

ATTACHMENT F
PERSONNEL TRAINING

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ATTACHMENT F

PERSONNEL TRAINING

Introduction

This attachment 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 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 attachment 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.

F-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 Management and Operating Contractor (**MOC**) Project Manager, with responsibility for implementation delegated to Technical Training. Technical Training is managed by the Technical Training Manager who has the responsibility for directing the training program. The list of job titles in Attachment F1 shows the personnel with key responsibilities for waste management and emergency response.

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

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

- 2 • Analysis
- 3 • Design
- 4 • Development
- 5 • Implementation
- 6 • Evaluation

7 In “analysis,” technical training and line management identify job performance requirements.
8 These requirements are derived by studying job duty areas, related tasks, and required skills
9 and knowledge. These derived skills and knowledge, in turn, form the blueprint for the “design”
10 phase. In “design” these requirements are translated into learning objectives, performance
11 standards, and test items. In “development” the products of design are incorporated into new
12 training programs or, if appropriate, incorporated into revisions of existing programs. Products of
13 development are lesson plans, qualification cards, student materials, and examinations.
14 Implementation of these programs then occurs. This may be through classroom instruction, on-
15 the-job-training, self-paced study, or any combination of the three. “Evaluation” is the final phase
16 of the SAT process. Evaluation uses feedback derived from several sources to improve or
17 enhance the training. The WIPP utilizes extensive guidance provided within the DOE
18 Handbooks, “Training Program Handbook: A Systematic Approach to Training (DOE-HDBK-
19 1078-94),” and “Alternative Systematic Approaches to Training (DOE-HDBK-1074-95)” to direct
20 all program analysis, design, development, implementation, or evaluation. Further details of
21 these processes may be derived by reviewing this manual.

22 Technical Training ensures that required Resource Conservation and Recovery Act (**RCRA**)-
23 related training is conducted by qualified instructors. On-the-job training is conducted by Level I
24 instructors. Level I instructors are subject matter experts; members of line organizations who
25 have qualified on the related equipment and have attended the on-the-job training course.
26 Classroom instruction is provided by Level II and Level III instructors. Level II instructors are
27 members of Technical Training and line organizations that are qualified to conduct limited
28 classroom training in their technical area of expertise. Level III instructors are members of
29 Technical Training who are qualified to conduct classroom training, skills evaluation, and needs
30 assessment. Level II and III instructors are required to attend a train-the-trainer course and
31 periodic refresher training.

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

- 34 • Classroom Instruction
 - 35 -Objectives
 - 36 -Lesson Plans
 - 37 -Student Materials
 - 38 -Examinations
- 39 • On-the-Job Training
 - 40 -Qualification Cards

1 Technical training materials are approved by the Technical Training Manager and the cognizant
2 line manager.

3 Following technical training, trainees must successfully complete written examinations or oral
4 examinations conducted by boards made up of cognizant personnel (referred to as “oral
5 boards”) to demonstrate competency. The records of oral examinations are called “oral board
6 sheets”. These examinations are based on objectives and/or competency statements. Oral
7 boards are based on knowledge learned in the on-the-job training process. Trainees also
8 provide feedback on the content and quality of instruction, at this time, in the form of course
9 critiques and verbal input.

10 Technical training documentation is maintained by Technical Training located at the WIPP
11 facility. These technical training records include:

- 12 • Course Attendance
- 13 • Completed Qualification Cards
- 14 • Off-Site Training Documentation
- 15 • Oral Board Sheets

16 A database is maintained which records training qualifications, and course attendance. The
17 database is used to identify course refresher and requalification dates. Training records on
18 current personnel are kept in the Technical Training files. Technical training records on former
19 employees are kept by Technical Training for at least three years from the date of employment
20 termination from the WIPP facility. Training documentation for emergency response training
21 received by personnel called out in the *RCRA Contingency Plan* (Permit Attachment D) is
22 maintained by Technical Training. The documents which define the process by which these
23 training activities are managed are maintained by Technical Training and are part of the
24 Operating Record.

25 To ensure the safe and efficient operation of the WIPP facility, certain positions require formal
26 qualification. Department managers identify these positions based upon safety, complexity, and
27 involvement with hazardous waste handling operations. A document known as a “qualification
28 card” is prepared to identify required training for each designated position. In the case of
29 equipment and system/procedure qualification, a “qualification card” is prepared that specifies
30 the required knowledge and practical skills needed in such areas as equipment maintenance
31 and safety. Individual participation in the qualification card system is varied and is dependent on
32 an incumbent’s specific job duties. A complete listing of active qualifications, as they apply to
33 any individual position, may be determined by review of the WIPP Training Database. The list of
34 active WIPP Qualification cards is maintained at the WIPP facility.

