



Department of Energy

Carlsbad Area Office
P. O. Box 3090
Carlsbad, New Mexico 88221

November 9, 2000

407-200

Mr. Steve Zappe
New Mexico Environment Department
P. O. Box 26110
Santa Fe, NM 87502



Subject: REGULATOR WORKSHOP

Dear Mr. Zappe:

Thank you for your participation in the October 17 regulator workshop in Carlsbad. Enclosed are copies of each presentation, minutes from the meeting, and a list of workshop attendees.

We appreciate your support and look forward to meeting with you again.

Sincerely,


Clayton Gist, Project Manager
RH TRU Waste Project

Attachments

CAO:NTP:CG 00-1403 UFC 1010.00



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WORKSHOP ATTENDEES

Workshop held October 17, 2000, in Carlsbad, NM

Charlie Burroughs	TDEC/SWM	L&C Tower, 5 th Floor 401 Church Street	Cburroughs@mail.state.tn.us
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		Carlsbad, NM 88221	
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WORKSHOP ATTENDEES

Workshop held October 17, 2000, in Carlsbad, NM

Name	Organization	Mailing Address	E-Mail Address
Clayton Gist	DOE	P. O. Box 3090 Carlsbad, NM 88221	Gistc@wipp.carlsbad.nm.us
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Steve Holmes	NMED-HWB	P. O. Box 26110 Santa Fe, NM 87502	Steve_holmes@nmenv.state.nm.us
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RH TRU Waste Regulatory Workshop Meeting Minutes

Carlsbad, New Mexico

October 17, 2000

Participants: Inés Triay, CBFO; Clayton Gist, CBFO; Kerry Watson, CBFO; Jody Plum, CBFO; Ralph Smith, CBFO; Gary Riner, OR; Mark French, RL; William Fetner, NMED HWB; Steve Zappe, NMED; Steve Holmes, NMED HWB; Bill Krispin, TN DSWM; Charlie Burroughs, TDEC/ SWM; Jim Kenney, EEG; Matthew Silva, EEG; Ben Walker, EEG; Fred Jamison, WA Ecology; Max Power, WA Ecology; John Owsley, TDEC/SWM; Tod Burrington WID; Bob Kehrman, WID; Steve Kouba, WID; Joann Marshall, WID; Willie Most, WID; Miriam Whatley, WID; Susan Collins, Benchmark, Richie Spangler, Benchmark, and Jacqui Simpson, CTAC

Inés Triay: Welcomed the participants. The NAS report stated that WIPP's characterization activities are overly restrictive and expose workers unnecessarily. WIPP needs to address the NAS concerns.

Clayton Gist: Provided an overview of the agenda and how WIPP operates. The Carlsbad Field Office would appreciate the participants' comments on the format, the structure of the program, and whether you would like to meet again.

Bob Kehrman: Provided an overview of the WIPP project. The facility was selected using well established criteria. WIPP was characterized to determine important performance parameters. Risk assessments show that WIPP will comply with applicable regulations. Information needed for RH TRU waste management can be obtained using knowledge of the waste. WIPP has received ninety-nine shipments from Hanford, RFETS, and INEEL. WIPP expects to receive the one hundredth shipment from RFETS tomorrow.

Miriam Whatley: Provided the path forward for the R-H Waste Program. The purpose of the Workshop is to obtain the regulators perspective on RH TRU regulation issues, RCRA, and RH worker safety concerns. We need to focus on characterization requirements for the permit.

Tod Burrington: Provided an overview of WIPP's RH readiness activities and showed an animation of the waste handling process. WIPP's goal is to receive RH waste by January 30, 2002.

Steve Holmes: Has the RH canister received NRC approval and is it DOT approved? Can sampling be performed as you package?

Bob Kehrman: It is approved as a DOT Type B container. The canister is sealed.

Steve Zappe: Provided a presentation addressing the NMED's Prohibition of RH TRU Waste at WIPP. When developing the draft permit, NMED included RH TRU waste disposal prohibition. The prohibition was based upon a failure to submit an approvable waste analysis plan (WAP) for RH waste. The NMED questioned the applicability of CH waste characterization techniques to RH and the applicants' capability to characterize RH waste. 40 CFR 264.13 provides the basis for an approvable WAP. A detailed chemical and physical analysis of a representative sample of the waste is required. The 1995 Application (Rev 5) proposed to manage RH waste but did not include approvable RH waste. The WAP did not demonstrate DOE's ability to characterize RH waste.

RH prohibition does not undermine WIPP's Mission. The prohibition is not permanent. A vital part of the WIPP mission is to promote the safety of workers health and the environment. The mission includes compliance with applicable law.

The permittees will have to overcome the evidence currently in the 1999 WIPP Permit Public Hearing record which forms the basis for the current RH prohibition. Any request to modify the permit to accept RH waste will most likely entail a public hearing. WIPP's reliance upon process knowledge with no confirmatory process will be a statistical challenge to defend. Lack of sampling and analysis to satisfy 40 CFR 264.13 must be supported by technical, not regulatory, arguments. Mr. Zappe offered to provide copies of last Spring's hearing testimony to the participants. There were no questions from the participants.

John Owsley: Provided a program overview which included information about the Melton Valley TRU Waste Remediation Facility. Tennessee has issued a RCRA permit for the construction and operation of a Mixed TRU Processing and Packaging Facility. Construction is scheduled to begin in December 2000 and it is expected to commence operations in 2002. Tennessee has made activities associated with Mixed TRU waste enforceable milestones under the Tennessee Site Treatment Plan. The waste will be treated to meet WIPP requirements. We are working with the DOE to meet their requirements. Tennessee has assured compliance with the NEPA process for the facility since its inception. Compliance with permit conditions and the oversight of operations will assure the processed and packaged Mixed TRU waste to have exited RCRA and it will be treated as such should interim on-site storage become necessary. Tennessee continues to address site specific problems, such as groundwater contamination and has the largest stored waste inventory in the DOE complex (LLW, MLLW, and MTRU), and institutional issues associated with the location of an on-site major CERCLA waste disposal facility.

Tennessee will support on-site waste characterization efforts by New Mexico. Tennessee welcomes NMED review. Tennessee is prepared to discuss the permit with the NMED and has provided a copy of their permit to Mr. Zappe.

Matthew Silva: Asked what is the rate of anticipated throughput for RH TRU for characterization and shipping.

John Owsley: OR has a January 2003 milestone. The facility has a seven-year life and there is 4,000 cubic meters of waste to be processed. Part of the waste will go to NTS. Not all TRU waste is destined for WIPP as some is non-retrievable.

Gary Riner: We are looking at 750 cubic meters to be processed within eighteen months.

Max Power: Is the waste defense related?

Gary Riner: There is a small amount of CH. It will probably not come to WIPP.

