Good morning, Co-Chairman Hagel, Co-Chairman Lash, members of the subcommittee. Thank you for the invitation to address the Disposal Subcommittee.

I am Don Hancock, Director of the Nuclear Waste Program at Southwest Research and Information Center (SRIC) in Albuquerque, NM, a nonprofit organization established in 1971. SRIC is a multi-cultural organization working to promote the health of people and communities, protect natural resources, ensure citizen participation, and secure environmental and social justice now and for future generations.

I have been with SRIC since 1975 and have been heavily involved in policy, technical, regulatory, legal, and public education matters regarding the Waste Isolation Pilot Plant (WIPP). I’ve also been involved in some of the issues related to high-level waste and irradiated fuel, especially during the 1980s Department of Energy (DOE) efforts to establish first and second-round repository and Monitored Retrievable Storage sites. On March 24, I submitted “A Perspective on U.S. Nuclear Waste Policies for the last 40 Years,” regarding lessons learned from U.S. nuclear waste policies. It is available at http://www.brc.gov/e-mails/March10/Perspective%20Blue%20Ribbon%20Commission%20final%20By%20Don%20Hancock.pdf

The WIPP experience provides some insights to respond to the subcommittee’s big question: How can the U.S. go about establishing one or more disposal sites for high-level nuclear wastes in a manner that is technically, politically and socially acceptable?

The WIPP experience also provides insights into the three specific questions for this meeting:

- Is a disposal facility (or facilities) needed under all foreseeable scenarios?
- If so, what are our alternative approaches for disposal?
- What should the process to develop a US disposal system look like?

Before examining some of that WIPP experience in light of those questions, I need to mention an important matter to many people and to the effectiveness of the Commission’s work.

WIPP is a continuing experience. What happens with WIPP over the next two decades is likely more important to having a technically, politically and socially acceptable waste program than what has happened over the last almost 40 years of WIPP’s history. That conclusion is because WIPP’s performance can demonstrate whether the federal government and its contractors, at the cost of billions of dollars, can safely operate WIPP to meet the “start clean, stay clean” standard; can safely transport transuranic (TRU) waste through more than 20 states without serious accidents or release of radioactive or hazardous contaminants; can meet commitments to clean up TRU waste at dozens of DOE nuclear weapons sites; and can safely close, decontaminate, and decommission the WIPP site. What happens with WIPP also will demonstrate whether legal prohibitions on high-level waste and irradiated fuel, and promises against such waste are reliable, and whether any state or tribe should believe in the credibility of technical and legal requirements, and binding commitments related to any other nuclear waste facilities.

I view the WIPP experience in five chronological phases:

Phase 1 – 1971 to 1981 - The federal government decides the first repository will be in southeastern New Mexico; WIPP’s construction begins on July 4, 1981.

Phase 2 – 1981 to 1999 - Public efforts modify government decisions about WIPP.

Phase 3 – 1999 to ? - WIPP begins operations on March 26, 1999, which continue until ?

Phase 4 – About 2030 – WIPP is closed and decontaminated and decommissioned.

Phase 5 – 2035 to 12035 – WIPP’s continuing impact for thousands of generations.

Phase 1: 1971 to 1981.
WIPP was sited in New Mexico because of successful efforts of local Carlsbad officials to find “a way…to make a buck.”¹ There were no standards for what a safe repository would be. There was no national search for the best site to meet health and safety standards. The 16-square mile site is surrounded by hundreds of oil and natural gas wells and is underlain by oil and natural gas and a large pressurized brine reservoir.

Among the initial controversies about WIPP was whether the state would have “veto” or “concurrence” or “cooperation” rights regarding the facility. On February 2, 1978, DOE Secretary James Schlesinger promised the New Mexico congressional delegation that the state would have a veto as to whether nuclear waste could be disposed in the state.²

In 1979, Congress determined that a transuranic waste disposal facility was needed to continue nuclear weapons production. WIPP was authorized “to demonstrate the safe disposal of radioactive waste resulting from the defense activities and programs of the United States

exempted from regulation by the Nuclear Regulatory Commission.”3 The law also required that
the DOE Secretary “seek to enter into a written agreement” on consultation and cooperation with
appropriate New Mexico officials. President Carter opposed the legislation, but could not veto
just the WIPP provision, which was part of the National Security and Military Applications of
Nuclear Energy Authorization Act of 1980. However, the president refused to start construction
of WIPP, and in his February 12, 1980, Radioactive Waste Management Program, he stated:
“WIPP will be cancelled since it is unlicensed and cannot accept commercial wastes.”4
Throughout 1980 there was stalemate: President Carter would not proceed with WIPP and
Congress would not allow its cancellation.

