How does the WIPP shutdown impact New Mexico, Idaho, and South Carolina?

Don Hancock
Southwest Research and Information Center

Additional funding from:
Community Involvement Fund
of the New Mexico Community Foundation
Idaho TRU waste dumping-1954-70
Idaho Digging up Waste
Idaho TRU Waste Complex
Savannah River Site – March 25, 2015
MIXED OXIDE (MOX) Fuel Plant
WIPP Underground – October 1, 2015
WIPP’s Mission

- “Start Clean, Stay Clean” to dispose of up to 175,564 m$^3$ of defense transuranic (TRU) waste
- Safely transport waste through more than 20 states without serious accidents or releases
- Safely clean up TRU waste at DOE sites
- Safely close, decontaminate, and decommission the WIPP site beginning in about 2030 or earlier
11,894 truck shipments from 12 sites
   INL-5,844 (49%); SRS-1,654 (14%); LANL-1,344 (11%)
90,627 m$^3$ of CH waste emplaced
   INL-42,744 (47%); SRS-17,507 (19%); LANL-9,162 (10%)
641 m$^3$ of RH waste emplaced
   INL-324 (51%); SRS-38.3 (6%); LANL-14.2 (2%)
171,064 waste containers emplaced
Panels 1-6 filled; Panel 7 - 276 containers
19 shipments from LANL, SRS, INL;
   145 m$^3$ of CH waste on surface
LANL TRU WASTE

Stored CH TRU in WIPP Inventory - 6,520 m³

Stored RH TRU in WIPP Inventory - 79 m³

WIPP Annual TRU Waste Inventory Report - 2014 (Data as of December 31, 2013)

Stored at Waste Control Specialists - 372 m³

~$5 million/year of LANL cleanup funds

LANL operations generate more TRU waste that is not in the WIPP inventory

126 containers in FY 14 not shipped to WIPP

71 containers in FY 15 (as of 8/16/15)

364 containers (113 m³) in TA-55 (as of 8/16/15)
WIPP Capacity in Panels 7 & 8

**Panel 7**
- CH-TRU = \(~16,000 \text{ m}^3\)
- RH-TRU = 0 in canisters

**Panel 8**
- CH-TRU = 18,750 \text{ m}^3
- RH-TRU = 650 \text{ m}^3 in canisters

Total CH-TRU = 34,750 \text{ m}^3
  - Capacity shortfall = 27,310 \text{ m}^3
Total RH-TRU = 650 \text{ m}^3
  - Capacity shortfall = 2,971 \text{ m}^3 or 4,941 \text{ m}^3
WIPP Recovery Cost

“Also, it is too early to estimate the total cost of reopening WIPP to once again receive shipments of transuranic waste.”

- DOE FY 2016 Budget Request, p. 6, 2/2/2015

FY 2013 WIPP Funding = $197.838 million
FY 2014 WIPP Funding = $221.170 million
FY 2015 WIPP Funding = $324.455 million
FY 2016 WIPP Request = $248.178 million

- DOE FY 2016 & FY 2015 Budget Requests
LANL Clean Up Funding

FY 2013 Funding = $192.033 million
FY 2014 Funding = $224.787 million
FY 2015 Funding = $189.600 million
FY 2016 Request = $188.625 million

- DOE FY 2016 & FY 2015 Budget Requests
WIPP Permit Modification Process

- Draft modification distributed
- Pre-submittal meeting held
- Modification request submitted to NMED
- 60-day public comment
- NMED makes a decision in 30 or 60 days (class 2)
- NMED issues draft permit for public comment (class 3)
- Negotiations with NMED, DOE, NWP, NGOs
- Settlement agreement or not
- Public hearings - expert testimony, cross-examination
- Hearing Officer recommended decision
- NMED Secretary issues Final Order
Why re-open WIPP?

• For all WIPP existing TRU waste
• Expand WIPP for:
  - Hanford high-level tank waste
  - Greater-Than-Class C waste
  - West Valley, NY commercial waste
  - Surplus weapons-grade plutonium
  - Mercury surface storage
  - TRU waste surface storage
  - Heater tests for high-level defense waste
What You Can Do

• Discuss the long-term plans for TRU waste at LANL.

