

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

Don Hancock
Southwest Research and Information Center

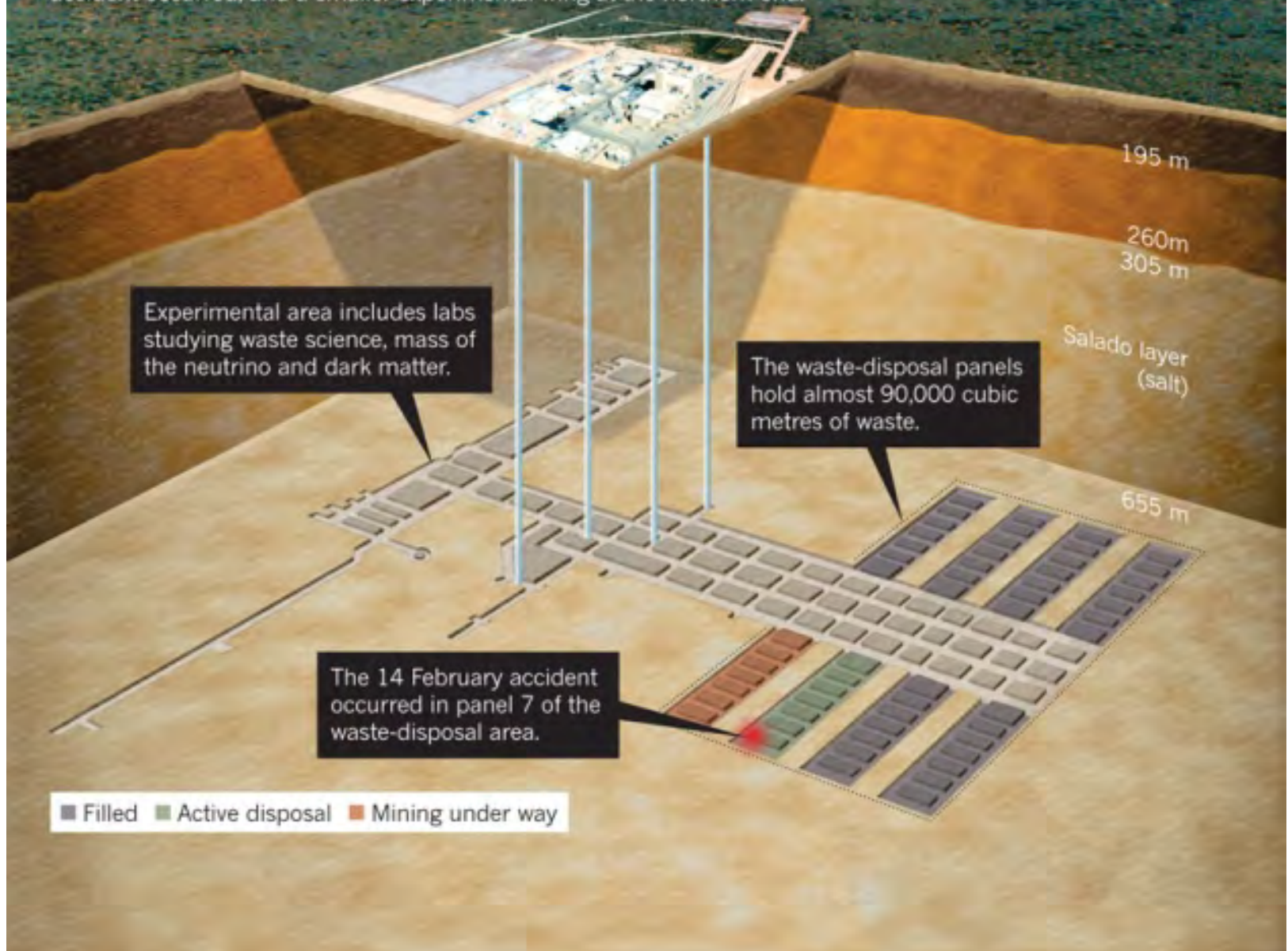
Beatrice Brailsford
Snake River Alliance

Tom Clements
Savannah River Site Watch

Additional funding from:
Community Involvement Fund
of the New Mexico Community Foundation

DEEP TROUBLE

The Waste Isolation Pilot Plant is carved out of a layer of salt that will eventually encapsulate the stored low- and medium-level nuclear waste. It consists of eight waste-disposal panels at the southern end, where the accident occurred, and a smaller experimental wing at the northern end.



WIPP's Mission

- “Start Clean, Stay Clean” to dispose of up to 175,564 m³ 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

WIPP - 3/26/1999 - 2/5/2014

11,894 truck shipments from 12 sites

INL-5,844 (49%); SRS-1,654 (14%); LANL-1,344 (11%)

90,627 m³ of CH waste emplaced

INL-42,744 (47%); SRS-17,507 (19%); LANL-9,162 (10%)

641 m³ 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 m³ of CH waste on surface

