WHAT THE WIPP RECOVERY PLAN SAYS – AND WHAT IT DOESN'T
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On September 30, 2014, the Department of Energy (DOE) released the 44-page Waste Isolation Pilot Plant (WIPP) Recovery Plan, Revision 0.
http://www.wipp.energy.gov/Special/WIPP%20Recovery%20Plan.pdf
On January 14, 2015, DOE held a 3.5 hour workshop on the Recovery Plan.
http://www.wipp.energy.gov/WIPPRecovery/path_forward.html

Overview
"This Recovery Plan provides a safe and compliant approach to resuming operations at the Waste Isolation Pilot Plant (WIPP), the repository for disposal of the nation's defense transuranic (TRU) waste. The U.S. Department of Energy (DOE) is committed to resuming operations by the first quarter of calendar year 2016, and this Recovery Plan outlines the Department's approach to meet that schedule while prioritizing safety, health, and environmental protection….This Recovery Plan is being issued before the investigations into the cause of the radiological release in the WIPP repository and other oversight actions are completed in order to inform all stakeholders of the status of the Department's current plans and the effects of the suspension of WIPP operations" (p. i).

Cost
"WIPP recovery costs are estimated to be approximately $242 million….Additionally, to restore WIPP to full operations, two capital asset project line items are required: (1) a new permanent ventilation system, with an estimated cost range of $65 million–$261 million, and (2) a supporting exhaust shaft, with an estimated cost range of $12 million–$48 million" (p. 27).

Schedule
"When disposal operations resume [by March 2016], the first wastes to be disposed of will be the site-derived waste from the recovery actions and the containers currently stored in the Waste Handling Building at WIPP. Once these containers have been safely disposed of, WIPP will begin receiving wastes from waste generator sites" (p. 11).

Other sites
"Waste Control Specialists, located in Andrews County, Texas on the New Mexico–Texas border adjacent to Eunice, New Mexico, was selected as a temporary staging facility for Los Alamos National Laboratory wastes soon after the operations of WIPP were suspended….Within the inventory shipped from Los Alamos National Laboratory to Waste Control Specialists, there are 73 standard waste boxes containing waste from the same waste stream as the breached container" (p. 23).

"The Department is continuing to characterize and certify TRU waste at the Idaho National Laboratory, Oak Ridge National Laboratory, the Savannah River Site, and Argonne National Laboratory for eventual shipment to WIPP. Waste continues to be generated at the Hanford site and Lawrence Livermore National Laboratory. The Department is carefully evaluating and analyzing the impacts on storage requirements and commitments with state regulators at the generator sites. These efforts will inform decisions related to the availability of storage for certified TRU waste until waste shipments to WIPP can resume" (p. 24).

What the Recovery Plan does not state

1. What are the safety standards?

The Plan does not define the standards for safe and compliant operations or for "clean" and "contaminated" areas. The Plan references 10 CFR Part 835, Occupational Radiation Protection and DOE-STD-1128-2008 - *Good Practices for Occupational Radiation Protection in Plutonium Facilities*, which are not specific to the contaminated site. At the workshop, Nuclear Waste Partnership President Bob McQuinn stated that the contract incorporates Part 835, but the goal is 0 dose to workers.

Part 835 is the DOE Order that sets an occupational total effective radiation dose limit for workers of 5 rem per year. 10 CFR 835.202(a)(1). The total effective dose limit for members of the public in a year is 0.1 rem (100 millirem). 10 CFR 835.208.

In addition to dose limits, Part 835 requires use of the As Low As is Reasonably Achievable (ALARA) approach. ALARA is a process to keep "doses as far below the applicable limits of this part as is reasonably achievable [taking into account social, technical, economic, practical, and public policy considerations]" 10 CFR 835.2(a).

Surface contamination limits are in Part 835 Appendix D. For transuranics, the limit is 20 dpm (disintegrations per minute per 100 square centimeters) for fixed contamination and 500 dpm for total fixed and removable contamination.

