, WP 09-SU.01, ³ includes a program covering initiating, executing, revising, and canceling start-up test and retest procedures; start-up documents/records control; and qualification requirements for start-up testing personnel.

8.3.3.2 Start-up Testing Program Objective

The WIPP start-up/acceptance/post-modification test program objective is to establish administrative controls to verify and document that SSCs required for safe operation of the WIPP facility meet established design criteria and functional requirements of approved test procedures. A start-up test may be a formal start-up test, an acceptance test, or a post-modification retest.

8.3.3.3 Administrative Procedures for Conducting the Start-up Testing Program

Administrative procedures are established to ensure that the test procedures, before their execution, are prepared, reviewed and approved by qualified personnel. Testing shall be performed by certified individuals, and test results shall be documented and evaluated for adequacy using start-up program procedures. Test procedure changes are controlled and evaluated to ensure that changes do not adversely impact the intent of the test. Plant modifications shall be tested in the same manner as the original design. Implementation of such modifications/changes, including retesting, shall be accomplished by the latest approved applicable project and start-up program procedures.

8.3.3.4 Vendor Testing

Some equipment or system tests may be conducted at the vendor's facility according to contractual specifications. However, it is recognized that often equipment and systems can only be adequately tested after they are installed and integrated with other systems at the WIPP facility. Equipment and systems that fail vendor tests are rejected until repairs, adjustments, or modifications are completed, and failed equipment or systems are retested. Nonconformances may be authorized after evaluation by responsible engineering and management personnel.

8.3.3.5 Preoperational Checkout

Beyond vendor and start-up testing, preoperational waste handling demonstration checkouts shall be conducted using simulated waste. Simulated waste handling operations shall be performed in sequence, from receipt through final emplacement. The checkouts listed in Table 8.3-1 shall be done according to the latest approved operating procedures and preoperational checkout demonstration procedures.

Preoperational checkout objectives include:

- Demonstrating that WIPP personnel can safely handle RH TRU waste packages, including unloading an internally contaminated 72 B or 10-160B cask.
- Demonstrating the satisfactory operation of WIPP waste handling equipment
- Demonstrating that the WIPP operating procedures are comprehensive, and sufficiently detailed to perform normal waste handling operations, and to recover from off-normal occurrences encountered during waste handling operations
- Establishing the aggregate time estimate for WIPP waste handling operations
- Providing the basis for estimating the dose to be received by WIPP waste handling personnel

8.3.4 In-Service Equipment Monitoring Program

8.3.4.1 Conduct of Operations

After systems have completed the start-up processes, they are available for day-to-day operations. It is important to ensure that systems remain within their nominal performance parameters. If systems fail to operate, repairs are implemented, and operability is re-established.

The Operations Department Conduct of Operations requires that functional testing be done before equipment or systems are considered capable of performing their design function. The requirement for a Conduct of Operations program is documented in Section 5, Administrative Controls, of the TSRs in Attachment 1.

Responsibility for ongoing evaluation falls with many organizations depending on the nature of the evaluation. For example, some equipment is subjected to periodic operability checks to ensure that operating parameters are within the range allowed for reliable operations. Examples are environmental continuous air samplers (covered by WP 02-EM1012, Airborne Particulate Sampling⁵) and systems important to safe operation covered by the TSRs in Attachment 1. The following ensure that waste handling equipment is operating, and operated in a safe manner according to design prior to and during waste handling activities:

- A centralized checklist, maintained by Operations, will be completed prior to entering the Waste Handling Mode to meet the requirements of TSR Section 1.2.
- Periodic oversight of the preoperational checks of waste handling equipment and facility activities are conducted by WIPP management.
- The WIPP Operations Department conducts internal assessments of procedural compliance.

- Through normal conduct of operations, operators continuously review procedures for accuracy and improvement as procedures are being used. If an error or improvement is identified, WIPP management is informed to evaluate and take action to change or revise the procedure. This process ensures the effectiveness of procedures, and the safety of personnel and equipment at all times.

Other systems require periodic preventive maintenance. This is performed according to procedure WP 10-WC3011, Maintenance Process.⁶

Analytical and measurement equipment are entered into a calibration recall system to ensure timely calibration and recalibration of this equipment.

8.3.4.2 Resource Conservation and Recovery Act (RCRA)

Equipment instrumental in preventing, detecting, or responding to environmental or human health hazards, such as monitoring equipment, safety and emergency equipment, security devices, and operating or structural equipment are inspected. The WIPP facility maintains a series of written procedures that include detailed inspection steps and checklists. Table D-1 and D-2 of the Hazardous Waste Facility Permit⁷ list the items or systems requiring inspection. This permit when modified to allow the disposal of RH TRU waste, will include inspections for RH handling and emplacement equipment.