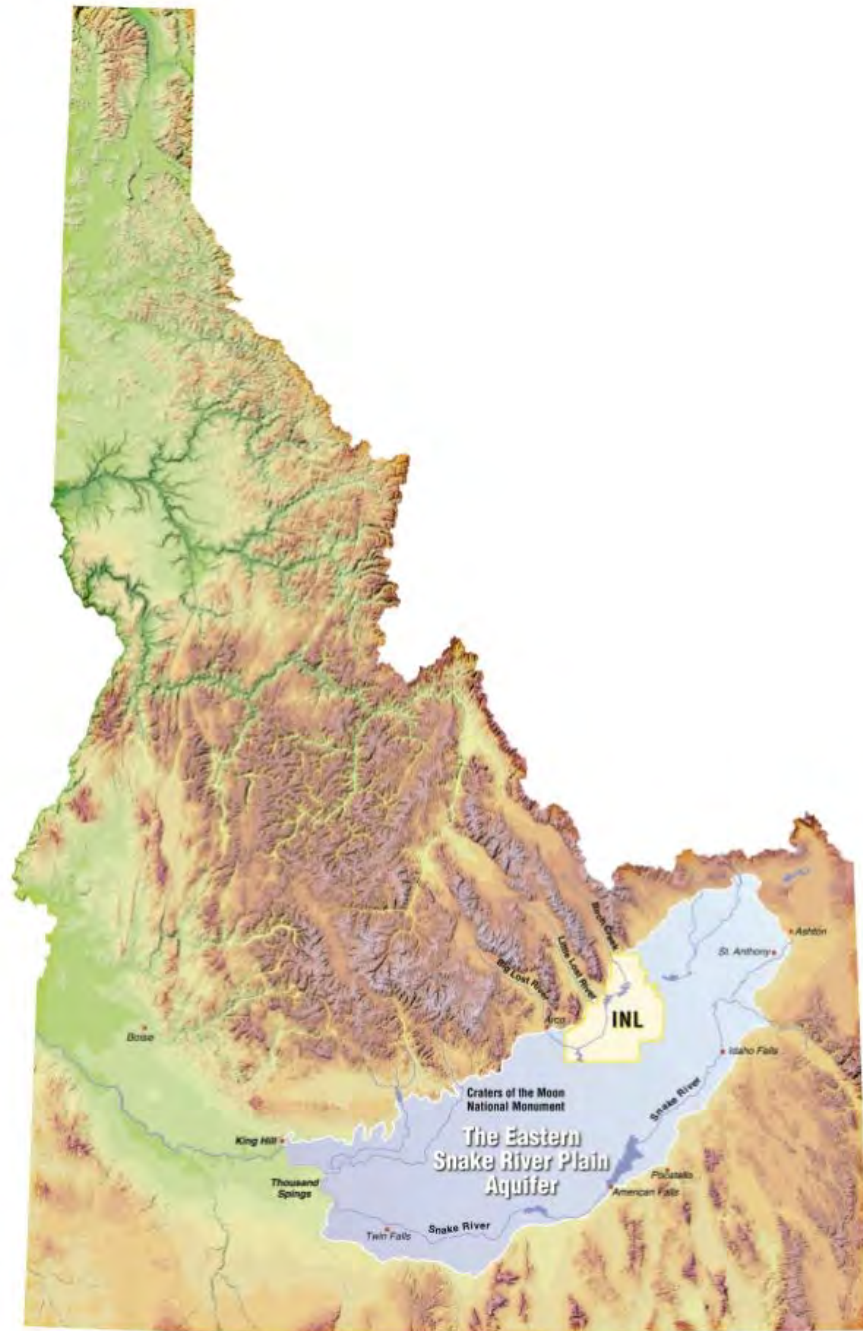


Snake River Alliance

IDAHO'S NUCLEAR WATCHDOG & CLEAN ENERGY ADVOCATE

www.snakeriveralliance.org

Idaho's grassroots nuclear watchdog
and advocate for clean energy



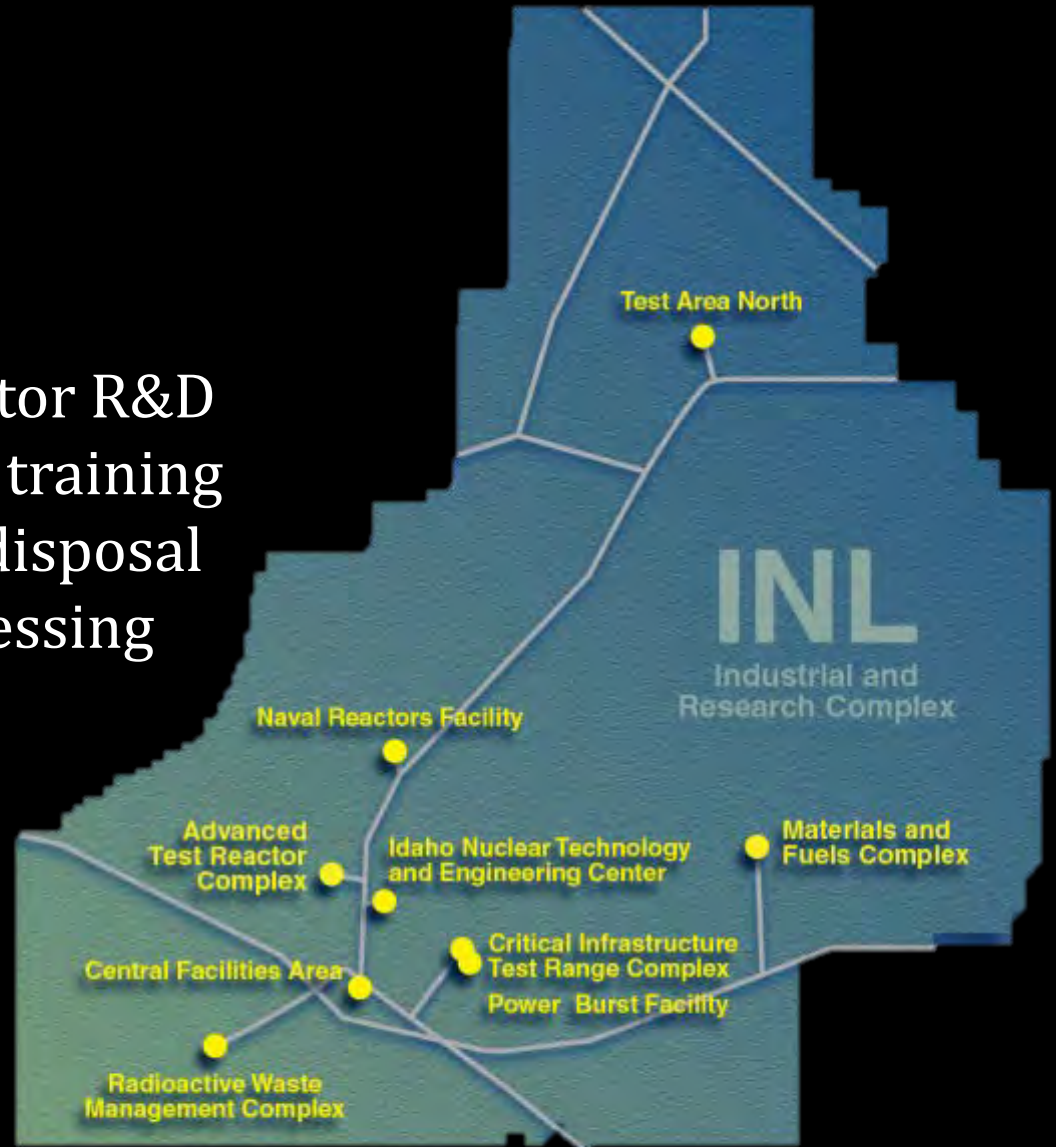