Charlie Burroughs: The permit was issued in 1999 for the Melton Valley TRU Waste Remediation Facility. The permit requires closure of the facility once treatment is complete. There are two waste streams: Sludge and RH TRU heterogeneous debris. Sludge does not contain RCRA elements. Process control samples will be taken. Some will be classified as hazardous due to lead, mercury, and other RCRA items. There are 112 casks in storage, 47 contain lead and 10 contain mercury. Characterization of this waste stream will be performed upon receipt. The waste will be placed in overpacked containers and stored in concrete casks. VE will be performed along with RTR to identify prohibited items. The waste will be treated to meet LDR's. Characterization uses process knowledge.

A Regulators Executive Session took place between 1:00 and 3:00 pm.

Questions and Answers at 3:00 pm, after the Regulator Executive Session:

Bob Kehrman: Mr. Zappe's presentation made WIPP's approach seem haphazard. We knew the RH approval was going to be difficult but we decided to proceed as we needed to preserve the schedule. RH modification is a five-year process. The permit allowed us to begin construction of the RH facility. We now understand what the NMED requires.

Max Power: Washington State is grateful that you initiated these discussions. Hanford is here to learn. Hanford has large amounts of CH and RH TRU waste. We have a facility to treat and package waste which will not come on line until 2006 to 2011. We are concerned about the transportation of RH TRU as is the WGA. Hanford would like you to reconsider the use of rail shipments.

Inés Triay: The NAS felt it imperative to look at other alternatives to ship to WIPP. The high wattage CH waste made it imperative that DOE take a second look at ATMX. We are concerned with abandoning the LWA prohibition that waste is shipped in NRC certified containers.

WIPP will not violate any RCRA laws. We are exploring methods to create a path forward to allow for the disposal of RH TRU waste. It is important to explore with the regulators AK and process knowledge being sufficient. DOE

has not proposed that AK is sufficient. We will concentrate on that portion of the waste that meets RCRA requirements.

Steve Zappe: The NMED appreciates the opportunity to meet today and for future dialogue. The NMED would appreciate having input into the structure, topics, and what the expectations are. The lack of a permit modification constrains us. I would suggest you submit the application, make it technically defensible, justify you are meeting the RCRA regulations, and we will take it from there. The joint NRC/EPA guidance is open for interpretation by each site. The waste to be processed must be WAC compliant. If it is demonstrated to meet LDR's this would be acceptable to New Mexico. The issue is not if it is good enough for Tennessee, but is it good enough for New Mexico. Before calling on EPA guidance because of ALARA guidelines you need to quantify the dangers.

Richie Spangler: Is it possible to draw on other regulatory groups experience?

John Owsley: Additional sampling of RH TRU is not necessary. It is not our intent to ship what New Mexico won't accept. We require sampling on the back end.

Inés Triay: If in one state we can assign hazardous waste codes, can we assign whatever process under the auspices of AK in order to accept those codes in New Mexico? If Tennessee has looked at some documentation, can we take credit for that and how do we do it? Oak Ridge is already managing the waste. How does WIPP take credit for that?

Steve Zappe: We will send you comments on waste characterization. Regardless of what a generator does to determine whether waste is hazardous, they need to meet the requirements of what is required to treat and store the waste. We are not at the stage that we can buy off on that. I don't know what you are proposing to do. It is a definite maybe.

Kerry Watson: The waste is characterized by AK to the satisfaction of the generator state. It allows for the use of process knowledge. Could that be a way of meeting the requirement under 40 CFR 264.13?

Gary Riner: What does the State of Washington require?

Max Power: We will be happy to make information available on ETG. We have issues at the site in terms of the level of knowledge we are trying to resolve. If your waste acceptance criteria is not directive it will affect other regulators.

Inés Triay: Is there any way to come to a meeting of the minds to do waste characterization one time? If this has been done once satisfactorily, can we take credit for this?

Steve Zappe: The proof will be in what you submit. Float it and we will take a look at it.

Max Power: We want this to be successful. I think there is a way not to do things twice. Asked that you be thoughtful about what you say and how you say it. We will try to work with New Mexico on a regulatory basis.

Gary Riner: The ability to characterize RH can be documented. What is the timing for a Class 3 permit modification?

Steve Zappe: There is a 60-day comment period. There could be as little as a two month turnaround but I don't know how long it might take. We have no agenda that says we don't want RH waste at WIPP ever. It will be evaluated on the technical basis.

Clayton Gist: The follow-on meeting should take place after the permit modification is submitted. We will solicit your comments on the structure, agenda, and seek your input. The workshop adjourned at 5:00 p.m.

RH TRU Waste Characterization: Defining the Path Forward

*Miriam Whatley, Manager
RH Characterization
Westinghouse*



Purpose

Describe the next steps WIPP must take to initiate safe disposal of Remote-Handled TRU waste

Focus on RH TRU characterization requirements necessary to meet 40 CFR 264.13

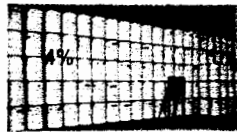
Set the stage for this afternoon's discussions

Disposal of Remote-Handled TRU Waste Continuing the WIPP Mission

Consultation and Cooperation Agreement and the Land Withdrawal Act:

- WIPP may receive up to 7,080 cubic meters of RH TRU, defense waste with a limit of 5.1 million curies from RH TRU

(~4% of the total WIPP waste volume: 175,600 cubic meters)



Remote Handled TRU Waste

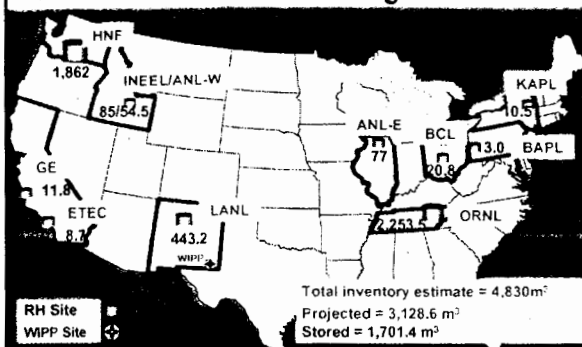
Homogeneous solids, debris, soil/gravel

200 millirems - 1,000 rems per hour dose rate at package surface

Non-mixed and mixed with hazardous constituents

Alpha, beta, gamma and neutron-emitting

RH-TRU Generator/Storage Sites 10/13/00



WIPP RH Authorization Basis

- Land Withdrawal Act
- NEPA Records of Decision
- Facility Safety Analysis Report/Technical Safety Requirements
- EPA Certification Final Rule
- Hazardous Waste Facility Permit

Modification Needed

Hazardous Waste Facility Permit

October 1999

Miscellaneous Unit Permit

- Authorizes Contact-Handled TRU waste storage and disposal
- Establishes "performance standards" to comply with 40 CFR 264.601-602
- Provides Waste Analysis Plan for Contact-Handled TRU waste to comply with 40 CFR 264.13 requirements.

