



**Department of Energy**  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221

September 6, 2002



Mr. Steve Zappe, WIPP Project Leader  
Hazardous Waste Permits Program  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 E. Rodeo Park Dr. Bldg. 1  
Santa Fe, NM 87505-6303



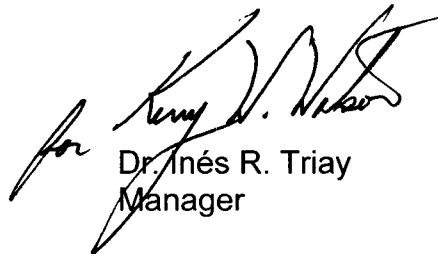
**Subject: Request to Update New Mexico Environment Department's Version of the Waste Isolation Pilot Plant Hazardous Waste Facility Permit No. NM4890139088-TSDF**

Dear Mr. Zappe:

The purpose of this letter is to request that the New Mexico Environment Department (NMED) update the Waste Isolation Pilot Plant Hazardous Waste Facility Permit (HWFP), No. NM4890139088-TSDF to reflect changes submitted by the U.S. Department of Energy, Carlsbad Field Office (CBFO) on November 1, 2000, January 29, 2001, and May 30, 2002. These Class 1 notifications were determined by NMED to be administratively complete and acceptable and were to be incorporated into the HWFP as indicated in NMED's correspondence to the CBFO on August 31, 2001 and July 1, 2002. Please find enclosed a listing of the modification item number and permit attachments as well as copies of the modified language originally submitted to NMED by CBFO for the modifications that are not currently reflected in the HWFP.

If you have any questions regarding this request, please contact Mr. Kerry Watson at (505) 234-7357.

Sincerely,

  
Dr. Inés R. Triay  
Manager

Enclosure

cc: w/enclosure  
J. Bearzi, NMED  
J. Kieling, NMED



Modification Submittal Date	Class	Item #	NMED Accepted	HWFP Attachment/Section		Degree of Incorporation	NMED Approval Letter
November 1, 2000	1	8.a.1	*Yes	B1	B1-3a	None	8/31/01
January 29, 2001	1	1.g.1	Yes	F	Introduction	None	8/31/01
January 29, 2001	1	1.g.2	Yes	F	F-2	None	8/31/01
January 29, 2001	1	1.g.3	Yes	F	F-4a	None	8/31/01
January 29, 2001	1	1.h.1	Yes	H	Introduction	None	8/31/01
January 29, 2001	1	1.l.1	Yes	H2	GET-19x GET20x	None	8/31/01
January 29, 2001	1	1.l.2	Yes	H2	SAF-630/631	None	8/31/01
January 29, 2001	1	1.l.3	Yes	H2	Qual Card - QA Inspector	None	8/31/01
January 29, 2001	1	1.j.1	Yes	I	I-1	None	8/31/01
January 29, 2001	1	1.k.1	*Yes	I1	I1 Acronym List	None	8/31/01
January 29, 2001	1	1.k.2	*Yes	I1	Exec Summary	None	8/31/01
January 29, 2001	1	1.k.3	Yes	I1	Section 5.0 Table I1-2	None	8/31/01
January 29, 2001	1	1.k.4	Yes	I1	Section 6.0 Drawings	None	8/31/01
January 29, 2001	1	1.l.1	Yes	I1G	Section 01010, Part 1, Acronyms	None	8/31/01
January 29, 2001	1	1.l.2	Yes	I1G	Section 010900, Ref Standards, Section 1.3	None	8/31/01
January 29, 2001	1	1.l.3	Yes	I1G	Section 02222, Excav. Part 3, Execution, 3.4	None	8/31/01
January 29, 2001	1	1.l.4	Yes	I1G	Section 0330, Cast in Place Concrete, Part 1, 1.3	None	8/31/01
January 29, 2001	1	1.m.1	Yes	I2	Table I2-9	None	8/31/01
May 30, 2002	1	2.a.3	Yes	F	Table F-8	Partial	7/1/02

\* NMED provide a comment with these approvals.