35 When the qualification card is completed, that particular qualification is recorded. Successful
36 completion of formal classroom training is documented on the individual’s qualification card.
37 When requirements are met, both for classroom instruction and on-the-job training, and oral
38 board, if applicable, the qualification card is signed by the manager certifying that the employee
39 is fully competent to perform all aspects of the associated qualification. Qualification cards are
40 included in the training records maintained by Technical Training. Qualification cards are living
41 documents subject to change as the scope and content of training changes to meet new and
42 revised regulatory requirements and modifications in job scope.

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

13 F-1a Job Title/Job Description

14 Employees at the WIPP facility who are involved in hazardous waste management and
15 emergency response activities receive the same core training. A list of hazardous waste
16 management and emergency response job titles and position descriptions are provided in
17 Permit Attachment F1. An up-to-date list of personnel assigned to these positions is maintained
18 by the Permittees in accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.16). These
19 core hazardous waste management training courses are described briefly in Section F-1(b)(1)
20 and outlines of the core classes, as well as other job specific training classes, are included in
21 Permit Attachment F2. Any changes to the training plan that decrease the type or amount of
22 training that is given to employees will be handled as a Class 2 modification, as specified in
23 20.4.1.900 NMAC (incorporating 40 CFR §270.42). Other changes to the training plan will be
24 handled as Class 1 modifications. In accordance with 20.4.1.500 NMAC (incorporating 40 CFR
25 §264.16(d)(2)), the job descriptions include hazardous and TRU mixed waste management and
26 emergency response job duties, required skills, qualifications, and experience, as well as
27 educational requirements. These job descriptions are approved by the cognizant staff
28 managers. Included in the appendices are management and supervisory positions that are
29 considered to be critical from the standpoint of hazardous waste management or emergency
30 response. These include the following positions:

- 31 • RCRA Emergency Coordinator
- 32 • Manager, Hoisting Operations
- 33 • Manager, Radiation Control
- 34 • Manager, Waste Handling
- 35 • Team Leader, Inspection Services
- 36 • Manager, Environmental Compliance
- 37 • Manager, Technical Training

38 F-1b Training Content, Frequency, and Techniques

39 The WIPP training program includes a comprehensive combination of classroom training
40 courses and on-the-job training. Each training course is carefully developed and periodically
41 reevaluated to ensure relevancy to the course objectives and to ensure its support of the goal of
42 safe and environmentally sound operations at the WIPP facility. On-the-job training is
43 accomplished and documented through the use of qualification cards. Before an employee is

1 considered qualified to operate certain equipment, the person must pass a prescribed set of
2 performance standards.

3 F-1b(1) Training Content

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

- 7 • General Employee Training (**GET**) Overview (procedures and policies)
- 8 • WIPP Facility Description
- 9 • Radiation Safety
- 10 • Emergency Preparedness (including *RCRA Contingency Plan* implementation)
- 11 • Security
- 12 • Fire Protection
- 13 • Quality Assurance
- 14 • Occurrence Reporting
- 15 • Industrial Safety
- 16 • RCRA
- 17 • Hazard Communication

18 This training is provided in GET-19X/GET-20X/GET-21X ¹, conducted by the WIPP qualified
19 instructors, and must be completed within 30 days of employment.

20 Annual refresher training on the topics taught in GET-19X/GET-20X/GET-21X is given in the
21 General Employee Training Annual Refresher (GET-19XA/GET-20XA/GET-21XA). This self-
22 paced module provides employees with a review and update of the topics covered in GET-
23 19X/GET-20X/GET-21X.

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

29 Course outlines for GET-19X/GET-20X/GET-21X, GET-19XA/GET-20XA/GET-21XA, HWW-
30 101, and HWW-102 are provided in Permit Attachment F2.

31 F-1b(2) Training Frequency

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

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 F-1b(3) Training Techniques

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

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

13 On-the-job training at the WIPP facility follows a prescribed set of standards specific to the job
14 to be performed. Typically, to become qualified to operate a piece of equipment or system,
15 employees must be able to demonstrate the location and purpose of specified controls and
16 gauges, describe proper startup and shutdown procedures, describe specific safety features
17 and limitations of the equipment, and, in some cases, perform maintenance functions. They
18 must also demonstrate the ability to operate the equipment or system. On-the-job training may
19 also be function specific, such as performing a specific administrative function that is regulated.
20 The terms "on-the-job-training," "on-the-job-evaluation," and "job performance measures" are
21 considered equivalent with respect to training courses or qualification cards in accordance with
22 DOE-HDBK-1074-95.