The operational procedures assign responsibility for conducting the inspection, the frequency of each inspection, the types of problems to be watched for, what to do if items fail inspection, directions on record keeping, and inspector signature, date, and time. Inspections include identifying malfunctions, or deteriorating equipment and structures. Inspection results and data, including deficiencies, discrepancies, and corrective actions taken are recorded.

The frequency of inspections is based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction, or any operator error, goes undetected between inspections.

8.3.5 Maintenance Program

Under normal operations, equipment requiring regular maintenance is expected to remain free of hazardous materials. However, it is assumed that any equipment in waste handling areas may become contaminated. Equipment decontamination provisions include smooth surfaces, minimizing void spaces, and designing for easy removal. Floors, walls, ceilings, and structural steel surfaces in the waste handling areas have special protective coatings to simplify decontamination. Where decontamination is impractical, space is provided for installing temporary shielding, or the equipment may be removed for repair or disposal.

The WIPP is fully committed to achieving compliance with the requirements of DOE Order 433.1,² Contractor Requirements Documents, for essential equipment. WP 10-2, Maintenance Operations Instruction Manual,⁸ WP 10-WC3011, Maintenance Process;⁶ and WP 10-WC.02, Predictive Maintenance Program⁹ implement DOE Order 433.1. All maintenance procedures will be reviewed every two years (biennially). The maintenance program set forth under DOE Order 433.1,² has been established, developed, and implemented at the WIPP Site.

The MOC is responsible for operating the WIPP facility, including the responsibility for maintenance. The organization, responsibilities, work scope, management and control, and interfaces are prescribed in the maintenance administrative procedures.

8.3.5.1 Waste Handling Building

The Waste Handling Building (WHB) has certain provisions incorporated above those which are required for routine maintenance activities.

Equipment in the RH TRU waste handling areas is designed for contact maintenance.

The Waste Shaft hoist area includes sufficient space for maintenance. An overhead handling system is included for the hoist equipment, and means are provided for transferring the hoist equipment to the ground level for maintenance or disposal.

8.3.5.2 Shafts

The mine shafts are designed for periodic inspection and maintenance. The top of the Waste Shaft cage, the Air Intake Shaft (AIS) cage, and the Salt Handling (SH) skip/cage are designed to be used as inspection platforms, with associated overhead protection bonnets installed during inspections of those shafts. Inspections in the Exhaust Shaft are conducted with remote controlled TV cameras, since there is no hoist installed in this shaft.

8.3.5.3 Subsurface Areas

Maintenance and repairs are conducted in the underground for excavating equipment, and waste handling and emplacement equipment. Waste disposal equipment that requires maintenance is surveyed and decontaminated, if required, before being taken to subsurface maintenance facilities.

In the event that the facility cask malfunctions during emplacement or retrieval operations, local maintenance equipment can be set up with local shielding, as required. Manual overrides are provided on the waste handling equipment to allow for canister transfer operations to be completed, or recovery of the canister to a safely shielded condition, if the equipment malfunctions. Normal waste handling equipment maintenance is performed underground at the disposal horizon.

Manufacturers' recommended maintenance procedures are expected to be adequate for the underground mechanical equipment. As in any type of operation, however, regular and periodic inspections are required of all equipment and structures.

To minimize any maintenance excavation or re-excavation, all openings are initially designed large enough to allow for creep.

8.3.5.4 Air Filtering Equipment

The filter systems are periodically inspected, and filters are changed when the pressure drop across them reaches a predetermined level. If leaks are found, repairs are implemented, and the system is retested. High Efficiency Particulate Air (HEPA) filter testing will be conducted in accordance with ANSI N510.⁴

HEPA filters, associated with the underground ventilation system, are located in the Exhaust Filter Building (EFB) in large filter housings. To prevent contamination from spreading, the used HEPA filters are removed and bagged within the housing for disposal. Access to the filter chamber room, where the housings are located, is through an air lock that provides a boundary to prevent the spread of contamination. Positive airflow into the filter chamber room is maintained during the filter change-out activity.

For the WHB HEPA filters and other smaller filter systems, personnel replacing filters use approved

procedures and safety requirements. However, they do not enter the filter housings. Contaminated filters are bagged before they are removed to prevent contamination from spreading during filter change-out. Filter housing maintenance, except for cleaning, is unnecessary.

8.3.5.5 Equipment Decontamination Provisions

Contaminated items are bagged and are then disposed of as radioactive wastes, or decontaminated in a designated area. Decontamination of waste transporters can be accommodated in the RH TRU unloading area.

