EXHIBIT C

Affidavit of Robert J. Halstead

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AFFIDAVIT OF ROBERT J. HALSTEAD

I, ROBERT J. HALSTEAD, do hereby swear that the following matters are true and correct based on my personal knowledge:

1. I am the Executive Director of the Nevada Agency for Nuclear Projects (Agency), the Agency vested by state law to carry out the duties and responsibilities imposed on the State of Nevada (Nevada), by the Nuclear Waste Policy Act (NWPA), as amended. *See* Nevada Revised Statutes (NRS) 459.009 through 459.0098.

2. My 38 years of experience in the field of nuclear waste policy are described in the attached Statement of Qualifications. A copy of the Statement of Qualifications is included as Attachment 1 to this Affidavit.

3. The primary responsibility of the Agency is to oversee and evaluate the United States Department of Energy's (DOE) programs (a) to characterize or otherwise study the proposed Yucca Mountain site in southern Nevada with the purpose of assessing its suitability as a repository for high-level radioactive waste and spent nuclear fuel (Yucca Mountain Project), (b) to apply for all necessary licenses for the Yucca Mountain Project, and (c) if the Yucca Mountain Project is licensed by the United States Nuclear Regulatory Commission (NRC), to construct and operate it as a repository for the disposal of high-level radioactive waste and spent nuclear fuel.

4. As Executive Director of the Agency, I also advise the Governor of Nevada on DOE and National Nuclear Security Administration (NNSA) activities at the Nevada National Security Site (NNSS). Since 2011, I have advised the

Governor on (a) the environmental impacts of DOE/NNSA's overall site-wide activities at NNSS described in the "Final Site-Wide Environmental Impact Statement (EIS) for the Continued Operation of the Department of Energy/National Nuclear Security Administration Nevada National Security Site and Off-Site Locations in the State of Nevada," (DOE/EIS-0426) issued in February 2013; (b) the environmental impacts of DOE/NNSA's management of special nuclear materials (Uranium 233 and Uranium 235) described in the "Supplement Analysis for a Proposal to Transport Low-Level Radioactive Waste Material Generated by the Consolidated Edison Uranium Solidification Project from the Oak Ridge National Laboratory to the National Security Site for Disposal," (DOE/EIS-0200-SA-04) issued in August 2014; and (c) the environmental impacts associated with DOE/NNSA nuclear weapons program activities at the NNSS, including activities at the Device Assembly Facility (DAF), described in the DOE/NNSA "Fiscal Year 2018 Stockpile Stewardship and Management Plan Report to Congress," issued in November 2017, and United States Department of Defense, "Nuclear Posture Review," issued in February 2018.

5. On behalf of the Governor's Office, I helped negotiate the renewal of a voluntary agreement between Nevada and DOE/NNSA that requires low-level radioactive waste shipments to the NNSS to use routes that avoid Las Vegas, Hoover Dam, and the Mike O'Callaghan-Pat Tillman Memorial Bridge. On behalf of the Governor's Office, I have assisted in arranging meetings between NNSA's Office of Secure Transportation (OST) and State, local, and tribal governments to

facilitate planning for the safe and secure shipment of special nuclear materials to the NNSS. On behalf of the Governor's Office, I have negotiated implementation of DOE Orders which require certain DOE nuclear materials shipments to the NNSS to comply with State oversight requirements (also referred to as equivalency review) as if they were subject to NRC regulations (regarding preplanning and coordination with the Nevada Radiation Control Program for shipments of DOE-owned retired sealed sources per 10 C.F.R. pt. 37).

6. I hire and supervise consultants and scientists who oversee DOE's activities involving the Yucca Mountain site and DOE/NNSA's activities at the NNSS on behalf of the State of Nevada. My position also involves regularly monitoring and evaluating the Yucca Mountain Project and DOE/NNSA activities at the NNSS. These monitoring activities, in addition to the activities described in paragraphs 4 and 5, and my review of specific documents cited in the following paragraphs, form the basis of my personal knowledge of the matters stated in this Affidavit.

7. I have carefully reviewed the "Supplement Analysis for the Removal of One Metric Ton of Plutonium from the State of South Carolina to Nevada, Texas, and New Mexico," (DOE/EIS-0236-S4-SA-01) dated July 2018, referred to hereafter as "the SA." I have reviewed the relevant portions of references cited in the SA, including the previously cited DOE 2013, the NNSS Final Site-Wide EIS (DOE/EIS-0426) and DOE 2015, "Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement, "Department of Energy,

DOE/EIS-0283-S2, April 2015. I have also reviewed DOE Order 461.1C, "Packaging and Transportation for Offsite Shipment of Materials of National Security Interest," Approved 7-20-2016.

8. Nevada has a strong interest in protecting the health and safety of its citizens from radiological injuries and in protecting its lands and groundwater from radioactive contamination. Based upon my review of the SA, and my experience as Executive Director, I believe the DOE/NNSA's proposed action will result in increased radiation doses to Nevada citizens and would, in some circumstances, lead to contamination of the lands and the groundwater of Nevada with radioactive materials. Nevada's sovereign interests are injured because, under Nevada law, all water, both surface and underground, is owned by the people of Nevada and administered by the State of Nevada. *See* NRS 534.020 and 533.025.

9. Under the National Environmental Policy Act (NEPA), the identification and evaluation of reasonable alternatives to the proposed action are required before the action occurs. The SA fails to evaluate any reasonable alternatives, such as direct shipment of plutonium from SRS to the Los Alamos National Laboratory (LANL), or direct shipment from SRS to other Federal facilities. The "no action" alternative alone is evaluated, and rejected. Nor are reasonable alternatives evaluated in the prior NEPA documents that DOE references in the SA. DOE asserts that these prior EISs allow it to proceed with plutonium shipments to the NNSS at any time, using the shipping containers identified in the SA, without further review or consultation.

10. It would be an injury to the NEPA decision-making process that is incapable of repair if the preliminary injunction does not issue, for once the plutonium is transported out of South Carolina to the NNSS, Nevada will forever lose the ability to formally comment upon safety and environmental concerns related to the shipments. Moreover, DOE officials have refused to assure Nevada that the shipments will be made in certified "Type B" packages, which are packages designed to withstand severe accidents in transit (*see, e.g.*, 10 C.F.R. § 71.51), or even that the shipments will be made with the same safety and security protections that apply generally to other shipments of weapons-grade plutonium. Without this information, Nevada is unable to evaluate the safety or security of the proposed shipments, and is unable to assure its citizens that they will be safe or to discharge its sovereign duty to be prepared to assist responders if an accident occurs.

11. The proposed action in the SA does not specify a date certain for completion of plutonium "staging" at the DAF. Without more specific information, it is not possible to validate DOE/NNSA's assertion that the impacts and risks would be acceptable, or would be bounded by the impact evaluations contained in previous DOE/NNSA NEPA documents cited in support of the Removal SA.

12. The references cited in the SA at pages 46-48 do not include DOE's "Final Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada," (DOE/EIS-0250F-S1) issued in June 2008, referred to hereafter as the "Yucca Mountain FSEIS." The Yucca Mountain FSEIS

states that the proposed disposal in the repository of "the equivalent of 4,667 metric ton of heavy metal (MTHM) of DOE high-level radioactive waste" could include "surplus weapons-usable plutonium." Yucca Mountain FSEIS at p. S-8, included as Attachment 2 to this Affidavit. The Yucca Mountain FSEIS identifies the Savannah River Site (SRS) as the potential source of "up to about 13 metric tons (14 tons) of non-pit surplus plutonium" that could be disposed of in a geologic repository as irradiated mixed oxide spent fuel or included in high-level waste canisters produced at the SRS. Yucca Mountain FSEIS at pp. 1–23, included as Attachment 3 to this Affidavit. Failure of the Removal SA to acknowledge this linkage to the Yucca Mountain FSEIS is problematic.

13. Based on my previous experience with the OST shipments to the NNSS, the SA fails to provide critical information about OST protocols and operations needed to evaluate the transportation impacts of the proposed action. The SA mentions DOE Order 461.1C and provides a public relations description of OST operations in a single paragraph on page 16. But the SA fails to explain the most important difference between OST shipments and other radioactive materials shipments, from the standpoint of government officials and emergency responders, and from the standpoint of State of Nevada officials responsible for determining if the evaluation of impacts complies with NEPA: no disclosure by DOE/NNSA or OST of the timing and the routing of the proposed shipments to and from the NNSS.

14. Moreover, the SA makes no mention of any communications by DOE/NNSA or OST, with State, local, and tribal officials regarding information about local conditions important to safety and security as part of the shipment planning process; nor does the SA mention any communications regarding emergency response planning for the proposed shipments. Indeed, the SA implies that in the event of an accident or incident, all of the required response personnel and equipment will be provided by Federal agents "who would provide security and national incident command system response in the event of emergencies." SA at p. 16.

15. On behalf of the Governor, I can state this approach to shipment planning is not acceptable to the State of Nevada. We expect DOE/NNSA and OST to follow a process similar to that used in previous shipments of special nuclear materials to the NNSS: As part of the route planning process, DOE should request, and the State would provide, detailed information about infrastructure, traffic, weather, and other conditions along the available routes between Nevada points of entry and the NNSS; DOE/NNSA and OST should meet with State, local, and tribal officials and emergency response agencies; and points of contact and protocols for public information should be established and maintained for both routine operations and emergency situations.

16. Specific statements in the SA regarding plutonium shipping packages are unacceptable to Nevada: ". . . DOT-certified model 9975-96 shipping packages (Figure 2-2), or equivalent, will be used for shipping and staging plutonium

packaged in 3013 containers." SA at p. 12. Further down the page: "The repackaged DOT-certified shipping containers, or equivalent, would be transported from SRS to Pantex and/or NNSS for staging." Moreover, Figure 2-2 shows a "conceptual" cross-section of a "DOT-certified shipping container." DOE must commit to using only actual DOT-certified shipping packages. Otherwise, DOE claims about the performance of the shipping packages under regulatory accident conditions, and all DOE claims in the Removal SA about transportation accident risks, must be rejected.