INL, Idaho, and Idaho's Water

Idaho National Laboratory

Primary Missions

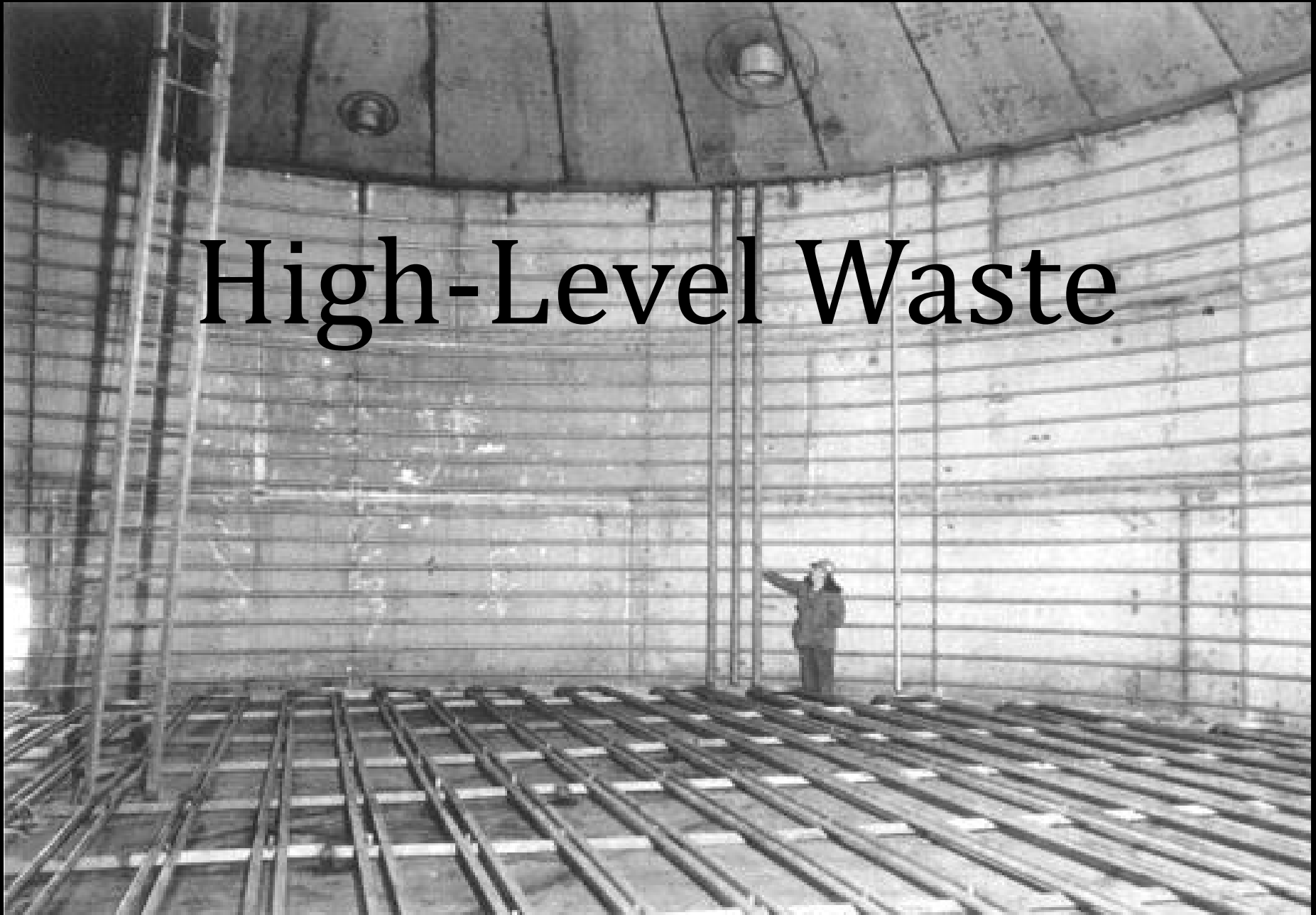
Commercial nuclear reactor R&D
Nuclear navy testing and training
Nuclear weapons waste disposal
Nuclear weapons reprocessing