The stalemate was broken on the third day of the Reagan administration when DOE announced
that it would proceed with WIPP, which was to begin disposal operations by 1987. Further, “By
approximately 1990 all existing waste stored at INEL [Idaho National Engineering Laboratory]
will have been removed to WIPP, and the WIPP facility would be in a position to receive and
dispose of TRU waste from other defense waste generating facilities. In addition, WIPP will
include an experimental facility for conducting experiments on defense wastes, including small
volumes of defense high-level wastes.”5

That decision to proceed with WIPP was supported by numerous Carlsbad officials, but was
opposed by many state officials and the large majority of New Mexicans. As had be true for
several years, the public was very involved in expressing concerns about the safety of the WIPP
site and about off-site issues, including transportation, emergency response, and the lack of
effective public or state participation in federal government decisions. There was consistent,
strong public opposition to high-level waste or commercial waste being allowed at WIPP.
Existing and new organizations were involved in public education, protests, litigation, and many
other actions. Following are some highlight events of the legal actions, administrative decisions,
and other activities that delayed WIPP’s opening until March 26, 1999.

On May 14, 1981, New Mexico Attorney General Jeff Bingaman filed suit in federal district
court to block construction of the first shaft at WIPP until four concerns were resolved. Those
concerns were: (1) prior to a decision to permanently construct WIPP, the results of initial site
design and validation tests be publicly known; (2) before a decision to permanently construct
WIPP, state concerns about health, safety, and public welfare issues be resolved; (3) a binding
and enforceable consultation and cooperation agreement that did not waive state judicial review
rights be signed; and (4) public hearings be held before a decision to withdraw federal lands for
WIPP.6

On July 1, 1981, DOE, the Department of Interior (DOI), and New Mexico signed a Stipulated
Agreement, and DOE Secretary James Edwards and New Mexico Governor Bruce King signed a
Consultation and Cooperation (C&C) Agreement. The C&C Agreement included requirements

4 Office of the White House Press Secretary, 1980. Fact Sheet – The President’s Program on Radioactive Waste
Management, p. 2.
that DOE consult and cooperate with the state before each of 17 key events and milestones; that DOE furnish the state data, reports, and other materials regarding those key events; that the state could conduct independent monitoring and testing at the WIPP site; that DOE would assist the state to obtain resources necessary for the independent review; and that if the WIPP mission changed, the parties would no longer be bound by the agreement.

On December 27, 1982, a Supplemental Stipulated Agreement was signed to address the state’s offsite concerns regarding liability, emergency response preparedness, transportation monitoring, environmental monitoring and health studies and DOE funding for such activities, and funding for upgrading state highways that would be WIPP transportation routes. In November 1984, a first modification to the C&C Agreement was signed to require that any high-level waste experiments would be removed before site closure and stating that “WIPP is not designed for the permanent disposal of high-level waste, nor has the WIPP site itself been characterized for such permanent disposal,” to put limits on the volume and radioactivity of remote-handled transuranic waste, prohibiting subsurface mining or drilling within the WIPP site, to require that DOE and WIPP will comply “with all applicable state, federal and local standards, regulations and laws,” and to allow that all materials that the state has may be distributed for public comment. A second modification was signed on August 4, 1987, that required at least 45 days of notice and comment before underground waste storage rooms could be reoriented and that all waste must be shipped in containers certified by the Nuclear Regulatory Commission (NRC).

On June 29, 1983, DOE announced that it would proceed with construction and operation of WIPP. The surface buildings, shafts to the underground disposal area, and the first panel of seven rooms were substantially completed over the following five years with the expectation that the facility would begin receiving waste by 1988. At a September 13, 1988, House Government Operations subcommittee hearing, DOE announced that WIPP would not open the following month. On October 19, 1988, Idaho Governor Cecil Andrus announced a ban on further waste shipments from the Rocky Flats Plant in Colorado to the Idaho National Lab because of the delay in WIPP’s opening.

On June 13, 1990, DOE Secretary Watkins announced that he would proceed with opening WIPP for a Test Phase during which time some TRU waste would be emplaced, and he asked the Department of Interior (DOI) to issue an administrative land withdrawal to allow the Test Phase. On January 22, 1991, the DOI’s Bureau of Land Management modified the WIPP Public Land Order to allow the test phase and transporting waste to WIPP. On March 6, 1991, the House Interior Committee passed a resolution to nullify that Public Land Order. On March 28, 1991, DOI suspended approval of waste transportation or tests until June 30, 1991, in response to the House Committee resolution.