17. Accidents with severe consequences, if they occur, will impose severe burdens on accident responders, including local, county, and state personnel. Local, county, and state responders will be exposed to radiation and possibly other hazards, and local, county, and state governments will incur costs related to emergency response, health care for responders who were exposed to radiation, and clean-up. Severe accidents, if they occur, will result in adverse economic impacts in Nevada. Tax revenues will likely decline as people planning trips to the City of Las Vegas will cancel them for fear of radiation exposure, whether or not those fears are scientifically justified.

18. Nevada rejects DOE's summary assertions that transportation impacts of the proposed action "would be bounded by existing NEPA analyses," and that "no further NEPA documentation is required." SA at p. 45. DOE's transportation impact evaluation relies on five tables of information drawn from previous NEPA evaluations (primarily DOE 2013 and DOE 2015), presented in the SA in Table 3-6,

page 26; Table 3-7, page 28; Table 3-10, page 33; Table 3-12, page 34; and Table 4-6, page 44. None of these tables specifically evaluate the shipment of weapons-grade plutonium in Nevada, let alone in the manner described in the proposed action. None of these tables provide detailed estimates of the amount of plutonium that could be released in a severe accident, if one occurred, and the resulting consequences, including adverse impacts on human health and the cost of emergency response, evacuations, cleanup, and remediation. Most importantly, these tables based on past analyses do not consider significant new circumstances in Nevada, and new information relevant to environmental concerns in Nevada.

19. The SA provides inadequate and misleading information on potential shipping routes to the NNSS within the State of Nevada. This makes it impossible to evaluate transportation impacts in any meaningful way. For example, Figure 2-1 on page 10 shows what appears to be a shipment route map using I-40 from the East to a location west of Needles, California, then US 95 North to enter Nevada, then SR 164, I-15, SR 160, and US 95 to the NNSS Mercury gate. Yet, fine print at the bottom of the figure states "This figure does not represent shipment routing decisions." The discussion of routes used in the previous DOE/NNSA NEPA documents, cited as bounding the Removal SA transportation impacts, states "actual routes used for this proposed action may differ." SA at p. 21.

20. The SA provides incorrect information regarding truck route nominal shipping distances between SRS and NNSS, and between NNSS and LANL. The entries for SRS/NNSS and NNSS/LANL in Table 3-5, on page 25, erroneously

reports these transportation segment distances in miles, based on Table E-1 in reference DOE 2015. In fact, DOE 2015, Table E-1, page E-11, reports these nominal distances in kilometers, which must be multiplied by 0.6214 to convert kilometers to miles.

21. The SA also fails to provide a crucially important piece of information for comparative transportation impact evaluations, which is the shipping distance for direct transportation of plutonium from SRS to LANL. Without this information, it is impossible to compare the distances for various shipping scenarios with direct shipments from SRS to LANL. DOE 2015, Table E-1 provides this distance as 2,798 kilometers, or 1,739 miles.

22. Coupled with the erroneous reporting of shipment distances in miles for SRS/NNSS and NNSS/LANL (when these are actually distances in kilometers), the absence of a direct SRS to LANL nominal distance for comparison also throws into question all of the transportation impact estimates reported in Removal SA Table 3-1, Table 3-2 (incorrectly labelled as 3-1 on page 19), Table 3-4, Table 3-5, and Table 3-6.

23. Based on DOE 2015, Table E-1, the nominal distance between SRS and NNSS is 3,879 kilometers, or 2,410 miles. The nominal distance between NNSS and LANL is 1,250 kilometers, or 777 miles. Shipping plutonium from SRS to LANL by way of NNSS results in a combined nominal shipment distance of 3,187 miles (5,129 kilometers), about 1,448 miles longer than direct shipment from SRS to LANL (1,739 miles), an increase of about 83 percent.

24. The SA fails to consider significant new transportation circumstances in Nevada, and new information relevant to transportation environmental concerns in Nevada. Under the proposed action, shipments of plutonium from SRS or Pantex to NNSS, upon reaching the State of Nevada, would use some combination of the highway routes to NNSS identified in the 2013 NNSS Site-wide EIS. However, the information regarding the Las Vegas metropolitan area used for transportation impact evaluations and risk calculations in the 2013 NNSS Site-wide EIS is now out of date. New information for the evaluation of transportation impacts is required because of massive recent and ongoing highway construction projects in the Las Vegas metropolitan area, and because of significant changes in population and population density, location of schools and other difficult-to-evacuate facilities, commodity flows (including hazardous materials), daily traffic counts, and accident and incident rates. The 2013 NNSS Site-wide EIS can no longer be used for route selection, safety and security planning, or for transportation impact evaluations, including risk assessment. None of the other DOE EISs referenced in the SA provide this new information.

25. The shipment of this one metric ton of Pu-239 from SRS to NNSS cannot be viewed in complete isolation. The United States has pledged to dispose of 34 metric tons of surplus, weapons-grade plutonium. The United States had planned to dispose of the plutonium by irradiating it as so-called MOX fuel—a mixture of plutonium and uranium oxides—in modified commercial nuclear reactors. However, due to a significant rise in the cost of such a plan, DOE recently

proposed terminating the MOX approach in favor of a dilute and dispose approach. Under the new dilute and dispose approach, Pu-239 would be diluted with inert material and then be disposed as transuranic waste at DOE's Waste Isolation Pilot Plant (WIPP) located in the State of New Mexico. However, DOE does not have sufficient space at WIPP to dispose of all the surplus plutonium. *See* The Government Accountability Office (GAO) Report 17-390, "Plutonium Disposition, Proposed Dilute and Dispose Approach Highlights Need for More Work at the Waste Isolation Pilot Plant," dated September 2017, "highlights" page. The statute at issue in the South Carolina litigation, 50 U.S.C. § 2566(c), cited by DOE as the reason for the proposed action evaluated in this SA, provides that in the event of a failure of DOE's MOX project to process plutonium into reactor fuel, DOE "shall, consistent with the National Environmental Policy Act of 1969 and other applicable laws, remove from the State of South Carolina, for storage or disposal elsewhere—(1) not later than January 1, 2016, not less than 1 metric ton of defense plutonium or defense plutonium materials; and (2) not later than January 1, 2022, an amount of defense plutonium or defense plutonium materials equal to the amount [transferred to the SRS after April 15, 2002, that remains unprocessed]." Given DOE's refusal to consider viable and reasonable alternatives to the NNSS for staging (indefinite storage) of the one metric ton of plutonium covered by paragraph (1) of § 2566(c), it is reasonably foreseeable that the NNSS will be used for future staging (indefinite storage) of the additional tons of plutonium required to be removed from South Carolina by paragraph (2). The SA does not even allude to

these statutorily required and reasonably foreseeable DOE actions, much less refer to portions of previous EISs where the cumulative impacts of shipping and staging both the one metric ton and future tons of plutonium were evaluated.

26. Clearly, there is no reasonably foreseeable final resting place or disposal option for these 34 metric tons of surplus, weapons-grade plutonium. Nevada is rightly concerned that the one metric ton of plutonium, which is the subject of the SA, is merely the first step in a series of connected actions that will result in the transportation of the entire plutonium surplus to the NNSS in Nevada. The SA is deficient for failing to mention this possibility, let alone refer to any previous EIS where these cumulative impacts are evaluated.

ROBERT J. HALSTEAD
Executive Director
Agency for Nuclear Projects

STATE OF NEVADA)
: ss.
CARSON CITY)

SIGNED and SWORN to before me
this 29th day of November, 2018,
by Robert J. Halstead.

NOTARY PUBLIC

VICKI BEAVERS
NOTARY PUBLIC
STATE OF NEVADA
No. 99-59548-6 My Appt. Exp. Dec. 9, 2019

ATTACHMENTS

No.	Attachment Description	Number Of Pages
1.	Statement of Qualifications	30
2.	Yucca Mountain FSEIS at p. S-8	2
3.	Yucca Mountain FSEIS at pp. 1–23	2

ATTACHMENT 1

ATTACHMENT 1

STATEMENT OF QUALIFICATIONS
HIGH-LEVEL NUCLEAR WASTE POLICY AND PLANNING

ROBERT J. HALSTEAD
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CARSON CITY, NV 89702-3949
PHONE: (608) 697-0675

1. Experience with Spent Nuclear Fuel and High-Level Radioactive Waste Storage, Transportation, and Disposal Policy and Planning; Impact Assessment; Risk Analysis and Related Issues

More than 38 years of experience with spent nuclear fuel and high-level radioactive waste storage, transportation, and disposal policy development and planning; impact assessment; risk analysis; and related issues, at the national, state, and local levels. List of publications and presentations attached.

Executive Director, State of Nevada, Agency for Nuclear Projects (NANP), Carson City, 2011- present. In consultation with the Governor and the Attorney General, direct policy development for the Nevada Commission on Nuclear Projects. Monitor and evaluate U.S. Department of Energy (DOE) activities involving the Yucca Mountain site and the Nevada National Security Site (NNSS). Manage the work of Nevada's expert team in the Yucca Mountain licensing proceeding before the U.S. Nuclear Regulatory Commission (NRC). Advise the Governor on DOE activities at NNSS including nuclear weapons programs, transportation and disposal of radioactive wastes, and environmental remediation.

Transportation Advisor, Nuclear Waste Project Office (NWPO), State of Nevada, Agency for Nuclear Projects, Carson City, 1988-2011. Advised NWPO on a broad range of high-level nuclear waste transportation issues. Reviewed federal and state nuclear waste transportation program documents, technical reports, and regulations. Managed contractor studies on nuclear waste transportation systems planning, risk assessment, regulations, shipping cask design, accident prevention, and emergency management. Represented NWPO positions on transportation issues at national meetings and conferences, meetings of regional organizations such as the Western Interstate Energy Board (WIEB) and the Western Governors' Association (WGA), and meetings in Nevada with state agencies, local governments, Indian tribes, and the general public. Authored 16 accepted transportation NEPA contentions challenging the DOE Yucca Mountain license application submitted to the NRC.