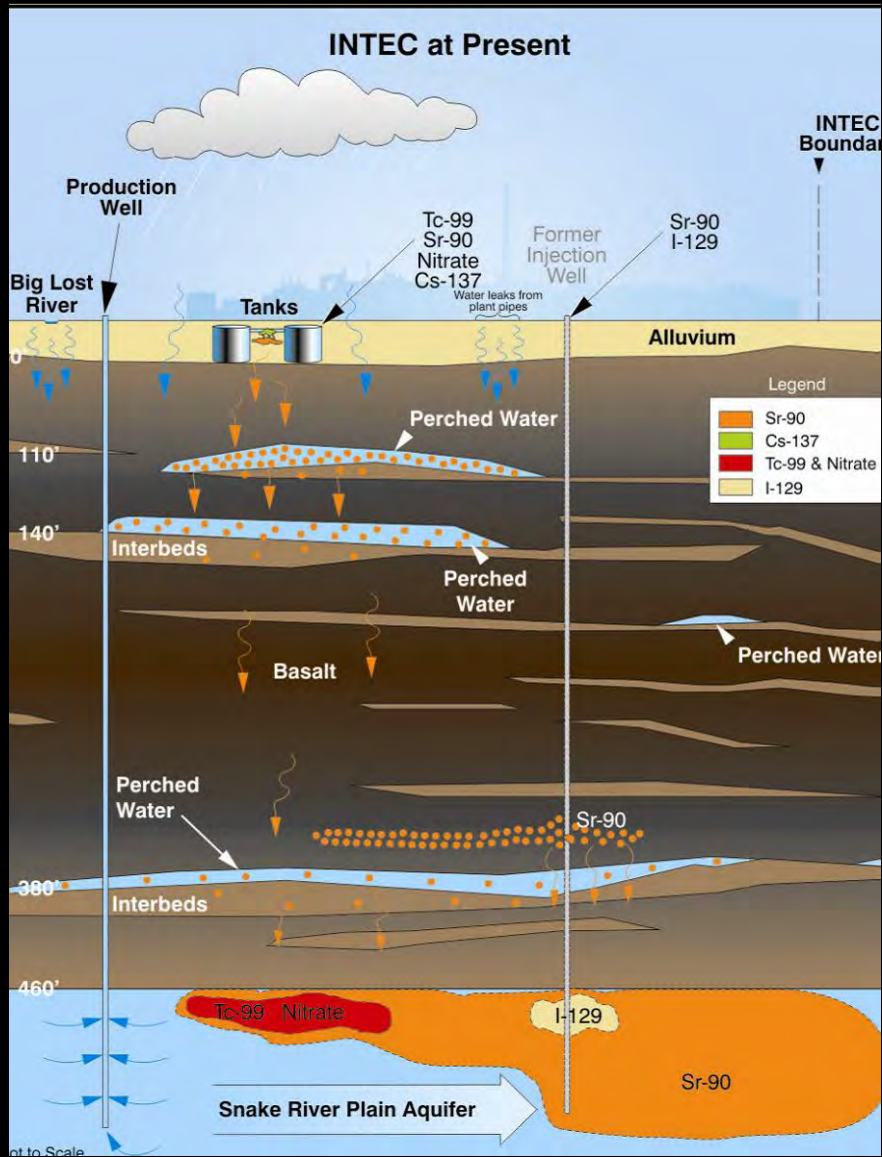
Cleanup





High-Level Waste







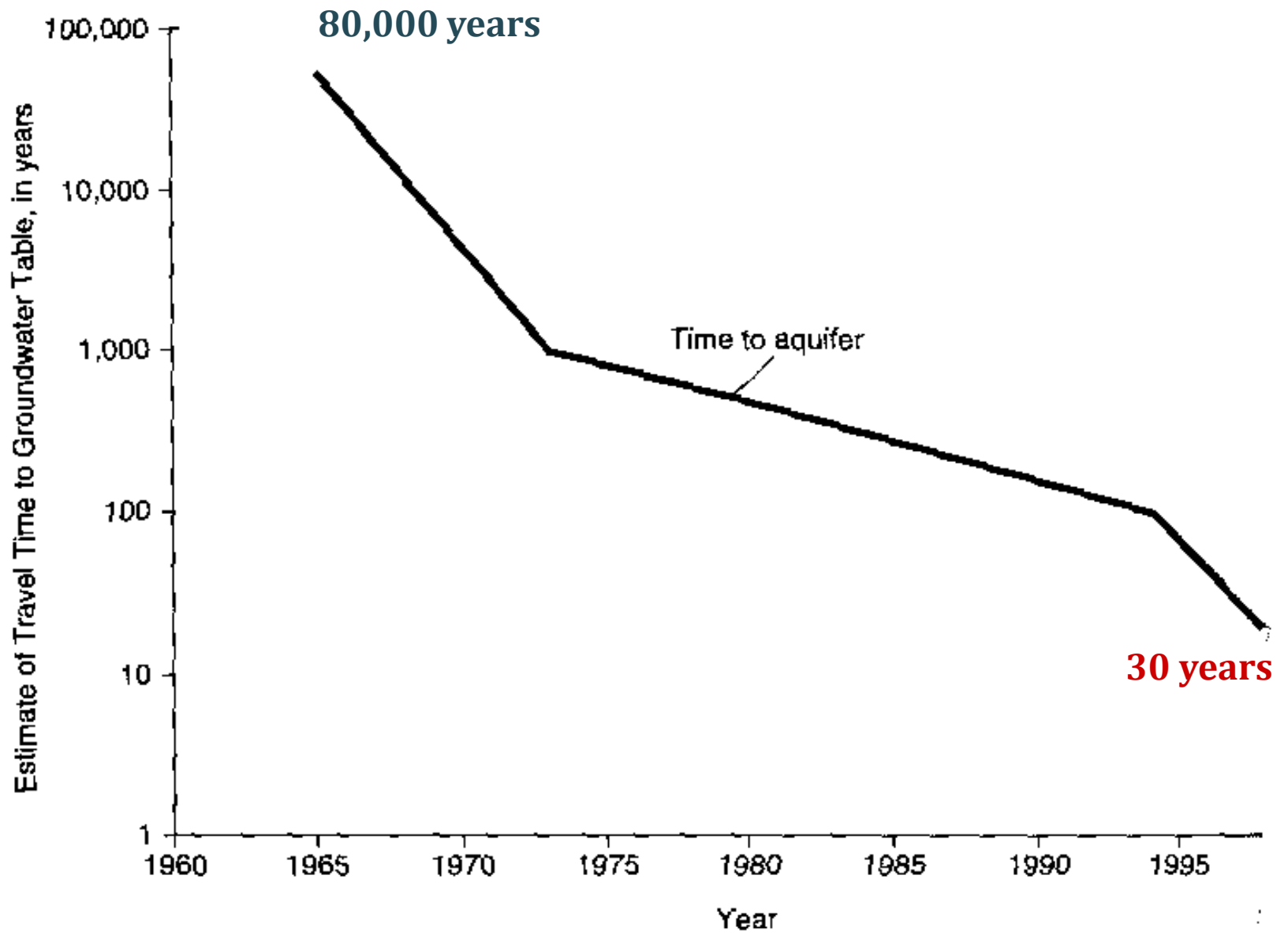






Pit 24, Area G looking west, November 8, 1973







Source: Idaho National Engineering and Environmental Laboratory.