23 In addition to on-the-job training, some positions require the trainee to attend an oral board. The
24 oral board is given upon completion of on-the-job training and prior to operating any equipment
25 unsupervised. In the oral board, the trainee is quizzed on knowledge learned in on-the-job
26 training. The purpose of the oral board is to determine if the trainee fully understands and can
27 apply the knowledge learned in the training process.

28 F-1c Training Manager

29 The Technical Training Manager directs the training program and is responsible for establishing
30 technical training requirements in cooperation with the line managers. Specifically, this includes
31 analysis, design, development, implementation, and evaluation of technical training. The
32 Technical Training Manager is trained in hazardous waste management procedures and
33 receives train-the-trainer and instructor training. The Technical Training Manager is also
34 required to be knowledgeable of the applicable regulations, orders, guidelines, and the specific
35 training process employed at the WIPP facility.

36 The name and qualifications of the current Technical Training Manager are documented at the
37 WIPP facility.

38 F-1d Relevance of Training to Job Position

39 The WIPP facility training program provides employees and their supervisors with training
40 relevant to their positions. The SAT process mentioned in Section F-1 is a systematic method
41 for determining the proper training for each hazardous waste management position. It compels

1 managers and training staff to look critically at each position and determine the necessary
2 training program for each employee to fully develop their necessary expertise.

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

8 Beyond these core courses, training is designed and implemented relevant to the specific job
9 functions being performed. For example, employees who operate key pieces of equipment
10 necessary to manage contact-handled (**CH**) or remote-handled (**RH**) TRU mixed waste (such as
11 forklifts, hoists, bridge cranes, cask transfer cars, etc.) must be trained to operate and inspect
12 equipment and to recognize maintenance problems before a specific job function is performed.
13 These employees must receive on-the-job training and demonstrate the ability to operate the
14 equipment, as appropriate, before being qualified. This process is controlled and documented
15 by the qualification process described in Section F-1. A complete listing of active qualification
16 cards, along with descriptions of training courses, is on file at the WIPP facility. Summaries of
17 qualification cards and other job specific training courses are included in Permit Attachment F2.
18 Waste handling personnel performing CH or RH TRU mixed waste handling tasks will be
19 qualified to the applicable specific equipment or system qualification card on file at the WIPP
20 facility.

21 Managers who have direct responsibility for supervising hazardous waste management
22 personnel receive hazardous waste management training relevant to their positions. This
23 training will include GET-19X/GET-20X/GET-21X and its refresher GET-19XA/GET-20XA/GET-
24 21XA, which is required for all employees, and the Hazardous Waste Worker Supervisor course
25 HWS-101 and its refresher HWS-101A. In addition, a manager may also take HWW-101 and its
26 refresher HWW-102 if these courses are determined to be useful for his/her position. These
27 course descriptions are included in Permit Attachment F2. Managers who do not have direct
28 hazardous waste management supervisory responsibilities receive training sufficient to ensure
29 their awareness of hazardous waste management requirements and procedures; however, they
30 do not perform hazardous waste management duties and their positions are not included in the
31 appendices. As is the case with all WIPP facility employees, all managers receive RCRA
32 overview training in GET-19X/GET-20X/GET-21X.

33 F-1e Training for Emergency Response

34 The WIPP facility training program ensures that personnel are able to respond appropriately and
35 effectively to emergency situations. WIPP facility employees receive GET-19X/GET-20X/GET-
36 21X, which includes instruction on hazard awareness, emergency preparedness, spill control,
37 and the *RCRA Contingency Plan* (Permit Attachment D). This training ensures that every
38 employee understands how to recognize real or potential emergencies and how to report such
39 incidents to the proper WIPP facility officials. It also ensures that employees will not endanger
40 themselves or others by taking actions beyond their ability. Emergency response personnel
41 receive more extensive training as described in the subsequent paragraphs.

42 The WIPP facility emergency response organization is capable of providing emergency
43 response services both above ground and underground. The WIPP Fire Department Firefighters
44 serve as first responders to surface and underground emergencies, including fires, medical

1 emergencies, and releases of hazardous materials. Firefighters are trained in accordance with
2 NFPA 1001, *Standard for Fire Fighting Professional Qualification*, and other NFPA qualification
3 standards. This training is administered by qualified individuals/organizations in accordance with
4 the *WIPP Fire Department Training Plan*.