Consultant, Nuclear Waste Storage and Transportation, Land and Water Fund (LAW) of the Rockies, Boulder, CO, 1997-1998. Prepared written analyses of the risks and impacts associated with storage and transportation of spent nuclear fuel at the proposed Private Fuel Services (PFS) Storage Facility, Skull Valley Goshute Indian Reservation, Tooele County, Utah. Reviewed PFS license application and environmental report submitted to NRC pursuant to 10CFR72. Advisor on technical and policy matters to LAW legal counsel during NRC Pre-Licensing Conference.

Consultant, Nuclear Waste Storage and Transportation, Minnesota Environmental Quality Board, 1989-1990. Prepared written analyses of the risks and impacts associated with storage and transportation of spent nuclear fuel at the Prairie Island Nuclear Power Station.

Consultant, Social and Economic Impacts of Nuclear Waste Transportation and Disposal, Texas Advisory Commission on Intergovernmental Relations, 1987. Prepared written analysis of socioeconomic impacts associated with transportation of spent nuclear fuel to, and disposal in, a geologic repository site in Deaf Smith County, Texas.

Nuclear Policy Analyst, Radioactive Waste Review Board, Wisconsin Department of Administration, Madison, 1983-1988. Senior policy analyst on high-level nuclear waste storage, transportation, and disposal issues for appointed board created by the Legislature to represent State of Wisconsin in dealings with U.S. Department of Energy, other federal agencies, and electric utilities. Advisor to Office of the Governor, Radioactive Waste Review Board, and Wisconsin congressional delegation, on nuclear waste policies, including federal legislation that resulted in the Nuclear Waste Policy Amendments Act of 1987. Lead technical reviewer for nuclear waste system analysis, transportation, and socioeconomic impacts. Coordinated major document reviews by interagency technical teams. Transportation issues included spent nuclear fuel shipments from, and return shipments to, three commercial nuclear power stations in Wisconsin; through-shipments of commercial and naval spent nuclear fuel; and potential shipments of spent fuel and high-level waste to geologic repository candidate sites in Wisconsin, Minnesota, and Michigan.

Energy Facilities Analyst, Division of State Energy, Wisconsin Department of Administration, Madison, 1978-1983. Lead analyst for evaluation of electric utility advance plans for generation and transmission. Analyzed impacts of existing and proposed power plants, and represented agency in proceedings before the Public Service Commission of Wisconsin. Lead technical and policy analyst on high-level nuclear waste issues. Advisor to Office of the Governor, Radioactive Waste Review Board, Wisconsin congressional delegation, and the National Governors Association, on nuclear waste management policies, including federal legislation that resulted in the Nuclear Waste Policy Act of 1982. Prepared technical and policy analyses regarding transportation of low-level radioactive wastes, coal, coal slurry, coal combustion wastes, and liquid petroleum fuels. Managed Coastal Energy Impact Program, Wisconsin Coastal Management Program, and served as ombudsperson for energy-impacted counties and local governments.

2. Academic Background

BA, with High Honors, American Studies-Political Science Concentration, University of Delaware, 1970. Governor's Summer Fellow in Public Policy, urban planning internship with Model Cities Program, Wilmington, DE, 1969. Also worked as civil engineering drafter, New Castle County Public Works Department, and as conservation officer, Delaware Department of Natural Resources, while attending University of Delaware.

MA, American History, University of Wisconsin-Madison, 1972. Coursework concentration in Political and Diplomatic History. National Defense Education Act Fellow.

Completed all course work for Ph.D. in American History, University of Wisconsin-Madison, 1974. National Defense Education Act Fellow. Minor fields: Industrial Relations and Latin American Economic History. Language Proficiency: German and Spanish. Extensive graduate research on 20th Century Energy and Environmental Policy. Dissertation research on environmental, social, and economic impacts of American oil operations in Mexico, 1900-1930.

Visiting Lecturer, American History, University of Wisconsin-Madison, 1974-75.
Instructor, American History, University of Massachusetts-Boston, 1975-77.
Taught advanced courses focusing on social, economic and environmental impacts of technological changes in transportation and manufacturing.

3. Knowledge of the Federal High-Level Nuclear Waste Disposal Program and its Transportation Aspects/Requirements

Thorough knowledge, based on 38 years experience, of all major aspects of the Federal high-level nuclear waste management program, especially the transportation aspects and requirements relative to the proposed repository candidate site at Yucca Mountain, Nevada.

Department of Energy (DOE) Application to Nuclear Regulatory Commission (NRC) for License to Construct a Geologic Repository at Yucca Mountain. Reviewed transportation-related portions of the license application, including the Safety Analysis Report (SAR) and supporting documents submitted to NRC, 2008 - 2011. Prepared transportation-related licensing contentions submitted to NRC by Nevada legal team, including 16 accepted transportation NEPA contentions challenging the DOE Yucca Mountain license application.

DOE Application to Surface Transportation Board (STB) for Certificate of Public Convenience and Necessity (CPCN) for the Caliente Rail Line. Reviewed, and prepared extensive analysis of, DOE application to STB for CPCN for Caliente Rail Line, 2008. Prepared written comments submitted to STB on behalf of State of Nevada. Prepared presentations on Caliente Rail Line issues for major meetings and conferences, and formal statement for STB public hearing on DOE application.

Final Supplemental Environmental Impact Statement (FSEIS) for Yucca Mountain. Reviewed and prepared analyses of all transportation-related portions of DOE 2008 FSEIS (Summary, Chapters 3 and 6, and Appendices A and J). Directed subcontractor research on consequences of terrorist incidents, and impacts of proposed and alternative shipping routes. Advised State legal team on potential issues for NEPA lawsuit.

DOE Studies of Potential Nevada Rail Corridors to Yucca Mountain. Reviewed, and prepared extensive analyses of, all major DOE studies of potential corridors for construction of a new rail line to Yucca Mountain, 1990-2008. Directed subcontractor studies of rail construction and operations impacts. Personally traveled more than 90% of the total length of potential rail corridors identified in the FEIS, prepared extensive photographic documentation, attended local

meetings, and interviewed affected stakeholders. Directed subcontractor studies of the Caliente and Mina corridors, and prepared review comment on Draft EIS, October 2007, and Final EIS, June 2008.

Draft Supplemental Environmental Impact Statement (DSEIS) for Yucca Mountain. Prepared extensive analyses of all transportation-related portions of the DOE 2007 DSEIS (Summary, Chapters 3 and 6, and Appendices G and H). Prepared and delivered preliminary comments at four DOE public hearings during 2007. Directed subcontractor research on consequences of severe accidents and terrorist incidents, and alternative transport modes and shipping routes. Prepared final comments on transportation submitted to DOE, 2007.

Final Environmental Impact Statement (FEIS) for Yucca Mountain. Prepared extensive analyses of all transportation-related portions of the U.S. Department of Energy (DOE) 2002 FEIS (Summary, Chapters 3 and 6, and Appendices A and J). Prepared and delivered testimony before U.S. House and Senate subcommittees during 2002.Directed subcontractor research on consequences of severe accidents and terrorist incidents. Evaluated DOE rail access construction and operations studies. Advised State legal team on NEPA lawsuit.

Draft Environmental Impact Statement (DEIS) for Yucca Mountain. As transportation advisor to State of Nevada Agency for Nuclear Projects, coordinated review of all transportation-related portions of the U.S. Department of Energy (DOE) 1999 DEIS (Summary, Chapters 3 and 6, and Appendices A and J). Prepared and delivered preliminary comments at eight DOE public hearings during 1999 and 2000. Directed subcontractor research on consequences of severe accidents and terrorist incidents, rail access construction and operation, heavy haul truck transport of large rail casks, and alternative transport modes and shipping routes. Prepared final comments on transportation submitted to DOE, 1999-2000.

State of Nevada Yucca Mountain Impact Report. As transportation advisor to State of Nevada Agency for Nuclear Projects, developed comprehensive plan for all transportation-related portions of the forthcoming State of Nevada Yucca Mountain Impact Report. Identified critical gaps in previous transportation impact studies, and developed and directed subcontractor research in the following areas: human health and economic consequences of severe transportation accidents resulting in release of radioactive materials at specific locations along rail and highway routes in urban and rural Nevada communities; human health and economic consequences of severe accidents at specific locations along rail routes to Nevada; potential radiation exposures from routine (incident-free) transportation at specific locations along Nevada rail and highway routes to Yucca Mountain; overall reexamination of transportation routine radiation exposures and resulting human health consequences; and supplemental analysis of rail access and heavy haul truck construction and operations impacts in Nevada, 2000-2001.

Federal Legislation. As policy advisor to the State of Wisconsin and to the Wisconsin congressional delegation, and as a member of National Governors' Association advisory groups, participated in development of the legislation which resulted in enactment of the Nuclear Waste Policy Act(NWPA) of 1982, and the Nuclear Waste Policy Amendments Act(NWPAA) of 1987. As advisor to the State of Nevada, reviewed and analyzed proposed legislation to further amend the Federal high-level radioactive waste management program, 1988-2008.

