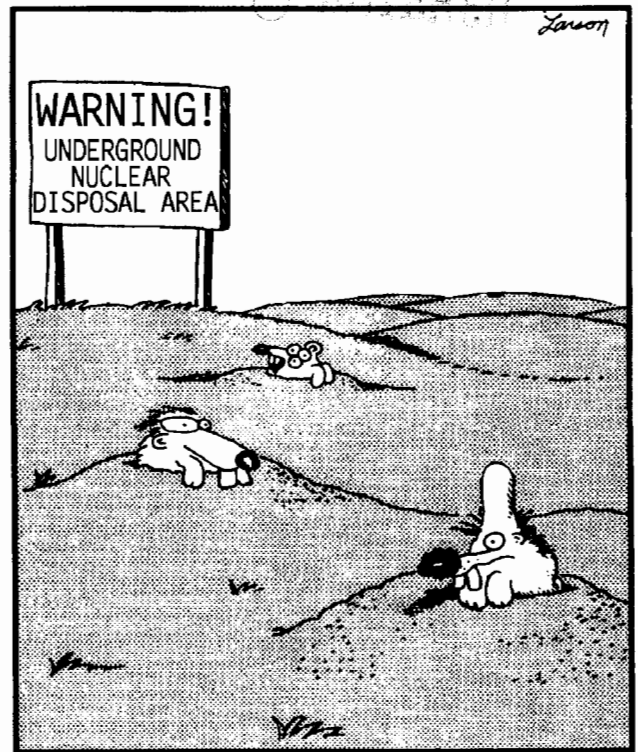


State of New Mexico  
ENVIRONMENT DEPARTMENT  
Hazardous & Radioactive Materials Bureau  
2044-A Galisteo Street (87505)  
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### FAX COVER SHEET

Date: March 21, 1997  
To: Dawn Amore  
Company: Environmental Health Center  
Telephone: 202/293-2270, x483  
Fax: 202/293-0032



From: *SJB* Steve Zappe

Number of Pages (including this cover sheet): 17

### COMMENTS

Dawn -

This fax is to follow up on our conversation Wednesday, March 19. Enclosed is a copy of my unofficial Q&A fact sheet I give to folks in our department to provide some background information about WIPP. Also enclosed is a copy of the RCRA article that appeared in last year's "TRU Progress", which I didn't author but I did provide editorial comments. Finally, I have included a presentation I made at the New Mexico Conference on the Environment last year which describes the RCRA permitting procedure. It contains several dates which are no longer valid, but these two pieces should provide you with enough information about the State's permitting process to decide if you want to create a RCRA backgrounder in your series.

I also spoke with WIPP about our plans for a tour, and the date has been shifted to occur after the WIPP Quarterly meeting in Carlsbad. The meeting is still scheduled for Thursday, May 1, but we changed the tour to Friday, May 2, from 8 AM to 12 noon. If you are still interested in participating in our tour, please let me know so we can coordinate and provide your name to the WIPP tour coordinator. Thanks, and happy reading!

*Steve*



# Questions and Honest Answers About WIPP

Steve Zappe, NMED

January 1996 (revised February 1997)

## What is WIPP?

WIPP is an acronym for "Waste Isolation Pilot Plant." WIPP is described by Public Law 96-164 as a U.S. Department of Energy (DOE) facility designed to demonstrate the safe handling, transportation, and disposal (in natural bedded salt formations) of transuranic waste resulting from defense activities and programs.

## What is transuranic (TRU) waste?

"Transuranic" means radioisotopes heavier than uranium, such as plutonium and americium. DOE defines transuranic waste as "waste contaminated with alpha-emitting radionuclides of atomic number greater than 92 and half-lives greater than 20 years in concentrations greater than 100 nanocuries per gram." The design, development, testing, and production of nuclear weapons for the nation's defense program created TRU waste. Cleanup of weapons sites and dismantling thousands of weapons will generate even more TRU waste. Most TRU waste emits less intense radiation and generates less heat than fission products, but typically remains toxic for centuries and requires the same long-term isolation as high-level waste. For example, plutonium 239 has a half-life of 24,360 years.

DOE distinguishes between two classes of TRU waste: contact-handled, or CH-TRU waste, and remote-handled, or RH-TRU waste.

CH-TRU waste is alpha-emitting TRU waste with a surface dose rate not greater than 200 millirem/hour. Alpha radiation is the least penetrating type of radiation and can be stopped by a sheet of paper or skin. Alpha particles may be very harmful if inhaled, ingested, or otherwise admitted into the body, such as through a cut in the skin. CH-TRU waste is handled using minimal protective clothing, such as cloth or paper garments and surgical masks.