5 The Emergency Response Team (**ERT**) is an Industrial Fire Brigade which supplements the
6 capabilities of the WIPP Fire Department. Members of the ERT are trained to respond to
7 surface and underground emergencies on site, including fires, medical emergencies, and
8 releases of hazardous materials. The Mine Rescue Team (**MRT**) is responsible for emergency
9 rescue and recovery of trapped or missing personnel in the underground and underground fire
10 suppression once the underground has been evacuated. The responsibilities of emergency
11 response personnel and associated training are described in the *RCRA Contingency Plan*,
12 Permit Attachment D, Section D-2. These teams receive thorough emergency response training
13 before they are called upon to perform in real emergencies. The ERT members are trained to
14 NFPA standards, including NFPA 1081, *Standard for Industrial Fire Brigade Member*
15 *Professional Qualifications*, which addresses the training requirements established by NFPA
16 600, *Standard on Industrial Fire Brigades*. The MRT consists of personnel who have been
17 trained to the applicable requirements of 30 CFR Part 49, *Mine Rescue Team*. A list of required
18 training and associated duties is included in each job position description in Permit Attachment
19 F1. These training requirements must be met prior to an unsupervised individual serving in an
20 associated emergency response function. Training records for these individuals are maintained
21 in each individual's training file in Technical Training located at the WIPP facility.

22 Emergency response personnel receive training, commensurate with their duties that ensures
23 their familiarity with emergency procedures, emergency equipment, and emergency systems
24 including, but not limited to:

- 25 • Procedures for using and inspecting facility emergency equipment;
- 26 • Communications and alarm systems; and
- 27 • Response to fires or explosions.

28
29 The RCRA Emergency Coordinator receives training relevant to the *RCRA Contingency Plan*
30 and must be familiar with the contents of the *RCRA Contingency Plan* prior to serving as RCRA
31 Emergency Coordinator. Documentation of this training is maintained in the RCRA Emergency
32 Coordinator's training file. All individuals qualified to serve as RCRA Emergency Coordinators
33 are required to complete *RCRA Contingency Plan* training (SAF-645). The RCRA Emergency
34 Coordinator is provided with updated copies of the *RCRA Contingency Plan* in accordance with
35 permit Attachment D, Section D-9, whenever changes are made. In addition, the training
36 requirements of the Central Monitoring Room (**CMR**) Operator are included in Permit
37 Attachment F1. The CMR Operator is listed in Permit Attachment D, Section D-2, as an
38 emergency response related position.

39 As there are no automatic waste feed systems at the WIPP facility, training on parameters for
40 waste feed cut-off systems is not required. Similarly, as there is no potential for groundwater
41 contamination incidents at the WIPP facility, training for responding to such incidents is not
42 required.

1 F-2 Implementation of Training Program

2 The WIPP facility training program has been implemented to ensure that hazardous waste
3 management and emergency response personnel employed at the WIPP facility receive the
4 training indicated within the respective qualification cards. Personnel are made aware of the
5 *RCRA Contingency Plan* and its intended purpose through general employee training. Newly
6 hired employees, whose job positions are listed in Attachment F1, receive the indicated training
7 within six months of their date of hire or their transfer to a new position. Personnel do not work
8 in unsupervised hazardous waste management or emergency response positions until they
9 successfully complete the indicated training requirements. Hazardous waste management and
10 emergency response personnel attend annual refresher courses that review the initial training
11 received and document knowledge transfer.

12 Records relating to the WIPP facility training program for hazardous waste management and
13 emergency response personnel are maintained by WIPP Technical Training as personally
14 identifiable information. These records are located at the WIPP facility and include a roster of
15 employees in hazardous waste management positions; a list of courses required for each
16 position; course descriptions; documentation when each employee has received and completed
17 appropriate training; and backup information regarding qualification and examination. Training
18 records of current personnel are kept by Technical Training until closure of the WIPP facility.
19 Records of former employees are kept by Technical Training for at least three years from the
20 date the employee last worked at the facility.

21 References

22 Nuclear Waste Partnership LLC, "WIPP Training Program," WP 14-TR.01, Rev. 15, 2015.

23 Nuclear Waste Partnership LLC, "WIPP Fire Department Training Plan," WP 12-FP.04, Rev. 0,
24 2015

25 U.S. Department of Energy, "Training Program Handbook: A Systematic Approach to Training
26 (DOE-HDBK-1078- 94)"

27 U.S. Department of Energy, "Alternative Systematic Approaches to Training (DOE-HDBK-1074
28 95)"