On October 3, 1991, Secretary Watkins notified DOI Secretary Lujan and New Mexico Governor Bruce King that WIPP was ready to open within seven days. On October 9, 1991, New Mexico Attorney General Tom Udall filed suit in Federal District Court in Washington, D.C. to block WIPP’s opening because the Public Land Order was invalid. On October 28,
1991, the Natural Resources Defense Council, Environmental Defense Fund, SRIC, Concerned Citizens for Nuclear Safety, and Reps. Bill Richardson, Peter Kostmayer, and Wayne Owens filed a motion to intervene in the New Mexico lawsuit and subsequently also sued because DOE did not have a Resource Conservation and Recovery Act (RCRA) permit. On November 1, 1991, Texas Attorney General Dan Morales also intervened in the litigation. On December 13, 1991, District Court Judge John Garrett Penn granted a preliminary injunction prohibiting waste emplacement at WIPP. On January 30, 1992, the Judge further found that DOE had violated RCRA and that the Public Land Order was unlawful and issued a permanent injunction against that order. On July 10, 1992, the D.C. Circuit Court of Appeals reversed and remanded the RCRA ruling, but affirmed that the Public Land Order was unlawful and upheld the issuance of the permanent injunction.

In early October 1992, after five years of consideration of numerous bills, hearings, debates, meetings, and much lobbying, the House and Senate passed the WIPP Land Withdrawal Act. The law, among other things: (1) prohibits transportation or disposal of high-level waste or spent nuclear fuel; (2) limits the radioactivity in remote-handled waste; (3) limits the total amount of TRU waste to 6.2 million cubic feet; (4) requires compliance with new WIPP disposal standards before waste can be disposed; (5) requires compliance with specified federal and state laws; (6) authorizes payments of $20 million per year for each of 14 years to New Mexico; (7) establishes transportation and emergency response requirements; and (8) leaves the C&C Agreement in place, unless it specifically conflicts with the law.

On July 30, 1993, DOE held a WIPP Program Review public meeting in Washington, D.C. to discuss issues, including whether to proceed with the Test Phase. On October 21, 1993, DOE announced that it was terminating the test phase at WIPP and that tests would instead be done in laboratories.

On October 16, 1995, the State of Idaho, DOE, and the Navy announced settlement of Idaho’s lawsuit. The settlement agreement required TRU waste shipments from Idaho to begin by April 30, 1999, and for 65,000 cubic meters of TRU waste to be shipped to WIPP or another disposal site by a target date of December 31, 2015, and by no later than December 31, 2018.

On May 13, 1998, the Environmental Protection Agency (EPA) certified that WIPP complied with the disposal standards. The D.C. Circuit Court of Appeals upheld the certification, after the State of New Mexico requested voluntary dismissal of its challenge. On March 22, 1999, Judge Penn held that DOE could begin disposal of solely radioactive waste at WIPP even though New Mexico had not issued a final RCRA permit. The first waste shipment left Los Alamos

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16 Southwest Research and Information Center v. EPA, No. 98-1323 (D.C.Cir. June 28, 1999).
National Laboratory during the night of March 25, 1999 and arrived at WIPP in the early morning of March 26, 1999.

**Phase 3: 1999 to present**

The WIPP RCRA permit was issued by the New Mexico Environment Department (NMED) on October 27, 1999. The permit allowed contact-handled (CH) TRU waste, but prohibited remote-handled (RH) TRU waste. The permit was modified to allow RH waste on October 16, 2006. The draft permit renewal will go to public hearing starting on August 9, with the renewed permit to be issued before the end of the year.

As of June 28, 2010, WIPP has received 8,691 shipments and disposed of 68,646 cubic meters of waste. That is about 39.1% of the legal capacity limit of 6.2 million cubic feet (175,564 cubic meters), including 68,312 cubic meters of CH waste or 40.5% of the CH capacity, and 334 cubic meters of RH waste, or less than 5.0% of the RH capacity.

Major controversies since the opening have related to DOE attempts to expand WIPP’s mission beyond defense TRU waste. Public opposition to those attempts have stopped the expansion, placed additional prohibitions in the RCRA permit, and delayed EPA’s recertifications.

On November 26, 2003, NMED issued a permit modification request to prohibit wastes from high-level waste tanks at the Hanford, Savannah River, and Idaho National Lab sites in response to DOE attempts to reclassify some of those wastes as TRU and dispose them at WIPP. DOE then filed its own modification request that was not as encompassing as the NMED proposal. On October 29, 2004, based on public comment from more than 1,200 people, NMED modified the permit to exclude waste that “has ever been managed as high-level waste and waste specified [in 243 tanks] … unless specifically approved through a Class 3 permit modification.”

