

ATTACHMENT H
PERSONNEL TRAINING

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ATTACHMENT H

PERSONNEL TRAINING

Introduction

This chapter describes the personnel training program for the Waste Isolation Pilot Plant (**WIPP**) in accordance with the requirements of the Resource Conservation and Recovery Act (**RCRA**) and the New Mexico Hazardous Waste Act as described in Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20.4.1.500 NMAC), (incorporating 40 CFR §264.16), and 20.4.1.900 NMAC (incorporating 40 CFR §270.14).

The primary objective of the WIPP facility training program is to prepare personnel to operate the WIPP facility in a safe and environmentally sound manner. To achieve this objective, the program provides employees with training relevant to their positions. Every WIPP facility employee, including those not directly involved in transuranic (**TRU**) mixed waste handling activities, receives an introduction to the RCRA and emergency preparedness within 30 days of employment. In this way everyone at the WIPP facility is given, at a minimum, a basic understanding of the regulatory requirements and emergency procedures. Employees in hazardous waste management positions receive additional classroom and on-the-job training designed specifically to teach them how to perform their duties safely and in conformance with regulatory requirements. Hazardous waste management personnel receive the required training before being allowed to work unsupervised, and emergency response personnel receive appropriate training before being called upon to respond to actual emergencies.

The training requirements apply to all appropriate employees of the U.S. Department of Energy (**DOE**) and contractors who regularly work at the facility that may come in contact with and/or manage hazardous waste. The WIPP Project training program is comprehensive and applies to all areas of personnel performance and development. This chapter describes the introductory and continuing training provided to personnel at the WIPP facility, with emphasis on those facility personnel and their supervisors whose jobs are such that their actions or failure to act could result in a spill or release, or the immediate threat of a spill or release of hazardous waste. These personnel are directly involved with hazardous waste management at the WIPP facility. Their training allows them to operate the facility safely and in compliance with hazardous waste regulations.

H-1 Outline of the Training Program

Employee training for the purpose of hazardous waste management at the WIPP facility is the overall responsibility of the MOC General Manager, with responsibility for implementation delegated to the manager of the Human Resources Department. The Human Resources Department Manager has established a technical training group (referred to as Technical Training) within the department to implement the requirements for training. The Technical Training Group is managed by the Technical Training Manager who has the responsibility for directing the training program. Members of the training staff are assigned to Technical Training within the Human Resources Department. The organizational structure of the Human

1 Resources Department and its relationship to the line organizations is shown in an abbreviated
2 organizational chart in Figure H-1. This chart also shows departments with key responsibilities
3 for waste management and emergency response.
4

5 The WIPP facility uses a modified version of the Systematic Approach to Training (**SAT**) to
6 analyze, design, develop, implement, and evaluate training.
7

8 This approach employs five distinct phases to develop programs. These phases are:
9

- 10 ● Analysis
- 11 ● Design
- 12 ● Development
- 13 ● Implementation
- 14 ● Evaluation

15
16 In "analysis," technical training and line management identify job performance requirements.
17 These requirements are derived by studying job duty areas, related tasks, and required skills
18 and knowledge. These derived skills and knowledge, in turn, form the blueprint for the "design"
19 phase. In "design" these requirements are translated into learning objectives, performance
20 standards, and test items. In "development" the products of design are incorporated into new
21 training programs or, if appropriate, incorporated into revisions of existing programs. Products of
22 development are lesson plans, qualification cards, student materials, and examinations.
23 Implementation of these programs then occurs. This may be through classroom instruction, on-
24 the-job-training, self-paced study, or any combination of the three. "Evaluation" is the final
25 phase of the SAT process. Evaluation uses feedback derived from several sources to improve
26 or enhance the training. The WIPP utilizes extensive guidance provided within the DOE
27 Handbook, "Training Program Handbook: A Systematic Approach to Training (DOE-HDBK-
28 1078-94)," to direct all program analysis, design, development, implementation, or evaluation.
29 Further details of these processes may be derived by reviewing this manual.
30

