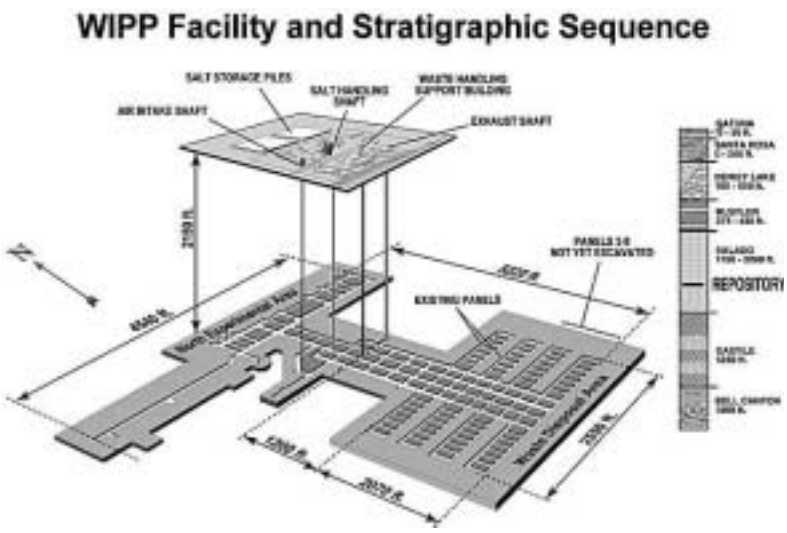
nuclear watch new mexico

A Fact Sheet on the Waste Isolation Pilot Plant



What is WIPP?

The Waste Isolation Pilot Plant (WIPP) is the only operating deep underground radioactive waste dump in the world. It is located 26 miles southeast of Carlsbad, New Mexico. The purpose of WIPP, as purported by the Department of Energy (DOE), is to "clean up" the waste generated by decades of nuclear weapons research and production.[1] In its attempt at "environmental restoration" DOE is shipping transuranic (TRU)[2] wastes from the numerous generating sites (which are currently storing the waste) to WIPP for disposal. The total amount of TRU wastes that are to be removed from the nuclear weapons complex and shipped to WIPP is less than two per cent of the existing weapons wastes. Once the WIPP project is closed in 2034,[3] and if no other dumps such as WIPP are opened, over 98% of the wastes are to be left at the generating sites throughout the complex. Moreover, this is without factoring in newly generated waste, such as the TRU waste being generated at the Los Alamos National Laboratory s (LANL s) plutonium pit production facility for nuclear weapons. In other words, few sites will be truly cleaned up and closed, while a number of DOE sites will be expanded for increased nuclear weapons research and production. Specifically to the state of New Mexico, in the past DOE has stated that LANL s pit production facility would be its only generating source of TRU waste in the future.[4]

The WIPP site is massive. There are a number of above ground buildings that perform activities ranging from simple offices to the unloading of waste from transport trucks.[5] However, the above ground facilities of WIPP are not near half the story. The TRU wastes that WIPP receives are taken off the trucks to an elevator and delivered 2,150 feet below the surface to the disposal areas which have been mined in a salt bed called the Salado Formation.

These disposal areas consist of panels and rooms. Each panel has seven rooms; each room is approximately the size of a football field. Currently only Panels 1 and 2 have been mined. Panels 3-8 will be mined as needed; however no one is certain as to what they may find when they do mine those panels. It is in the rooms themselves that the waste is disposed. As it stands now the only type of waste that is accepted at WIPP is Contact Handled Transuranic Waste (CH-TRU).[6]

A Very Brief History of WIPP

WIPP has been under study since the mid-1970s. Construction of the WIPP site started in January 1981, and in November of that year DOE struck a large brine reservoir one mile north of the center of the site. In 1991 a lawsuit was filed by then New Mexico Attorney General Tom Udall, which succeeded in greatly delaying the opening of WIPP. On May 13, 1998, the Environmental Protection Agency (EPA) certified WIPP for the emplacement of CH-TRU waste. The EPA certification was not final until June 28, 1999, when the federal D.C. Circuit Court upheld it against challenges by citizen groups.