Contact-Handled Waste Analysis Plan Requirements

- Characterization
 - Acceptable Knowledge
 - Headspace Gas Sampling and Analysis
- Confirmation of Acceptable Knowledge
 - Radiography
 - Visual Examination
 - Solids Sampling
 - Headspace Gas Sampling and Analysis
 - Data Management
- Audit Program

The Remote-Handled Prohibition

- RH Waste is Prohibited Because:** The DOE did not provide documentation that RH-TRU waste could be characterized in accordance with the hazardous waste regulations
- Solution:** Performance-Based, RH-specific Waste Analysis Plan

What Does "Performance-Based" Mean?

PBMS [performance-based measurement system] conveys "what" needs to be accomplished, but not prescriptively "how" to do it.

EPA, OSWER Performance-Based Measurement System (PBMS) Implementation Plan

What = "...all the information which must be known to treat, store, or dispose of the waste..."

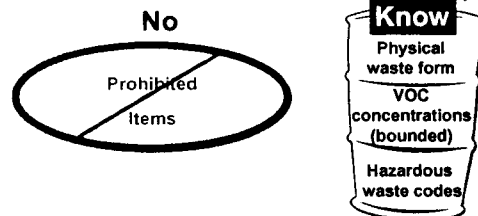
20.4.1.500 NMAC (40 CFR 264.13)

What Does "Performance" mean In Terms of the WIPP Facility?

- Air only pathway for hazardous release during operational phase
- Repository performance would not be compromised even if repository-sensitive parameters were maximized

Remote-Handled Waste Analysis Plan

What Is Proposed



How = Reliance on Acceptable Knowledge where possible

What is Acceptable Knowledge

Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste

Process knowledge

- Records of analyses performed by generator or TSDF prior to the effective date of RCRA regulations; or,
- A combination of the above information, supplemented with chemical analysis.

Remote-Handled Waste Analysis Plan

What's **Not** Proposed

Why No Headspace Gas Sampling?

RH constitutes small fraction of allowable emissions
RH emissions can be bounded by reducing permit's room-based limits



Why No Solids Sampling?



Because of high radiation, small size samples are analyzed and large sample dilution is required
Analyses provide data that are not useful for regulatory determinations

Why this Approach? ALARA

Safety

Waste knowledge alone may be the *most appropriate method* to characterize mixed waste streams where increased radiation exposures are a concern.

Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste

Repository Performance

Qualitative data may be all that are needed

Only collect data relative to "the site decision"

EPA TIO Guidance



Summary

- Remote-handled TRU waste disposal is part of the WIPP's original mission
- Authorization basis for remote-handled waste must be completed
- WIPP preparing permit modification requests to allow remote-handled disposal
- Permit modifications include an RH-specific Waste Analysis Plan
- Proposed Waste Analysis Plan is "performance-based"
- Desired outcome is to focus on use of acceptable knowledge, when possible and integrate ALARA considerations with RCRA compliance

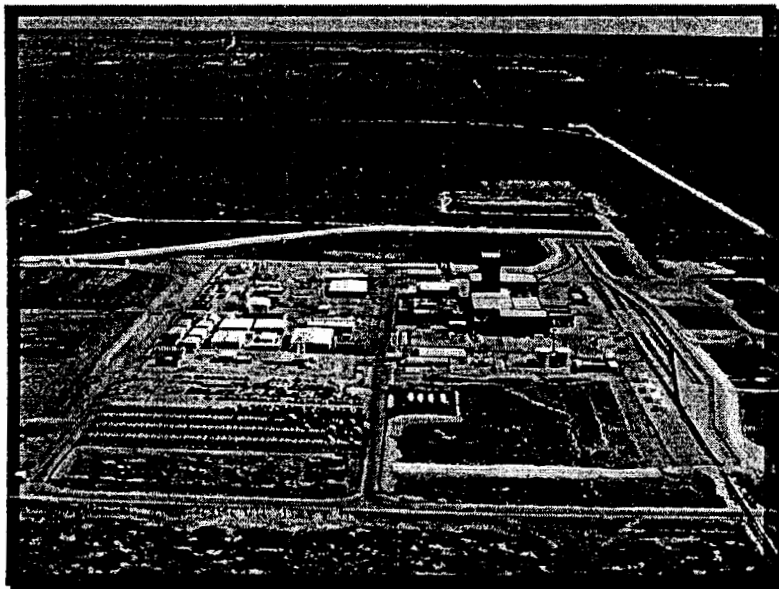
...What Does this Mean to You?

- Performance-based Waste Analysis Plan is a different approach for WIPP
- We need **your** perspectives

RH Generator/
Storage Sites



WIPP



The Waste Isolation Pilot Plant Overview

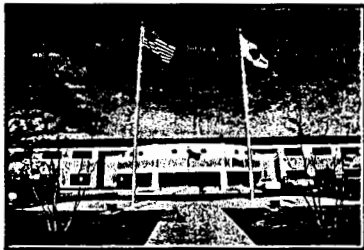
**Robert Kehrman, Manager
Requirements Management Project
Westinghouse**

**Regulator Workshop
October 17, 2000
Carlsbad, NM**

Topics

- **Who we are**
- **Where WIPP is located and what does it look like**
- **Brief WIPP Chronology**
- **How we know it is the the right place for Transuranic Waste Disposal**
- **What we have to know about the RH-TRU waste to keep WIPP safe**
- **Where the waste will come from and how much we have disposed so far**