The general decontamination philosophy for the WIPP is to minimize the amounts of waste generated due to decontamination operations.

8.3.5.6 Other Surface Structures

Surface structures other than the WHB and the EFB are associated with either direct support activities (switch yards, substation, sewage treatment, backup power, shaft headframe, and hoist houses), or indirect support activities (Warehouse Building). These facilities contain systems that require routine maintenance according to common industrial practice and manufacturers' recommendations. No special or unusual maintenance features are incorporated in the design of these facilities.

References for Section 8.3

1. DOE-STD-3009.94, Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports.
2. DOE Order 433.1, Maintenance Management Program for DOE Nuclear Facilities.
3. WP 09-SU.01, WIPP Start-Up Test Program.
4. ANSI N510, American National Standards Institute, Standard for Testing of Nuclear Air Cleaning Systems.
5. WP 02-EM1012, Airborne Particulate Sampling.
6. WP 10-WC3011, Maintenance Process.
7. Hazardous Waste Facility Permit No. NM4890139088-TSDF, issued by the New Mexico Environment Department, October 27, 1999.
8. WP 10-2, Maintenance Operations Instruction Manual.
9. WP 10-WC.02, Predictive Maintenance Program.

Table 8.3-1, WIPP Preoperational Checkout Program

Test Title	Plant Condition	Test Objectives
RH TRU Waste Handling System	Before receiving RH TRU Waste	Verify all systems associated with the RH TRU waste disposal function as described in Section 4.3.2.

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8.4 Operational Safety

8.4.1 Introduction

The MOC ensures that all operations are conducted according to DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.¹ The PSAR considers the term "operations" as reflecting those daily activities, resources, management, and communication required to support the WIPP in meeting goals and objectives for the intended facility purpose.

Operation of the facility will be according to approved operating procedures, TSRs, and good operating practices. Supervisors are responsible for reporting to the Facility Shift Manager (FSM) any conditions that may affect the operation or operability of the facility. Supervisors must obtain approval for the operation and/or maintenance of the plant equipment and system through the Plan-of-the-Day (POD).

Pre-job briefings will be conducted regularly by supervisors before the evolution for new or complex activities, to ensure that they are completed safely, correctly, and efficiently.

8.4.2 Requirements

The MOC's Conduct of Operations is directed by DOE Order 5480.19,¹ and is implemented by WP 04-CO, Conduct of Operations.²

8.4.3 Conduct of Operations

8.4.3.1 Controlled Access Area Activities

Entry to controlled access areas will be limited to persons who need to be in the area on required business. This access will be granted by the control area operator. Additionally, Facility Operations management and designated Operations Assistance Team (OAT) personnel are granted unrestricted access to the Central Monitoring Room (CMR).

Only persons specifically authorized by administrative procedures may operate controlled area equipment.

8.4.3.2 Communications within the Facility

Timely communication within the facility is enabled by the: public address (PA) system which includes the Site Notification System, radios, beepers, mine pagers and phones, and touch-tone telephones. When making site-wide announcements, the Central Monitoring Room Operator (CMRO) will use the PA system (including the Site Notification System [SNS]), and the mine phone.

Personnel notification is accomplished by flashing lights, vibrating personnel pagers, or by persons dedicated to notifying personnel working in areas where the PA system cannot be heard. Emergency communication PA systems will be periodically tested to ensure functionality.

8.4.3.3 Control of On-Shift Training

On-Shift training will be conducted by Level 1 Instructors. A qualified subject matter expert (SME) or On-the Job Training Evaluator (OJTE) will observe trainee performance skills to ensure that no adverse actions occur. Procedure steps, cautions, and notes must be discussed with the instructor before operating any equipment until the student has demonstrated proficiency in performing a skill. Trainees will continue being monitored until demonstrating the proper proficiency.

Training procedures provide documentation guidance for operator qualification and certification programs. Qualification cards will be signed by the SME, documenting that the trainee has successfully and adequately demonstrated proficiency of that skill.

8.4.3.4 Control of Equipment and System Status

The FSM is responsible for maintaining proper configuration, and authorizing changes of general surface and underground equipment, and defense-in-depth equipment and systems. The respective manager or supervisor is responsible for maintaining proper configuration for other activities including: hoisting equipment, waste handling equipment, and systems.

Equipment and systems will be checked for proper operation before being placed into service or before being returned to service after maintenance. Checklists will be used to ensure that equipment is controlled, checked, and monitored.

A system is in place to monitor the status of on-site alarms. Procedures initiating appropriate action are in place to monitor equipment parameters for abnormal conditions that could be masked by deficient alarms.

Programs are in place to ensure that operating personnel receive and use the latest revisions or changes to engineering drawings and/or specifications.