31 The Human Resources Department ensures that required RCRA-related training is conducted
32 by qualified instructors. On-the-job training is conducted by Level I instructors. Level I
33 instructors are subject matter experts; members of line organizations who have qualified on the
34 related equipment and have attended the on-the-job training course. Classroom instruction is
35 provided by Level II and Level III instructors. Level II instructors are members of Technical
36 Training and line organizations who are qualified to conduct limited classroom training in their
37 technical area of expertise. Level III instructors are members of Technical Training who are
38 qualified to conduct classroom training, skills evaluation, and needs assessment. Level II and III
39 instructors are required to attend a train-the-trainer course and periodic refresher training.
40

41 Cognizant line managers provide significant input on training requirements for the WIPP facility
42 to qualified instructors who develop the following, as required:
43

1 ● Classroom Instruction

2
3 Objectives
4 Lesson Plans
5 Student Materials
6 Examinations

7
8 ● On-the-Job Training

9
10 Qualification Cards

11
12 Technical training materials are approved by the Technical Training Manager and the cognizant
13 line manager.

14
15 Following technical training, trainees must successfully complete written examinations or oral
16 examinations conducted by boards made up of cognizant personnel (referred to as "oral
17 boards") to demonstrate competency. The records of oral examinations are called "oral board
18 sheets". These examinations are based on objectives and/or competency statements. Oral
19 boards are based on knowledge learned in the on-the-job training process. Trainees also
20 provide feedback on the content and quality of instruction, at this time, in the form of course
21 critiques and verbal input.

22
23 Technical training documentation is maintained by the Technical Training Group located at the
24 WIPP facility. These technical training records include:

- 25
26 ● Course Attendance
27 ● Completed Qualification Cards
28 ● Off-Site Training Documentation
29 ● Oral Board Sheets

30
31 A database is maintained which records training qualifications, and course attendance. The
32 database is used to identify course refresher and requalification dates. Training records on
33 current personnel are kept in the Technical Training files. Technical training records on former
34 employees are kept by the Technical Training Group for at least three years from the date of
35 employment termination from the WIPP facility. Training documentation for emergency
36 response training received by personnel called out in the WIPP Contingency Plan (Permit
37 Attachment F) is maintained by the Technical Training Group. The documents which define the
38 process by which these training activities are managed are maintained by the Technical
39 Training Group and are part of the Operating Record.

40
41 To ensure the safe and efficient operation of the WIPP facility, certain positions require formal
42 qualification. Department managers identify these positions based upon safety, complexity, and
43 involvement with hazardous waste handling operations. A document known as a "qualification
44 card" is prepared to identify required training for each designated position. In the case of
45 equipment and system/procedure qualification, a "qualification card" is prepared that specifies
46 the required knowledge and practical skills needed in such areas as equipment maintenance
47 and safety. Individual participation in the qualification card system is varied and is dependent on
48 an incumbent's specific job duties. A complete listing of active qualifications, as they apply to

1 any individual position, may be determined by review of the WIPP Training Database. The list of
2 active WIPP Qualification cards is maintained at the WIPP facility.

3
4 When the qualification card is completed, that particular qualification is recorded. Successful
5 completion of formal classroom training is documented on the individual's qualification card.
6 When requirements are met, both for classroom instruction and on-the-job training, and oral
7 board, if applicable, the qualification card is signed by the manager certifying that the employee
8 is fully competent to perform all aspects of the associated qualification. Qualification cards are
9 included in the training records maintained by the Technical Training Group. Qualification cards
10 are living documents subject to change as the scope and content of training changes to meet
11 new and revised regulatory requirements and modifications in job scope.