Federal Program Documents. Reviewed and analyzed most major program documents published by U.S. DOE since 1978, including the following:
Interagency Review Group Report, 1978
Generic Environmental Impact Statement, 1980
Siting Guidelines, 1983
AMFM Panel Report, 1984
Defense Waste Commingling Report, 1985
Mission Plan, 1985
Crystalline Repository Project Draft Area Recommendation Report, 1986
Repository Candidate Site Environmental Assessments, 1986
Oak Ridge Monitored Retrievable Storage Facility Environmental Assessment, 1986
MRS Review Commission Report, 1987
Mission Plan Amendment, 1988
Section 175 Report, 1988
Nuclear Waste Fund Fee Adequacy Assessment, 1990
Mission Plan Amendment, 1991
Civilian Radioactive Waste Management Program Plan, 1994
Multi-Purpose Canister System Evaluation, 1994
EIS for the Nevada Test Site and Off-Site Locations, 1996
Civilian Radioactive Waste Management Program Plan, Revision 1, 1996
US Navy EIS for Management of Naval Spent Nuclear Fuel, 1996
Summary of Public Scoping Comments (Yucca Mountain EIS), 1997
NTS Intermodal Transportation Facility Study, 1998
Civilian Radioactive Waste Management Program Plan, Revision 2, 1998
DOE Draft Statement of Work for a Transportation Integration Contractor, 2002
DOE TEC Draft Paper on Rail Routing, 2003
BLM Notice of Proposed Land Withdrawal for the Caliente Rail Corridor, 2004
DOE Notice of Intent to Prepare an EIS for a Rail Line to Yucca Mountain, 2004
DOE Draft EIS for Withdrawal of Public Lands for the Proposed Caliente Rail Corridor, 2005
DOE Draft EA for Proposed Infrastructure Improvements for the Yucca Mountain Project, 2006
DOE Amended Notice of Intent to Prepare an EIS for a Rail Line to Yucca Mountain, 2006
DOE Notice of Intent to Prepare a Supplement to the Final EIS for Yucca Mountain, 2006
DOE Transportation Concept of Operations Report, 2007
DOE Draft National Transportation Plan, 2007
DOE Technical Specifications for the Proposed Transportation, Aging, and Disposal (TAD) Canister System, 2007.
DOE Proposed Policy Position on Section 180c Implementation, 2007
DOE TEC White Paper on Intermodal Transportation of Commercial Spent Nuclear Fuel, 2008
DOE National Transportation Plan for Yucca Mountain, 2009

Waste Program Transportation Aspects and Requirements. Attended virtually all major U.S. DOE nuclear waste transportation program meetings, technical conferences, and workshops since 1982. Prepared numerous reports and presentations on the following aspects of the U.S. DOE nuclear waste transportation program:

- Transportation systems planning, logistics, and economics
- Risk and impact assessment, including impacts of constructing rail access
- Federal and state regulations
- Shipment routing
- Shipping cask design and testing
- Accident prevention, including human factors considerations
- Physical protection and safeguards
- Emergency management
- Stakeholder information needs
- Privatization of transportation services.

4. Experience in the Review and Development of Regulations and Legislation Relative to the Safe Transportation of Radioactive Materials

Overall, more than 30 years of experience in the review and development of regulations and legislation relative to the safe transportation of radioactive materials.

Prepared detailed written analyses of the transportation implications of all major congressional legislation related to establishment of a federal high level nuclear waste management program, including legislation which resulted in enactment of the Nuclear Waste Policy Act (NWPA) of 1982, 1978-1983.

Prepared detailed written analyses of the draft and final transportation provisions of the Repository Siting Guidelines promulgated by USDOE, 1983-1984.

Prepared detailed written analyses of terrorism and sabotage issues, and formal comments on the modification of spent fuel transportation safeguards regulations proposed by USNRC, 1984.

Assisted Wisconsin Department of Natural Resources in modification of hazardous materials spill prevention planning regulations to apply to spent nuclear fuel shipments, 1984-1986.

Assisted Wisconsin Department of Justice in analysis of federal preemption of state and local transportation regulations, 1984-1986.

Assisted Wisconsin congressional delegation staff in development of legislation to establish USDOT rail routing guidelines and to require preparation of route-specific environmental impact statements by USNRC for major spent fuel shipping campaigns, 1984-1987.

Assisted Wisconsin and Nevada congressional delegation staff in development of transportation amendments, including a requirement for full-scale cask testing, to congressional legislation resulting in enactment of the Nuclear Waste Policy Amendments Act (NWPAA) of 1987, 1985-87.

Prepared detailed written analyses of transportation implications of the NWPAA, including Section 180(C) Assistance To Corridor States and Indian Tribes, 1987-1988.

Prepared detailed written analyses of transportation implications of the Price Anderson Act Amendments, 1988.

Prepared a comprehensive review of current federal, state, local, and Indian tribe transportation regulations as part of the ACR 8 Report mandated by The Nevada Legislature, 1988.

Assisted Nevada Congressional delegation staff in development of amendments to the Hazardous Materials Transportation Act to require full-scale cask testing, use of dedicated trains, and rail routing guidelines, 1988-1990.

Reviewed and analyzed nuclear waste transportation provisions of The Hazardous Materials Transportation Uniform Safety Act (HMTUSA), and participated in USDOT workshops and conferences implementing HMTUSA required studies of mode and route selection and use of dedicated trains, 1990-1993.

Participated in development of a comprehensive safety program for transuranic waste transportation to the Waste Isolation Pilot Plant (WIPP) as mandated by Congress USDOT and USDOE appropriations laws and by the WIPP Land Withdrawal Act, 1990-1996.

Assisted in development of proposals to implement Section 180(c) of NWPAA through USDOE rulemaking, 1990-1998.

Reviewed and analyzed model code developed by National Congress of American Indians for tribal regulation of hazardous materials storage and transportation, 1995.

Reviewed and analyzed State of Nebraska proposed nuclear waste transportation accident liability legislation, and testified before Nebraska Legislative Study Committee, 1995.

Monitored congressional deliberations, and prepared detailed written analyses of national, regional, and local transportation implications of congressional legislation to establish an interim storage facility at the Nevada Test Site and an intermodal transfer facility at Caliente, Nevada (H.R.1020,S.1271, S.1936), 1995-1996.

Reviewed and analyzed State of California nuclear waste transportation safety legislation (AB2192), including provisions requiring full-scale physical testing of spent nuclear fuel shipping casks, and testified before the Transportation Committees, California State Assembly and Senate, 1997-1999.

Monitored congressional deliberations, and prepared detailed written analyses of national, regional, and local transportation implications of congressional legislation to establish an interim storage facility at the Nevada Test Site and an intermodal transfer facility at Caliente, Nevada (H.R.1270, S.104, S.1287), 1997-2000.

Conducted detailed review and analysis of terrorism and sabotage issues relative to USNRC nuclear waste transportation safeguards regulations(10CFR73), prepared draft and final petition for rulemaking seeking USNRC reassessment of terrorism risks and modification of spent fuel

transportation safeguards regulations, and monitored NRC action on the petition, 1997-2001; prepared detailed written comments on the NRC proposed rule and implementing guidance document, 2010-2011.

Prepared testimony on proposed State of Nevada legislation, SJR No.4, to evaluate alternative highway and rail routes to Yucca Mountain, 2001.

Conducted detailed review and analysis of shipping cask performance in severe accidents relative to U.S. Nuclear Regulatory Commission regulations (10CFR71). Developed and implemented strategy for Nevada participation in the NRC update of the Modal Study, later designated as the Package Performance Study (PPS). Represented Nevada at PPS public meetings, and prepared Nevada comments on NRC staff and contractor proposals for full-scale physical testing of spent fuel shipping casks. Monitored Commission discussions of, and action on, NRC staff proposals for future full-scale cask testing program, 1999-2006. Prepared detailed analyses of NRC documents.

Conducted detailed review and analysis of transportation provisions of various "fix Yucca Mountain" proposed congressional legislation, especially provisions regarding Federal preemption of State and tribal regulations, 2006-2007.

Conducted detailed review and analysis of rail routing regulations proposed by Departments of Homeland Security and Transportation for spent fuel shipments, 2007-2008; prepared detailed written analyses on the final rules adopted, 2009-2010.

5. Ability and Experience in Working with State and Local Officials with Regard to Transportation Activities and in Communicating with Diverse Publics on Transportation Issues

Overall, more than 30 years experience working with state and local officials and Indian tribes with regard to transportation activities, and communication with diverse publics on Transportation issues.

Served as Ombudsperson for energy-impacted coastal communities in Wisconsin; assisted local governments, counties, and regional planning commissions in assessing and mitigating risks and impacts of energy and transportation facilities and activities, including spent nuclear fuel storage and transportation activities and large coal transportation facilities; assisted local officials in developing site-specific mitigation and compensation measures; prepared handbook to assist stakeholders participation in siting and licensing proceedings, 1978-1983.

Provided information, policy advice, and technical assistance to Wisconsin Governors' Office, Legislature, Radioactive Waste Review Board, State agencies, local governments, Indian tribes, and general public on all aspects of nuclear waste transportation through briefings, written reports, presentations at public meetings, and telephone and written response to information requests, 1978-1988.

Provided information, policy advice, and technical assistance to Nevada Governors' Office, Legislature, Commission on Nuclear Projects, State agencies, local governments, Indian tribes, and general public on all aspects of nuclear waste transportation through briefings, written reports, presentations at public meetings, and telephone and written response to information requests, 1988-2008.

Worked cooperatively with a broad range of state government policy makers and state agency technical personnel on task forces, advisory committees, and working groups, including

- State of Wisconsin Technical Advisory Council on High-Level Radioactive Waste, 1980-1988 (Vice-Chair, 1982-1986)
- National Governors' Association Task Force on High-Level Nuclear Waste Management, 1980-1985
- State of Tennessee Technical Advisory Panel On Nuclear Waste, 1986
- State of Nevada State, Local, Tribal Government Coordinating Group, 1988-1994
- Western Governors Association WIPP Transportation Technical Advisory Group, 1990-2000 (Co-Chair, 1990-1995)
- Western Interstate Energy Board High-Level Radioactive Waste Committee, 1988-2007 (Co-Chair, 1990-1995)

Through presentations on a broad range of nuclear waste transportation policy and technical issues from 1980-2008 demonstrated ability to communicate with diverse publics at

- USDOE Transportation Coordination Group Meetings (National)
- USDOE Transportation External Coordination (TEC) Working Group Meetings (National)
- USDOE Yucca Mountain EIS Scoping Meetings (National)
- USDOE-Sponsored National/International Technical Conferences (Waste Management, PATRAM, IHLRWM)
- Legislative Committee Hearings (California, Nebraska, Wisconsin)
- American Nuclear Society Topical Meetings (National)
- National Congress of American Indians, National Indian Nuclear Waste Policy Committee Meetings (National)
- Meetings sponsored by public interest groups such as League of Women Voters, Sierra Club, and Environmental Policy Center (National, Regional and Local)
- USDOE Yucca Mountain Project Public Meetings (Nevada)
- NWPO Public Information Meetings (Nevada)
- Legislative Committee Hearings and Meetings (Nevada)
- Intertribal Council of Nevada Meetings (Nevada)
- County-sponsored Public Information Meetings (Clark, Elko, Eureka, Lander, Lincoln, Mineral, Nye, Washoe, and White Pine Counties, Nevada)
- University -sponsored Lectures (Nevada)
- Training Seminars for Emergency Responders (Nevada)

6. Ability to Work with and Provide Liaison to the Broader Academic and Professional Community

Over past 30 years, have developed cordial and effective working relationships with many members of the nuclear waste management academic and professional community nationally and in Nevada.