8.4.3.5 Lockouts and Tagouts

WP 12-IS.01, Industrial Safety Program,³ and procedure WP 04-AD3011, Equipment Tagout/Lockout⁴ sets forth the policy requiring each employee to properly implement the requirements of DOE Order 5480.19,¹ Chapter IX, to protect personnel, DOE property and plant systems, and prior to entry into a high energy system. This procedure provides for placing, removing, and auditing operations tags and locks for configuration control, and in addition, provides for caution tags. When conducting maintenance activities, equipment tagout/lockout uses WP 10-AD3005, Control and Use of Maintenance Locks,⁵ which complies with DOE Order 5480.19¹ and 29 CFR 1910.147.⁶

8.4.3.6 Independent Verification

Independent verification is performed on defense-in-depth Structures, Systems, and Components (SSCs) when circumstances warrant.

Individuals performing independent verification will be instructed and trained in the appropriate techniques for verifying the correct position of facility components, and will perform the necessary checks in accordance with documented procedures and guidelines.

8.4.3.7 Log Keeping

Logbooks will be kept at all key shift positions, as determined by the importance of the sequential information related to shift events, and the importance of the shift position regarding establishing or maintaining regulatory or DOE requirements.

As a minimum, a logbook will be maintained by the FSM or the CMRO. Information will be recorded accurately and efficiently, following guidance in WP 04-CO, Conduct of Operations,² and WP 04-AD3008, Shift Operating Logs.⁷

8.4.3.8 Operations Turnover

The Operations Turnover process, as defined in WP 04-CO, Conduct of Operations,² ensures that during the supervisory turnover process, any conditions related to abnormal lineups, status of major components, surveillance planned or in progress, or evolutions planned or in progress are reported to the oncoming supervisor.

Oncoming personnel and supervisors will conduct a comprehensive review of appropriate written and visual information, as described in WP 04-CO, Conduct of Operations,² before responsibility for the shift position is transferred. The off-going supervisor will explain all items noted, at a time when facility conditions are stable to the oncoming personnel.

8.4.3.9 Operational Occurrences

WP 12-ES3918, Reporting Occurrences in Accordance with DOE Order 232.1A,⁸ establishes a system for reporting events to the Facility Manager (FM)/Facility Manager Designee (FMD) for categorization of Off-Normal and Unusual occurrences. Operational Emergencies are categorized per WP 12-ER3904,⁹ Categorization and Classification of Operational Emergencies, which refers to WP 12-ES3918⁸ for the less severe events. Events reported to the FM/FMD are categorized within two hours of discovery per the criteria listed in Attachment 1 of WP 12-ES3918.⁸ Events are categorized as off-normal, unusual, or emergency occurrences based upon the severity of the incident. All occurrences are investigated and documented per the requirements of WP 15-MD3102, Event Investigation¹⁰ and WP 13-QA3016, Root Cause Analysis,¹¹ to determine the root cause, direct cause, and contributing cause. In addition, corrective actions are developed, scheduled, and lessons learned identified. A Notification Report shall be prepared by the FM/FMD, and uploaded into the Occurrence Reporting Processing System (ORPS) database.

8.4.4 Fire Protection

The fire protection program at the WIPP facility ensures the safety of plant personnel, the reliability and continuity of plant operations, and the minimization of property loss. These objectives are met by incorporating automatic fire suppression systems, using fire resistant materials in facility construction, providing fire barriers and fire doors in areas susceptible to fires, and enclosing vertical openings in buildings, thereby preventing the spread of fires.

8.4.4.1 Fire Hazards

The fire hazards at the WIPP due to electrical equipment failure, spontaneous ignition, highly flammable materials, maintenance activities, fuel storage, and office materials are considered to be normal industrial type fires, and could occur in any site area.

8.4.4.2 Fire Protection Program and Organization

Responsibility for the fire protection program is assigned to the General Manager (GM), while administration, formulation, and implementation of the program is assigned to the Manager of Environment, Safety and Health, (ES&H).