On March 26, 2004, DOE submitted its recertification application to EPA and included in the inventory some wastes from Hanford that were managed as high-level waste. Public comment and opposition to such wastes substantially delayed the recertification decision until March 29, 2006. In its decision, EPA emphasized that it “will not allow high-level waste or spent nuclear fuel to be shipped to WIPP.” For the 2009 recertification application, EPA stated that the Hanford tank waste must be removed from the performance assessment inventory.

Congress has passed two provisions to limit waste characterization requirements for WIPP. Section 311 of the Energy and Water Development Appropriations Act for Fiscal Year 2004 required DOE to file a permit modification to change the Waste Analysis Plan and volatile organic compound (VOC) monitoring requirements of the WIPP RCRA permit. Section 310 of

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18 [http://www.nmenv.state.nm.us/wipp/decision.html](http://www.nmenv.state.nm.us/wipp/decision.html)
19 [http://www.nmenv.state.nm.us/wipp/finaldet1006.pdf](http://www.nmenv.state.nm.us/wipp/finaldet1006.pdf)
21 [http://www.nmenv.state.nm.us/wipp/finaldet1104.pdf](http://www.nmenv.state.nm.us/wipp/finaldet1104.pdf)
23 Id., p. 18018.
the Consolidated Appropriations Act, 2005 was identical except for two word changes. Waste characterization and VOC monitoring requirements were changed as part of the RH waste modification NMED approved on October 16, 2006.

DOE is currently considering other actions that would affect WIPP’s mission. In its Notice of Intent to Prepare an Environmental Impact Statement for the Disposal of Greater-Than-Class-C Low-Level Radioactive Waste, WIPP is one of the alternative disposal sites. Later this year, the long-delayed draft environmental impact statement (EIS) is expected to be released and public hearings will be held in New Mexico and other states.

On January 12, 2004, DOE noticed the West Valley Demonstration Project Final Waste Management EIS. The EIS Preferred Alternatives for TRU waste were to ship those wastes to WIPP. On January 23, 2004, SRIC commented that it strongly objected to the TRU waste alternatives in the EIS because they are not consistent with legal and regulatory requirements so should not be considered reasonable alternatives. On February 6, 2004, Senator Jeff Bingaman wrote DOE: “I can find no legal authority for disposal of nondefense TRU waste at WIPP. Accordingly, I ask that you do not dispose of West Valley’s nondefense TRU at WIPP.”

DOE’s Record of Decision deferred a decision on the disposal of TRU waste, “pending a determination by the DOE that the waste meets all statutory and regulatory requirements for disposal at WIPP.”

Within a few weeks, DOE is expected to release a Notice of Intent to Supplement the Surplus Plutonium Disposition EIS at the Savannah River Site to include the alternative of sending 5 metric tons of plutonium-239 to WIPP. DOE has yet to provide any public analysis as to how such a large amount of additional waste that was not previously in the inventory would impact the WIPP capacity limits and the amount of wastes from other sites that could come to WIPP.

A public comment process is underway regarding changes to the Hanford Tri-Party Agreement that include delaying final shipments of some TRU waste to WIPP until December 31, 2035. That date is more than five years after the expected final closure of WIPP.

Among the conclusions that can be drawn for these recent WIPP experiences are that DOE will continue to try to expand WIPP’s mission and that Congress may try to micro-manage and change permitting requirements without amending the federal laws that govern permits at many other waste management facilities.

Phase 4: About 2030
There are various estimates as to when WIPP will be filled and closed, but the timeframe is to be accelerated with the $172 million in American Recovery and Reinvestment Act funds designated to speed up shipments to WIPP. The current WIPP RCRA permit states that closure could begin

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29 http://www.sric.org/nuclear/docs/DOE012304.html
30 http://www.sric.org/nuclear/docs/Bingaman020604.pdf
32 http://www.hanford.gov/files.cfm/TPA_M-091_Final_Approved_TA.pdf
as early as 2023 or as late as 2030, assuming there is nothing that requires an earlier closure. The current WIPP Cost and Baseline Schedule is based on shipments being completed in 2030. There are specific requirements in both the EPA certification and the RCRA permit about closure, which include demolishing all the surface facilities and sealing all shafts and boreholes. There is to be no surface contamination at the site and sealing the underground rooms and the four shafts that connect the waste disposal area to the surface are to be sealed to prevent releases.