Subsurface Disposal Area (SDA) Plot Plan

-  SDA boundary
-  ARP IX (approximate location)



GIS Analyst: Dan Mahoney
Date Drawn: 10/23/2012
Path: X:\gis_projects\hwm\cbase_maps
File Name: SDA_and_ARP_Structures_&_ARP_IX_imagery_2012-a_v1.mxd

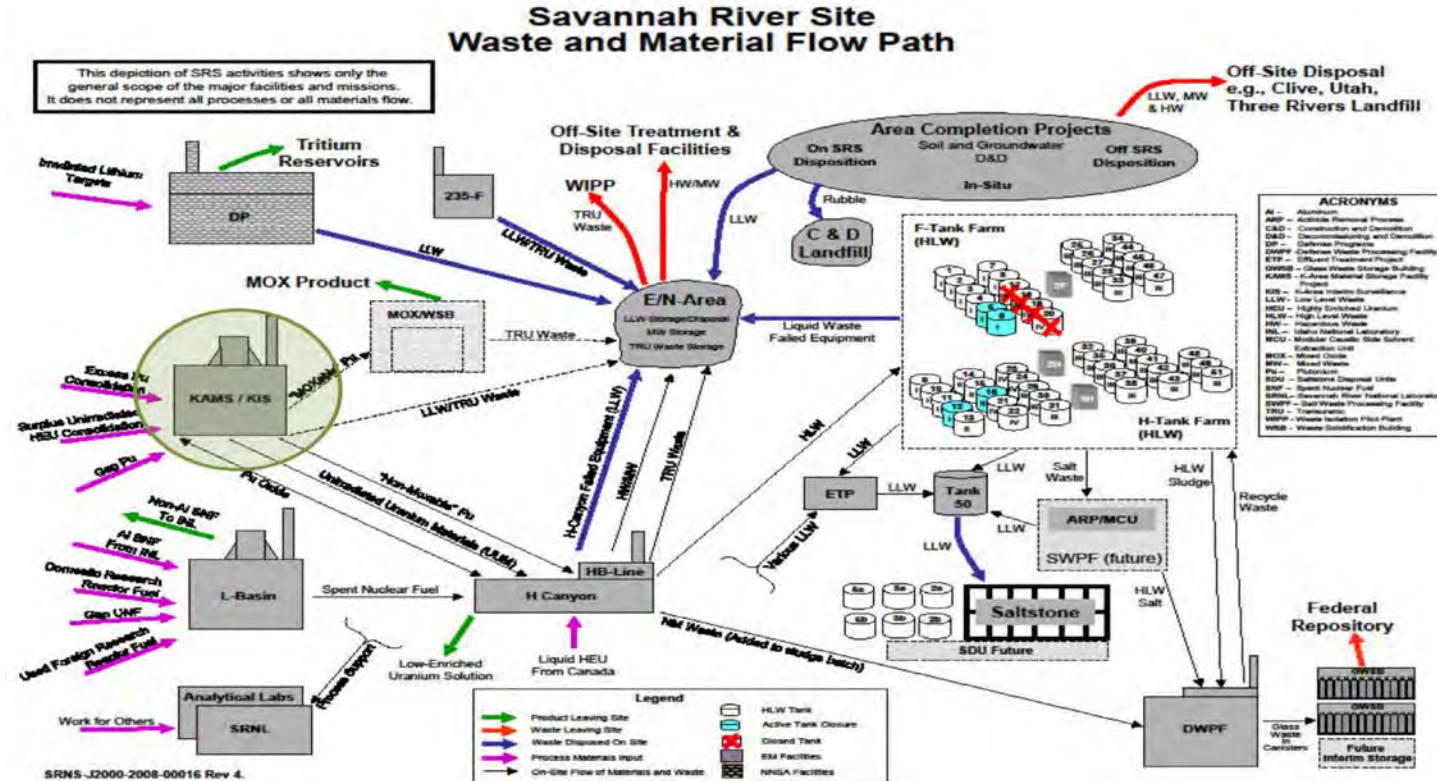
STOP  **THE SHIPMENTS**

STOP  **THE SHIPMENTS**





SRS yearly clean-up budget around \$1.3 billion; on January 27, 2015, DOE revealed estimated “clean-up” cost of Savannah River Site (310-square miles) waste has soared \$25 billion to total of \$91 to \$101 billion, with site clean-up completion delayed another 23 years, from 2042 to 2065 --- this will impact cleanup at and other DOE sites; “closure” of 51 high-level tanks at SRS is urgent and most costly aspect of the waste management program



From mid-1950s to 1988, 5 defense reactors produced 36 MT of plutonium and all the tritium for US nuclear weapons