8.4.4.3 Combustible Loading Control

The objectives for fire protection at the WIPP facility are to ensure the safety of plant personnel, the reliability and continuity of plant operations, and to minimize property loss. To meet these objectives, the WIPP facility design incorporates the following features:

- With the exceptions of some temporary and other noncritical structures (such as the off-site air monitoring system), all buildings and their support structures are protected by fixed, automatic fire suppression systems designed to the specific, individual hazards of each area. Each building is evaluated annually to determine the fire risk associated with the occupancy.
- Noncombustible construction, fireproof masonry construction, and fire resistant materials are used whenever possible.
- Areas susceptible to fire are separated by fire walls and fire doors, to contain and isolate hazardous materials or operations. Fire separations are installed where required because of different occupancies, per the Uniform Building Code (UBC).
- All vertical openings in buildings are protected by enclosing stairways, elevators, pipeways, electrical penetrations, etc., to prevent fire from spreading to upper floors.
- The exhaust ventilation systems, which remove hot fire gases, toxic contaminants, and explosive gases and smoke, are designed with a high fire integrity.
- The components of the electric service and distribution systems are listed by Underwriters' Laboratory, or approved by Factory Mutual Engineering Corporation. These systems are installed to minimize possible ignition of flammable material and maximize safety.

As part of the improved risk fire protection program, certain passive and active design features including area separation, noncombustible construction, fixed fire suppression systems (water and dry chemical), and manual fire suppression capabilities are used.

To ensure reliability of the active fire protection systems, inspection, testing, and maintenance programs are provided. There are also administrative controls for the fire system impairments, hot work and internal audits of the inspection, testing and maintenance, and other program elements essential to the maintenance of an improved risk fire protection program, as required by DOE orders.

8.4.4.4 Fire Fighting Capabilities

Facilities, equipment, and trained personnel are available to provide the following emergency services for the WIPP facility:

- Fire fighting
- Emergency medical response
- Industrial rescue

- Mine rescue
- Hazardous material response and control

Fire fighting capability includes a fully-equipped pumper engine, associated firefighting equipment, and trained fire fighters. Firefighting activities are led by an Emergency Services Technician (EST) on duty 24 hours a day. Backup fire fighting personnel are provided using cross-trained personnel.

The ESTs are state-licensed emergency medical technicians, and provide 24-hour emergency medical response capability at the WIPP facility. During the day shift, a full-time registered nurse is on site. A fully-equipped first-aid room, ambulance, underground ambulance, and rescue vehicle are available to provide basic life support activities.

The ESTs also provide industrial rescue for vehicle accidents, confined space extrication, and other industrial incidents. The technicians provide rope rescue through the use of state-of-the-art hydraulic and manual equipment.

Mine rescue services are provided using two trained mine rescue teams at the WIPP facility. These teams are fully trained in the use of mine rescue procedures and techniques, as well as the use of self-contained breathing apparatus and firefighting equipment. A mine rescue station has been developed and equipped with MSHA-approved, properly maintained, self-contained breathing apparatuses, mine rescue supplies, and required spare parts.

The WIPP facility utilizes numerous materials that meet the NFPA, EPA, or DOT classifications as a hazardous material. The emergency preparedness staff has the equipment and trained personnel necessary to respond to, and control spills and leaks of these materials, and, in some cases, clean up the spills for the protection of life, health, property, and the environment.

An Emergency Management Program has been prepared for the WIPP facility. The WIPP Emergency Management Program¹² provides an organized plan of action for dealing with identified credible emergencies at the WIPP. The plan identifies lines of authority, the responsibilities of emergency response personnel and organizations, and the WIPP manpower and equipment resources available to cope with emergencies.

8.4.4.5 Fire Fighting Readiness Assurance

Exercises and drills are used to demonstrate the effectiveness of the established Emergency Management Program. Evaluations of these exercises ensure an effective and efficient program is in place and it is truly capable of mitigating the credible emergency scenarios. Exercises and drills are conducted on a regularly scheduled basis for all WIPP facility response personnel and equipment. WIPP facility Emergency Management promotes involvement in emergency response activities outside the scope of the WIPP facility. In an effort to maintain a high level of skill level, interest and motivation among response personnel, various response teams participate in local, regional, and national competitions.

The safety program is objectively evaluated by trend analysis, and by determining current status of training, inspections, sampling, monitoring, drills and exercises, and accident frequency. In addition, assessments of the safety program include those conducted by the DOE-CBFO.

References for 8.4

1. DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.
2. WP 04-CO, Conduct of Operations.
3. WP 12-IS.01, Industrial Safety Program.
4. WP 04-AD3011, Equipment Tagout/Lockout.
5. WP 10-AD3005, Control and Use of Maintenance Locks.
6. 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).
7. WP 04-AD3008, Shift Operating Logs.
8. WP 12-ES3918, Reporting Occurrences in Accordance with DOE Order 232.1A.
9. WP 12-ER3904, Categorization and Classification of Operational Emergencies.
10. WP 15-MD3102, Event Investigation.
11. WP 13-QA3016, Root Cause Analysis.
12. WP 12-9, WIPP Emergency Management Program.