RH-TRU waste is TRU waste with a surface dose rate exceeding 200 millirem/hour. The maximum dose rate for RH-TRU at WIPP is 1000 rem/hour, and no more than 5% of all RH-TRU waste at WIPP may exceed 100 rem/hour. RH-TRU waste also emits beta and gamma radiation, which require greater levels of shielding. As the name implies, this waste must be handled remotely and shielded heavily to reduce the risk of exposure to workers and the public.

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TRU waste comes in several physical forms which can be broken down into three broad categories:

Homogeneous solids, or solid process residues, which include a variety of residues and sludges from weapons production processes that have been solidified with cement or other materials which bind with fluids to form a solid.

Soils and gravels, which usually result from decontamination or cleanup activities at weapons facilities.

Debris wastes, which include a wide variety of "trash" generated at weapons facilities, such as rubber gloves, paper or cloth protective wear, laboratory glass, rags, plastic bags, and other larger items which are contaminated with TRU radiation.

Any TRU waste that is also contaminated with or contains hazardous chemical constituents such as solvents, other organic compounds, or heavy metals is considered a "mixed TRU waste," and can also be disposed of at WIPP.

#### **How much waste will be disposed of at WIPP?**

By law (Public Law 102-579, also known as the WIPP Land Withdrawal Act, or LWA), the capacity at WIPP will not exceed 6.2 million cubic feet of TRU waste. This is roughly equivalent to 840,000 55-gallon drums of waste which, if stacked on a football field from end zone to end zone and between the sidelines, would reach about 15 stories high. Of the two types of waste, approximately 97% by volume will be CH-TRU waste, and the remaining 3% by volume will be RH-TRU waste.

#### **What types of waste will not be shipped to WIPP?**

Non-defense related TRU waste will not be accepted at WIPP, as it is prohibited by both Public Law 96-164 and the WIPP LWA. A controversy developed in late 1995 over DOE's proposed definition of "defense-related" waste, which stated that all TRU waste under the control of the U.S. Government was generated by atomic energy defense activities. This definition was ultimately discarded, and now includes only those activities described in the Nuclear Waste Policy Act of 1982.

High-level waste from reprocessing used fuel from weapons production reactors, and commercial spent nuclear fuel, will not be sent to WIPP. High-level waste generates much heat and requires heavy shielding to protect humans and the environment from its penetrating radiation. DOE is currently developing a geologic repository for high-level waste at Yucca Mountain in Nevada. The Mescalero Apache tribe in southern New Mexico are also considering a facility (known as the Fuel Storage Initiative) which would provide interim storage for commercial spent nuclear fuel on their land until a final

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repository can be built. However, negotiations between the nuclear power consortium and the Mescalero tribe have stalled.

Low-level waste is any radioactive waste that isn't high-level, TRU, or uranium mill tailings. Most low-level waste is short-lived and has low levels of radioactivity, while some forms present a greater hazard. It is generated by a variety of sources, such as hospitals, laboratories, industrial plants, as well as nuclear power plants and government/defense laboratories. Some of it may be disposed of by shallow burial, whereas others require more stringent control and must be placed in a geologic repository. One site currently under consideration for disposal of low-level waste is in Ward Valley, located in the Mojave Desert west of Needles, California.

### **Where is WIPP located?**

WIPP is located in Eddy County 26 miles east of Carlsbad, New Mexico, in an area known as Los Medaños (The Dunes). This area is relatively flat and sparsely inhabited with little water and limited land uses. Most of the land is federally or state owned and is used principally for grazing. Other uses of land in the area include potash mining and oil and gas exploration.

Surface water is generally absent at WIPP. The nearest large surface-water body is Laguna Grande de la Sal, a shallow brine pond located about 10 miles southwest of WIPP in Nash Draw. The only other surface water is the Pecos River, located 12 miles southwest of the facility. The area receives roughly 12 inches of rain in a year, of which up to 95% is lost to evapotranspiration.

### **What does the WIPP facility look like?**

On a map, the WIPP site boundary encompasses 16 square miles of land near the Eddy and Lea County line, as described in the WIPP LWA. At the center of the site is the Property Protection Area, which is marked by a fence enclosing the surface buildings of the facility. The prominent feature (besides the dunes and scrub brush) is the Waste Handling Building, the structure supporting waste disposal activities into the underground. Inside, the waste will be unloaded from the transporter, removed from the shipping container, and staged for disposal underground. The Waste Handling Building is divided into two sections: one side handles the CH-TRU waste, which requires minimal protective clothing, and the other side handles RH-TRU waste, which requires waste to be handled either in heavily shielded casks or inside a "hot cell" facility using remote manipulators. The waste then travels down a special elevator from the Waste Handling Building to the underground.