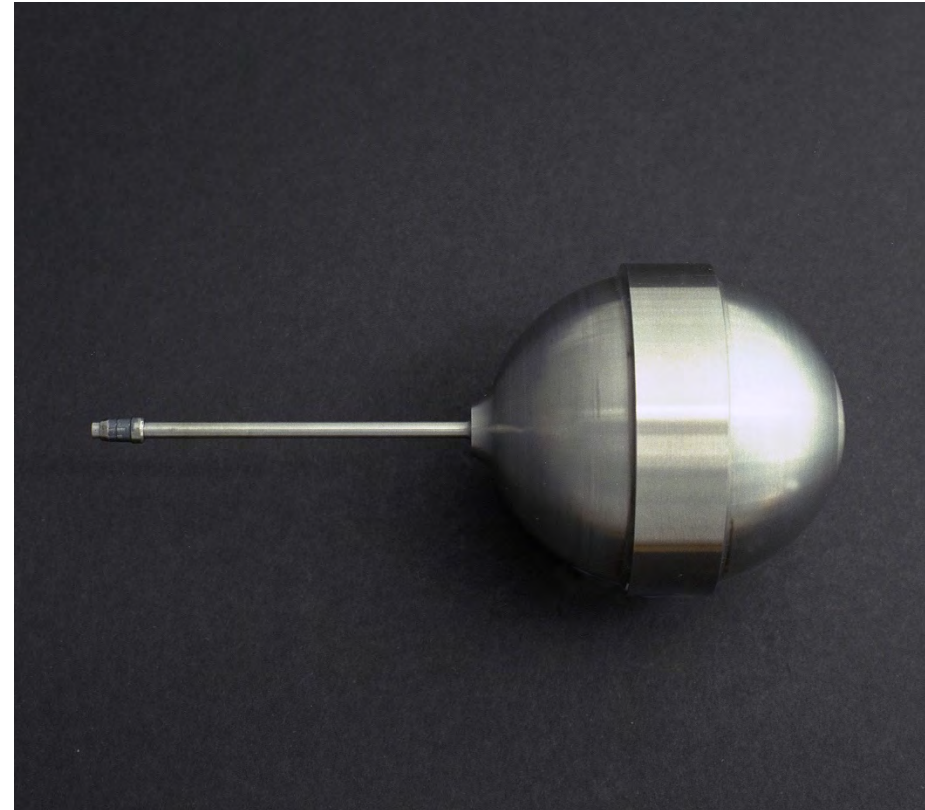
One reprocessing plant - H-Canyon – remains operable at SRS; at 60 years old, it is the last such facility in the DOE complex



SRS stores 12.8 metric tons of “surplus”
weapon-grade plutonium, in “3013” cans



SRS processes all tritium for US nuclear weapons;
tritium produced in a commercial reactor in TN



SRS had 51 high-level waste tanks, 7 now “closed;”
almost 4000 canisters filled with vitrified waste



Cesium- liquid from HLW tanks to be processed through “Salt Waste Processing Facility” (SWPF) with by-product mixed with concrete and poured into large vaults and left on site



Mixed oxide plutonium fuel (MOX) project far over budget and behind schedule



Surplus weapons plutonium packaged at SRS, for disposal in WIPP



**SRS legacy TRU waste problem, created by production of 36 MT of plutonium in 5 defense reactors, has mostly been shipped to WIPP –
“Reduced the legacy TRU waste stored at SRS from over 12,000 cubic meters to 615 cubic meters today” – SRS official to SRS Citizens Advisory Board, May 20, 2014**



But, big trouble ahead with TRU waste at SRS as “newly generated” (future) TRU waste - much of that from plutonium disposition - could be as much as the “legacy” amount; will strain WIPP capacity and impact other DOE sites

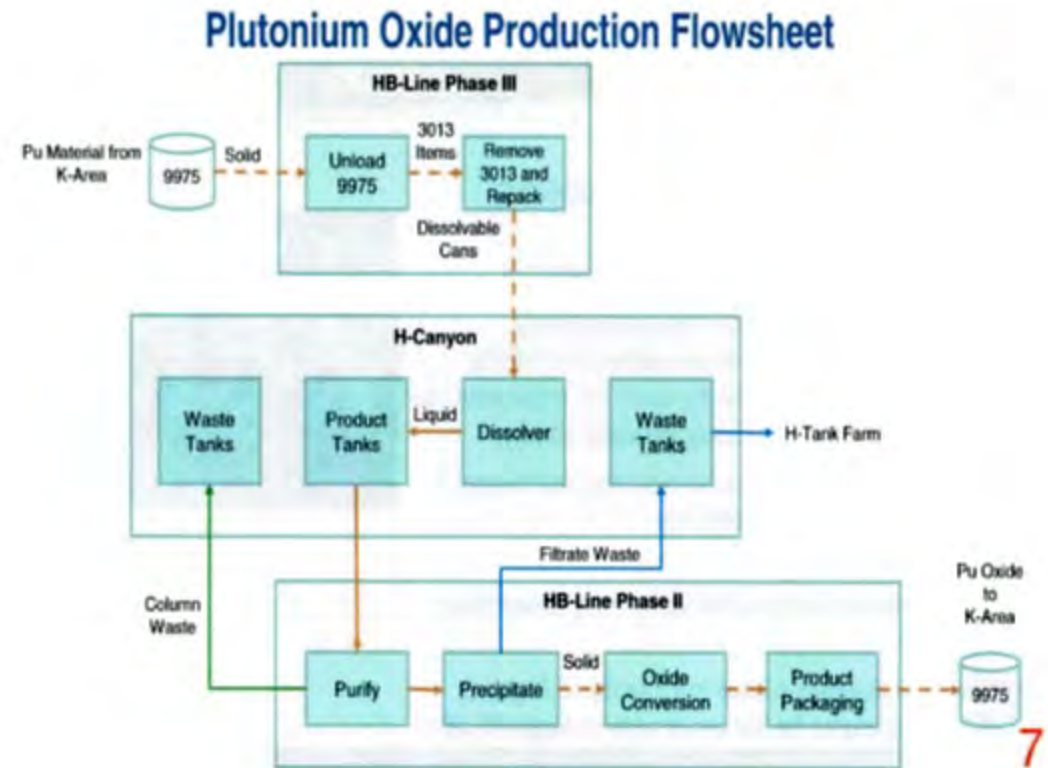
OFFICE OF ENVIRONMENTAL MANAGEMENT **Solid Waste Disposal: Transuranic Waste**

Transuranic Waste (TRU) Shipment to Waste Isolation Pilot Plant (WIPP)



Performance Measure	Unit of Measure	Actual FY14	Target FY15	Actuals FY15	YTD Cum FY15	End State	% Compl.	Est. Year Complete
TRU- Legacy (in storage prior 2009)	Cubic Meters	405	0	0	11,063	11,600	95%	2017
TRU- Newly Generated	Cubic Meters	24	0	0	139	3,980 (Est)	Ongoing	TBD

Failure to follow criticality procedures in H-Canyon while preparing plutonium for MOX project on Sept. 3 , for 2nd time in 2015, caused halt on Sept. 11 to all “non-essential” operations by main contractor



Future of SRS – Import of nuclear materials under guise of non-proliferation?