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On May 15, 1998, the New Mexico Environment Department (NMED) issued its draft Resource Conservation and Recovery Act (RCRA) permit for WIPP and opened a 90-day public comment period.[7] A permit was not officially issued until October 27, 1999.

Although DOE repeatedly promised that it would never send waste to WIPP until a NMED permit was granted, the facility received its first shipment of wastes on March 26, 1999, from LANL. On April 28, 1999, WIPP accepted its first out-of-state shipment from the Idaho National Engineering and Environmental Laboratory (INEEL). In total, DOE rushed 44 shipments of TRU waste to WIPP before the NMED was able to issue its permit. DOE argued that all of these shipments were "purely" radioactive with no hazardous constituents, hence not subject to state regulation. The NMED was never able to fully verify this.

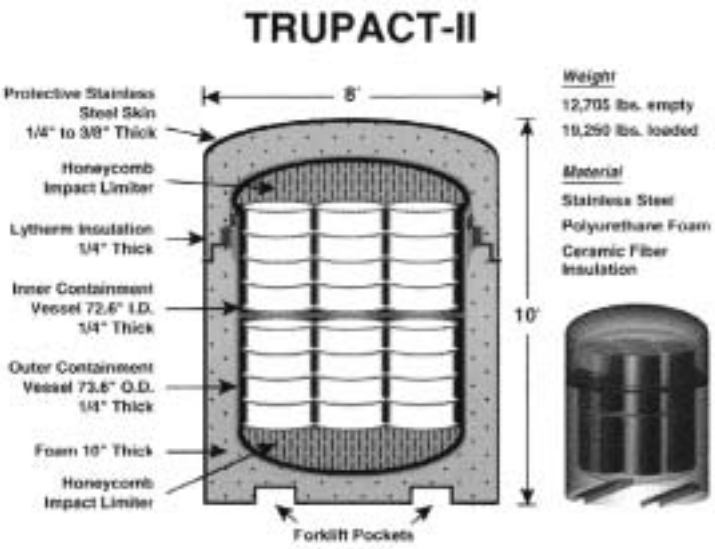
At present, out of 27 large and small quantity sites, only five are shipping TRU wastes to WIPP. These are the Hanford Site in Washington State, INEEL, LANL, the Rocky Flats Environmental Technology Site near Denver (the former plutonium pit production site), and the Savannah River Site near Aiken, SC. Out of these five, only Rocky Flats and INEEL are sending waste to WIPP on a regular basis,[8] and both of these sites have had major problems that have delayed shipments on several occasions.[9]

To bring into perspective the fact that only two sites are now regularly shipping TRU wastes, the WIPP facility cost US taxpayers approximately 3 billion dollars to build.[10] WIPP s current (FY 2002) budget is $192,670,000 (that s $16,055,833/month) and last fiscal year s budget was $190,886,000 (that s $15,907,167/month). All this money has been and will be spent on into the future to cleanup less than two per cent of the radioactive wastes in the nuclear weapons complex.

Why is WIPP Important?

Being the first, and so far only, deep underground radioactive waste dump in the United States, WIPP sets the precedent for the future of radioactive waste cleanup. DOE touts WIPP as its "cleanup" solution, and anything that positively or negatively affects WIPP will no doubt impact any future plans that the DOE has for its legacy radioactive wastes. So far, little of WIPP has been positive. At the same time DOE explicitly plans on leaving the supermajority of its wastes buried in shallow pits and trenches throughout the country with little or no treatment.

In addition to the precedent that the WIPP sets, TRU wastes and hazardous wastes are dangerous. Health and environmental issues are the major concerns, as there are very few places in the world that have both hazardous and radioactive wastes in the same dump site. DOE has made a presumptious decision by claiming that the WIPP site will be safe for 10,000 years. There is no credible science in the world that can make a claim of that length of time. There are fundamental faults with the site s location itself. One prime example was discovered in 1981 when DOE struck a large brine reservoir while mining for WIPP. The use of a salt formation to bury dangerous TRU wastes is claimed by DOE to be a virtue because of salt s self-mending qualities (i.e., if a crack forms the salt will fill and seal itself[11]), as well as the concept that the salt will eventually seal the buried wastes into the mine. DOE also claims that there there is little chance that water will be found in a salt formation. This claim clearly does not hold up or it would never have accidentally discovered a brine reservoir. Additionally, plutonium-239 (the key material used in nuclear weapons production and the major source of TRU waste) has a half-life of 24,000 years and remains dangerous for some 100,000 years.