8.5 Emergency Preparedness Program

8.5.1 Introduction

This section briefly describes the significant aspects of the Emergency Preparedness Program. The Emergency Preparedness Program is implemented through WP 12-9, WIPP Emergency Management Program.¹ The WIPP Emergency Management Program will be followed to minimize the impact of emergency events upon the health and safety of plant personnel, the general public, the environment, and the WIPP mission. In events concerning hazardous materials/waste, the WIPP Contingency Plan² shall be implemented.

The Emergency Response Program at the WIPP consists of the Emergency Management Program¹, the Contingency Plan,² and the WP 12-ER,³ series emergency response procedures.

The WIPP facility Emergency Management Program applies to all personnel employed at or assigned to the WIPP facility, and defines emergency response roles and responsibilities. The facility Emergency Management Program does not include any required DOE radiological response to transportation accidents that occur away from the facility. Such DOE response, if requested by the state, is directed by the cognizant DOE Operations Office. WIPP facility personnel will be available to support local and state organizations in such cases, as directed by the DOE Albuquerque Operations Office.

8.5.2 Requirements

The Emergency Preparedness Program establishes the requirements and procedures in compliance with the following:

- DOE Order 151.1, Comprehensive Emergency Management System⁴
- DOE Order 232.1A, Occurrence Reporting and Processing of Operations Information⁵
- 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities⁶
- 40 CFR 265, Subpart D, Contingency Plan and Emergency Procedures⁷
- 40 CFR 265.37, Arrangements with Local Authorities⁸
- 40 CFR 265.52 (c), Content of Contingency Plan⁹
- 29 CFR 1910.120, Paragraph (p), Certain Operations Conducted Under the Resource Conservation and Recovery Act of 1976 (RCRA)¹⁰
- Hazardous Waste Facility Permit No. NM4890139088-TSDF Attachment F, issued by the New Mexico Environment Department October 27, 1999²

8.5.3 Scope of Emergency Preparedness

The Emergency Preparedness Program applies to safety response actions relative to the following:

- Radiological emergencies
- Underground emergencies
- Industrial emergencies
- Security emergencies

8.5.4 Emergency Preparedness Planning

Emergency preparedness is addressed by the WIPP Emergency Management Program. The program identifies necessary actions for dealing with site-wide and area emergencies, and defines the lines of authority. Responsibilities of emergency response personnel and organizations are detailed in the program, including a discussion of the WIPP labor and resources required.

Operational Emergencies at the WIPP are classified by Emergency Action Levels (EALs) that provide specific predetermined criteria allowing WIPP emergency personnel to categorize Operational Emergencies. The classification of Operational Emergencies is detailed in procedure WP 12-ER3904, Categorization and Classification of Operational Emergencies.¹¹

8.5.4.1 Emergency Response Organization

The Facility Shift Manager (FSM) directs the emergency event and serves as the Resource Conservation and Recovery Act (RCRA) Emergency Coordinator. The FSM may activate the Emergency Operations Center (EOC), depending on the severity or type of emergency. Upon activation of the EOC, the Crisis Management Team (CMT) assists the FSM with emergency response actions. The WIPP Emergency Management Program.¹ provides for immediate management response for making the required notification to external agencies.

The CMT is an executive decision-making group tasked specifically with assisting the FSM during an emergency. The WTS GM, or designee, will function as the CM. The CMT consists of personnel experienced and trained in dealing with emergencies. The EOC utilizes support personnel that provides technical, logistical, and administrative support during EOC activation..

All on-site emergencies shall be reported immediately to the CMRO, where specific information will be gathered relating to that incident.

8.5.4.2 Assessment Actions

Initial radiological release dose to the public calculations are performed in accordance with procedure WP 12-RE3000, Radiological Engineering Activities.¹²

The DOE, MOC, New Mexico Environment Department (NMED), and the Environmental Evaluation Group (EEG) have signed a protocol¹³ that is an agreement for MOC to provide NMED and EEG with routine and non-routine (radiation alarm) effluent sample filters for independent analysis. The methods for sample filter transfer to NMED and EEG are described in the protocol,¹³ and in WP 12-HP3500, Airborne Radioactivity.¹⁴

8.5.4.3 Notification

The WIPP Emergency Management Program¹ describes the off-site notification procedure, and maintains project credibility by providing timely and accurate information dissemination to the maximum extent permitted by the emergency situation. These emergencies include: malevolent acts, natural disasters, or highway accidents involving a WIPP shipment.

8.5.4.4 Emergency Facilities and Equipment

Facilities and equipment related to emergency response are closely monitored at the WIPP. Monthly surveillance of items such as radios, telephones, and computers are conducted using a checklist and surveillance log.