Attended transportation-related meetings of the Blue Ribbon Commission (BRC) on America's Nuclear Future, and its Storage and Transportation Subcommittee, 2010-2011. Presented State of Nevada's transportation concerns to the BRC through formal presentations, and through discussion with individual BRC members and staff.

Attended virtually all transportation meetings of the U.S. Nuclear Waste Technical Review Board and its constituent panels, 1989-2009. Presented State of Nevada's transportation concerns to the board through formal and informal presentations, and through discussion with individual board members and staff.

Attended all public meetings of the National Academy of Sciences (NAS) Study Committee on Transportation of Radioactive Waste, 2003-2005. Presented State of Nevada's concerns to the committee through formal and informal presentations, and through discussion with individual board members and staff. Prepared detailed analyses of the NAS final report, Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States (2006).

Attended a broad range of nuclear waste professional meetings and conferences and presented papers on and participated in panel discussions on a broad range of transportation issues, 1986-2011. For example:

- Presented papers on At Reactor Storage, Monitored Retrievable Storage, Geologic Disposal, Transportation Regulation, and Terrorism and Sabotage, at the annual international Waste Management Conferences (1986-2011)
- Presented recommendations on Yucca Mountain transportation safety and security to major meetings of the American Nuclear Society and the Nuclear Energy Institute (2008-2011)
- Presented papers on transportation shipping cask design and testing, institutional aspects of shipment routing, and the multipurpose canister storage/transportation system at the annual International High-Level Radioactive Waste Management Conferences in Las Vegas (1990, 1994, 1995)
- Presented paper on Terrorism and Sabotage Risks at the International Symposium on Packaging and Transportation of Radioactive Materials (PATRAM), Chicago, Il (2001)
- Represented State of Nevada in a Point-Counterpoint Debate regarding Nuclear Waste Transportation Safety and Security at the International Symposium on Packaging and Transportation of Radioactive Materials (PATRAM), Chicago, Il (2001)

- Represented State of Nevada at U.S. Nuclear Regulatory Commission Workshops on Transportation Risk Assessment and Transportation Package Performance in Accidents (1999-2006)
- Participated in panel discussions of transportation risk assessment and shipping cask design and testing at annual meetings of the National Transportation Research Board (1990, 1995) and the American Nuclear Society (1994, 1995)
- Assisted in the development of the Transportation Research Center at the University of Nevada, Las Vegas, including preparation of work plans and budgets, recruitment of research staff, establishment of technical library, data collection, and management of contractor studies, 1988-1995.
- Maintained cordial professional relationship with nuclear waste transportation researchers, and regularly monitored research activities at University of Nevada, Reno; Sandia National Laboratories, Idaho National Engineering Laboratories; Oak Ridge National Laboratories, and other institutions.

7. Understanding and Knowledge of Potential High-Level Waste Transportation Routes and Issues Specific to the State of Nevada

Thorough knowledge, based on 30 years experience, of potential high-level radioactive waste transportation routes and issues specific to the State of Nevada.

Reviewed and analyzed Nevada highway routing reports prepared by USDOE, NDOT, UNR, NWPO, UNLV-TRC, and Nevada counties; traveled and photographed all potential Nevada highway routes, at different times of year and during a variety of weather conditions; prepared detailed written analyses and slide presentations on Nevada highway routes, identifying high-risk locations and route segments; 1989-2011.

Reviewed and analyzed Nevada rail routing reports prepared by USDOE, UNR, UNLV-TRC, and Nevada counties; traveled and photographed approximately 90% of existing rail routes and potential new rail access routes which could be used for shipments to Yucca Mountain; prepared detailed written analyses and slide presentations on potential rail routes (existing and new), identifying high-risk locations and route segments, and areas where new construction might be constrained by economic, environmental, demographic, or conflicting land use considerations, 1989-2011.

Prepared detailed written analyses and slide presentations on transportation issues of particular concern to the State of Nevada, 1989-2011, including:

- Vulnerability of the Nevada tourism economy, especially the Las Vegas Valley to public perception of transportation risks
- Engineering feasibility, environmental, and safety considerations associated with rail (existing and new) and highway routes through river valleys and high mountain passes
- Transportation safety issues associated with military aircraft over flights and training operations
- Impacts on Native American lands and cultural resources

- Impacts on environmentally sensitive areas and threatened and endangered species
- Impacts on privately owned lands, and land use conflicts with grazing activities on BLM lands.

8. Familiarity with Western States Transportation Issues

Thorough familiarity, based on more than 30 years experience, with transportation issues of concern to Western States and regional organizations(Western Interstate Energy Board, Western Governors Association).

Attended virtually all meetings of the High-Level Radioactive Waste Committee, Western Interstate Energy Board, 1989-2011. Served as Co-Chair, 1990-1995.
Presented State of Nevada's concerns to the committee through participation in meetings, formal presentations, and through discussion with individual board members and staff. Provided ongoing technical assistance to WIEB staff.

Prepared detailed written analyses and presentations on, and assisted Western States and regional organizations, 1989-2011, in development of strategies regarding:

- Selection of safest shipment modes and routes
- Selection of safe carriers and drivers for truck shipments
- Use of dedicated trains for rail shipments
- Full-scale cask testing
- Safety inspections (mechanical and radiological)
- Bad weather protocols
- Safe parking areas
- Adequate and equitable funding for State accident prevention and emergency response programs, pursuant to Section 180(c), NWPAA.

PUBLICATIONS, PRESENTATIONS, & TESTIMONY

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PUBLICATIONS

"Repository Transportation Planning, Risk Management, and Public Acceptance: Lessons Learned," Proceedings of the 13th International High-Level Radioactive Waste Management Conference (IHLRWMC), April 10-14, 2011 (Albuquerque, NM: American Nuclear Society, with F.C. Dilger).

"Yucca Mountain Transportation Planning: Lessons Learned, 1984-2009," (Paper presented at Waste Management 2011, Phoenix, AZ, with F.C. Dilger & J.D. Ballard)

"State of Nevada Perspective on the U.S. DOE Yucca Mountain Transportation Program" (Paper presented at Waste Management 2008, Phoenix, AZ, with F.C. Dilger & J.D. Ballard)

"Assessing the Vulnerability of Yucca Mountain Shipments: A Threat Matrix for Human-Initiated Events" (Paper presented at Waste Management 2008, Phoenix, AZ, with J.D. Ballard and F.C. Dilger)

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"Full-Scale Cask Testing Revisited, Again." (Proceedings, Waste Management 2006, Tucson, AZ, with F.C. Dilger)

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"Hot Time in the City: Which Shipment Mode for High Level Nuclear Waste Affects Urban Areas Most?" (Revised Version of Paper presented at Waste Management 2005, NANP website, with F.C. Dilger)

"Measures of Community Impact for the Transportation of Hazardous Materials: The Case of Indian Tribes and High-Level Nuclear Waste." (Revised Version of Paper presented at Waste Management 2005, NANP website, with F.C. Dilger)

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"The Next Species of Trouble: Spent Nuclear Fuel Transportation in the United States, 2010-2048," in H.W. Kushner, ed., Nuclear and Radiological Terrorism, American Behavioral Scientist, Vol. 46, No. 6 (February 2003) (with F.C. Dilger)

"Many Roads to Travel: Alternative Approaches to Route Selection for Yucca Mountain Shipments." (Proceedings, Waste Management 2003, Tucson, AZ, with F.C. Dilger)

"Implications of the Baltimore Rail Tunnel Fire for Full-Scale Testing of Shipping Casks." (Proceedings, Waste Management 2003, Tucson, AZ, with F.C. Dilger)

"How Many Did You Say? Historical and Projected Spent Nuclear Fuel Shipments in the United States, 1964-2048." (Proceedings, Waste Management 2003, Tucson, AZ, with F.C. Dilger)

"Rail Access to Yucca Mountain: Critical Issues." (Proceedings, Waste Management 2003, Tucson, AZ, with F.C. Dilger & R.C. Moore)

"Radiological Impacts of Incident-Free Transportation to Yucca Mountain: Collective and Maximally Exposed Individual Doses." (Paper presented at Health Physics Society Annual Meeting, June 2002, NANP website, with H. Collins & R. Gathers)

"Radiological Impacts of Incident-Free Spent Nuclear Fuel Transportation to Yucca Mountain." (Proceedings, Waste Management 2002, Tucson, AZ, with H. Collins & R. Gathers)

"Meet the Maximally Exposed Member of the Public: The Service Station Attendant and SNF Trucks Going to Yucca Mountain." (Proceedings, Waste Management 2002, Tucson, AZ, with H. Collins & R. Gathers)

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"Transportation," in J. Chalmers, et al., State of Nevada Socioeconomic Studies of Yucca Mountain, 1986 - 1992: An Annotated Guide and Research Summary, NWPO-SE-056-93 (Carson City, NV: Nevada Agency for Nuclear Projects, June, 1993)

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"Transportation to Yucca Mountain: Critical Issues," High-Level Radioactive Waste Management, Proceedings of the Second Annual International Conference, Las Vegas, NV, April 28-May 3, 1991, Vol. 1, 647-656 (with R. diBartolo and R. Souleyrette)

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"Implications of Monitored Retrievable Storage for Geologic Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste," Waste Management 86, Proceedings of the Symposium on Waste Management (Tucson, AZ: University of Arizona, 1986), Vol. 2, Pp. 595-601. (With S. Kidwell and D. Woodbury)

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"Recommendations for Yucca Mountain Transportation Safety and Security," American Nuclear Society Annual Meeting, Anaheim, CA, June 11, 2008.

"Yucca Mountain Intermodal Transportation Issues," Nuclear Energy Institute Dry Storage Information Forum, Bonita Springs, FL, May 14, 2008.