## 8.a.1 Attachment B1, page B1-20, Section B1-3 Radiography

### B1-3 Radiography B1-3a Methods Requirements

Radiography has been developed by the Permittees specifically to aid in the examination and identification of containerized waste. There is no equivalent or associated method found in EPA sampling and analysis guidance documents. The Permittees shall require that sites describe all activities required to achieve the radiography objectives in site QAPjPs and SOPs. SOPs should also include instructions specific to the radiography method(s) used at respective facilities. For example, to detect liquids some systems require the drum to be moved, while in other systems the drums require tilting. These details should be addressed in site SOPs. A radiography system (e.g., digital Real Time Radiography and computed tomography) normally consists of an X-ray-producing device, an imaging system, an enclosure for radiation protection, a waste container handling system, an audio/video recording system, and an operator control and data acquisition station. Although these six components are required, it is expected there will be some variation within a given component system between sites. The radiography equipment X-ray-producing device shall have controls or an equivalent process which allow the operator to vary the voltage, thereby controlling image quality. For instance, on some radiography equipment it should be possible to vary the voltage, typically between 150 to 400 kilovolts (kv), to provide an optimum degree of penetration through the waste. For example, high-density material should be examined with the X-ray device set on the maximum voltage. This ensures maximum penetration through the waste container. Low-density material should be examined at lower voltage settings to improve contrast and image definition. The imaging system typically utilizes a fluorescent screen and, a low-light television camera or x-ray detectors to generate the image. To perform radiography, the waste container is scanned while the operator views the television screen. An audio/videotape or equivalently non-alterable media is made of the waste container scan and is maintained as a non-permanent record. A radiography data form is also used to document the Waste Matrix Code and estimated waste material parameter weights of the waste. The estimated waste material parameter and weights should be determined by compiling an inventory of waste items, residual materials, and packaging materials. The items on this inventory should be sorted by waste material parameter and combined with a standard weight look-up table to provide an estimate of waste material parameter weights. Containers with lead liners, or other containers whose contents prevent full examination to the extent expected for the radiography technique and the waste form of the remaining contents, shall be subject to visual examination.

### 1.g.1 Attachment F, Introduction

The WIPP facility is owned and co-operated by the Department of Energy (DOE) and co-operated by its designated Management and Operating Contractor (MOC) which is currently the ~~Waste Isolation Division (WID) of Westinghouse TRU Solutions LLC Electric Company.~~

### 1.g.2 Attachment F, Section F-2 Response Personnel

- EOC Staff-The EOC consists of a minimum staff, which includes ~~WID~~MOC management personnel, three Operations representatives, one Environment, Safety, and Health representative (ES&H), and one Emergency Management representative.

### 1.g.3. Attachment F, Section F-4a Notification

#### Notification of the General Public

Immediate notification of the general public through the public safety and emergency agencies listed above will be made by, or under the direction of, the RCRA Emergency Coordinator following an

evaluation to determine if local adjacent areas need to be evacuated. This evaluation will be made in consultation with the DOE who, as the owner of the facility, has management responsibility for the land withdrawal area. DOE policy is to provide accurate and timely information to the public by the most expeditious means possible concerning emergency situations at the WIPP site that may affect off-site personnel, public health and safety, and/or the environment. A DOE Carlsbad Field Area Office (DOE/CBFOCAO) Management representative is always on-call. This person is available by pager or telephone 24 hours a day.

A Hazards Assessment was conducted, which indicated no need for protective actions or emergency action levels, as defined by the Permittees, for the facility. Therefore, no procedures are in place for evacuation of the public. Procedures are in place for notification of the public by radio, television, and newspapers for news items which might include notification of on-site emergency situations. These procedures include a Public Affairs Coordinator in the EOC who writes and transmits press releases to the DOE/CBFOCAO office, where formal press conferences are conducted.

1.h.1. Attachment H, Introduction

The training requirements apply to all appropriate employees of the U.S. Department of Energy (DOE); the Management and Operating Contractor (MOC), Westinghouse TRU Solutions LLC ~~Waste Isolation Division~~; the Scientific Advisor, Sandia National Laboratories; 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.

