

ATTACHMENT H
PERSONNEL TRAINING

Waste Isolation Pilot Plant
Hazardous Waste Permit
May 22, 2009

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ATTACHMENT H
PERSONNEL TRAINING
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1 **ATTACHMENT H**

2 **PERSONNEL TRAINING**

3 Introduction

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

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

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

31 H-1 Outline of the Training Program

32 Employee training for the purpose of hazardous waste management at the WIPP facility is the
33 overall responsibility of the MOC General Manager, with responsibility for implementation
34 delegated to the manager of the Human Resources Department. The Human Resources
35 Department Manager has established a technical training group (referred to as Technical
36 Training) within the department to implement the requirements for training. The Technical
37 Training Group is managed by the Technical Training Manager who has the responsibility for
38 directing the training program. Members of the training staff are assigned to Technical Training
39 within the Human Resources Department. The organizational structure of the Human
40 Resources Department and its relationship to the line organizations is shown in an abbreviated
41 organizational chart in Figure H-1. This chart also shows departments with key responsibilities
42 for waste management and emergency response.

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

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

- 4 • Analysis
- 5 • Design
- 6 • Development
- 7 • Implementation
- 8 • Evaluation

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

23 The Human Resources Department ensures that required RCRA-related training is conducted
24 by qualified instructors. On-the-job training is conducted by Level I instructors. Level I instructors
25 are subject matter experts; members of line organizations who have qualified on the related
26 equipment and have attended the on-the-job training course. Classroom instruction is provided
27 by Level II and Level III instructors. Level II instructors are members of Technical Training and
28 line organizations who are qualified to conduct limited classroom training in their technical area
29 of expertise. Level III instructors are members of Technical Training who are qualified to
30 conduct classroom training, skills evaluation, and needs assessment. Level II and III instructors
31 are required to attend a train-the-trainer course and 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 the Technical Training Group located at the
11 WIPP 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 the Technical Training Group for at least three years from the date of
20 employment termination from the WIPP facility. Training documentation for emergency
21 response training received by personnel called out in the WIPP Contingency Plan (Permit
22 Attachment F) is maintained by the Technical Training Group. The documents which define the
23 process by which these training activities are managed are maintained by the Technical
24 Training Group and are part of the 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 the Technical Training Group. Qualification cards
41 are living documents subject to change as the scope and content of training changes to meet
42 new and revised regulatory requirements and modifications in job scope.

1 The hazardous waste management training program described in Section H-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 H-1a Job Title/Job Description

14 Employees at the WIPP facility who are involved in hazardous waste management activities
15 receive the same core training. A list of hazardous waste management job titles and position
16 descriptions are provided in Permit Attachment H1. An up-to-date list of personnel assigned to
17 these positions is maintained by the Permittees in accordance with 20.4.1.500 NMAC
18 (incorporating 40 CFR §264.16). These core hazardous waste management training courses
19 are described briefly in Section H-1(b)(1) and outlines of the core classes, as well as other job
20 specific training classes, are included in Permit Attachment H2. Any changes to the training plan
21 that decrease the type or amount of training that is given to employees will be handled as a
22 Class 2 modification, as specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42). Other
23 changes to the training plan will be handled as Class 1 modifications. In accordance with
24 20.4.1.500 NMAC (incorporating 40 CFR §264.16(d)(2)), the job descriptions include hazardous
25 and TRU mixed waste management job duties, required skills, qualifications, and experience, as
26 well as educational requirements. These job descriptions are approved by the cognizant staff
27 managers. Included in the appendices are management and supervisory positions that are
28 considered to be critical from the standpoint of hazardous waste management or emergency
29 response. These include the following positions:

- 30 • Shift Manager, Facility Operations
- 31 • Manager, Hoisting Operations
- 32 • Manager, Radiation Control
- 33 • Manager, Waste Handling
- 34 • Team Leader, Inspection Services
- 35 • Manager, Environmental Compliance
- 36 • Manager, Technical Training

37 H-1b Training Content, Frequency, and Techniques

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

1 H-1b(1) Training Content

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

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

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

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

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

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

28 H-1b(2) Training Frequency

29 Hazardous waste management courses are offered at a frequency that ensures new hires or
30 transfers can receive relevant training within six months of assuming their new position.
31 Employees do not work unsupervised in hazardous waste management positions until they
32 have completed the required initial training. The Human Resources Department notifies the
33 cognizant manager and training staff when any employee is transferred into or out of a position
34 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 H-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 In addition to on-the-job training, some positions require the trainee to attend an oral board. The
21 oral board is given upon completion of on-the-job training and prior to operating any equipment
22 unsupervised. In the oral board, the trainee is quizzed on knowledge learned in on-the-job
23 training. The purpose of the oral board is to determine if the trainee fully understands and can
24 apply the knowledge learned in the training process.