• Examine NNSA waste generation and its impact on LANL cleanup and budget.

• Look at the exhumation of much larger volumes of waste at INL in comparison to what might be required at Area G.
Website Information Sources

DOE WIPP Recovery:  
http://www.wipp.energy.gov/WIPPRecovery/Recovery.html

NM Environment Dept. WIPP Documents:  

EPA WIPP webpage:  
http://www.epa.gov/radiation/wipp/index.html

SRIC website:  
http://www.sric.org

Snake River Alliance website:  
http://www.snakeriveralliance.org

SRS Watch website:  
http://www.srswatch.org
Contact Information

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sricdon@earthlink.net
Background Information
## WIPP Capacity Limits

**WIPP PERMITTED VS. ACTUAL CAPACITY**

<table>
<thead>
<tr>
<th>Panel</th>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
<th>RH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18,000</td>
<td>10,497</td>
<td>58.32%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>18,000</td>
<td>17,998</td>
<td>99.99%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>18,750</td>
<td>17,092</td>
<td>91.16%</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>18,750</td>
<td>14,258</td>
<td>76.04%</td>
<td>356</td>
<td>176</td>
<td>49.44%</td>
</tr>
<tr>
<td>5</td>
<td>18,750</td>
<td>15,927</td>
<td>84.94%</td>
<td>445</td>
<td>235</td>
<td>52.81%</td>
</tr>
<tr>
<td>6</td>
<td>18,750</td>
<td>14,468</td>
<td>77.16%</td>
<td>534</td>
<td>214</td>
<td>40.07%</td>
</tr>
<tr>
<td>7</td>
<td>18,750</td>
<td>387</td>
<td></td>
<td>650</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>18,750</td>
<td></td>
<td></td>
<td>650</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>148,500</td>
<td>90,627</td>
<td></td>
<td>2,635</td>
<td>641</td>
<td></td>
</tr>
</tbody>
</table>

**Panels 1-6**

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
<th>RH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>111,000</td>
<td>90,240</td>
<td>81.30%</td>
<td>1,335</td>
<td>625</td>
<td>46.82%</td>
</tr>
</tbody>
</table>

**Panels 1-8**

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
<th>RH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>148,500</td>
<td>127,740</td>
<td>86.02%</td>
<td>2,635</td>
<td>1,925</td>
<td>73.06%</td>
</tr>
</tbody>
</table>

**Legal Capacity**

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>168,485</td>
<td>7,079</td>
<td></td>
</tr>
</tbody>
</table>

**Panel 9***

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,750</td>
<td>650</td>
<td></td>
</tr>
</tbody>
</table>

**Panel 10***

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,750</td>
<td>650</td>
<td></td>
</tr>
</tbody>
</table>

**Panels 9-10***

<table>
<thead>
<tr>
<th>CH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
<th>RH-Permitted</th>
<th>Actual</th>
<th>% Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>186,000</td>
<td>165,240</td>
<td>98.07%</td>
<td>3,935</td>
<td>3,225</td>
<td>45.56%</td>
</tr>
</tbody>
</table>

Notes:
- *Panels 9 and 10 proposed capacities.
- **If Panels 7-8 are filled to capacity.
- ***Total capacity if Panels 9 and 10 filled to proposed capacities.
- "CH" is Contact-Handled waste; "RH" is Remote-Handled
- "Permitted" refers to the capacity limits in the New Mexico WIPP permit.
CH-TRU Waste remaining at DOE sites