The waste will be disposed 2150 feet below the surface in bedded salt known as the Salado Formation. Here, a series tunnels, access drifts, and areas have been mined from the salt, as well as four vertical shafts which provide ventilation and access from the surface. The fundamental disposal unit is call a room, which measures 300 feet long,

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33 feet wide, and 13 feet high. RH-TRU waste will be placed in boreholes drilled into the walls of a room, and CH-TRU waste will be stacked on the available floor surface. Seven rooms and their access drifts comprise a panel, and WIPP will have to mine a total of eight panels to hold all 6.2 million ft<sup>3</sup> of TRU waste. Currently, only Panel 1 has been excavated.

### **Why dispose of TRU waste in salt?**

The rationale for preferring salt as the disposal medium for nuclear waste resulted from two decades of research and studies by the National Academy of Sciences, the Atomic Energy Commission, and the Department of Energy. Salt has unique thermal and physical properties which provide high levels of assurance that waste may be kept isolated from the accessible environment for a long time:

- It has a relatively high thermal conductivity, which serves to rapidly conduct heat away from the source.
- It has favorable plastic, or creep, properties that permit sizeable strains to be absorbed without fractures - that is, salt will slowly and progressively move in to fill a void and encapsulate the waste.
- Its existence demonstrates isolation from circulating groundwaters for long periods of geologic time, since fresh water would have dissolved the salt beds had it been present.
- The depositional nature and preservation of massive bedded salt deposits demonstrate regional stability for long periods of geologic time, unlike salt domes in the Gulf Coast areas of Texas and Louisiana.
- It is relatively easy to mine.

The Salado Formation is roughly 3000 feet thick at WIPP and is of Permian age, or approximately 225 million years old. Although there is no fresh water in the Salado, the formation does contain minute but measurable quantities of brine which weep or flow from newly mined surfaces. It is this brine which provides the mechanism for the salt's creep properties.

### **What is the general geology at the WIPP site?**

To be completed at a later date...

### **What are the favorable conditions at WIPP?**

Besides the conditions inherent in salt disposal as mentioned earlier, other features which improve the likelihood of isolating waste at WIPP for long periods of time include:

- It is deep enough for waste isolation, reducing the potential for dissolution of salt by surface water or shallow groundwater, yet near enough to the surface to make access reasonable and cost-effective.

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- Infiltration of surface waters is unlikely, due to the low average rainfall and high evapotranspiration rate.
- It is sited over a structural syncline, making the accumulation of oil or gas in the underlying sedimentary zones unlikely.
- It is relatively uninhabited, and is likely to remain that way due to government control of land, limited water, and inhospitable environment.

### **What are the unfavorable conditions at WIPP?**

The WIPP site does have some problems, which opponents are eager to point out. These include:

- Brine in the Salado will corrode the steel drums containing the waste, generating gases and providing the driving force to expel waste from the repository to the accessible environment. The complex interaction between brine, oxygen, and steel as a function of their availability over time is the subject of much debate and disagreement. DOE is attempting to mitigate the effect of gas generation by adding magnesium oxide as a backfill material.
- Nash Draw, less than five miles from WIPP, is a world-class dissolution feature, where salt dissolves under the influence of surface water and groundwater. Varying interpretations of field studies predict the dissolution front may reach the repository location before the waste has decayed to benign levels, depending on the climate.
- The Delaware Basin, especially San Simon Swale, is a world-class karst region, which means the evaporite rocks (limestone/dolomite) in some places contain fractures large enough for water to flow freely. This high porosity and permeability may expedite the transport of waste if it reaches karst presumed to be in the Rustler Formation.
- Despite being located in a structural syncline, recent exploration have indicated the potential of oil and gas reserves in stratigraphic traps directly below WIPP. Current regulations forbid drilling within the site boundary, but future drilling can not be completely eliminated. Human intrusion by drilling is considered the most likely scenario for a release of TRU waste to the accessible environment.

### **Why do some people support WIPP?**

The DOE supports WIPP because it has a vested interest in the investment made in the development of the repository. They believe that permanent underground disposal is the best and final solution, rather than letting the waste continue to degrade in temporary surface storage location. The cost to bury waste is less in the long run when compared to having to monitor, maintain, and guard the waste for centuries to come. Although there can be no absolute certainty in life, the probability of any significant human health or environmental risk is both minimal and acceptable. Other people, especially in

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southeast New Mexico, support WIPP because of the favorable economic impact it has on the area. DOE has done an particularly good job of public relations and outreach in that region.