Rudolf Printz, Leiter des Bereiches Nuklear-Service im Forschungs-Zentrum Jülich, zeigt das Modell einer Graphit- Brennelemente-Kugel. (Andreas Endermann (dpa))



Chaos at SRS

- MOX project costs estimates run to \$100 billion and would not conclude until the next century if host of problems can be overcome;
 - H-Canyon closed for second time this year and no clear plan for restart;
- Salt Waste Processing Facility costs estimate has soared from \$900 million to \$2.3 billion, start-up delayed 5 years and unclear if it can operate;
 - Number of high-level waste canister being filled has dropped to 100/year, far below capacity and funding is at risk;
- all future tank closure “milestones” with South Carolina regulator are now on track to be missed – is DOE’s plan to do less and less “clean-up?”

Tom Clements
Director, Savannah River Site Watch (SRS Watch)

www.srswatch.org

Columbia, South Carolina

tel. 803-834-3084 --- srswatch@gmail.com

SRS WATCH

Savannah River Site Watch



Los Alamos National Lab (LANL)



Pit 22, Area G looking southeast, January 14, 1976



Pit 24, Area G looking west, November 8, 1973

Photo courtesy: Los Alamos National Laboratory and author Margaret Anne Rogers. Area G pits and trenches photos are from her report titled "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)", a Source Document, Informal Report, LA-6848-MS, Vol. I, June 1977.

- Before the mid-1990s, the waste was typically placed into the pits in lifts; each layer of waste was covered with crushed tuff and compacted using heavy equipment.