In WIPP s brief history so far "mishaps" have

occurred time and time again. And accidents will continue to happen; there is simply no way to avoid it. Furthermore, the WIPP site itself is not structurally safe. Panel 1, the panel that DOE is currently filling with TRU wastes, is over twelve years old. It was mined during 1986-1988 with the intent that WIPP would open in the late 1980 s or early 90 s. Independent experts have testified that the ceilings of these rooms could collapse at any given time, and that the rooms were only safe for five years after they had been mined. DOE, however, continues to maintain that these rooms will hold together for as long as they need them to. Another issue at stake is the fact that the TRU waste generating sites continue to be in non-compliance with waste characterization procedures. The most recent example of this was when INEEL used non-certified equipment to characterize waste destined for WIPP. The DOE itself did not realize that the wastes sent to WIPP had been inappropriately characterized, nor did they notify the relevant regulating agencies when it finally did find out. This improper characterization (i.e., not necessarily knowing what the wastes are) is not only potentially threatening to the WIPP site itself. It is also potentially dangerous to the unknowing workers who are handling these wastes.

The simple concern of this matter is how WIPP is going to affect the environment in the short and long-term. This includes the people, wildlife, transportation routes, and the ecology around this site. The answer to these concerns is that no one really knows because we are dealing with materials that will remain dangerous for a period of time far longer than recorded human history.

What is the Future for WIPP?

DOE is planning an aggressive schedule of TRU waste shipments to WIPP. INEEL is under a federal court order to have 3,100m^3 of TRU waste removed from that site by the end of 2002. Additionally, Rocky Flats is being claimed by DOE to be a showcase for its environmental management programs. In order to clean up that site DOE is planning on accelerating waste shipments from Rocky Flats to WIPP.

A related and emerging issue for WIPP is that of Remote Handled (RH) TRU waste. This waste is often just as dangerous as high-level waste and is something that the DOE knows little about. The Department claims that it can account for the amounts of the RH-TRU in this country. It also states that it knows how to dispose of it safely. However, DOE s figures are highly questionable, as is its methodology. In addition to the fact that the DOE knows so dangerously little about RH-TRU, it is proposing a permit modification request to the NMED that would exempt RH-TRU waste from being characterized.[12] DOE claims that there is little to no hazardous waste in RH-TRU. The Department also states that any hazardous wastes that might be in the RH-TRU wastes will be characterized through the "Acceptable Knowledge" that all generating sites have acquired over time. However, it is understood that the Acceptable Knowledge throughout the nuclear weapons complex is notoriously poor. To base its justification on not characterizing the waste before shipping it to WIPP because Acceptable Knowledge will be the backup is simply a dangerous assumption. Because all RH-TRU needs to be repackaged anyway, there is little reason why DOE could not characterize its wastes during that process. The National Academy of Sciences itself has recently judged this permit modification request for RH-TRU to be unacceptable.[13]

Apart from the continuing shipments of TRU wastes, WIPP may be the second choice to dispose of high-level wastes (mostly highly irrradiated spent nuclear fuel rods from reactors). The chances that Yucca Mountain, 100 miles northwest of Las Vegas, Nevada (DOE s first choice for the disposal of high-level nuclear waste), may not open are becoming greater and greater. If Yucca Mountain does not open, WIPP is the only other site in the country that will be accepting radioactive wastes higher than so called low-level for permanent disposal. While

WIPP is completely unsuited and not designed for accepting high-level waste, it must be anticipated that a strenuous fight will be on our hands to prevent these wastes from being disposed of at WIPP as well.

The DOE continues to try and change WIPP s original mission. The Department is intent on having WIPP do things that it was never meant to do. The most recent example of this is the proposed Centralized Confirmation Facility. In this permit modification request, DOE is requesting of the NMED that WIPP be allowed to characterize wastes that are sent from the generating sites. The DOE had repeatedly made promises in the past that it would never open a drum of waste above ground at WIPP because of fears of surface contamination. Moreover, all wastes were to be fully characterized before shipment to WIPP so that prohibited wastes would never be sent. Now DOE has conveniently decided otherwise. In addition to the dangerous aspects of characterizing TRU wastes at the WIPP site, the Department has requested an extended amount of time that wastes may be stored above ground. This is only one of several examples of where DOE is attempting to change WIPP s mission and make the facility even more dangerous than its original mission intended it to be.