12
13 The hazardous waste management training program described in Section H-1b consists of a
14 series of courses designed to ensure that hazardous waste management employees at the
15 WIPP facility receive initial and continuing training relevant to their positions. These courses
16 include instruction on the RCRA and Occupational Safety and Health Administration regulations,
17 emergency procedures, and procedures for handling both site-generated hazardous waste and
18 TRU mixed waste. Visitors, temporary personnel, and contractors are trained commensurate
19 with the nature of their visit or duties. For visitors, this includes basic site safety and emergency
20 notification procedures. Visitors who require unescorted access are also required to take an
21 examination covering the material in the training they are given. Visitor records are maintained
22 by security. Temporary or subcontract personnel, if hired to fill a hazardous waste management
23 position, are required to complete the same training as permanent personnel. Record of this
24 training is maintained by Technical Training.

25 26 H-1a Job Title/Job Description

27
28 Employees at the WIPP facility who are involved in hazardous waste management activities
29 receive the same core training. A list of hazardous waste management job titles and position
30 descriptions are provided in Permit Attachment H1. An up-to-date list of personnel assigned to
31 these positions is maintained by Environmental Compliance & Support in accordance with
32 20.4.1.500 NMAC (incorporating 40 CFR §264.16). These core hazardous waste management
33 training courses are described briefly in Section H-1(b)(1) and outlines of the core classes, as
34 well as other job specific training classes, are included in Permit Attachment H2. Any changes
35 to the training plan that decrease the type or amount of training that is given to employees will
36 be handled as a Class 2 modification, as specified in 20.4.1.900 NMAC (incorporating 40 CFR
37 §270.42). Other changes to the training plan will be handled as Class 1 modifications. In
38 accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.16(d)(2)), the job descriptions
39 include hazardous and TRU mixed waste management job duties, required skills, qualifications,
40 and experience, as well as educational requirements. These job descriptions are approved by
41 the cognizant staff managers. Included in the appendices are management and supervisory
42 positions that are considered to be critical from the standpoint of hazardous waste management
43 or emergency response. These include the following positions:

- 44
- 45 ● Shift Manager, Facility Operations
- 46 ● Manager, Hoisting Operations
- 47 ● Manager, Radiation Control
- 48 ● Manager, Waste Handling

- Team Leader, Inspection Services
- Manager, Environmental Compliance
- Manager, Technical Training

H-1b Training Content, Frequency, and Techniques

The WIPP training program includes a comprehensive combination of classroom training courses and on-the-job training. Each training course is carefully developed and periodically reevaluated to ensure relevancy to the course objectives and to ensure its support of the goal of safe and environmentally sound operations at the WIPP facility. On-the-job training is accomplished and documented through the use of qualification cards. Before an employee is considered qualified to operate certain equipment, the person must pass a prescribed set of performance standards.

H-1b(1) Training Content

WIPP facility employees who will be on site longer than 30 days, including personnel in management and supervisory positions and personnel not directly involved with hazardous waste management, receive facility-specific training in the following areas:

- General Employee Training (GET) Overview (procedures and policies)
- WIPP Facility Description
- Radiation Safety
- Emergency Preparedness (including RCRA Contingency Plan implementation)
- Security
- Fire Protection
- Quality Assurance
- Occurrence Reporting
- Industrial Safety
- RCRA
- Hazard Communication

This training is provided in GET-19X/GET-20X¹, conducted by the WIPP qualified instructors, and must be completed within 30 days of employment.

Annual refresher training on the topics taught in GET-19X/GET-20X is given in the General Employee Training Annual Refresher (GET-19XA/GET-20XA). This self-paced module provides employees with a review and update of the topics covered in GET-19X/GET-20X.

WIPP employees involved in managing site-generated, nonradioactive waste, or TRU mixed waste will receive the Hazardous Waste Worker course (HWW-101). This comprehensive course will provide job specific training required to safely receive, transfer, or handle waste at the WIPP facility. Review and update of HWW-101 topics is provided annually in the Hazardous Waste Worker refresher course (HWW-102).