1.i.1 Attachment H2

**COURSE:** GET-19X/GET-20X - General Employee Training

**DURATION:** .16 Hours

**PREREQUISITES:** None

**SCOPE:**

**TYPE:** Classroom

**OBJECTIVES:** Upon completion of this course, the student will be able to perform their job in a safe manner and will have an overview of the site organization and description. Mastery of the terminal objectives will be demonstrated by scoring 80 percent or higher on the course examination.

**REFRESHER:** GET-19XA/GET-20XA annually

**COURSE DESCRIPTION** (by module)

- |   |  |
|---|--|
| 1. Site Overview & WIPP Description<br>≈ 1 hour | a. Mission of DOE and GAO/CBFO<br>b. Relationship of WIPP organizations<br>c. Surface structures<br>d. WIPP shafts<br>e. Underground area                                  |
| 8. Work Policies and Procedures<br>≈ 1 hour     | a. DOE Orders and Westinghouse TRU Solutions Procedures<br>b. Teamwork<br>c. Conduct of Operations Policy<br>1. Elements of Conduct of Ops<br>d. Quality Assurance Program |

- e. Responsibility for following procedures
- f. Resuming work after stoppage
- g. Stopping work for unsafe acts
- h. Purpose and uses of "Hold Tag"
- i. Quality records and requirements
- j. Correcting errors on QA Records
- k. Configuration Management and affected departments

1.i.2. Attachment H2

**COURSE:** SAF-630/631 - Respiratory Protection

**DURATION:** .8 hours

**PREREQUISITES:** Medical physical

**TYPE:** Classroom and Practical

**SCOPE:** This program contains the requirements of respiratory protection as outlined in 29 CFR 1910.134, 10 CFR 20, ANSI, Z88.2-1980 and applicable WIPP procedures.

**OBJECTIVE:** Upon completion of this course the trainee will demonstrate a knowledge of the WIPP respiratory protection program; respiratory health hazards; and types of respiratory protection devices, their proper use and limitations. Mastery of the terminal objective will be demonstrated by scoring 80% or higher on a closed book lesson examination.

**COURSE DESCRIPTION (by lesson)**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>1. Introduction<br/>≈2 hours</li> <li>A. Basic Requirements</li> </ul> | <ul style="list-style-type: none"> <li>a. Regulations</li> <li>b. DOE Orders</li> <li>c. Industry Standards</li> <li>d. Westinghouse TRU Solutions</li> <li>e. WIPP Procedures               <ul style="list-style-type: none"> <li>1. Physical exam</li> <li>2. Pulmonary test</li> <li>3. Training</li> <li>4. Fit Testing</li> <li>5. Identification of potential respirator activities</li> </ul> </li> </ul> |
|---|---|

i.3 Attachment H2,

**QUALIFICATION CARD:** Quality Assurance Inspector

**DURATION:** Six to nine months

**CLASSROOM TRAINING:** Various formal classroom courses are utilized to support the training received as part of the qualification card. The candidate is required to complete the classroom training courses, satisfactorily, prior to completion of the qualification card.

**SCOPE:** The Quality Assurance Qualification card establishes the minimum education, skill, training, knowledge, and experience requirements for Quality Assurance personnel who perform inspection activities.

**REFERENCES:** WP 13-1, ~~WID-QA Program Manual~~ Quality Assurance Program Description  
QAI PD2-3, Qualification of Inspection Personnel

**QUALIFICATION CARD DESCRIPTION (by category)**

- 1. General Knowledge
  - Demonstrate knowledge of the minimum site specific procedures:
    - ASME NQA-1
    - ~~WID-QA Program Manual~~ Quality Assurance Program Description
    - Safety Manual
    - Hoisting and Rigging Procedures
    - Work Authorization Procedures
    - Document Control Procedures