Phase 5: About 2035 to 12035
The EPA repository standards rely on a 10,000-year performance assessment from when WIPP is closed. EPA’s certification decision states that DOE will maintain a fence around the surface footprint of the repository, post warning signs, and conduct routine patrols and surveillance for 100 years after closure, and that no on-going monitoring of the subsurface will be done after closure. In addition, some “passive institutional controls” – permanent markers around the site and records placed in local, state, federal, and international archives – to preserve knowledge of the site are required. The performance of such controls will provide information for future generations and about the kind of controls for other future disposal sites.

SUMMARY CONCLUSIONS FROM THE CONTINUING WIPP EXPERIENCE
1. WIPP is not a suitable site for high-level waste or irradiated fuel from commercial reactors. WIPP was not designed for such waste, it was not characterized for such waste, and it is not technically suitable for such waste. Federal laws and regulations clearly prohibit such waste at WIPP, numerous agreements with New Mexico prohibit such waste at WIPP, the RCRA operating permit prohibits such waste, and there are innumerable promises that have been made to the people of New Mexico (and the nation) that no such waste will ever come to WIPP. Any change in WIPP’s mission to allow such waste would be strongly opposed, including political and legal actions and likely other measures. But such a change also would demonstrate that supposedly strict requirements are not sufficiently reliable for any other site. Such a result would severely undermine credibility of laws, regulations, and promises regarding other nuclear waste disposal facilities.

2. The next 20 years can demonstrate whether the federal government and its contractors, at the cost of billions of dollars, can safely operate WIPP to the “start clean, stay clean” standard; can safely transport TRU waste through more than 20 states without serious accidents or release of radioactive or hazardous contaminants; can meet commitments to clean up TRU waste at dozens of DOE nuclear weapons sites; and can safely close, decontaminate, and decommission the WIPP site. Such results would increase public confidence in the government’s ability to safely operate and transport other waste to other facilities and to carry out its commitments for waste cleanup and disposal.

33 http://www.em.doe.gov/PDFs/ProjectFiles/Carlsbad.pdf
3. WIPP has specific limits on the amount of TRU waste that it can dispose, and a limited amount of time that it is to operate. Those limits presume that either the U.S. will stop generating additional TRU waste beyond those amounts and timeframes or that additional disposal site(s) will be available or that some TRU waste will remain in current locations. A technically, politically, and socially acceptable disposal program must be based on the amounts and types of wastes and the period of time that site(s) are to operate.

4. The WIPP site was selected when there were no health and safety disposal standards. It was selected because of the support of some local officials and the pressure to have a disposal site for TRU wastes generated at the Rocky Flats Plant and stored in Idaho. The continued operation of Rocky Flats as the only site to produce plutonium pits for nuclear weapons was deemed at risk. A technically, politically, and socially acceptable disposal program must be based on health and safety standards for present and future generations that are developed through a robust public (state, tribe, citizen) involvement process and approved before any site(s) are selected.

5. Congress authorized WIPP in 1979 without providing for a state veto (that DOE officials promised) and without providing for independent regulation. The lack of state veto and NRC licensing was unique for WIPP, and such limitations were not included in the Nuclear Waste Policy Act of 1982. A technically, politically, and socially acceptable disposal program must include transparency, robust public involvement, positive acceptance from state and tribal governments, and independent oversight and regulation.

6. In January 1981, DOE announced that it would construct and operate WIPP. That decision was supported by numerous local (Carlsbad) officials, but was opposed by many state officials and the large majority of New Mexicans. As a result, WIPP’s opening was delayed from the planned date of 1987 until March 26, 1999, because of technical controversies, public opposition, legal actions, and the need for additional legislation. A technically, politically, and socially acceptable disposal program must include continuing, robust involvement from affected communities as well as from critics and opponents. Federal funding should be provided for participation by affected communities and involvement of interested persons that are critical of the program so that the range of technical information and concerns are publicly discussed.

7. For several more decades, most irradiated fuel will remain at or near its current reactor site locations. The “Principles for Safeguarding Nuclear Waste at Reactors” have been signed by SRIC and more than 200 organizations and provide a framework for improving the protection of radioactive waste stored at reactor sites. While storage may be something that another subcommittee will consider, it is very important for the Commission to respond favorably to those principles.

I am happy to respond to your questions.

34 http://www.brc.gov/e-mails/May10/HOSS_PRINCIPLES_3_23_2010x.pdf
WEBSITES WITH WIPP INFORMATION:

DOE’s WIPP website – http://www.wipp.energy.gov/

NMED’s WIPP website - http://www.nmenv.state.nm.us/wipp/index.html

New Mexico WIPP Transportation Safety Program - http://www.emnrd.state.nm.us/WIPP/Index.htm

EPA’s WIPP website - http://www.epa.gov/radiation/wipp/index.html

SRIC’s website - http://sric.org/nuclear/nuclear2.html