### **Why do some people oppose WIPP?**

Some people simply believe that DOE can't be trusted, given its dismal environmental record over the past fifty years at weapons facilities around the country and lack of candor up until recently. These people question the validity of DOE statements about how adequately WIPP will perform in the short- and long term, believing instead that DOE bends the data to fit predetermined conclusions. Others are concerned about heightened risks resulting from transporting TRU waste on the nations highways and rails for the next 25 years, believing the inevitable accident will be catastrophic. Generally, they believe the waste is best kept where it is, monitored until technologies evolve which permit the safe disposal of the waste without the current uncertainties associated with deep geologic disposal. After all, once the waste is buried, if something happens which reveals WIPP isn't working the way it was supposed to, it will be too late to retrieve any waste. And finally, some people are opposed to WIPP because of deep-seated fears or deeply held beliefs concerning the dangers of nuclear weapons and radioactivity.

### **Where will the waste come from?**

Currently, DOE lists ten major generator or storage sites planning to ship waste to WIPP for disposal:

- Argonne National Laboratories (East) - Illinois
- Idaho National Engineering Laboratory - Idaho
- Los Alamos National Laboratory - New Mexico
- Lawrence Livermore National Laboratory - California
- Mound Facility - Ohio
- Nevada Test Site - Nevada
- Oak Ridge National Laboratory - Tennessee
- Richland (Hanford) Site - Washington
- Rocky Flats Environmental Technology Site - Colorado
- Savannah River Site - South Carolina

There are also at least eight minor sites identified in WIPP regulatory applications, with even more small quantity sites yet to be identified. The current plan would require the minor and small quantity sites to ship their waste to a major site for characterization purposes, and then ship to WIPP from the major site. Another alternative for the smaller sites would be to use mobile characterization and transport loading units to avoid shipping uncharacterized waste to larger facilities.

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## How will the waste be shipped?

Most of the waste will be shipped by truck on interstate and U.S. highways. Some routes are still under consideration, while others have yet to be constructed to meet requirements. For example, U.S. 285, also known locally as the "WIPP Route", is the transportation route from Los Alamos National Laboratory to WIPP. The WIPP LWA apparently required Congress to provide sufficient funding for the Santa Fe Bypass (or Relief Route) and its construction must be completed before waste may be transported from Los Alamos. However, the WIPP LWA is not clear if this is necessary once the EPA Administrator certifies that WIPP complies with the final disposal regulations. DOE is also providing additional funds to New Mexico to prepare for shipments to WIPP, such as for construction of other bypasses on U.S. 285 in Roswell and Carlsbad, and general upgrades to the highway. The Governor has also made improvement of U.S. 285 from Clines Corners south to the New Mexico border a priority.

The approved shipping container for CH-TRU waste is called the TRUPACT-II, which is an upright cylinder capable of carrying fourteen 55 gallon drums of waste. The standard configuration places three TRUPACT-II containers on a trailer, for a total of 42 drums of waste. This container has been approved by the Nuclear Regulatory Commission (NRC) for shipment of CH-TRU waste, meaning it has passed certain tests to demonstrate its ability to withstand rupture and incineration.

Currently, there is no approved shipping container for RH-TRU waste, but DOE remains confident the NRC will approve a cask in the near future. Arguably, RH-TRU waste presents a much more difficult waste form to transport, due to its elevated surface dose and the potential for exposure to beta and gamma radiation in the event of a release from the shipping cask.

## What are some of the concerns people have about WIPP?

Here is a partial list of concerns and objections people raise in opposition to WIPP:

- The DOE is pushing the process too quickly in order to get waste into the ground. Some believe technical questions can not be answered if scientists are forced to come to conclusions by an arbitrary deadline.
- Transportation of nuclear waste frightens some people. The likelihood of spilled radioactive waste on the highway or near neighborhoods, although relatively low, is enough to galvanize opposition to WIPP.
- There are too many uncertainties in DOE's plan, and some people want to be convinced nothing wrong will ever happen that adversely impacts human health and the environment. Although this is a very natural desire, there is no way anything in life can be guaranteed 100% risk-proof.
- Leave the waste where it is. The generators in the states or localities where it resides must assume responsibility for their own waste, and not use New Mexico as a nuclear dumping ground.

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- DOE has a very poor idea of what is in the waste to be shipped to WIPP. Even with use of sophisticated waste examination techniques, some people believe undesirable or prohibited waste may still be emplaced in WIPP, with unpredictable consequences.

### **Who is responsible for WIPP?**

The U.S. Department of Energy, or DOE, is the owner and operator of WIPP, and thus has primary responsibility for the facility. DOE employs Westinghouse Electric Corporation as its primary contractor to operate the facility, and relies on Sandia National Laboratories as its advisor for all technical matters.