**United States Department of Energy
Assistant Secretary for
Environmental Management**



Carlsbad Field Office

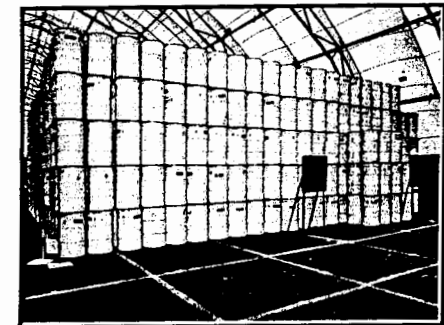
**Waste Isolation
Pilot Plant**



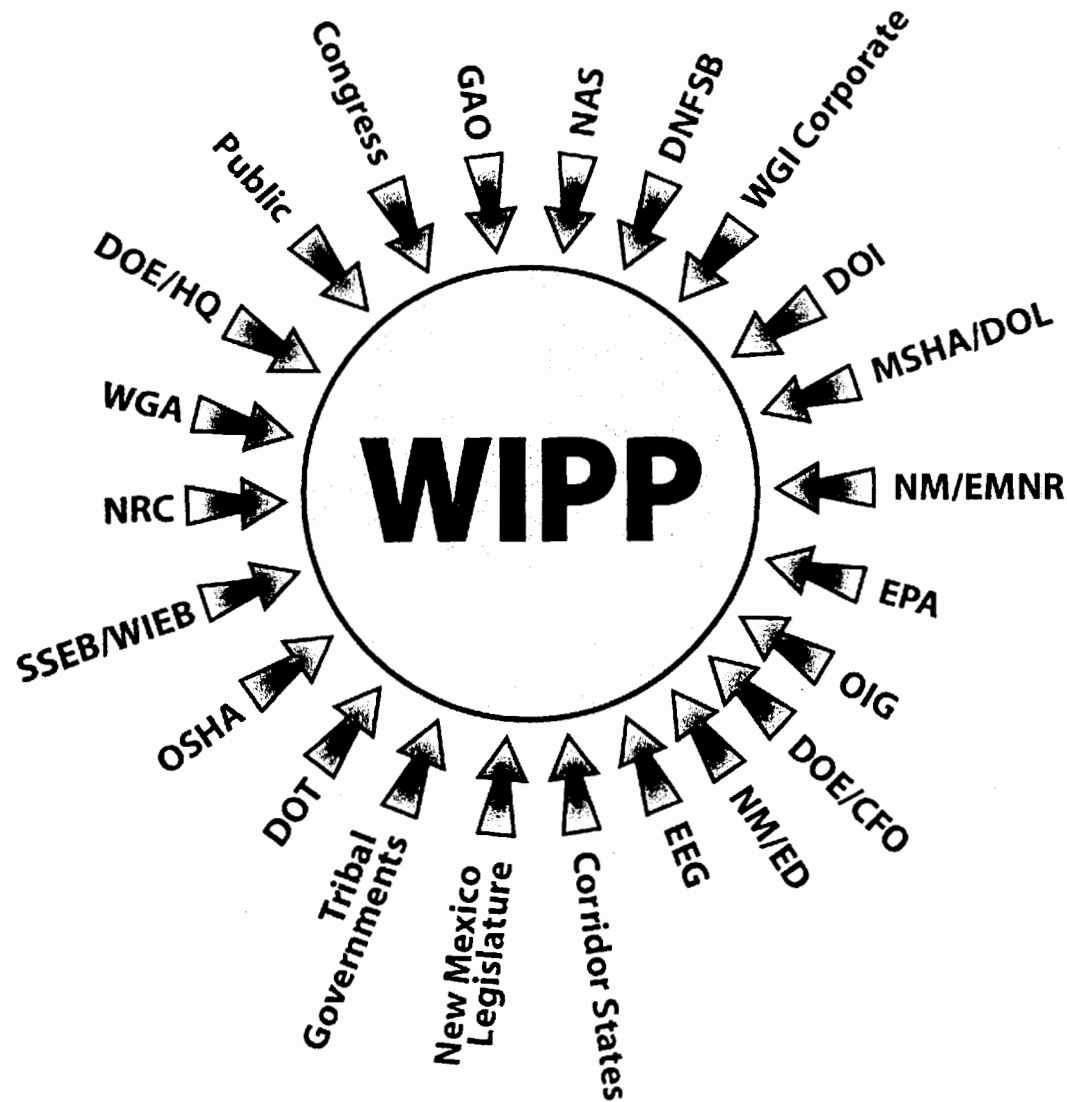
**Primary
Participants**

**Westinghouse
Los Alamos National Laboratory
Sandia National Laboratories
CTAC**

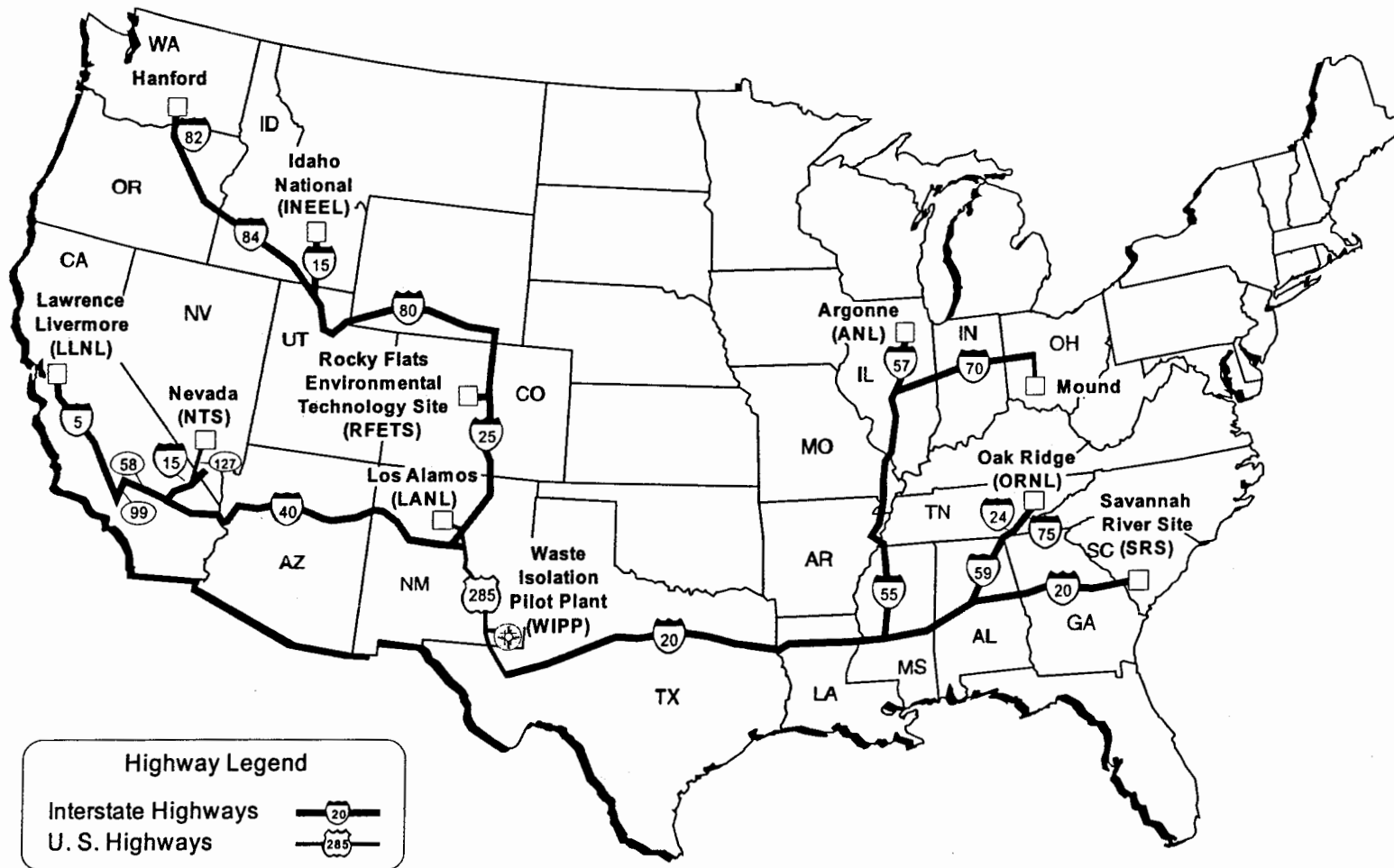
**National
TRU Program**



WIPP's Oversight / Stakeholders

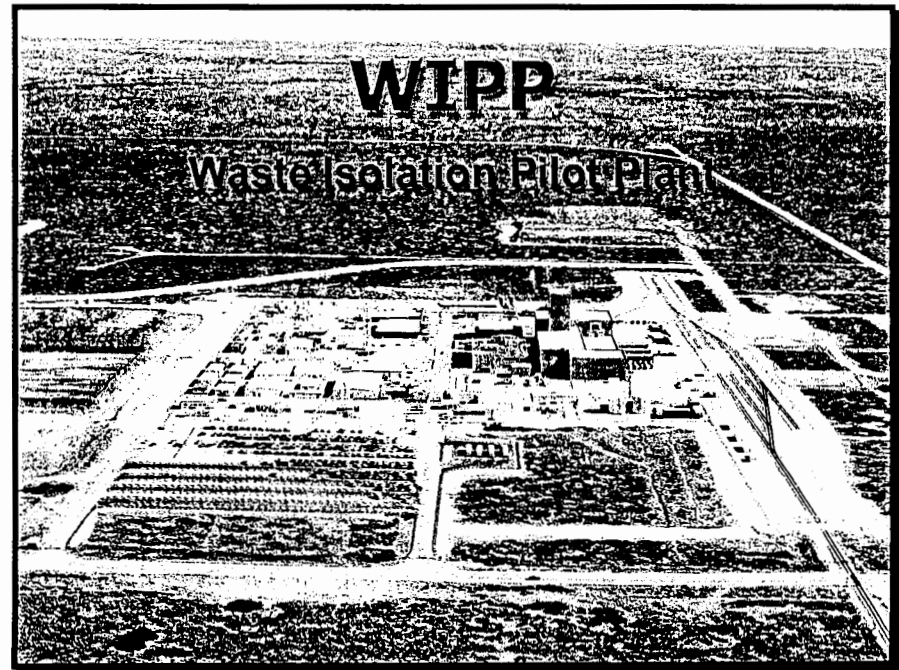


Where WIPP is Located



Where WIPP is Located

- Northern Chihuahuan Desert
- 33 miles east of Carlsbad, NM
- Eddy-Lea County Line
- 16 Sections of Federal Land (10,240 Acres)



1. 2.



Brief WIPP Chronology

- **1955 - National Academy of Sciences recommends salt as host rock**
 - Identified areas to investigate
 - Identified favorable siting criteria
- **1974 - Atomic Energy Commission selects site near Carlsbad for exploratory work**
- **1979 - Congress authorizes WIPP for research and development for safe disposal of defense-generated radioactive waste that are exempt from Nuclear Regulatory Commission (NRC) (PL 96-164)**
- **1980 - DOE issues Final Environmental Impact Statement (FEIS)**

Brief WIPP Chronology (*cont.*)

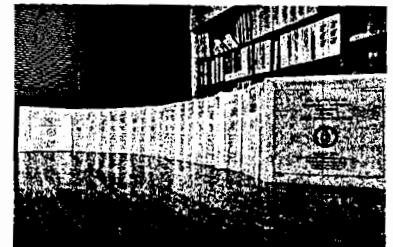
- **1981 - DOE issues Record of Decision**
- **1981 - DOE begins construction of WIPP Exploratory Shaft**