¹ The "X" in the course number is assigned the last number of the current year (e.g., GET-195 is General Employee Training for 1995, GET-200 is for the year 2000). Course content is updated annually to provide the latest information available to students.

1 Course outlines for GET-19X/GET-20X, GET-19XA/GET-20XA, HWW-101, and HWW-102 are
2 provided in Permit Attachment H2.

3
4 H-1b(2) Training Frequency

5
6 Hazardous waste management courses are offered at a frequency that ensures new hires or
7 transfers can receive relevant training within six months of assuming their new position.
8 Employees do not work unsupervised in hazardous waste management positions until they
9 have completed the required initial training. The Human Resources Department notifies the
10 cognizant manager and training staff when any employee is transferred into or out of a position
11 associated with hazardous waste management.

12
13 H-1b(3) Training Techniques

14
15 A variety of instructional techniques are used at the WIPP facility depending on the subject
16 matter and the techniques that best suit the learning objectives. Many courses include a
17 combination of lectures, demonstrations, visual aids (such as video tapes, slides, and
18 viewgraphs), and exercises. Most equipment operation courses include hands-on practical
19 instruction.

20
21 Written examinations are used as a technique to test and document the knowledge level of
22 individuals participating in classroom training courses. The length and content of each exam
23 varies according to its objective. Calculation, multiple-choice, and fill-in-the-blank, or other
24 approved formats, may be used. If individuals fail a written examination, they must be
25 reexamined in identified areas of weakness. Personnel filling positions requiring qualification
26 cards to perform job functions will be requalified at least biennially in those specific areas.

27
28 On-the-job training at the WIPP facility follows a prescribed set of standards specific to the job
29 to be performed. Typically, to become qualified to operate a piece of equipment or system,
30 employees must be able to demonstrate the location and purpose of specified controls and
31 gauges, describe proper startup and shutdown procedures, describe specific safety features
32 and limitations of the equipment, and, in some cases, perform maintenance functions. They
33 must also demonstrate the ability to operate the equipment or system. On-the-job training may
34 also be function specific, such as performing a specific administrative function that is regulated.

35
36 In addition to on-the-job training, some positions require the trainee to attend an oral board. The
37 oral board is given upon completion of on-the-job training and prior to operating any equipment
38 unsupervised. In the oral board, the trainee is quizzed on knowledge learned in on-the-job
39 training. The purpose of the oral board is to determine if the trainee fully understands and can
40 apply the knowledge learned in the training process.

41
42 H-1c Training Manager

43
44 The Technical Training Manager directs the training program and is responsible for establishing
45 technical training requirements in cooperation with the line managers. Specifically, this includes
46 analysis, design, development, implementation, and evaluation of technical training. The
47 Technical Training Manager is trained in hazardous waste management procedures and
48 receives train-the-trainer and instructor training. The Technical Training Manager is also

1 required to be knowledgeable of the applicable regulations, orders, guidelines, and the specific
2 training process employed at the WIPP facility.

3
4 The name and qualifications of the current Technical Training Manager are documented at the
5 WIPP facility.

6
7 H-1d Relevance of Training to Job Position

8
9 The WIPP facility training program provides employees and their supervisors with training
10 relevant to their positions. A functional chart showing positions that receive training related to
11 hazardous waste management or emergency response is included as Figure H-1. This figure
12 also shows the next level manager for these positions. The SAT process mentioned in Section
13 H-1 is a systematic method for determining the proper training for each hazardous waste
14 management position. It compels managers and training staff to look critically at each position
15 and determine the necessary training program for each employee to fully develop their
16 necessary expertise.

17
18 Several training courses are determined to be so basic to the WIPP Project mission that they
19 are considered relevant for all WIPP facility employees. The basic philosophy at the WIPP
20 facility is that, as a RCRA-regulated facility, employees must understand the basic regulatory
21 requirements under which the WIPP facility must operate. Therefore, all WIPP facility
22 employees receive an introduction to the RCRA during their introductory training.