Until the WIPP LWA was amended in 1996, three regulatory agencies were responsible for determining if WIPP meets all environmental requirements prior to authorizing disposal of TRU waste.

- U.S. EPA Office of Radiation and Indoor Air (ORIA) - reviews DOE's Compliance Certification Application and, upon finding that WIPP complies with the radiation protection standards found in 40 CFR §191, issues a certification of compliance allowing disposal of TRU waste.
- U.S. EPA Office of Solid Waste (OSW) - was to review DOE's No-Migration Variance Petition and, upon finding that no hazardous constituents would escape from the repository, issue a determination allowing disposal of wastes that have not been treated to regulatory standards. However, the 1996 LWA amendments removed this requirement by exempting TRU mixed waste from treatment standards and land disposal prohibitions.
- New Mexico Environment Department (NMED) - reviews DOE's application for a hazardous waste disposal permit and determines whether a permit should be issued. NMED's permit would only cover the disposal of mixed TRU waste - if the permit were denied, DOE would still be able to dispose of non-mixed TRU waste upon certification by EPA ORIA.

EPA ORIA is currently involved in reviewing a final application, and NMED is developing the draft permit. While DOE must comply with a complex array of regulations administered by various other governmental agencies, these two environmental approvals are crucial to commencement of waste disposal at WIPP.

### **What is being done to protect people and the environment?**

DOE has been conducting an environmental monitoring program for the past 12 years to establish background levels of contamination at the WIPP site, since no waste has been shipped to WIPP. Other independent groups, such as NMED's DOE Oversight Bureau and the New Mexico Environmental Evaluation Group, also gather environmental data and compare their results with DOE's. The DOE program includes radiological

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monitoring (airborne particulate and effluent, soil sampling, groundwater, surface water and sediment sampling, game animals and fish samples), non-radiological monitoring (land management, meteorology, air quality, wildlife population, vegetation, raptor research and management, reclamation of disturbed lands), and quality assurance.

The NMED permit for disposal of mixed TRU waste at WIPP, when issued, will contain requirements for DOE to comply with all regulations pertaining to the safe management and disposal of waste at the facility. Citizens will have opportunity to provide input to permit conditions through the public comment process.

The Governor's WIPP Task Force, under the direction of the NM Energy, Mineral, and Natural Resources Department Secretary, is dealing with transportation and emergency response issues related to WIPP. First responder training, emergency preparedness at local hospitals, mock exercises, and tracking of future waste shipments to WIPP is coordinated with all pertinent state and local agencies by the Task Force.

### **When will WIPP open?**

DOE hopes to receive final regulatory approval by October 1997, and would commence shipment of CH-TRU waste by November 1997. This is a very optimistic schedule, assuming (1) all applications are complete when submitted, (2) all regulatory approvals are issued in a timely manner, and (3) there are no roadblocks thrown up by opponents of WIPP (for example, requests to extend public comment periods, requests for public hearings, and lawsuits). Even with this schedule, RH-TRU waste shipment is not expected before 2002.

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## Where can I learn more about WIPP?

On the Internet:

<<http://www.wipp.carlsbad.state.nm.us/>> - DOE WIPP home page

<<http://www.epa.gov/radiation/wipp/>> - EPA WIPP home page

<<http://www.nsc.org/ehc/wipp.htm>> - National Safety Council's Environmental Health Center

<<http://www.nets.com/ccns/>> - Concerned Citizens for Nuclear Safety

<<http://www.emnrd.state.nm.us/wipp/>> - State of New Mexico's WIPP Transportation Safety Program

DOE's WIPP Information Center: 1-800-336-WIPP

EPA's WIPP Information Line \*: 1-800-331-WIPP

NM Energy, Minerals, and Natural Resources Department (Governor's WIPP Task Force): 505-827-5950

NM Environment Department: 505-827-2855

NM Environmental Evaluation Group: 505-828-1003

NM Attorney General's Office: 505-827-6055

Concerned Citizens for Nuclear Safety Hotline \*: 505-982-5611, 1-800-456-8863

Southwest Research and Information Center: 505-262-1862

Citizens for Alternatives to Radioactive Dumping: 505-266-2663

\* denotes recorded information

The EPA ORIA docket is located at College of Santa Fe Library. It contains all correspondence submitted in reference to DOE's compliance with radiation protection standards promulgated in 40 CFR §191 and 194.

An excellent general, unbiased reference to nuclear waste in the U.S. is *The Nuclear Waste Primer* by the League of Women Voters (1993), ISBN 1-55821-226-4. May be available in limited quantities from DOE by calling their WIPP Information Center.