- **1985 - EPA issues radioactive waste disposal standards applicable to WIPP**
- **1986 - EPA states facilities must comply with Resource Conservation and Recovery Act (RCRA) for disposal of mixed (hazardous and radioactive) waste**
- **1990 - New Mexico is authorized by EPA to regulate mixed waste**

Brief WIPP Chronology (*cont.*)

- **1990 - DOE issues first Supplemental Environmental Impact Statement (SEIS)**
- **1991 - DOE submits Parts A and B of the RCRA Permit Application to New Mexico**
- **1992 - WIPP Land Withdrawal Act**
 - **Permanently segregates land for WIPP**
 - **Gives EPA regulatory authority to certify WIPP compliance to 40 CFR 191**
- **1995 - DOE submits revised RCRA Permit Application to New Mexico Environment Department (NMED)**

Brief WIPP Chronology (cont.)

- 1996 - EPA issues 40 CFR 194, compliance criteria in February
 - DOE submits 84,000 page Compliance Certification Application to EPA
- 1998 - DOE issues SEIS II in January
 - EPA certifies WIPP ready for disposal
 - New Mexico Environment Department issues draft hazardous waste facility permit (HWFP) for disposal of transuranic mixed waste



Brief WIPP Chronology (*cont.*)

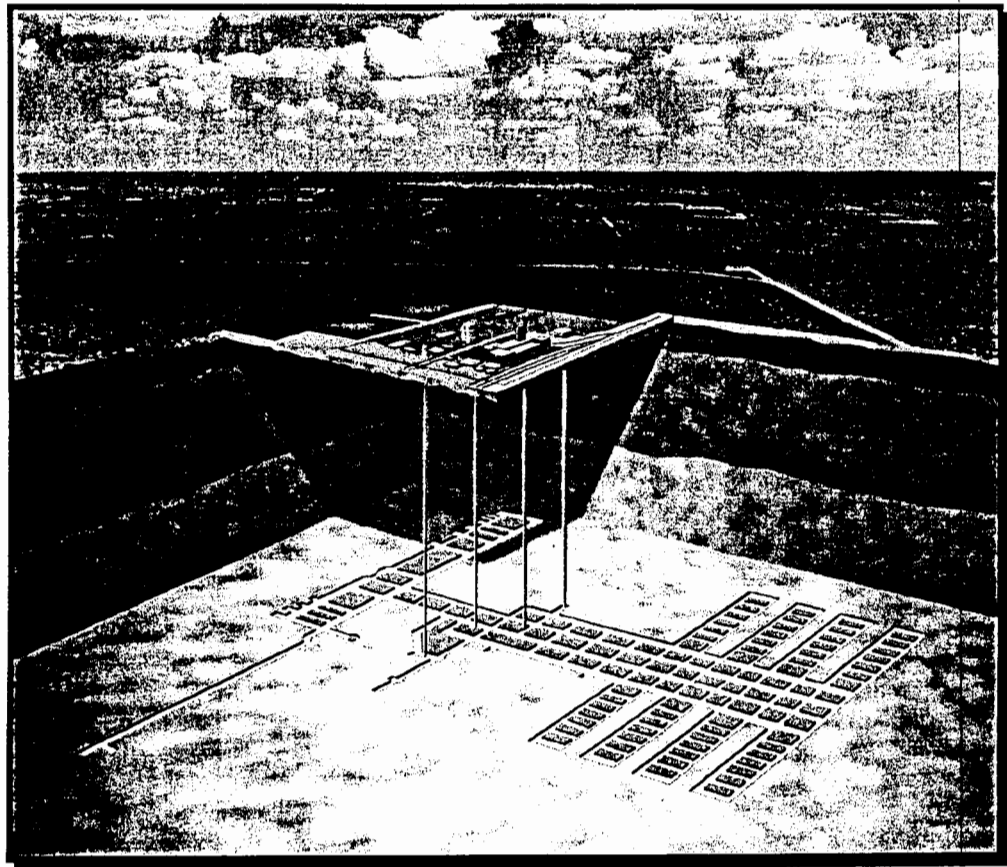
- **1999 - First shipment non-mixed waste in March**
 - **New Mexico Environment Department issues Hazardous Waste Facility Permit in October**
- **2000 - First shipment of mixed waste in September**