<table>
<thead>
<tr>
<th>Location</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>INL - ID</td>
<td>24,100 m³</td>
</tr>
<tr>
<td>Hanford - WA</td>
<td>19,800 m³</td>
</tr>
<tr>
<td>Savannah River – SC</td>
<td>8,320 m³</td>
</tr>
<tr>
<td>Los Alamos - NM</td>
<td>6,520 m³</td>
</tr>
<tr>
<td>Oak Ridge - TN</td>
<td>1,150 m³</td>
</tr>
<tr>
<td>Livermore - CA</td>
<td>996 m³</td>
</tr>
<tr>
<td>Knolls - TN</td>
<td>771 m³</td>
</tr>
<tr>
<td>Argonne - IL</td>
<td>175 m³</td>
</tr>
<tr>
<td>Nevada NSS</td>
<td>143 m³</td>
</tr>
<tr>
<td>Sandia - NM</td>
<td>51 m³</td>
</tr>
<tr>
<td>Material &amp; Fuels - IL</td>
<td>31 m³</td>
</tr>
<tr>
<td>NRD - NY</td>
<td>3 m³</td>
</tr>
<tr>
<td>Lawrence Berkeley - CA</td>
<td>&lt;1 m³</td>
</tr>
</tbody>
</table>

Total = 62,060 m³
RH-TRU Waste remaining at DOE sites

<table>
<thead>
<tr>
<th>Site</th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanford - WA</td>
<td>2,860</td>
</tr>
<tr>
<td>Oak Ridge - TN</td>
<td>432</td>
</tr>
<tr>
<td>Idaho National Lab</td>
<td>208</td>
</tr>
<tr>
<td>Material &amp; Fuels – IL</td>
<td>93</td>
</tr>
<tr>
<td>Argonne - IL</td>
<td>84</td>
</tr>
<tr>
<td>Los Alamos - NM</td>
<td>79</td>
</tr>
<tr>
<td>Savannah River – SC</td>
<td>44</td>
</tr>
<tr>
<td>Knolls - NY</td>
<td>15</td>
</tr>
<tr>
<td>Sandia - NM</td>
<td>9</td>
</tr>
<tr>
<td>Bettis - PA</td>
<td>5</td>
</tr>
</tbody>
</table>

Total = 3,829 m³

5,591 m³

- WIPP Annual TRU Waste Inventory Report - 2014
(Data as of December 31, 2013)
More than 8,000 feet of contaminated tunnels
There are more than 100 active oil and gas wells within one mile of the WIPP Site.
Fire on February 5, 2014
Feb. 5, 2014
Smoke comes out the Salt Shaft
Fire Results

- 13 workers treated for smoke inhalation of 86 underground
- At least 1 worker was disabled; he sued and settled with the contractors
- Waste Hoist out of service because of soot; 11 months+ to clean
- Pervasive lack of maintenance, equipment replacement, worker training, emergency response, and mine safety practices
Radiation release

- Why have utilities and nearby communities not volunteered for CIS facilities?
- Why have utilities and nearby communities not volunteered for disposal facilities?
- What role has the promise of off-site storage and disposal played in obtaining "consent" for siting nuclear power plants?
- Should new nuclear plants provide adequate on-site spent fuel storage for all of the SNF that will be generated during their operating lifetime?
DOE stated

• “No personnel contamination has been identified” - 2/15 at 2:49 pm
• “No contamination has been found on any equipment, personnel, or facilities” - 2/15 at 9:17 pm
• “No surface contamination has been found on any equipment, personnel or facilities” - 2/16 at 6:32 pm
• “DOE emphasizes there is no danger to human health or the environment” - 2/16 at 6:32 pm
In reality

- CEMRC radiation monitor shows release
- All 13 workers on surface internally contaminated
- Bioassay testing requested on February 19; Workers notified of contamination on Feb. 26
- 9 workers contaminated on Feb. 15 – not notified until March 9, March 27, or later
- No medical treatment being provided
- No screening of vehicles, homes, family members
- Supposedly received <10 millirem dose
CH-TRU Waste at Waste Control Specialists

39 shipments from LANL to WCS from April 2 to May 8, 2014

372 m³ of waste
• "The United States has traveled nearly 25 years down the current path only to come to a point where continuing to rely on the same approach seems destined to bring further controversy, litigation, and protracted delay." (p. iii).

WIPP Transportation Routes