8.5.4.5 Memorandums of Understanding and/or Agreements

Memorandums of Understanding (MOUs) between the WIPP and several key community organizations are important aspects of the available protective actions governed by legal cooperation agreements. A tabular summary of these Agreements including their purpose is as follows:

- JOINT POWERS AGREEMENT BETWEEN THE UNITED STATES DEPARTMENT OF ENERGY AND THE CITY OF CARLSBAD AND THE COUNTY OF EDDY AND NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT FOR A JOINT-USE ALTERNATE EMERGENCY OPERATIONS CENTER. This MOU directs that the parties involved shall share in establishing and maintaining an alternate EOC.
- MUTUAL AID FIRE FIGHTING AGREEMENT BETWEEN THE EDDY COUNTY COMMISSION AND THE U.S. DEPARTMENT OF ENERGY. This Agreement provides for the actual assistance of the parties in the furnishing of fire protection for the Eddy County Fire District and the WIPP Site.
- FEDERAL BUREAU OF INVESTIGATION/DEPARTMENT OF ENERGY MEMORANDUM OF UNDERSTANDING. This MOU deals with threats and criminal acts associated with theft, sabotage, or hostage attempts against the DOE-AL sites within the state of New Mexico.
- MEMORANDUM OF UNDERSTANDING BETWEEN THE DOE AND THE U.S. DEPARTMENT OF INTERIOR, ROSWELL DISTRICT. This agreement provides for a fire-management program that will ensure a timely, well-coordinated, and cost-effective response to suppress wild fire within the land withdrawal area.
- MEMORANDUM OF UNDERSTANDING BETWEEN THE UNITED STATES DEPARTMENT OF ENERGY AND THE NEW MEXICO DEPARTMENT OF PUBLIC SAFETY CONCERNING MUTUAL ASSISTANCE AND EMERGENCY MANAGEMENT. The MOU applies to any actual or potential emergency or incident that: involves a significant threat to employees, or the public; involves DOE property; involves threat to environment reportable to an off-site organization; requires combined resources of the DOE and the State; requires DOE resources unavailable from the State or vice versa; involves any other incident for which a joint determination has been made by the DOE and the State that the provisions of this MOU will apply.
- AGREEMENT BETWEEN CAO MANAGER, U.S. DEPARTMENT OF ENERGY, MISSISSIPPI POTASH INC., and IMC Kalium. This Agreement provides for mine operators having two mine rescue teams available whenever miners are underground, and backup rescue capability is deemed desirable.

- MEMORANDUM OF UNDERSTANDING: EMERGENCY RADIOLOGICAL TREATMENT CENTER FOR THE WASTE ISOLATION PILOT PLANT PROJECT BETWEEN THE U.S. DEPARTMENT OF ENERGY AND GUADALUPE MEDICAL CENTER. (The name of the medical center has been changed to Carlsbad Medical Center.) This MOU provides for an Emergency Radiological Treatment Center (ERTC) at the GUADALUPE Medical Center.
- MUTUAL AID AGREEMENT BETWEEN THE CITY OF CARLSBAD AND THE U.S. DEPARTMENT OF ENERGY. This Agreement authorizes assistance in times of declared emergency where the enormity of the emergency exceeds the response capability of the responsible jurisdiction.
- MUTUAL AID AGREEMENT BETWEEN THE CITY OF HOBBS AND THE U.S. DEPARTMENT OF ENERGY. This Agreement authorizes assistance in times of declared emergency where the magnitude of the emergency exceeds the response capability of the responsible organization.
- INTERAGENCY AGREEMENT BETWEEN THE U. S. BUREAU OF LAND MANAGEMENT AND THE U. S. DOE, AND THE U. S. NATIONAL PARK SERVICE (NPS), AND THE U. S. FOREST SERVICE. This Agreement provides for assistance in search and rescue missions and training.
- MEMORANDUM OF UNDERSTANDING BETWEEN U.S. DOE AND LEA REGIONAL HOSPITAL (L. H.). This MOU provides for an Emergency Radiological Treatment Center (ERTC) at LEA REGIONAL HOSPITAL.

8.5.4.6 Training and Exercises

Emergency management training consists of formal classroom instruction, self-paced training modules, on-the-job training, drills and exercises. This training allows all emergency management related participants to function safely and skillfully. Individuals participating in these areas must be trained, and be qualified before they are allowed to assist in emergencies.

The Emergency Management Section has developed a procedure for the effective management of drills and exercises. A coordinated program of drills and exercises enhances the ability of specialized teams and individual personnel to respond to potentially adverse situations. The Emergency Management Section conducts a variety of drills and exercises.

A full participation exercise is conducted periodically to demonstrate an integrated emergency response capability. The integrated exercise includes Federal, state, local, regulatory, and/or emergency response organizations which may include DOE/HQ, DOE/AL, and CBFO participants.