How We Know it is the the Right Place for TRU Waste Disposal

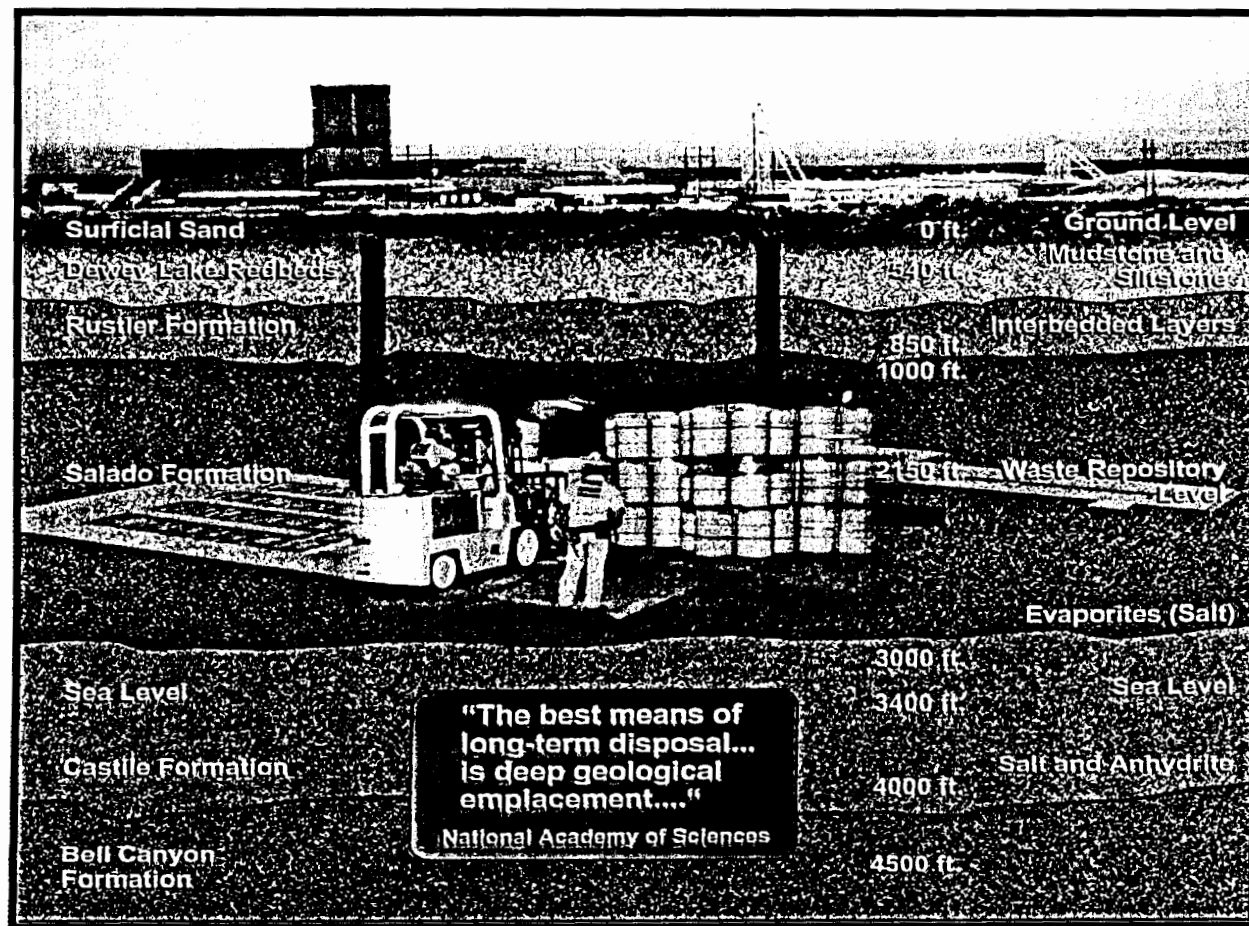
- **DOE selected the best site available**
- **Performed risk assessments to evaluate the site**
 - **RCRA - 300 years**
 - **40 CFR 191 - 10,000 years**
- **Regulatory Agencies have accepted our risk assessments**

The Best Site Available

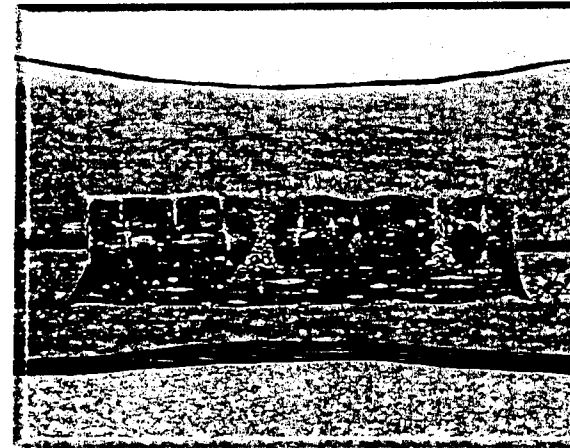
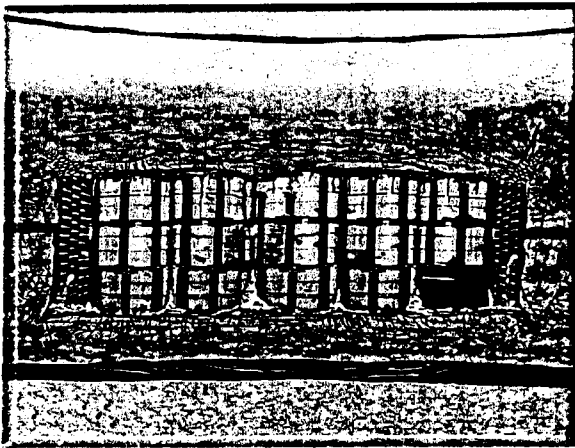
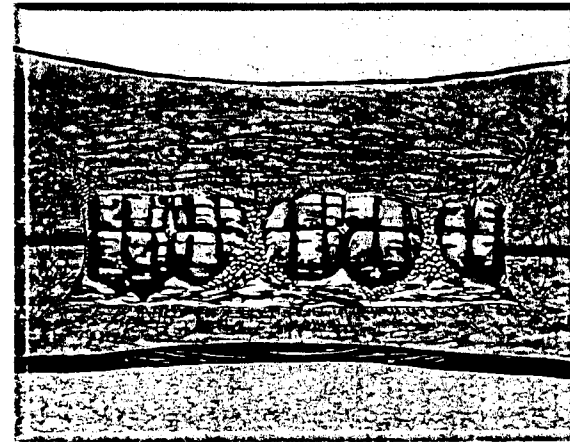
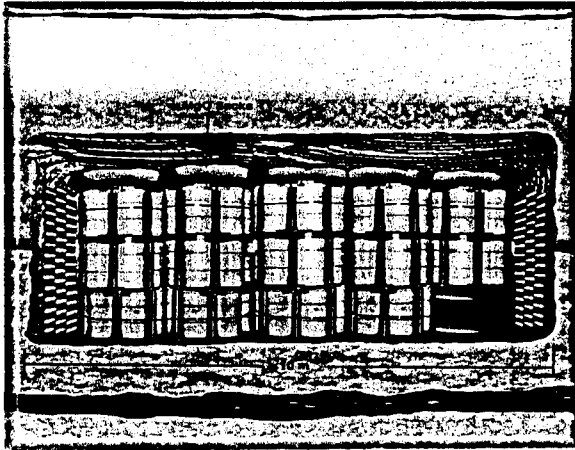
- Isolated location
- Geologically stable
- Thick salt formation
- Reasonable depth
- Little groundwater
- Resource considerations