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"State of Nevada Perspective on the National Academy of Sciences SNF Transportation Study, 'Going the Distance?'," Western Interstate Energy Board High-Level Waste Committee Meeting, Santa Fe, MN, September 25, 2007.

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"Yucca Mountain Transportation Impacts (Radiological Characteristics of SNF and HLW)," U.S. Department of Energy Hearing on the Yucca Mountain DEIS Public Hearing, Denver, CO, November 16, 1999

"High-Level Nuclear Waste Transportation Risks and Impacts," Rocky Mountain Peace and Justice Coalition, Denver, CO, November 15, 1999

"Yucca Mountain Transportation Impacts (Heavy Haul Truck Transport of Rail Casks)," U.S. Department of Energy Hearing on the Yucca Mountain DEIS Public Hearing, Caliente, NV, November 9, 1999

"Yucca Mountain Transportation Impacts (Terrorism and Sabotage)," U.S. Department of Energy Hearing on the Yucca Mountain DEIS Public Hearing, Washington, DC, October 26, 1999

"Yucca Mountain Transportation Impacts (NEPA Requirements for Disclosure of Shipping Routes)," U.S. Department of Energy Hearing on the Yucca Mountain DEIS Public Hearing, Atlanta, GA, October 21, 1999

"Physical Protection of Spent Nuclear Fuel Shipments Against Terrorism and Sabotage (10CFR73)," Nevada Commission on Nuclear Projects, Las Vegas, NV, September 9, 1999

"Nuclear Waste Transportation Potential Impacts on Native American Lands and Resources," National Congress of American Indians, National Indian Nuclear Waste Policy Committee Meeting, Reno, NV, April 7, 1998

"Potential Nuclear Waste Transportation Impacts and Risks in Arizona," Public Information Meeting, Flagstaff, Arizona, March 5, 1998

"Potential Nuclear Waste Transportation Impacts and Risks in Arizona," Public Information Meeting, Tempe, Arizona, March 3, 1998

"Nuclear Waste Transportation Safety and Security Issues," Panel on the Waste Management System, U.S. Nuclear Waste Technical Review Board, Arlington, VA, November 20, 1997

"Nuclear Waste Transportation Risks: Stakeholder Information Needs," U.S. DOE OCRWM Spent Nuclear Fuel Transportation Workshop, Reston, VA, August 12, 1997

"Nuclear Waste Transportation: Key Policy Issues and Recommendations," U.S. DOE OCRWM Spent Nuclear Fuel Transportation Workshop, Dallas, TX, August 9, 1997

"Issues Associated with Nuclear Waste Transportation," State of Nevada Commission on Nuclear Projects, Las Vegas, July 24, 1997

"Nuclear Waste Transportation Update," Clark County Board of Commissioners, Las Vegas, May 20, 1997

"High-Level Nuclear Waste Transportation Risks," Midwest Conference on High-Level Radioactive Waste Transportation, Notre Dame University, South Bend, IN, May 3, 1997

"Nuclear Waste Transportation: Critical Issues," Hazardous Materials Transportation Graduate Seminar, H.R. Hughes College of Engineering, University of Nevada, Las Vegas, April 22, 1997

"Nuclear Waste Storage, Transportation, and Disposal," Nuclear Waste Transportation Forum, Atlanta , GA, April 11, 1997

"Nuclear Waste Transportation Update," Lincoln County Commission, Pioche, NV, February 20, 1997

"Nuclear Waste Transportation: Critical Issues," U.S. Nuclear Waste Technical Review Board, Pahrump, NV, January 28, 1997

"Health Risks of Nuclear Waste Transportation: Routine Operations, Severe Accidents, and Terrorist Incidents," State of Nevada Nuclear Waste Health Effects Working Group Meeting, Carson City, NV, Dec. 4, 1996

"Nuclear Waste Transportation Safety and Security Issues: Impacts of Foreign Research Reactor Spent Fuel Shipments Through Northern Nevada," Inter-Tribal Council of Nevada Annual Meeting, Reno, NV, November 7, 1996

"Nuclear Waste Transportation Safety and Security Issues: Impacts of Spent Fuel Shipments from Diablo Canyon," San Luis Obispo Council of Governments Nuclear Waste Management Committee, San Luis Obispo, CA, Oct. 31, 1996

"Nuclear Waste Transportation Safety and Security Issues: Routine Operations, Severe Accidents, and Terrorist Incidents," Council of Western Attorneys General Nuclear Waste Working Group, Sacramento, CA, Oct. 23, 1996

"Nuclear Waste Transportation Safety and Security Issues: Routine Operations, Severe Accidents, and Terrorist Incidents," Nevada Commission on Nuclear Projects, Las Vegas, NV, Oct. 17, 1996

"Nuclear Waste Transportation Safety and Security Issues: Routine Operations, Severe Accidents, and Terrorist Incidents," 1996 Southwest Counter-Terrorism Symposium, Las Vegas, NV, September 23, 1996

"Analysis of Spent Nuclear Fuel Shipments to an Interim Storage Facility at the Nevada Test Site via an Intermodal Transfer Facility at Caliente, Nevada," U.S. Department of Energy Transportation External Coordination Working Group Meeting, Pittsburgh, PA, July 16, 1996

"Nevada High-Level Nuclear Waste Transportation Concerns Relative to Implementation of Section 180(c) of the NWPAA," State of Nevada Interagency Meeting on Section 180(c) Implementation, Carson City, NV, June 27, 1996

"Transportation Risks and Impacts of the Proposed Caliente Spent Nuclear Fuel Intermodal Transfer Facility," Nevada Legislature High-Level Nuclear Waste Oversight Committee Meeting, Caliente, NV, April 30, 1996

"Outlook for Nuclear Waste Transportation in Nevada: Modes, Routes, and Shipment Numbers," State of Nevada Nuclear Waste Health Effects Working Group Meeting, Carson City, NV, Apr. 4, 1996

"Scoping Process for U.S. DOE's Yucca Mountain EIS: State of Nevada Perspective on Transportation Issues," U.S. Department of Energy Transportation External Coordination Working Group Meeting, San Antonio, TX, Jan. 18, 1996

"Perceived Risk of Nuclear Waste Transportation," Panel Presentation, National Research Council Transportation Research Board, January 10, 1996

"Yucca Mountain Transportation Impacts: Overview of Issues Raised During the U.S. DOE EIS Scoping Process," Nevada Commission on Nuclear Projects, Las Vegas, NV, Dec. 4, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Western Governors' Association Winter Meeting, Las Vegas, NV, Nov. 28, 1995

"Potential Cross-Country Shipment Routes to Yucca Mountain," Southern States Energy Board/Midwest Council of Governments, Joint Workshop on Routing of Spent Nuclear Fuel, Charlotte, NC, Nov. 15, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Eureka County Nuclear Waste Information Office Public Meeting, Carlin, NV, Oct. 26, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Eureka County Nuclear Waste Information Office Public Meeting, Eureka, NV, Oct. 25, 1995

"Yucca Mountain Transportation Impacts: Highway and Rail Access Issues in Nevada and Summary of Issues Raised," U.S. DOE Yucca Mountain EIS Scoping Meeting, Tonopah, NV, Oct. 24, 1995

"Yucca Mountain Transportation Impacts: Cross-Country Rail Routes and Rail Safety Issues," U.S. DOE Yucca Mountain EIS Scoping Meeting, Kansas City, MO, October 20, 1995

"Yucca Mountain Transportation Impacts: Risk of Severe Accidents," U.S. DOE Yucca Mountain EIS Scoping Meeting, Atlanta, GA, October 17, 1995

"Yucca Mountain Transportation Impacts: Risks Associated with Terrorism and Sabotage," U.S. DOE Yucca Mountain EIS Scoping Meeting, Salt Lake City, UT, Oct. 5, 1995

"Environmental Issues Affecting Reservations," Panel Presentation, Inter-Tribal Council of Nevada Annual Convention, Crystal Bay, NV, Oct. 4, 1995

"High-Level Nuclear Waste Transportation Emergency Management Issues," National Emergency Management Association 1995 Annual Conference, Albuquerque, NM, Oct. 3, 1995

"Yucca Mountain Transportation Impacts: Uncertainties Associated with Highway and Rail Route Selection," U.S. DOE Yucca Mountain EIS Scoping Meeting, Sacramento, CA, Sept. 21, 1995

"Scoping the Environmental Impact Statement for a Geologic Repository at Yucca Mountain," Lecture Sponsored by the University of Nevada Reno Environmental Studies Program, Reno, NV, Sept. 20, 1995

"Yucca Mountain Transportation Impacts: Potential Impacts on Native American Lands and Cultural Resources," U.S. DOE Yucca Mountain EIS Scoping Meeting, Denver, CO, Sept. 19, 1995

"Yucca Mountain Transportation Impacts: Potential Highway and Rail Shipments through Illinois and other Midwestern States," U.S. DOE Yucca Mountain EIS Scoping Meeting, Chicago, IL, Sept. 12, 1995

"Yucca Mountain Transportation Impacts: Risks Associated with Shipments of DOE-Owned Spent Fuel and Defense High-Level Nuclear Waste from Weapons Production," U.S. DOE Yucca Mountain EIS Scoping Meeting, Boise, ID, Sept. 6, 1996

"High-Level Nuclear Waste Transportation Emergency Management Issues," Local Emergency Planning Committees Statewide Workshop, Carson City, NV, August 16, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Lander County Nuclear Waste Public Information Meeting, Battle Mountain, NV, Jul. 26, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Lander County Nuclear Waste Public Information Meeting, Austin, NV, Jul. 25, 1995

"State of Nevada Nuclear Waste Shipping Route Studies," U.S. DOE Transportation External Coordination Group Meeting, Kansas City, MO, Jul. 19, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," State Emergency Response Commission, Hazardous Waste Transportation Committee Meeting, Carson City, Jun. 21, 1995

"Yucca Mountain Rail Access Issues: Implications of Pending Congressional Legislation Designating Routes," U.S. DOE Transportation Coordination Group Meeting, Baltimore, MD, Jun. 6, 1995