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Steve Z



# TRU Progress

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## WIPP permitting process proceeds

Before the Secretary of Energy can decide in October 1997 whether to use the Waste Isolation Pilot Plant (WIPP) for permanent disposal of transuranic waste, the Department of Energy (DOE) must obtain a Resource Conservation and Recovery Act permit from the New Mexico Environment Department.

The Resource Conservation and Recovery Act, which Congress passed in 1976, establishes procedures for the management of hazardous waste. In addition to containing radioactive contamination, much of the waste to be disposed of at the WIPP contains hazardous chemicals.

Therefore, the WIPP must have a permit in order to be in compliance with the Act. The Environment Department, which was delegated permitting authority by the U.S. Environmental Protection Agency, is responsible for granting or denying a permit for the WIPP.

The permit application has two parts, Part A and Part B. Part A is a set form that identifies the types and quantities of waste intended to be disposed at the site.

Generally, timely submission of a Part A and notification of hazardous waste activities qualify owners and operators of existing hazardous waste management facilities (which are

required to have a permit) for interim status. Facilities with interim status are treated as having been issued a permit until the Environmental Protection Agency or an authorized state makes a final determination on the permit application. However, in a legal dispute over the deadline for submitting the WIPP's Part A, the New Mexico Attorney General has challenged the WIPP's interim status. The U.S. Department of Justice is representing the DOE on the issue.

Part B is an extensive narrative on how the facility will operate to meet the requirements of the Resource Conservation and Recovery Act. Part B includes waste characterization information on the hazardous wastes to be handled at the WIPP, a description of procedures for handling hazardous wastes, security procedures and equipment, seismic and floodplain information, and closure and post-closure plans, including groundwater monitoring.

Parts A and B of the application were initially submitted to the Environment Department in 1991. The original application described activities pertaining to tests with radioactive waste in the WIPP underground. DOE requested and was granted in September 1994 the opportunity to revise Part B because of its decision in 1993 to perform the tests with radioactive waste in national laboratories, rather than in the WIPP underground.

In May 1995, the DOE submitted its revised Part B (which reflected the

-Continued on page 4



Routine monitoring of the WIPP's compliance with the Resource Conservation and Recovery Act permit involves collecting and splitting environmental samples. In this photo, Karen Morris (center) of Westinghouse observes the collection of a soil sample by Pat McCasland (left) and Keith McKamey (right) of the New Mexico Environment Department.

**Permitting process - from page 1**

program changes) to pursue a permit for the disposal of transuranic mixed waste at the WIPP.

The New Mexico Environment Department's approval process began with an administrative review. The WIPP application contained all required administrative information, and was determined administratively complete in July 1995.

Part B of the application is undergoing review to determine if it satisfies technical requirements of the Act. The New Mexico Environment Department intends to issue a notice of deficiency in February 1996. The DOE must respond to all notices of deficiency within 30 days unless the Environment Department approves an extension. Deficiencies may be as simple as requiring a copy of procedures or as complex as rewriting one or more chapters of the application. Once the Environment Department reviews the DOE response, it has several options:

- certify the application technically adequate and write the draft permit;
- certify the application technically adequate and write the draft permit, but impose conditions that must be met;
- issue an additional notice of deficiency; or
- declare the application technically inadequate by issuing an intent to deny.

Once the Environment Department prepares a draft permit or a notice of intent to deny, 45 days are allowed for public review and comment. If a draft permit is issued and the secretary receives a timely written notice of opposition, the Environment Department and the DOE will respond to the request in an attempt to resolve the issues.

A public hearing can be initiated at the request of anyone from the general public opposing the draft permit, at the request of the DOE opposing an

intent to deny, or at the direction of the secretary of the New Mexico Environment Department.

The final decision becomes effective 30 days after the DOE has received notice of the decision. The DOE anticipates issuance of the permit as early as August 1996.

A permit may be terminated for non-compliance with any permit condition; for failure in the application or during the permit issuance process to disclose fully all relevant facts, or misrepresentation of any relevant facts at any time; or upon the determination that termination is necessary to protect human health and the environment.

A standard Resource Conservation and Recovery Act permit is issued for a fixed term not to exceed 10 years. Several permit renewals will be necessary during the operation of the repository.



# TRU Progress

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

## Questions?

**Call 1-800-336-WIPP**  
(1-800-336-9477)

The WIPP Information Center is available Monday - Friday between the hours of 7:30 am and 4:30 pm mountain time to answer your questions and respond to requests. After-hours callers are welcome to leave a message.