Disposal pits



Area G

32 pits, 194 shafts

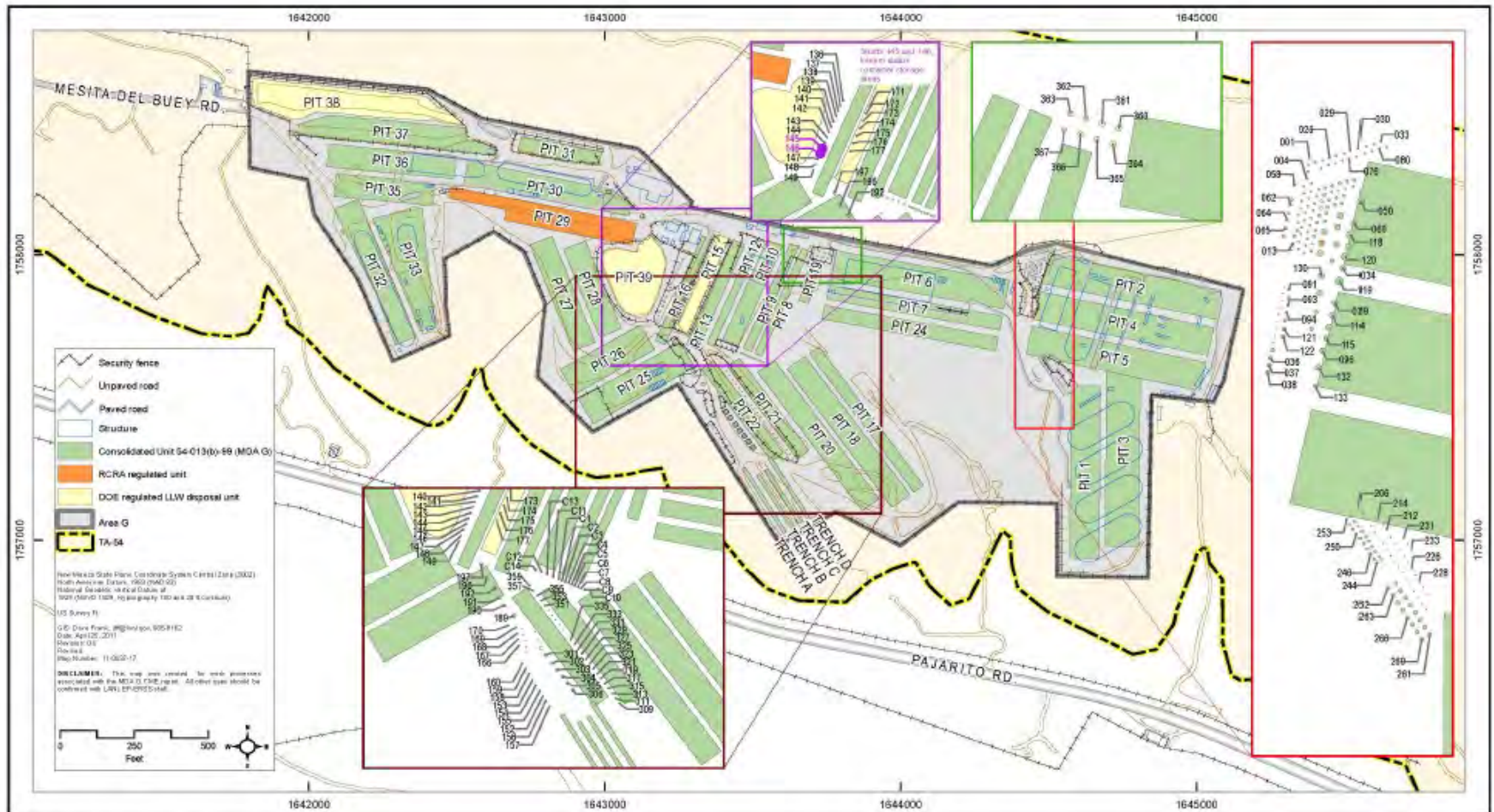


Figure 1.0-3 Area G waste disposal units

Area G Surface Structures



LANL TRU WASTE

Stored CH TRU in WIPP Inventory - 6,520 m³

Stored RH TRU in WIPP Inventory - 79 m³

Stored at Waste Control Specialists - 372 m³

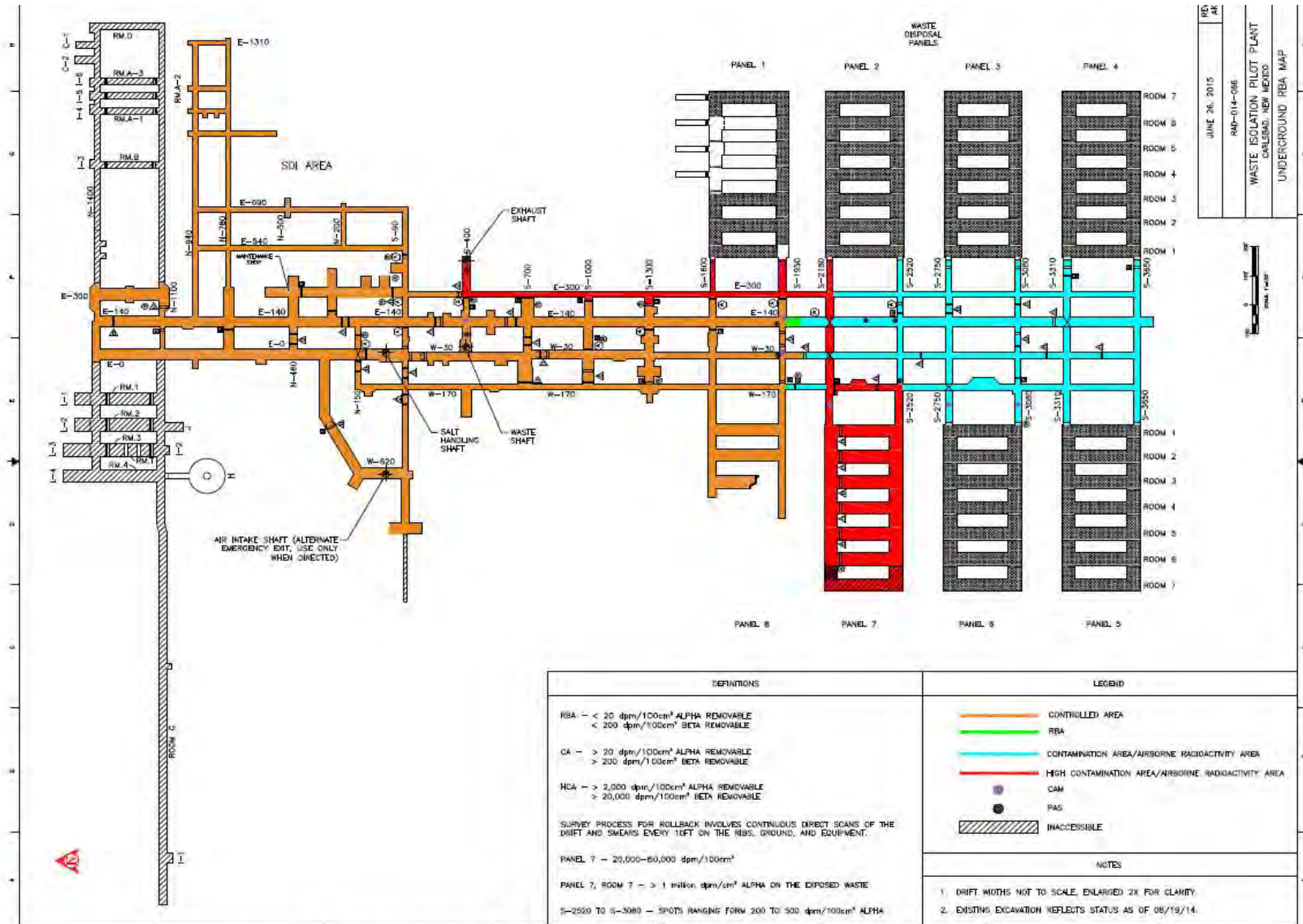
LANL operations generate more TRU waste that's not in the WIPP inventory

- 126 containers in FY 14 not shipped to WIPP

- 71 containers in FY 15

- 364 containers (113 m³) in TA-55

More than 8,000 feet of contaminated tunnels



Status of the WIPP Underground Rollback Areas for this Reporting Period - June 26, 2015

WIPP Capacity in Panels 7 & 8

Panel 7

CH-TRU = ~ 16,000 m³

RH-TRU = 0 in canisters

Panel 8

CH-TRU = 18,750 m³

RH-TRU = 650 m³ in canisters

Total CH-TRU = 34,750 m³

Capacity shortfall = 27,310 m³

Total RH-TRU = 650 m³

Capacity shortfall = 2,971 m³ or 4,941 m³

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

- Let policymakers know about your concerns about expanding WIPP's mission and about the safety of WIPP.
- Educate and organize your friends and neighbors.
- Write letters to the editor
- Request NMED and DOE to have a public process to determine what permit modifications are required.

Website Information Sources

DOE WIPP Recovery:

<http://www.wipp.energy.gov/WIPPRecovery/Recovery.html>

NM Environment Dept. WIPP Documents:

<http://www.nmenv.state.nm.us/NMED/Issues/WIPP2014.html>

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

Don Hancock
Southwest Research and Information Center
PO Box 4524
Albuquerque, NM 87196-4524
(505) 262-1862
sricdon@earthlink.net



www.sric.org

Beatrice Brailsford
Snake River Alliance
PO Box 425
Pocatello, ID 83204
(208) 233-7212
bbrailsford@snakeriveralliance.org

www.snakeriveralliance.org

Tom Clements
SRS Watch
1112 Florence Street
Columbia, SC 29201
(803) 834-3084
srswatch@gmail.com

www.srswatch.org