The Best Site Available



The Best Site Available



Performed Risk Assessments to Evaluate the Site

- **Geology, Hydrology, Climate, Seismology, etc.**
 - Hundreds of parameters
- **Waste**
 - Chemical, physical, radiological properties
 - Packaging
 - Inventory
- **Events and Processes**
 - Natural
 - Manmade

Performed Risk Assessments to Evaluate the Site

- **Probabilistic assessments**
- **Predicted performance for 10,000 years**
- **Complies with EPA standards by a factor of 10**

Performed Risk Assessments to Evaluate the Site

- **Used a 300-year subset for RCRA**
- **Result is no releases from the closed facility**
- **Only the air pathway is important during operations**

Performed Risk Assessments to Evaluate the Site

- **Important Parameters determined by the RCRA risk assessment**
 - **Moisture Content**
 - **Prohibited Items**
 - **Reactive**
 - **Corrosive**
 - **Ignitable**
 - **Chemical/Physical Properties**
 - **Volatile Organic Compound concentrations in the container headspace**
 - **corrodible metals**
 - **plastics, cellulosics, rubber**

Performed Risk Assessments to Evaluate the Site

- **These parameters are related to Permit Conditions**
 - **VOC** **Room limits**
 - **Moisture** **<1%**
 - **Prohibited Items** **None Allowed**
 - **Metals** **Track (Minimum)**
 - **Organics** **Track (Maximum)**
- **We re-evaluated these parameters for RH-TRU waste**

What We Have to Know About the RH-TRU Waste to Keep WIPP Safe

- **In the Risk Assessment for RH-TRU waste we show that::**
 - **Moisture does not matter**
 - **Organics (rubber, plastic, cellulosics) do not matter**
 - **Metals are bounded by the CH-TRU waste**
 - **VOCs can be accounted for by lowering the room limits**

What We Have to Know About the RH-TRU Waste to Keep WIPP Safe

- **This is because:**
 - **RH-TRU is a small percentage of the total waste in the repository**
 - **Repository performance is not compromised if these parameters are taken to extremes**

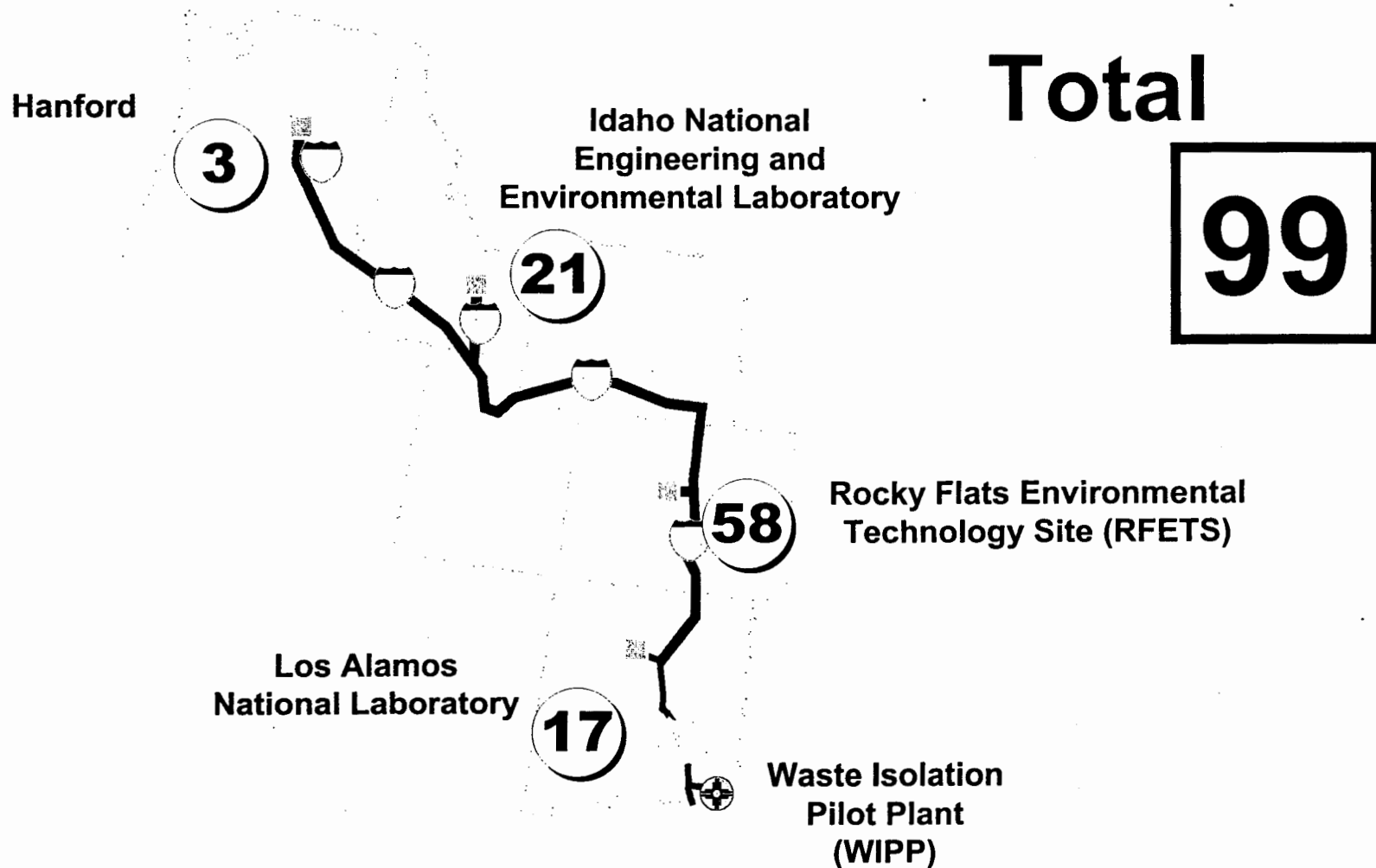
What We Have to Know About the RH-TRU Waste to Keep WIPP Safe

- **For RH-TRU waste, the following parameters are needed to assure the waste can be managed safely and in accordance with RCRA:**
 - **No prohibited items**
 - **Hazardous waste codes**
 - **Physical form of the waste**
- **These can be determined using knowledge of the waste.**

Summary

- Facility was selected using well established criteria
- WIPP was characterized to determine important performance parameters
- Risk assessments show that WIPP will comply with applicable regulations
- Information needed for RH-TRU waste management can be obtained using knowledge of the waste.