Mr. Benito Garcia  
New Mexico Environment Department  
2044 Galisteo Street PO Box 26110  
Santa Fe, NM 87502



## NMED and the WIPP Disposal Permit Application

Steve Zappe

March 12, 1996

Environmental Specialist  
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The U.S. Department of Energy (**DOE**) is seeking permits and other certifications from appropriate regulatory agencies before opening the Waste Isolation Pilot Plant (**WIPP**) located near Carlsbad, New Mexico. WIPP is proposed as a geologic disposal facility for defense-related transuranic (**TRU**) and TRU mixed waste currently stored throughout the DOE complex. Under the authority of the State Hazardous Waste Act and the federally delegated authority under the Resource Conservation and Recovery Act (**RCRA**), the New Mexico Environment Department (**NMED**), through its Hazardous and Radioactive Materials Bureau, is responsible for reviewing DOE's application for a hazardous waste disposal permit. Determination on whether a permit should be issued will be made through the permitting process which may include public hearings.

Although citizens are concerned about a variety of issues related to WIPP, NMED's RCRA regulatory concern is focused on the safe management and disposal of the hazardous components of TRU mixed waste at the facility, as well as the final closure and decommissioning of permitted units at WIPP. Other regulatory issues are the responsibility of various federal and state entities. The Environmental Protection Agency's (**EPA's**) Office of Radiation and Indoor Air must certify WIPP's compliance with radiation disposal standards defined in 40 CFR §191 and §194, and EPA's Office of Solid Waste must consider a "no-migration" determination for hazardous waste in accordance with 40 CFR §268.6 prior to WIPP accepting waste for disposal. The New Mexico Governor's Radioactive Consultation Task Force oversees issues related to transportation of waste to WIPP and emergency response to any WIPP-related accidents within the state's borders.

NMED is following the same regulatory procedure for the WIPP permit application as it does for other facilities required to obtain permits to treat, store, or dispose of hazardous waste. DOE and Westinghouse Electric Corporation, co-operators of WIPP, are required to submit a comprehensive permit application covering all aspects of the design, operation, maintenance, and closure of the facility. This permit application is divided into two parts: A and B.

- Part A is a short, standard form that summarizes general information about WIPP, including the owner/operator name, a list of the types of wastes managed at the facility, a facility layout diagram, and the activities requiring a permit. NMED has received several revisions of the WIPP Part A over the years, reflecting the changing focus of the WIPP facility.

- Part B is a much more extensive document, submitted in a narrative, tabular, and schematic format, that describes WIPP facility operations in detail. This information must include, but is not limited to: a general description of the facility; a waste analysis plan; information on the design and operation of all hazardous waste management units; procedures to prevent hazards; a contingency plan; and special information where applicable (such as a description of the groundwater monitoring program). DOE submitted Revision 5 of their permit application on May 26, 1995, in response to an order by the NMED Secretary to provide an application that more accurately reflected the decision to seek a disposal permit. This application consists of ten volumes and takes up more than four feet of shelf space.

There is no standard form for Part B. All applicants, including DOE, must follow the regulations (20 NMAC 4.1, Subparts V and IX, 40 CFR §264 and 270) and rely on checklists provided by NMED as guidance for what to include in this part of the application. In addition to the general Part B information required of all applicants, there are unique information requirements tied to the type of facility seeking a permit. Since WIPP is a geologic disposal facility, the application for permit must demonstrate compliance with the environmental performance standards contained in §264.601 for what are known as "miscellaneous units" or "Subpart X units." The technical standards require a demonstration that the units are designed, constructed, operated, and maintained in a manner that ensures protection of human health and the environment.

On June 15, 1995, the NMED Hazardous and Radioactive Materials Bureau (**HRMB**) published public notices in eleven newspapers throughout New Mexico and notified over 1100 citizens by mail that the WIPP application was available for public review. HRMB also initiated review of the application for administrative completeness. This review is performed to determine if all the information required in Parts A and B have been included in the application. If an application is not administratively complete, a notice of deficiency (**NOD**) letter is sent which describes the additional information required for a complete application. Once the applicant submits all required information, the application is considered administratively complete and a permit fee is assessed to conduct the technical review of the application and develop the draft permit. Two months after the initial WIPP application submittal, NMED issued a determination of administrative completeness on July 25, 1995.

After an administrative completeness determination, HRMB then conducts an in-depth evaluation of the Part B permit application to determine if it satisfies the technical requirements of RCRA. If necessary, HRMB issues an NOD requesting additional information. Several requests for information and subsequent responses may be necessary before HRMB determines the application is complete and technically adequate. Based on applicant response, NMED makes a decision to either deny the application due to unresolved technical deficiencies or develop a draft permit. If the decision is to deny the application, NMED sends the applicant a notice of intent to deny and proceeds directly into the public notice process. If the decision is to continue the permitting process, HRMB staff prepares a draft permit for public notice and comment.