23
24 Beyond these core courses, training is designed and implemented relevant to the specific job
25 functions being performed. For example, employees who operate key pieces of equipment
26 **necessary to manage contact-handled (CH) or remote-handled (RH) TRU mixed waste** (such as
27 forklifts, hoists, **bridge cranes, cask transfer cars**, etc.) must be trained to operate and inspect
28 equipment and to recognize maintenance problems before a specific job function is performed.
29 These employees must receive on-the-job training and demonstrate the ability to operate the
30 equipment, as appropriate, before being qualified. This process is controlled and documented
31 by the qualification process described in Section H-1. A complete listing of active qualification
32 cards, along with descriptions of training courses, are on file at the WIPP facility. Summaries of
33 qualification cards and other job specific training courses are included in Permit Attachment H2.
34 **Waste handling personnel performing CH or RH TRU mixed waste handling tasks will be**
35 **qualified to the applicable specific equipment or system qualification card on file at the WIPP**
36 **facility.**

37
38 Managers who have direct responsibility for supervising hazardous waste management
39 personnel receive hazardous waste management training relevant to their positions. This
40 training will include GET-19X/GET-20X and its refresher GET-19XA/GET-20XA, which is
41 required for all employees, and the Hazardous Waste Worker Supervisor course HWS-101 and
42 its refresher HWS-101A. In addition, a manager may also take HWW-101 and its refresher
43 HWW-102 if these courses are determined to be useful for his/her position. These course
44 descriptions are included in Permit Attachment H2. Managers who do not have direct hazardous
45 waste management supervisory responsibilities receive training sufficient to ensure their
46 awareness of hazardous waste management requirements and procedures; however, they do
47 not perform hazardous waste management duties and their positions are not included in the

1 appendices. As is the case with all WIPP facility employees, all managers receive RCRA
2 overview training in GET-19X/GET-20X.

3
4 Security personnel are an important element of the safe and secure operations at the WIPP
5 facility; however, they do not perform hazardous waste management functions during normal
6 operations at the WIPP facility. Security personnel who serve as members of a Fire Support
7 Team (see Section H-1e) receive emergency response training required of that team.

8 9 H-1e Training for Emergency Response

10
11 The WIPP facility training program ensures that personnel are able to respond appropriately and
12 effectively to emergency situations. WIPP facility employees receive GET-19X/GET-20X, which
13 includes instruction on hazard awareness, emergency preparedness, spill control, and the
14 WIPP RCRA Contingency Plan (Permit Attachment F). This training ensures that every
15 employee understands how to recognize real or potential emergencies and how to report such
16 incidents to the proper WIPP facility officials. It also ensures that employees will not endanger
17 themselves or others by taking actions beyond their ability. Emergency response personnel
18 receive more extensive training in emergency response procedures as described in the next
19 paragraph.

20
21 The WIPP facility emergency response organization is capable of providing emergency
22 response services both above ground and underground. The Emergency Response Team
23 (**ERT**), under the supervision of the Emergency Services Technician, has primary responsibility
24 for above ground emergency response activities, and the First Line Initial Response Team
25 (**FLIRT**) and the Mine Rescue Team (**MRT**) are responsible for underground emergency
26 response activities. The responsibilities of these units are described in the WIPP RCRA
27 Contingency Plan, Permit Attachment F. Members of these teams are volunteers from the WIPP
28 organization. These teams receive thorough emergency response training before they are
29 called upon to perform in real emergencies. This training includes firefighting elements, such as
30 fire behavior, ladders, fire hose, fire streams, and ventilation. The FLIRT includes current
31 qualification for unescorted underground access, National Fire Protection Association (**NFPA**)
32 600 Industrial Fire Brigades requirements, and additional qualifications pertaining to the team.
33 MRT training includes current qualification for unescorted underground access, at least one
34 year of underground work, Mine Safety and Health Administration requirements for medical and
35 mine rescue, and additional qualifications pertaining to the team. ERT training includes
36 NFPA 600 Industrial Fire Brigade requirements, and additional training pertaining to the team. In
37 addition, all teams receive lifesaving elements, such as rescue, cardiopulmonary resuscitation
38 and first aid, and other specific elements, such as self-contained breathing apparatus. A list of
39 required training for these positions is included in each job position description in Permit
40 Attachment H1.