1.j.1. Attachment I, Section I-1 Closure Plan

In the event the Permittees fail to obtain an extension of the hazardous waste permit in accordance with 20.NMAC-4.1.900 NMAC (incorporating 40 CFR §270.51) or fail to obtain a new permit in accordance with 20.NMAC-4.1.900 NMAC (incorporating 40 CFR §270.10(h)), the Permittees will seek a modification to this Closure Plan in accordance with 20.NMAC-4.1.900 NMAC (incorporating 40 CFR 270.42) to accommodate a contingency closure. Under contingency closure, storage units will undergo clean closure in accordance with 20.NMAC-4.1.500 NMAC (incorporating 40 CFR §264.178) waste handling equipment, shafts, and haulage ways will be inspected for hazardous waste residues (using, among other techniques, radiological surveys to indicate potential hazardous waste releases as described in Permit Attachment I3) and decontaminated as necessary, and underground HWDUs that contain radioactive mixed waste will be closed in accordance with the panel closure design described in this Closure Plan. Final facility closure, however, will be redefined and a request for a time extension for final closure will be requested. A copy of this Closure Plan will be maintained by the Permittees at the WIPP facility and at the Department of Energy (DOE) Carlsbad FieldArea Office. The primary contact person at the WIPP facility is:

Manager, Carlsbad FieldArea Office  
U.S. Department of Energy  
Waste Isolation Pilot Plant  
P. O. Box 3090  
Carlsbad, New Mexico 88221-3090  
(505) 234-7300

1.k.1. Attachment I1, **List of Abbreviations/Acronyms** Section

ACI	American Concrete Institute
AISC	American Institute for Steel Construction
*CFR	Code of Federal Regulations
cm	centimeter
EC	degrees celsius
EF	degrees Fahrenheit
DOE	U.S. Department of Energy
DRZ	disturbed rock zone
EEP	Excavation Effects Program
ESC	expansive salt-saturated concrete
FLAC	Fast Lagrangian Analysis of Continua
ft	foot (feet)
GPR	ground-penetrating radar
Kips	1,000 pounds
m	meter(s)
MB 139	Marker Bed 139
MPa	megapascal(s)
MSHA	Mine Safety and Health Administration
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NaCl	sodium chloride
NMVP	no-migration variance petition
psi pound(s)	per square inch
RCRA	Resource Conservation and Recovery Act
SMC	Salado Mass Concrete
TRU	transuranic
VOC	volatile organic compound(s)

Westinghouse	Westinghouse TRU Solutions LLC <del>Electric Corporation Government</del>
	<del>Environmental Services Company, LLC</del>
<del>WID</del>	<del>Waste Isolation Division</del>
WIPP	Waste Isolation Pilot Plant

1.k.2. Attachment I1, **Executive Summary** Section

**Scope.** Under contract to Westinghouse TRU Solutions LLC (**Westinghouse**) ~~new Westinghouse Government Environmental Services Company, LLC, Waste Isolation Division (WID)~~, IT Corporation has prepared a detailed design of a panel-closure system for the Waste Isolation Pilot Plant (**WIPP**). Preparation of this detailed design of an operational-phase closure system is required to support a Resource Conservation and Recovery Act (**RCRA**) Part B permit application. This report describes the detailed design for a panel-closure system specific to the WIPP site. The recommended panel-closure system will adequately isolate the waste-emplacement panels for at least 35 years.

1.k.3. Attachment I1, Section 5.0 Technical Specifications

The specifications are in the engineering file room at the WIPP and are the property of the MOC ~~Westinghouse WID~~. These specifications are included as an attachment in Appendix G and summarized in Table I1-2.

1.k.4. Attachment I1, Section 6.0 Drawings

The drawings (Appendix H) are in the engineering file room at the WIPP and are the property of the MOC ~~Westinghouse WID~~ and summarized in Table I1-3.