WIPP Has Received Waste From Four Sites *(as of 10-17-00)*



NMED's Prohibition of Remote Handled TRU Waste at WIPP

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Outline of Presentation

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- **Regulatory standard**
- **Waste analysis plan as submitted in permit application**
- **Legal basis for RH prohibition**
- **RH-related events since permit hearing**
- **Conclusions**

Introduction

- **When developing the draft permit, NMED included RH TRU waste disposal prohibition**
- **Prohibition based upon failure to submit approvable waste analysis plan (WAP) for RH waste**
- **NMED also questioned applicability of CH waste characterization techniques to RH, and Applicants' capability to characterize RH waste**

Regulatory Standard

- **40 CFR 264.13 provides basis for an approvable WAP:**
 - (a)(1) Before an owner treats, stores, or disposes of any hazardous waste... he must obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste...**
 - (b) The owner and operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section...**

WAP As Submitted

- **Did not address RH Waste**
- **Assumed CH characterization techniques can be applied to RH waste**
- **DOE did not demonstrate capability to characterize RH waste**

WAP Did Not Address RH Waste

- **1995 Application (Rev 5) proposed to manage RH waste, but did not include approvable RH WAP**
- **Application acknowledged that the proposed WAP applied to CH waste, and that RH methods had not yet been developed**
 - Conflicting statements regarding applicability of WAP to RH (e.g., WAP in Rev 5 and TRU Waste QAPP vs. WAP in Rev 6)**
 - TRU Waste Methods Manual (1995) would include RH methods as they were developed and approved by WIPP**

WAP Did Not Address RH Waste (Continued)

- **NMED issued Notice of Deficiency on Rev 5**
 - Applicants responded Dec 1995: “At this time, detailed information on RH TRU waste characterization methods is not available.”
- **Applicants submitted application in 1996 (Rev 6)**
 - Asserted CH methods applied to RH waste
 - Included no detailed procedures for RH waste
- **Applicants’ public comments on draft permit (1998)**
 - Concede WAP procedures cannot be applied to RH waste

WAP Assumed CH/RH Techniques Are Comparable

- **However, substantial questions remained:**
 - No evidence to support conclusion they're comparable
 - No explanation how to radiograph lead-lined RH containers
 - Failed to address applicability of coring technology to RH
 - Failed to address if modifications were required to use CH techniques in radiation containment areas
 - No mention of additional equipment, increased time and costs, radiation safety, secondary waste issues
 - No mention of potential problems adapting RCRA methods to RH waste (interference, gas generation, other limitations)

WAP Assumed CH/RH Techniques Are Comparable (Continued)

- **More questions**
 - **Failed to describe procedures for obtaining representative samples of RH waste, considering radiation protection requirements**
 - **Failed to described QA/QC requirements for sampling and analysis of RH waste**
 - ♦ **accuracy and precision for samples collected under ALARA principles**
 - ♦ **QC criteria applicable to data collected by methods subject to sampling and analysis limitations**
- **NMED's conclusions supported by NM Attorney General and NM Environmental Evaluation Group**

WAP Did Not Demonstrate DOE's Ability to Characterize RH Waste

- **DOE's Remote-Handled Transuranic System Assessment (DOE/CAO-95-1143, Nov '95), Appendix C, acknowledges DOE's lack of capability to characterize RH waste**
 - **Surface dose renders certain instrumentation unsuitable**
 - **No technology to radiographically examine RH containers**
 - **Facilities would require modification for use on RH waste**
 - **Facilities intending to ship RH to WIPP have no plan to develop capability to conduct radiography or visual examination; most have no intent to conduct gas sampling or chemical analysis**

WAP Did Not Demonstrate DOE's Ability to Characterize RH Waste (Continued)

- **NMED recognizes DOE may have conducted more research since 1995**
- **If so, such information was never provided to NMED in support of RH characterization for the permit**

Legal Basis for RH Prohibition

- **Applicants challenged NMED's prohibition as improper with regards to:**
 - WIPP Land Withdrawal Act
 - Atomic Energy Act
 - Reliance on the Methods Manual
 - Undermining WIPP's mission
- **NMED successfully defended its prohibition related to each argument**

RH Prohibition Does Not Violate WIPP Land Withdrawal Act (LWA)

- **LWA Section 7(a) may authorize RH disposal, but Section 9(a)(1) requires compliance with federal law, including RCRA**
- **The only exemption from RCRA in LWA is for treatment standards and land disposal restrictions**
- **Applicants must obtain RCRA permit, submit application which includes approvable WAP**
- **Prohibition of RH complies with RCRA, and therefore does not violate WIPP LWA**

RH Prohibition Does Not Violate Atomic Energy Act (AEA)

- **Applicants asserted prohibition based on radiation surface dose of RH waste**
 - **Constituted illegal regulation of radioactive materials in violation of AEA**
- **NMED's prohibition based on failure to demonstrate ability to characterize RH waste and, therefore, the hazardous constituents associated with RH waste**

RH Prohibition Does Not Rely on Methods Manual

- **Methods Manual may have been part of application, but permit application conceded inability to characterize RH waste**
- **Although RH methods promised in application, specific methods never provided**
- **Prohibition reflects utter lack of information in the record**

RH Prohibition Does Not Undermine WIPP's Mission

- **Prohibition is not permanent**
 - Applicants may seek to modify the permit, provided they submit detailed RH waste characterization methods
- **Vital part of WIPP's mission includes protecting human health and environment**
- **Mission also includes compliance with applicable law**
- **Applicants “should not be offended by the correct application of the law”**

RH-related Events since Permit Hearing (March 1999)

- **Assurances given by DOE's Mike Brown at WIPP Quarterly Meeting in Spring 1999 that RH characterization methods were being actively developed**
 - No further information ever provided
- **Presentation by Permittees of proposed approach to RH waste disposal, August 2000**
- **This workshop, October 2000**

Conclusions

- **Permittees will have to overcome the evidence currently in the 1999 WIPP Permit Public Hearing Record which forms the basis for the current RH prohibition**
- **Any request to modify the permit to accept RH waste will most likely entail a public hearing**
- **Reliance upon process knowledge with no confirmatory process will be a substantial challenge to defend**
- **Lack of sampling and analysis to satisfy 40 CFR 264.13 must be supported by technical, not regulatory, arguments**

Further Information

- **NMED WIPP Information web site**
—<http://www.nmenv.state.nm.us/wipp/>
- **E-mail**
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