Good Practices is a DOE guide for complying with Part 835. The guide states: "The one characteristic that many believe is unique to [airborne] plutonium is its ability to migrate with no apparent motive force. Whether from alpha recoil or some other mechanism, plutonium contamination, if not contained or removed, will spread relatively rapidly throughout an area" (p. 4-10).

2. What are the total costs of WIPP during Recovery?

The Plan estimates the total recovery costs at $242 million plus from $77 million to $309 million for the new ventilation system and exhaust shaft. The resulting estimate of total recovery cost is from $319 million to $551 million. In addition, the WIPP "base" budget is approximately $185 million per year.

The interim Performance Measurement Baseline (PMB) was presented at the workshop. The PMB for the Recovery cost and schedule is to be final by January 31, 2015. However, the final PMB will likely be changed to address findings of the DOE Accident Investigation Board regarding the February 2014 radiation release. The interim PMB recovery costs are $175.84 million, which does not include the approximately 37 percent contingency included in the Plan. The new ventilation system and exhaust shaft cost is $115.65 million, not reflecting contingency costs, and is scheduled to operate in 2019. In addition, an alternatives analysis is being developed. One alternative would not include a new exhaust shaft. The final PMB will be changed when an alternative is selected.

Since WIPP operated for about four months in Fiscal Year 2014 (October 1, 2013-February 5, 2014), approximately $120 million of the "base" was spent after operations ceased. In FY 2015 and FY 2016, the "base" will continue at $185 million per year. Thus, by September 30, 2016, WIPP "base" costs during recovery will be approximately $490 million, and by February 2019, those costs will be approximately $925 million.

3. What is the schedule for "full operations"?

The Plan includes no specific schedule for "full operations" (waste activities prior to the February 5, 2014 fire that resulted in suspension of operations). The interim PMB is for full operations by February 15, 2018. The Critical Path schedule at the workshop is for full operations in 2019.

4. What regulatory changes are required?

The non-DOE regulator that must authorize WIPP resuming waste operations is the New Mexico Environment Department (NMED) through its Permit issued pursuant to the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act. DOE has identified dozens of provisions of the Permit, including many related to monitoring and limits on toxic chemical levels, with which it is not in compliance in response to Administrative Orders issued by NMED. The Plan states that "one or more permit modification requests will be required prior to reopening WIPP" (p. 16). "Key risks" to the Plan include that the new ventilation system and exhaust shaft and the closures of Panel 6 and Panel 7, Room 7 might require class 3 modifications, which have taken "a minimum of 18 months after submittal to the NMED" (p. 29). Class 3 modifications require public notice and opportunity for a public hearing with expert testimony and cross-examination of witnesses and legal briefings. The Plan also notes that the existing permit requires an annual average ventilation rate of 260,000 standard cubic feet per minute. (p. 28). Achieving such a rate requires the new ventilation system.

The Plan does not mention that the Permit prohibits wastes that are ignitable, corrosive, or reactive (EPA Hazardous Waste Numbers of D001, D002, or D003). Permit Section 2.3.3.7. However, on July 30, 2014, DOE notified NMED that it had assigned the D001 code to 368 containers disposed in Panel 6, Rooms 1 and 2 and in Panel 7, Room 7. (http://www.wipp.energy.gov/library/Information_Repository_A/Responses_to_Administrative_Order/14-1561_Redacted.pdf). Actions to be taken regarding those containers could include fines and penalties or permit modification.

The Plan includes no schedule for submission of any permit modification requests. The interim PMB has approximate dates for some modification requests.