The WIPP application is currently in the midst of this technical review/NOD cycle. One unique aspect of the WIPP permit application is that HRMB has conducted this evaluation with the assistance of a technical contractor. HRMB and the contractor initiated the review in September, 1995 and were substantially complete by December. During this time, HRMB conducted informal discussions with DOE, Westinghouse, and their contractors during November, and subsequently issued written requests for additional information to clarify many portions of the application. DOE requested further discussions in early December, resulting in a delay in the permitting schedule of approximately two months. Two additional meetings were held, and in mid-January DOE submitted Revision 5.2 of the permit application in response to the earlier requests for information. HRMB and the contractor reviewed the revisions, and HRMB will issue a formal NOD in mid-March. DOE will then revise the permit application and submit a revision in mid-April. If the submittal is determined to be complete and technically adequate, HRMB will develop a draft permit.

The draft permit will incorporate applicable technical requirements and other general and facility-specific conditions pertaining to WIPP's operation. A "model RCRA permit" format developed by EPA is used as a framework to provide consistency among facilities within the State. HRMB will then customize this framework for any aspects unique to WIPP. Many portions of the application (such as the waste analysis plan, contingency plan, and closure plan) are integrated into the draft permit as attachments. Currently, the draft permit is scheduled for release in September, 1996.

Once it is complete, NMED will give public notice that it intends to issue a permit based on the draft permit and allow forty-five days for review and public comment, including requests for public hearing. Besides placing newspaper and radio announcements of the public comment period, NMED prepares and mails a fact sheet to inform the public about the permitting process that is taking place. This fact sheet will include a brief description of WIPP, the types and quantities of waste to be disposed, a summary of the draft permit conditions, a response to requests by the applicant for variances, procedures for reaching a final decision on the draft permit (including public participation procedures), and a contact person within NMED. Also during this time, an information meeting is scheduled in the community most directly impacted by the facility's proposed operation. Several of these meetings may be required for the WIPP draft permit. If information submitted in writing by the public or the applicant during the initial comment period appears to raise substantial new questions concerning the draft permit, NMED may re-open or extend the comment period, as well as decide whether to revise the draft permit.

During the public comment period on a draft permit, a public hearing may be scheduled either by the NMED Secretary or, if a timely request is received, from anyone opposed to the granting of the permit. A public hearing provides all interested persons a reasonable opportunity to present their support or opposition to the draft permit. Upon receipt of a timely request for a hearing, NMED, in conjunction with the applicant, will respond to the request in an attempt to resolve the issues giving rise to the opposition. If the issues are resolved to the satisfaction of the opponent, the opponent may withdraw the request for a hearing. If not, public notice of the



hearing is given at least thirty days prior to its scheduled date, and the comment period is extended to the close of the public hearing.

After the comment period closes, HRMB prepares a written response to all public comments and revises the draft permit to reflect any changes made in response to comments. The NMED Secretary, after consideration of all comments received during the public comment period and all relevant facts and circumstances presented at any public hearing, then makes the final permit decision to either issue the permit as originally written, issue the permit with revisions, or deny the permit. A notice of decision will be sent to the DOE and any person who submitted public comments, with the final permit decision becoming effective thirty days after its issuance. During this time, opponents may appeal the permit decision, as provided in the New Mexico Hazardous Waste Act.

The permitting procedures described so far are currently codified in Title 20 of the New Mexico Administrative Code (NMAC), Chapter 4.1. Proposed changes to make these hazardous waste permit procedures consistent with general NMED permit procedures in 20 NMAC 1.4 are scheduled to become effective by June 1, 1996.

The permit would be effective for a fixed term not to exceed ten years, subject to a mandatory NMED review after five years. NMED may modify the permit at any time to ensure continued compliance with currently applicable requirements. DOE may request modifications to the permit for approval by NMED, with major modifications requiring public notice and comment prior to a decision on the proposed modification. DOE would have to submit another complete application for renewal of the permit before the existing one expired. NMED may terminate the permit if WIPP fails to comply with any permit condition, if DOE failed to disclose all relevant facts in its application or misrepresents relevant facts at any time, or if NMED determines that the permitted activity endangers human health and the environment and that those effects can only be mitigated by permit modification or termination.

Obviously, predicting the timing of future events is fraught with peril, especially when dealing with a subject as volatile as WIPP. Mr. George Dials, Manager of DOE's Carlsbad Area Office and responsible for WIPP operations, will describe his Disposal Decision Plan for meeting various technical and regulatory milestones to ensure the timely opening of the facility. DOE's schedule is decidedly optimistic, and does not reflect concurrence by NMED. As the regulatory agency responsible for protecting the environment of New Mexico and the health of its citizens, NMED is obligated to develop a legally and technically defensible disposal permit for WIPP and ensure full participation opportunities for the public.