25 H-1c Training Manager

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

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

35 H-1d Relevance of Training to Job Position

36 The WIPP facility training program provides employees and their supervisors with training
37 relevant to their positions. A functional chart showing positions that receive training related to
38 hazardous waste management or emergency response is included as Figure H-1. This figure
39 also shows the next level manager for these positions. The SAT process mentioned in Section
40 H-1 is a systematic method for determining the proper training for each hazardous waste
41 management position. It compels managers and training staff to look critically at each position

1 and determine the necessary training program for each employee to fully develop their
2 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 H-1. A complete listing of active qualification
16 cards, along with descriptions of training courses, are on file at the WIPP facility. Summaries of
17 qualification cards and other job specific training courses are included in Permit Attachment H2.
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 and its refresher GET-19XA/GET-20XA, which is
24 required for all employees, and the Hazardous Waste Worker Supervisor course HWS-101 and
25 its refresher HWS-101A. In addition, a manager may also take HWW-101 and its refresher
26 HWW-102 if these courses are determined to be useful for his/her position. These course
27 descriptions are included in Permit Attachment H2. Managers who do not have direct hazardous
28 waste management supervisory responsibilities receive training sufficient to ensure their
29 awareness of hazardous waste management requirements and procedures; however, they do
30 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.

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

37 H-1e Training for Emergency Response

38 The WIPP facility training program ensures that personnel are able to respond appropriately and
39 effectively to emergency situations. WIPP facility employees receive GET-19X/GET-20X, which
40 includes instruction on hazard awareness, emergency preparedness, spill control, and the WIPP
41 RCRA Contingency Plan (Permit Attachment F). This training ensures that every employee
42 understands how to recognize real or potential emergencies and how to report such incidents to
43 the proper WIPP facility officials. It also ensures that employees will not endanger themselves or

1 others by taking actions beyond their ability. Emergency response personnel receive more
2 extensive training in emergency response procedures as described in the next paragraph.

3 The WIPP facility emergency response organization is capable of providing emergency
4 response services both above ground and underground. The Emergency Response Team
5 (**ERT**), under the supervision of the Emergency Services Technician, has primary responsibility
6 for above ground emergency response activities, and the First Line Initial Response Team
7 (**FLIRT**) and the Mine Rescue Team (**MRT**) are responsible for underground emergency
8 response activities. The responsibilities of these units are described in the WIPP RCRA
9 Contingency Plan, Permit Attachment F. Members of these teams are volunteers from the WIPP
10 organization. These teams receive thorough emergency response training before they are
11 called upon to perform in real emergencies. This training includes firefighting elements, such as
12 fire behavior, ladders, fire hose, fire streams, and ventilation. The FLIRT includes current
13 qualification for unescorted underground access, National Fire Protection Association (**NFPA**)
14 600 Industrial Fire Brigades requirements, and additional qualifications pertaining to the team.
15 MRT training includes current qualification for unescorted underground access, at least one
16 year of underground work, Mine Safety and Health Administration requirements for medical and
17 mine rescue, and additional qualifications pertaining to the team. ERT training includes NFPA
18 600 Industrial Fire Brigade requirements, and additional training pertaining to the team. In
19 addition, all teams receive lifesaving elements, such as rescue, cardiopulmonary resuscitation
20 and first aid, and other specific elements, such as self-contained breathing apparatus. A list of
21 required training for these positions is included in each job position description in Permit
22 Attachment H1.

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

29 Hazardous waste handling and emergency response personnel receive training that ensures
30 their familiarity with emergency procedures, emergency equipment, and emergency systems
31 including:

- 32 • Procedures for using and inspecting facility emergency and monitoring equipment
- 33 • Repairing and replacing facility emergency and monitoring equipment (RADCON only)
- 34 • Communications and alarm systems
- 35 • Response to fires or explosions
- 36 • Shutdown of operations.

37 Course outlines for emergency response training courses are provided in Permit Attachment
38 H2.

39 The RCRA Emergency Coordinator receives training relevant to the RCRA Contingency Plan
40 and must be familiar with the contents of the RCRA Contingency Plan prior to serving as RCRA
41 Emergency Coordinator. Documentation of this training is maintained in the RCRA Emergency
42 Coordinator's training file. All individuals qualified to serve as RCRA Emergency Coordinators
43 are required to complete Contingency Plan training (SAF-645). RCRA Emergency Coordinators

1 are notified of changes to the contingency plan by a document change notice, which is
2 distributed weekly. This notice lists all of the controlled documents that have been changed
3 during the week. Office wardens receive Office Warden Training (SAF-632) and are required to
4 take an annual refresher. In addition, the training requirements of the Central Monitoring Room
5 (CMR) operator are included in Permit Attachment H1. The CMR operator is listed in Permit
6 Attachment F as an emergency response related position.