"Nuclear Waste Transportation Accident Risks and Liability Issues," Nebraska Legislation Study Committee Hearing, Lincoln, NE, Mar. 10, 1995

"Yucca Mountain Transportation Risks and Impacts: Overview," Lincoln County Commission Meeting, Pioche, NV, Feb. 21, 1995

"Transportation of Nuclear Waste in the United States," Yucca Mountain Lecture Series Sponsored by the Center for Environmental Science and Engineering, University of Nevada, Reno, February 2, 1995

"Civilian Spent Nuclear Fuel Shipments, Past and Projected," Nuclear Waste Transportation and the Role of the Public Conference, Las Vegas, NV, Feb.1, 1995

"Identifying the Affected Publics: Potential Nuclear Waste Shipping Routes and the NWPAA, Section 180(c)," Nuclear Waste Transportation and the Role of the Public Conference, Las Vegas, NV, Jan. 31, 1995

"High-Level Nuclear Waste Transportation Impacts of the Proposed Multi-Purpose Canister-Based System for the Management of Civilian Spent Nuclear Fuel," U.S. DOE Scoping Meeting for the MPC Environmental Impact Statement, Chicago, IL, Nov. 30, 1994

"U.S. DOE Site Characterization Studies at Yucca Mountain and the U.S. DOE Nuclear Waste Transportation Program," League of Women Voters High-Level Radioactive Waste Forum, Con Edison Energy Education Center, Buchanan, NY, Nov. 13, 1994

"Multi-Purpose Canister(MPC) Environmental Impact Statement(EIS) Scoping: Transportation Considerations," Yucca Mountain Affected Units of Local Government Multi-Purpose Canister Workshop, Henderson, NV, Oct. 27, 1994

"Status of the Transportation System Development for the Proposed Repository at Yucca Mountain," Nevada Legislature Committee on High-Level Radioactive Waste, Public Information Meeting, Jul. 14, 1994, Las Vegas, NV

"State of Nevada Nuclear Waste Transportation Update," U.S. DOE Transportation Coordination Group Meeting, Las Vegas, NV, Jun. 7, 1994

"Modal Mix, Multi-Purpose Canisters, and Rail and Highway Routing: Integral Issues in the EIS Process and State of Nevada Institutional Program ," International High-Level Radioactive Waste Management Conference, Las Vegas, NV, May 25, 1994 (with R. diBartolo)

"Multi-Purpose Canister (MPC) Transportation Implications," MPC Plenary Session, International High-Level Radioactive Waste Management Conference, Las Vegas, NV, May 23, 1994

"Full-Scale Cask Testing," Western Interstate Energy Board High-Level Radioactive Waste Committee, Lake Tahoe, NV, Apr. 13, 1994

"State of Nevada Highway and Rail Routing Studies," Western Interstate Energy Board High-Level Radioactive Waste Committee, Lake Tahoe, NV, Apr. 12, 1994

"MPC Transportation Implications," U.S. DOE Multi-Purpose Canister Workshop, Washington, DC, Nov. 17, 1993

"Potential Nuclear Waste Transportation Impacts on Native American Lands and Resources in Nevada," Inter-Tribal Council of Nevada Annual Convention, Elko, NV, Oct. 22, 1993

"Yucca Mountain Transportation Risks and Impacts," Elko County Commission Meeting, West Wendover, NV, Oct. 20, 1993

"Yucca Mountain Transportation Risks and Impacts," NWPO Public Information Meeting, Elko, NV, Oct. 20, 1993

"National and Regional Implications of Nevada Routing Studies," WIEB High-Level Radioactive Waste Committee Meeting, Portland, OR, Oct. 5, 1993

"State of Nevada Transportation Impact Studies, 1987-1992: Findings and Recommendations," U.S. DOE Transportation Coordination Group Meeting, Washington, DC, July 9, 1993

"Yucca Mountain Transportation Update," Nevada State and Local Government Planning Group Meeting, Ely, NV, June 29, 1993

"Full-Scale Cask Testing: Demonstration Goals for Regional Authorities and Political Constituencies," American Nuclear Society Annual Meeting, San Diego, CA, June 23, 1993

"Hazardous Waste Transportation: Current Issues Facing the West," Western Conference of Public Service Commissioners Annual Meeting, Anchorage, AK, June 14, 1993

"Nuclear Waste Shipment Routes to Yucca Mountain: Mode-Specific and Route Specific Assumptions for Transportation Impact Studies," U.S. DOE Transportation Coordination Group Meeting, June 9, 1993

"State of Nevada Nuclear Waste Transportation Studies," Nevada State and Local Government Planning Group Meeting, Henderson, NV, April 13, 1993

"From DAD to TRAIN: Evolution of State-Federal Relations in Radioactive Waste Transportation," Waste Management 93, Tucson, AZ, Mar. 2, 1993 (A Memorial Tribute to the Work of Lori Friel prepared by M. Power and J. Miernyk)

"Update on Yucca Mountain and the U.S. DOE Nuclear Waste Transportation Program," Wisconsin Radioactive Waste Review Board, Waupaca, WI, December 2, 1992

"Nuclear Waste Shipping Cask Design and Testing," Midwestern Office of the Council of State Governments Radioactive Waste Transportation Committee, Columbus, OH, Nov. 20, 1992

"Nuclear Waste Transportation: Potential Urban Impacts," National League of Cities 1992 Congress and Exposition, New Orleans, NV, Nov. 29, 1992

"State of Nevada Nuclear Waste Transportation Safety Studies," Southern States Energy Board Advisory Committee on Radioactive Materials Transportation, San Antonio, TX, June 15, 1992

"State of Nevada Nuclear Waste Transportation Studies," Western Interstate Energy Board High-Level Radioactive Waste Committee, Las Vegas, NV, April 16, 1992

"WIPP Transportation Lessons Learned," U.S. Nuclear Waste Technical Review Board, Albuquerque, NM, Mar. 14, 1991

"Repository Transportation Concerns," U.S. Nuclear Waste Technical Review Board, Amargosa Valley, NV, Aug. 17, 1990

"State of Nevada Nuclear Waste Transportation Risk Research Program," State and Local Issues in Transportation of Hazardous Materials: Towards A National Strategy Conference, St. Louis, MO, May 1990 (with R. diBartolo)

"State of Nevada Nuclear Waste Transportation Risk Studies," Panel Presentation on Transportation of Hazardous Materials: State and Local Government Perceptions of Risk and Regulatory Development, National Academy of Sciences Transportation Research Board 69th Annual Meeting, Washington, DC, January 9, 1990

"Radioactive Materials Transportation and Reauthorization of the Federal Hazardous Materials Transportation Act," Hazardous Materials/Nuclear Waste Transportation Emergency Response Seminar, Sparks, NV, Oct. 5, 1989

"The Challenges of Planning for Nuclear Waste Transportation Emergencies," Hazardous Materials/Nuclear Waste Transportation Emergency Response Seminar, Reno, NV, March 22, 1989

"Nuclear Waste Transportation Safety Issues," High Level Nuclear Waste Repository Education Forum, Las Vegas, NV, November 10, 1988

"Nuclear Waste Shipments in the Mississippi River Boundary Area," Minnesota-Wisconsin Boundary Area Commission, Red Wing, MN, November 13, 1986

"Nuclear Power and Nuclear Waste," John Muir Chapter of the Sierra Club Annual Meeting, Lake Geneva, WI, October 18, 1986

"A State Perspective on the U.S. Department of Energy's Crystalline Repository Project," North Central Regional Conference on High-Level Nuclear Waste, University of Wisconsin-Superior, Superior, WI, September 27, 1985

"Environmental Considerations in Route Designation for Rail Shipments," Colorado High Level Nuclear Waste Transportation Conference, Keystone, CO, October 12, 1984

"Implementation of the Nuclear Waste Policy Act of 1982," Environmental Policy Center Conference on Nuclear Waste Options for the Future, Washington, DC, December 10, 1983

"The Nuclear Waste Policy Act of 1982," Wisconsin Audubon Council Annual Meeting, Whitewater, WI, September 10, 1983

"Economic and Environmental Considerations in Coal Port Planning," Coal Port Study Committee, Washington Public Ports Association, Olympia, WA, June 3, 1982

"Environmental Impacts of Coal Transportation and Combustion," Marine Engineering Group Seminar, Public Works Canada, Toronto, Ontario, December 19, 1980

"Coastal Energy Impacts and Environmental Protection," Wisconsin League of Women Voters State Convention, Madison, WI, September 29, 1980

"Mitigating the Impacts of Coastal Energy Facilities," U.S. Department of Commerce Coastal Management Program Annual Meeting, East Sound, WA, July 14, 1980

"Energy Impacts in the Great Lakes Coastal Zone," U.S. Department of Commerce Coastal Energy Impact Program Annual Meeting, Washington, DC, April 23, 1980

TESTIMONY

On potential nuclear waste transportation risks and impacts in Las Vegas, before the Subcommittee on Railroads, U.S. House of Representatives Committee on Transportation and Infrastructure, Las Vegas, NV, March 5, 2004

On nuclear waste transportation impacts of the proposed Yucca Mountain repository, before the U.S. Senate Committee on Energy and Natural Resources, Washington, DC, May 22, 2002

On nuclear waste transportation impacts of the proposed Yucca Mountain repository, before the Subcommittees on Railroads and Transportation of Hazardous Materials, U.S. House of

Representatives Committee on Transportation and Infrastructure, Washington, DC, April 25, 2002

On Senate Joint Resolution No. 4, Before the Nevada Legislature, Senate Committee on Transportation, Carson City, NV, March 22, 2001

On potential nuclear waste transportation impacts and risks in California, and full-scale physical testing of spent nuclear fuel shipping casks, before the Transportation Committee, California State Senate, Sacramento, CA, August 5, 1998

On potential nuclear waste transportation impacts and risks in California, and full-scale physical testing of spent nuclear fuel shipping casks, before the Transportation Committee, California State Assembly, Sacramento, CA, March 30, 1998