1.l.1. Attachment I1G, **Section 01010 - Summary of Work**

**Part 1 - General**

**Abbreviations/Acronyms** Section

ACI	American Concrete Institute
AISC	American Institute for Steel Construction
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWS	American Welding Society
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
DRZ	Disturbed rock zone
EPA	U.S. Environmental Protection Agency
MB 139	Marker Bed 139
MSHA	U.S. Mine Safety and Health Administration
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
MOC	Management and Operating Contractor, Westinghouse TRU Solutions, LLC
RCRA	Resource Conservation and Recovery Act
SMC	Salado Mass Concrete
USACE	U.S. Army Corps of Engineers
Westinghouse	Westinghouse TRU Solutions <del>Electric Company Government</del> <del>Environmental Services Company, LLC</del>
<del>WID</del>	<del>Waste Isolation Division</del>
WIPP	Waste Isolation Pilot Plant

1.1.2. Attachment I1G, **Section 01090 - Reference Standards**

**Part 1 - General**

**Section 1.3 Schedule of References**

~~WID~~MOC Westinghouse TRU Solutions Electric Corporation Government  
Environmental Services Company, LLC  
Waste Isolation Division  
Carlsbad, New Mexico 88221

1.1.3. Attachment I1G, **Section 02222 - Excavation**

**Part 3 - Execution**

**3.4 Field Measurements and Survey**

All survey required for performance of the work will be provided by the Permittees. The Contractor shall protect all survey control points, bench marks, etc., from damage by his operations. The MOC ~~WID~~ will verify by survey that the Contractor has excavated to the required lines and grades. The Contractor shall be responsible for verifying the excavation dimensions to develop concrete formwork to fit the excavation. No form work or block work is to be erected until this survey is completed. The Contractor is to coordinate the survey work with his operations to assure against lost time. The Contractor shall notify the Engineer at least 24 hours prior to the time surveying is required

1.1.4. Attachment I1G, **Section 0330 - Cast-in-Place Concrete**

**Part 1 - General**

**1.3 References**

~~MOC Westinghouse WID~~ Standards

WIPP-DOE-71	Design Criteria Waste Isolation Pilot Plant, Revised Mission Concept -- IIA (DOE, 1984)
WP 03-1	WIPP Startup and Acceptance Test Program (Westinghouse, 1993b)
WP 09-010	Design Development Testing (Westinghouse, 1991)
WP 09-CN3021	Component Numbering (Westinghouse, 1994a)
WP 09-024	Configuration Management Board/Engineering Change Proposal ( <b>ECP</b> ) (Westinghouse, 1994b)



1.m.1 Attachment I2, Table I2-9. Summary of Information Describing Existing WIPP Shafts

Table I2-9. Summary of Information Describing Existing WIPP Shafts  
Shafts

	Salt Handling	Waste	Air Intake	Exhaust
<b>A. Construction Method</b>				
i. Sinking method	Blind bored	Initial 6' pilot hole slashed by drill & blast (smooth wall blasting)	Raise bored	Initial 6' pilot hole slashed by drill & blast (smooth wall blasting)
ii. Dates of shaft sinking	7/81-10/81	Drilled 12/81-2/82 Slashed 10/83-6/84	12/87-8/88	9/83-11/84
iii. Ground treatment in water-bearing zone	Grout behind steel liner during construction	Grouted 1984 & 1988	Grouted 1993	Grouted 1985, 1986, & 1987
iv. Sump construction	Drill & blast	Drill & blast	No sump	No sump
<b>B. Upper Portion of Shaft *</b>				
i. Type of liner	Steel	Concrete	Concrete	Concrete
ii. Lining diameter (ID)	10'-0"	19'-0"	18'-0"/16'-7"	14'-0"
iii. Excavated diameter	11'-10"	20'-8" to 22'-4"	20'-3"	15'-8" to 16'-8"
iv. Installed depth of liner	838.5'	812'	816'	846'
<b>C. Key Portion of Shaft *</b>				
i. Construction material	Reinf. conc. w/chem. seals	Reinf. concrete w/chem. seals	Reinf. concrete w/chem. seals	Reinf. concrete w/chem. seals
ii. Lining diameter (ID)	10'-0"	19'-0"	16'-7"	14'-0"
iii. Excavated diameter	15'-0" to 18'-0"	27'-6" to 31'-0"	29'-3" to 35'-3"	21'-0" to 26'-0"
iv. Depth-top of Key	844'	836'	834'	846'
v. Depth-bottom of Key	883'	900'	897'	910'
vi. Dow Seal #1 depth	846' to 848'	846' to 849'	839' to 842'	853' to 856'
vii. Dow Seal #2 depth	853' to 856'	856' to 859'	854' to 857'	867' to 870'
viii. Dow Seal #3 depth	868 to 891'	NA	NA	NA
ix. Top of salt (Rustler/Salado contact)	851'	843'	841'	853'
<b>D. Lower Shaft (Unlined) *</b>				
i. Type of support	Unlined	Chain link mesh	Unlined	Chain link mesh
ii. Excavated diameter	11'-10"	20'-0"	20'-3"	15'-0"
iii. Depth-top of "unlined"	882'	900'	904'	913'
iv. Depth-bottom of "unlined"	2144'	2142'	2128'	2148'
<b>E. Station *</b>				
i. Type of support	Wire mesh		Wire mesh	Wire mesh
ii. Principal dimensions	21H x 31W	12H x 30W	25H x 36W	12H x 23W
iii. Depth-top of station	2144'	2142'	2128'	2148'
iv. Depth-floor of station	2162'	2160'	2150'	2160'
<b>F. Sump *</b>				
Depth-top of sump	2162'	2160'	No sump	No sump
Depth-bottom of sump	2272'	2286'		
<b>G. Shaft Duty</b>	Construction hoisting of excavated salt; personnel hoisting	Hoisting shaft for lowering waste containers; personnel hoisting until waste receipt	Ventilation shaft for intake (fresh) air; personnel hoisting	Exhaust air ventilation shaft