41
42 Because these response teams are used for unusual occurrences and not routine hazardous
43 waste handling, a RCRA position title is not included. A duty description is included which
44 summarizes basic anticipated duties of these positions. Training records for these individuals
45 are maintained in each individual's training file in Technical Training located at the WIPP site.
46 These training requirements must be met prior to an individual serving in an emergency
47 response function
48

1 Hazardous waste handling and emergency response personnel receive training that ensures
2 their familiarity with emergency procedures, emergency equipment, and emergency systems
3 including:

- 4 ● Procedures for using and inspecting facility emergency and monitoring
5 equipment
- 6 ● Repairing and replacing facility emergency and monitoring equipment (RADCON
7 only)
- 8 ● Communications and alarm systems
- 9 ● Response to fires or explosions
- 10 ● Shutdown of operations.

11
12
13 Course outlines for emergency response training courses are provided in Permit Attachment
14 H2.

15
16 The RCRA Emergency Coordinator receives training relevant to the RCRA Contingency Plan
17 and must be familiar with the contents of the RCRA Contingency Plan prior to serving as RCRA
18 Emergency Coordinator. Documentation of this training is maintained in the RCRA Emergency
19 Coordinator's training file. All individuals qualified to serve as RCRA Emergency Coordinators
20 are required to complete Contingency Plan training (SAF-645). RCRA Emergency Coordinators
21 are notified of changes to the contingency plan by a document change notice, which is
22 distributed weekly. This notice lists all of the controlled documents that have been changed
23 during the week. Office wardens receive Office Warden Training (SAF-632) and are required to
24 take an annual refresher. In addition, the training requirements of the Central Monitoring Room
25 (**CMR**) operator are included in Permit Attachment H1. The CMR operator is listed in Permit
26 Attachment F as an emergency response related position.

27
28 As there are no automatic waste feed systems at the WIPP facility, training on parameters for
29 waste feed cut-off systems is not required. Similarly, as there is no potential for groundwater
30 contamination incidents at the WIPP facility, training for responding to such incidents is not
31 required.

32 33 H-2 Implementation of Training Program

34
35 The WIPP facility training program has been implemented to ensure that hazardous waste
36 management and emergency response personnel employed at the WIPP facility receive the
37 training indicated within the respective authorization cards. These authorization cards record
38 training that the individual team members have completed. Personnel are trained on the RCRA
39 Contingency Plan through their basic training. Newly hired employees receive the indicated
40 training within six months of their date of hire or their transfer to a new position. Personnel do
41 not work in unsupervised positions until they successfully complete the indicated training
42 requirements. Hazardous waste management personnel attend annual refresher courses that
43 review the initial training received and document knowledge transfer.

44
45 Records relating to the WIPP facility training program for hazardous waste management and
46 emergency response personnel are maintained by the WIPP Technical Training Group located
47 at the WIPP facility. These records include a roster of employees in hazardous waste
48 management positions; a list of courses required for each position; course descriptions;

1 documentation when each employee has received and completed appropriate training; and all
2 of the backup information regarding qualification and examination. Training records of current
3 personnel are kept by the Technical Training Group until closure of the WIPP facility. Records of
4 former employees are kept by the Technical Training Group for at least three years from the
5 date the employee last worked at the facility.

FIGURES

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Figure H-1
Organizational Location of Training, Waste Handling, and Emergency Response Functions