On the impacts of a proposed spent nuclear fuel interim storage facility in Lincoln County, Nevada, in the Seventh Judicial District Court of the State of Nevada, expert testimony on behalf of the State of Nevada, in the matter of State of Nevada vs. Lincoln County, April 10, 1995

On the status of the federal nuclear waste program and implications for electric utility advance planning, before the Public Service Commission of Wisconsin, Docket No. 05-EP-5, July 25, 1988

On the Nuclear Waste Policy Amendments Act of 1987; before the Subcommittee on Energy and Power, House Committee on Energy and Commerce, October 16, 1987

On the Nuclear Waste Policy Amendments Act of 1987; before the Subcommittee on Energy and Environment, House Committee on Interior and Insular Affairs, September 18, 1987

On the Department of Energy's Proposed Siting Guidelines for Nuclear Waste Repositories; before the U.S. Nuclear Regulatory Commission, January 11, 1984

On coal transportation impacts and coal supply alternatives for electric utilities; before the Public Service Commission of Wisconsin, Docket No. 05-EP-3, June 8, 1982

ATTACHMENT 2

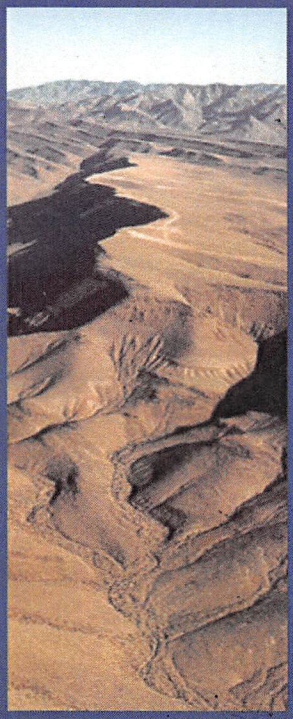
ATTACHMENT 2

Final

Supplemental Environmental Impact Statement

for a

Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada



Summary

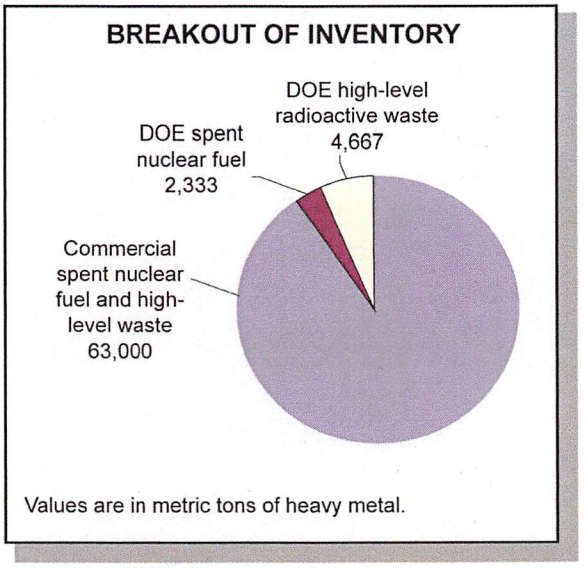
U.S. Department of Energy
Office of Civilian Radioactive Waste Management

DOE/EIS-0250F-S1

June 2008

S.2.1 MATERIALS CONSIDERED FOR DISPOSAL

The NWPA limits how much spent nuclear fuel and high-level radioactive waste DOE could emplace in the first geologic repository to 70,000 MTHM until a second repository is in operation. The materials proposed for disposal under the Proposed Action would include about 63,000 MTHM of commercial spent nuclear fuel and high-level radioactive waste. The remaining 7,000 MTHM would consist of about 2,333 MTHM of DOE spent nuclear fuel (including naval spent nuclear fuel) and the equivalent of 4,667 MTHM of DOE high-level radioactive waste.



This inventory could include surplus weapons-usable plutonium, which DOE could immobilize and dispose of as part of the high-level radioactive waste inventory, or use to produce mixed uranium and plutonium oxide fuel (called mixed-oxide fuel). Utilities would use the fuel to generate electricity in commercial nuclear reactors, and DOE would later dispose of that fuel as commercial spent nuclear fuel.

S.2.2 DOE'S APPROACH TO DISPOSAL

In the Yucca Mountain FEIS, DOE evaluated the receipt of commercial spent nuclear fuel under two packaging scenarios. These included the mostly canistered scenario, in which most commercial spent nuclear fuel would be received in dual-purpose (storage and transportation) canisters, and the mostly uncanistered scenario, in which most commercial spent nuclear fuel would be received uncanistered. In the mostly canistered scenario, the dual-purpose canisters would be opened at the repository and the spent nuclear fuel repackaged into waste packages. In the mostly uncanistered scenario, spent nuclear fuel would be transferred from transportation casks to waste packages. In both scenarios, DOE would handle the commercial fuel at the repository in an uncanistered condition prior to loading it into waste packages for emplacement. In the FEIS, all of the DOE materials (spent nuclear fuel and high-level radioactive waste) would be packaged in disposable canisters at the generator sites. These disposable canisters would not have to be opened at the repository and would be placed directly into waste packages for emplacement.

For this Repository SEIS, DOE's approach to managing commercial spent nuclear fuel would rely on a single canister design for three functions: transportation, aging, and disposal (referred to as a TAD canister). Figure S-4 shows a schematic of a TAD canister. Under this approach, the shippers would seek NRC certification of the TAD canister design for surface storage at commercial sites and for transportation. In its application for construction authorization, DOE is seeking NRC approval to use TAD canisters for spent nuclear fuel transfer, aging, and geologic disposal at the repository. TAD canisters would not substitute for waste packages. They would be placed in waste packages for disposal, as explained below.

ATTACHMENT 3

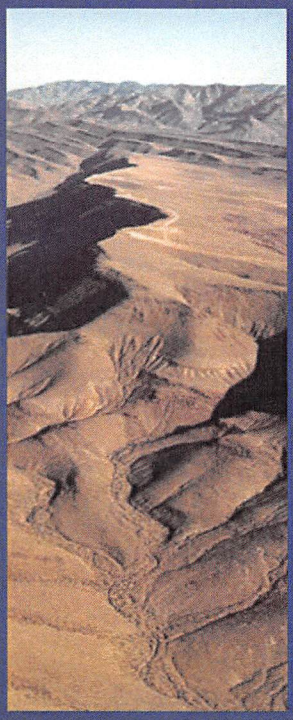
ATTACHMENT 3

Final

Supplemental Environmental Impact Statement

for a

Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada



Volume I – Impact Analyses
Chapters 1 through 14

U.S. Department of Energy
Office of Civilian Radioactive Waste Management

DOE/EIS-0250F-S1

June 2008

Table 1-2. NEPA documents and Records of Decision related to this Repository SEIS (since DOE completed the Yucca Mountain FEIS; continued).

Document	Relationship to Repository SEIS
"Office of Environmental Management; Record of Decision for the Idaho High-Level Waste and Facilities Disposition Final Environmental Impact Statement" (70 FR 75165, December 19, 2005)	Announces a phased decisionmaking process, meaning DOE will issue amended Records of Decision to address specifically closure of the Tank Farm Facility and the final strategy for high-level radioactive waste calcine disposition. Addresses treatment of sodium-bearing waste using steam reforming technology and management of the waste to enable disposal at the Waste Isolation Pilot Plant near Carlsbad, New Mexico, or at a geologic repository for spent nuclear fuel and high-level radioactive waste. Addresses conduct of performance-based closure of existing facilities directly related to the High-Level Radioactive Waste Program at the Idaho Nuclear Technology and Engineering Center once its missions are complete.
Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah (DIRS 157761-NRC 2001, all)	Addresses the proposal of Private Fuel Storage, LLC, to construct and operate an independent spent nuclear fuel storage installation on the reservation of the Skull Valley Band of Goshute Indians.
"Notice of Intent To Prepare an Environmental Impact Statement for the Disposal of Greater-Than-Class-C Low-Level Radioactive Waste" (72 FR 40135, July 23, 2007)	Will evaluate alternatives for disposal of wastes with a concentration greater than Class C, as defined in NRC regulations at 10 CFR Part 61, in a geologic repository, in intermediate-depth boreholes, and in enhanced near-surface facilities. In addition, DOE proposes to include DOE LLW and transuranic waste with characteristics similar to GTCC LLW and that might not have an identified path to disposal. This Repository SEIS considers cumulative impacts from disposal of GTCC LLW.
"Notice of Intent To Prepare a Programmatic Environmental Impact Statement for the Global Nuclear Energy Partnership" (72 FR 331, January 4, 2007)	GNEP involves a proposal to recycle spent nuclear fuel and destroy the long-lived radioactive components of that spent fuel. This Repository SEIS considers cumulative impacts that could be associated with the proposed GNEP program.
Draft Environmental Assessment for the Proposed Infrastructure Improvements for the Yucca Mountain Project, Nevada (DIRS 178817-DOE 2006, all)	In October 2006, DOE decided to prepare this Repository SEIS. Rather than finalizing this environmental assessment, DOE has incorporated the elements of infrastructure improvements into the SEIS Proposed Action. Chapter 4 of this SEIS identifies the specific elements, or subelements, of these improvements that could be implemented prior to construction authorization from the NRC. Prior to implementation, a Record of Decision on this Repository SEIS will present any decisions DOE might make on the improvements. These actions would be independent of repository construction and would occur under DOE authority.
"Notice of Intent To Prepare a Supplemental Environmental Impact Statement for Surplus Plutonium Disposition at the Savannah River Site" (72 FR 14543, March 28, 2007)	Will analyze the potential environmental impacts of alternative disposition methods of up to about 13 metric tons (14 tons) of non-pit[a] surplus plutonium. These alternatives would result in waste forms (inclusion in high-level radioactive waste canisters produced at Savannah River Site or irradiated mixed-oxide spent fuel) that could be disposed of in a geologic repository.
Regional description and cumulative impact information	
Final Environmental Impact Statement for the Proposed Relocation of Technical Area 18 Capabilities and Materials at the Los Alamos National Laboratory (DIRS 162639-DOE 2002, all)	Evaluates the environmental impacts from relocation of the Technical Area 18 capabilities and materials (presently at Los Alamos) to each of four alternative sites, including the Nevada Test Site.