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

11 H-2 Implementation of Training Program

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

21 Records relating to the WIPP facility training program for hazardous waste management and
22 emergency response personnel are maintained by the WIPP Technical Training Group located
23 at the WIPP facility. These records include a roster of employees in hazardous waste
24 management positions; a list of courses required for each position; course descriptions;
25 documentation when each employee has received and completed appropriate training; and all
26 of the backup information regarding qualification and examination. Training records of current
27 personnel are kept by the Technical Training Group until closure of the WIPP facility. Records of
28 former employees are kept by the Technical Training Group for at least three years from the
29 date the employee last worked at the facility.

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FIGURES

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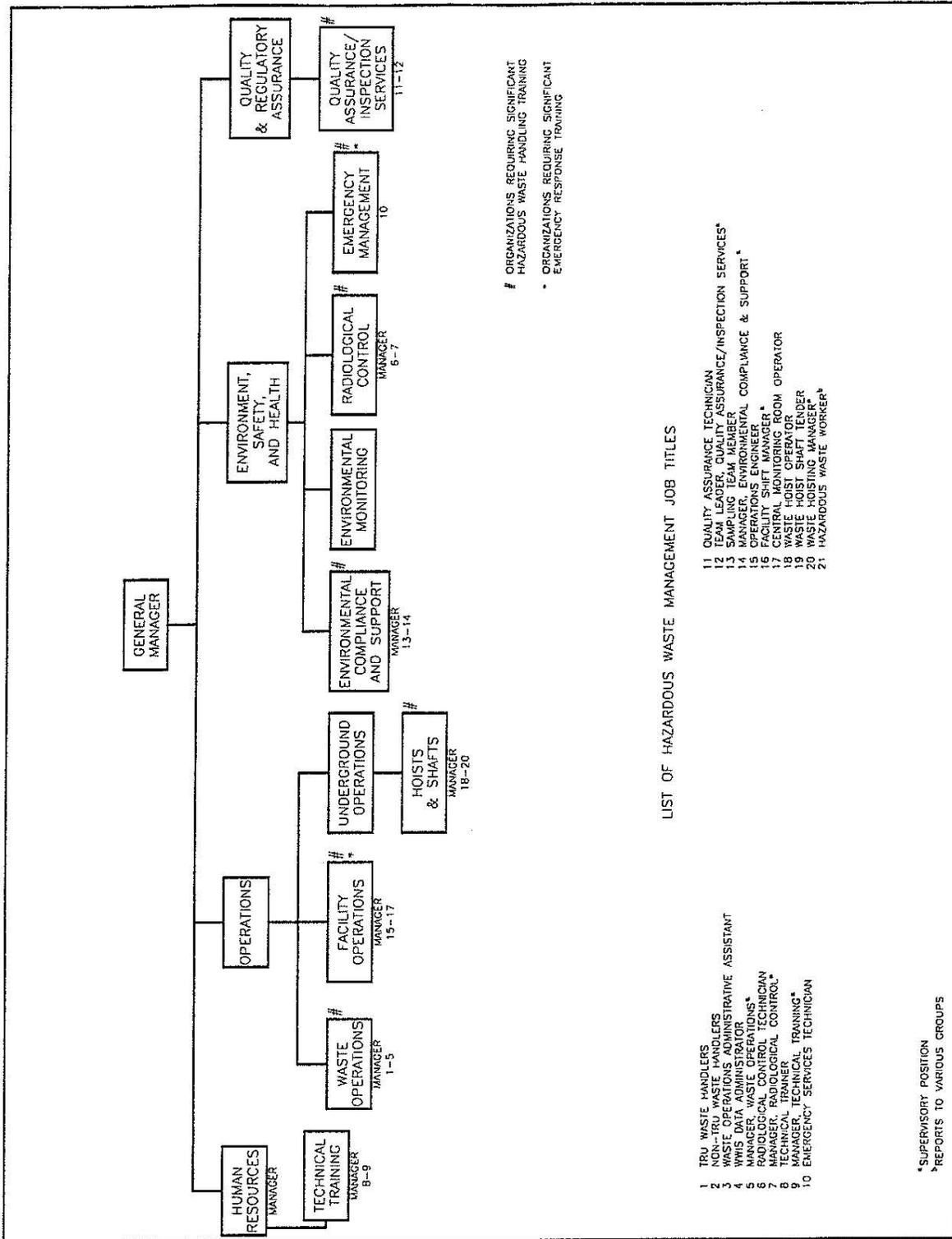


Figure H-1
Organizational Location of Training, Waste Handling, and Emergency Response Functions