Environmental protection and safety at WIPP needs our continual oversight. Citizen comments must be submitted to the NMED whenever permit modification are proposed by the DOE in order to help strengthen the State Environment Department in its regulation of WIPP. It is up to citizens to make sure that WIPP stays as safe as it possibly can, and it is up to us to say no to unreasonable requests by DOE that seek to change WIPP s mission.

End Notes:

[1] As per DOE Order 435.1.

[2] Transuranic (TRU) waste is defined by the WIPP Land Withdrawal Act as:
"...waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste with half-lives greater than 20 years, except for (A) high-level radioactive waste, (B) waste that the Secretary has determined, with concurrence of the U.S. Environmental Protection Agency (EPA) Administrator, does not need the degree of isolation required by the disposal regulations, or (C) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with Part 61 of Title 10, Code of Federal Regulations (CFR)." *National TRU Waste Management Plan,* DOE/NTP 96-1204, Revision 2, December 2000, page 18.

[3] *National TRU Waste Management Plan* DOE, December 2000, p. xiii.

[4] 1996 *Stockpile Stewardship and Management Programmatic Environmental Impact Statement*, DOE.

[5] TRU waste and TRU mixed waste is shipped by truck throughout the US. The waste is placed in drums and then shipped in a TRUPACT-II (please see graphic on page 2). When the waste arrives at WIPP the drums are removed from the TRUPACT-II and then disposed of in a room in the underground disposal site. The TRUPACT-II s are re-used for future shipments.

[6] " C H TRU waste has radioactivity levels that are low enough to permit workers to directly handle the containers in which the waste is kept (not greater than 200 millirem per hour at the outside surface of the container)." *National TRU Waste Management Plan,* DOE/NTP 96-1204, Revision 2, December 2000, page 18.

[7] RCRA governs the handling and disposal of hazardous and mixed (both hazardous and radioactive) wastes, but not purely radioactive wastes. It is regulated by the states. A required public comment period gives citizens an opportunity to critique a document and in many ways affect public policy. The NMED public process is a somewhat complex one. In the case of the WIPP RCRA permit the Environment Department allowed a 90-day public comment period that ended on August 15, 1998. However, since the Environment Department was required to examine all public comments and change the RCRA permit in response to public comments a second draft permit was issued and a six week public hearing followed in early 1999. Therefore, the permit was not issued until October 27, 1999.

[8] As of November 2001 the Hanford Site has shipped 80.7m^3 of waste in 10 shipments, INEEL has shipped 887.8m^3 in 146 shipments, LANL has shipped 257.7m^3 in 24 shipments, RFETS has shipped 1 575.7m^3 in 253 shipments, and SRS has shipped 61.7m^3 in 7 shipments. In other words, since March 26, 1999, WIPP has accepted 440 shipments and 2 869.5m^3 of waste. *Site by Site Breakdown of WIPP Shipments 11.14.01*,; *Southwest Research and Information Center; web site http://www.sric.org.*

[9] Rocky Flats had major technical problems when it originally started to ship waste. Please see the *Why WIPP is Important* section in this fact sheet on the more recent issue with INEEL.

[10] DOE insists that they only spent 2 billon dollars on the construction of WIPP, but by looking at the numbers closely it is clear that they spent far more than that. To date, Congress has appropriated 4 billion dollars for WIPP.

[11] "Rock salt heals its own fractures because of its plastic quality. That is, salt formations will slowly and progressively move in to fill mined areas and safely seal radioactive waste from the environment." *Why Salt Was Selected As A Disposal Medium,* DOE; *http://www.wipp.carlsbad.nm.us/fct-shts/whysalt.pdf.*

[12] In order to maintain a required understanding of what is coming into WIPP, characterization is required to have knowledge of that waste as per RCRA for hazardous wastes.

[13] *Characterization of Remote-Handled Transuranic Waste for the Waste Isolation Pilot Plant Interim Report, December 2001, National Academy of Sciences.*