\*This information is from the MOC Westinghouse-WHD drawings identified on Sheets 2, 3, 7, 8, 12, 13, 17, and 18 of Drawing SNL-007 (see Appendix I2-E)

2.a. 3. Attachment F, Table F-8

**TABLE F-8  
HAZARDOUS RELEASE REPORTING, FEDERAL**

Statute	Chemical Releases Covered	To Whom Report Will Be Made	What Will Be Reported	
			Immediately (Oral)	Subsequently (Written)
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)/Superfund Amendments and Reauthorization Act (SARA) (40 CFR Part 302)	"Reportable quantities" of CERCLA/SARA "hazardous substances."	National Response Center: (800) 424-8802, State Emergency Response Commission: (505) 476-9620 (New Mexico State Police, Hazardous Materials Emergency Response), and Local Emergency Planning Committee: (505) 887-9511	1) Chemical identification; 2) what hazardous substance; 3) quantity released; 4) time, location and duration of release; 5) media of release; 6) health risks and medical advice; 7) proper precautions (e.g., evacuation); and 8) name and phone number of reporter and facility.	As soon as practicable, update of oral notice and response action taken. Send report to: New Mexico State Emergency Response Commission, Department of Public Safety, Title III Bureau, P.O. Box 1628, Santa Fe, New Mexico, 87504-1628, and Local Emergency Planning Committee, 101 West Greene Street, Suite 225, P.O. Box 1430, Carlsbad, New Mexico 88220. National Response Center will contact the U.S. Environmental Protection Agency (EPA). EPA may request a written report.
Emergency Planning and Community Right-to-Know Act (SARA Title III) (40 CFR Parts 302 and 355)	SARA Title III "extremely hazardous substances."	National Response Center: (800) 424-8802, State Emergency Response Commission: (505) 476-9620 (New Mexico State Police, Hazardous Materials Emergency Response), and Local Emergency Planning Committee: (505) 887-9511.	1) Chemical identification; 2) what extremely hazardous substance; 3) quantity released; 4) time, location and duration of release; 5) media of release; 6) health risks and medical advice; 7) proper precautions (e.g. evacuation); and 8) name and phone number of reporter and facility.	As soon as practicable, update of oral notice and response action taken. Send report to: New Mexico State Emergency Response Commission, Department of Public Safety, Title III Bureau, P.O. Box 1628, Santa Fe, New Mexico, 87504-1628, and Local Emergency Planning Committee, 101 W Greene Street, Suite 225, Carlsbad, New Mexico 88220. National Response Center will contact the U.S. Environmental Protection Agency (EPA) for an address if a written report is requested by EPA.