8.5.4.7 Reentry and Recovery

Guidance for the reentry and recovery following an emergency is based on regard for human life, and conditions existing at the time. The recovery process detailed in WP 12-ER3903, Event Recovery,¹⁵ evaluated the proposed actions by comparing the risks of the hazards to the actual or potential benefits to be gained.

References for Section 8.5

1. WP 12-9, WIPP Emergency Management Program.
2. Hazardous Waste Facility Permit No. NM4890139088-TSDF Attachment F, issued by the New Mexico Environment Department October 27, 1999
3. WP 12-ER series Emergency Response procedures
4. DOE Order 151.1, Comprehensive Emergency Management System.
5. DOE Order 232.1A, Occurrence Reporting and Processing of Operations Information.
6. 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, June 1993.
7. 40 CFR 265, Subpart D, Contingency Plan and Emergency Procedures, May 1980.
8. 40 CFR 265.37, Arrangements with Local Authorities, May 1980.
9. 40 CFR 265.52 (c), Content of Contingency Plan, May 1980.
10. 29 CFR 1910.120, Paragraph (p), Certain Operations Conducted Under the Resource Conservation and Recovery Act of 1976 (RCRA).
11. WP 12-ER3904, Categorization and Classification of Operational Emergencies.
12. WP 12-RE3000, Radiological Engineering Activities.
13. Protocol for providing Effluent Monitoring System Filters to the New Mexico Environment Department and the Environmental Evaluation Group, November 1992.
14. WP 12-HP3500, Airborne Radioactivity.
15. WP 12-ER3903, Event Recovery.

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8.6 Security

8.6.1 Introduction

This section describes the measures taken at the Waste Isolation Pilot Plant (WIPP) during the Disposal Phase to prevent hazards. It describes the security equipment and procedures in place at the WIPP facility that continuously monitor and control entry into the active portion of the facility or Property Protection Area (PPA), as described in Chapter 2, including 24-hour security surveillance, fencing, and signs.

8.6.2 Security Procedures and Equipment

The design and operation of the WIPP facility are specifically planned to fully meet security requirements. The WIPP facility has 24-hour security surveillance, and the means to control entry to the PPA. In addition, warning signs are provided.

8.6.3 24-Hour Surveillance Systems

The WIPP facility's 24-hour surveillance system consists of security officers that provide protection 24 hours per day, 365 days per year. Security officers work to written procedures that require visitors, contractors, and vendors to log in before they are allowed to proceed to the Main Gate for access into the PPA, and require continuous monitoring of the active portion of the facility.

The major duties of the security officers are to control personnel, vehicle, and material access/egress 24 hours per day, 365 days per year. During non-operational hours, the security officers conduct documented security patrols outside of the PPA, at a minimum rate of two per 12-hour shift. In addition to the security officers, WIPP facility employees are called upon to challenge any person in the WIPP facility who is not wearing a badge, or who is not under escort when an escort is required. Further physical protection is provided by fences, protective lighting, and locked buildings.

8.6.4 Barrier and Means to Control Entry

8.6.4.1 Barrier

The surface portion of the WIPP facility PPA is contained within a 35 acre (14 hectares) fenced area. This area is surrounded by a permanent 7 ft (2.13 m) high chain-link fence, topped by three strands of barbed wire, for a total height of 8 ft (2.44 m). The fence encloses major surface structures. The regularly inspected chain-link fencing at the WIPP facility completely surrounds the active portions of the facility. Access is normally through the Main Gate on the west side of the PPA. Two other gates are available for emergency use. One of these gates is opened to allow salt trucks access to the salt pile. Use of all gates is under the supervision of security.

8.6.4.2 Means to Control Entry

Entry into the PPA, whether by personnel or vehicles, is through controlled gates and doors. WIPP facility access control procedures are designed to ensure that only properly identified and authorized persons, vehicles, and property are allowed entrance to and exit from the facility. A personnel identification and access control system is maintained within the facility. Employees identify themselves with an identification badge when entering or leaving the premises. Security officers require visitors to show proper authorization before allowing them to enter the facility. In addition, visitors are required to wear a temporary badge, and may require an authorized escort.

8.6.4.3 Warning Signs

The permanent chain-link fence surrounding the PPA is posted at approximately 50 ft (15.24 m) intervals with DOE "No Trespassing" signs, and with "Danger: Authorized Personnel Only" signs in English and Spanish. The signs are legible from a distance of 25 ft (7.62 m), and can be seen from any approach to the facility. These same signs, plus security and traffic signs, are also located on the controlled gates.