The U.S. Environmental Protection Agency (EPA) also can authorize WIPP to re-open through its recertification that the site meets disposal standards. On October 10, EPA noticed that it is accepting comments on the DOE recertification application. (http://www.epa.gov/radiation/docs/wipp/recertification2014/cra2014_frreceipt101014.pdf)

5. What are the costs and impacts at the other sites?

Since the Los Alamos National Lab (LANL) waste stored at Waste Control Specialists is mentioned in the Recovery Plan, DOE apparently intends to bring that waste to WIPP. On August 14, 2014, LANL notified NMED that 119 of the containers at WCS were assigned the D001 code. (http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-260196). Thus, those containers are prohibited by the WIPP Permit. The one-year storage contract at WCS is for $8.8 million. (http://www.wipp.energy.gov/pr/2014/First%20LANL%20Shipment%20Arrives%20at%20WCS.pdf. The costs of longer-term storage at WCS have not been publicly disclosed.

The Plan does not mention LANL as a facility that has significant amounts of transuranic (TRU) waste that is supposed to come to WIPP. Because of the breached container and

apparent violations of WIPP Permit requirements, LANL's certification to ship waste to WIPP is suspended indefinitely. LANL's on-going nuclear weapons mission will result in more TRU waste being generated for decades.

The Idaho National Lab (INL) has shipped 42,744 cubic meters of contact-handled (CH) waste and 324 cubic meters of remote-handled (RH) waste to WIPP since 1999. INL has an estimated 8,000 cubic meters of CH and RH waste that is supposed to be shipped to WIPP or some other site by December 31, 2018 to meet the requirements of the U.S. Court-approved Settlement Agreement. (http://inlcab.energy.gov/pages/meetings.php – July 2014 Craun presentation).

The Savannah River Site (SRS) has shipped 17,507 cubic meters of CH waste and 38 cubic meters of RH waste to WIPP since 2001. SRS has an estimated 615 cubic meters of CH and RH waste that will be stored until it can be shipped to WIPP. (http://cab.srs.gov/library/meetings/2014/wm/0415_crapse.pdf).

Oak Ridge (OR) in Tennessee has shipped 415 cubic meters of CH waste and 65 cubic meters of RH waste to WIPP since 2008. OR has an estimated 1,000 cubic meters of CH waste and 2,100 cubic meters of RH waste to be shipped to WIPP, though most of the waste has not yet been characterized and processed to meet WIPP requirements. (http://www.oakridge.doe.gov/em/ssab/Minutes/FY2014/Presentations/SSABPresentation5-14-14.pdf).

Cost estimates for waste storage at those sites during the WIPP recovery have not been publicly released. How the additional funding for WIPP will affect cleanup and waste management budgets at the other sites is not determined. Waste characterization requirements may be changed, but resulting costs and time required are not determined.

6. How could the "clean" and "contaminated" WIPP safely operate?

WIPP was designed to operate as a "start clean, stay clean" facility with no radioactive or toxic chemicals released during the disposal of up to 175,564 cubic meters of TRU waste from nuclear weapons production. The waste is disposed 2,150 feet below the surface on a 16-square-mile site located 26 miles east of Carlsbad, NM. As of the shutdown on February 5, 2014, 90,240 cubic meters of CH waste and 625 cubic meters of RH was emplaced in Panels 1-6, and 387 cubic meter of CH waste and 16 cubic meters of RH waste had been emplaced in Panel 7. The ten panels proposed for waste emplacement could not hold all of the legal limit of CH waste and would accommodate less than one-half of the legal limit of RH waste. What to do about the capacity shortfall has not been determined. At the workshop, the WIPP Manager stated that what panels will be developed in addition to Panel 8 would not be considered until operations resume.

The Plan states: "WIPP's concept of operations will be revised from a fully uncontaminated ("clean") facility to one that has contaminated as well as uncontaminated areas. This will affect all aspects of WIPP operations, including policies, procedures, training, cost, and schedule, and will offer operational challenges to WIPP workers and management" (p. iii). However, the Plan does not explain how such a major change in operations will be accomplished, especially since the cause(s) of the radiation release are unknown, as is how to prevent recurrences.