



Department of Energy

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June, 1986

OREGON'S INVOLVEMENT IN THE STORAGE, TRANSPORT, AND DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES

Summary

For many years, Oregon has been concerned about the safe storage, transport, and disposal of radioactive wastes.

Prior to the 1980s most of Oregon's effort addressed these concerns generically. When the Trojan and Pebble Springs nuclear power plants were proposed, we reviewed whether spent nuclear fuel could be stored, transported, and disposed safely. We concluded that the technology either existed or was being developed. However, we recognized that there were huge institutional and political obstacles to overcome. Further, it is much easier to conclude that wastes can be disposed safely than to find a site for safe disposal.

In the 1980s our emphasis began to focus on Hanford, Washington. Forty years of defense wastes are stored there. And, Hanford began to emerge as a possible location for a repository to dispose of spent nuclear fuel from commercial power reactors.

We worked long and hard on influencing a national policy for disposing spent nuclear fuel. The Nuclear Waste Policy Act of 1982 is generally a good result of those efforts. We succeeded in gaining a role for the potential host states. But we failed to gain Congressional support for the role of affected adjacent states.

We did not give up. Despite being left out of the law, we have crafted a role for Oregon. Several times we asked the federal government for financial support. Each time we were refused. So, we made an agreement with Washington to provide some of their federal funds to us. That is an unusual achievement in interstate cooperation.

We have begun to exercise our influence in the process. But, it is a long process. Rather than opposing a repository at the outset, we chose a deliberate, long-range plan to gather the facts. We have grave concerns that Hanford is an acceptable location for a repository. An immediate denouncement would have played well in Oregon. It would, however, do little to influence others. We believe the technical facts will. And, we must be able to sway others, because the final battle will be fought in Congress.

We have also launched efforts to address clean-up of the defense wastes at Hanford. Again, this is not a decision that Oregon makes alone. We need the support of others to get the money to clean-up these wastes. We believe the technical facts will be persuasive.

We are committed to protecting Oregonians from the harms of high-level radioactive wastes. Although it will take time to see the results of our efforts, we are on the right course.

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A Retrospective and Prospective Chronology

The U.S. Department of Energy (US DOE) is considering Hanford, Washington as one of three candidate sites for a permanent repository for high-level radioactive wastes. US DOE now stores high-level defense wastes at Hanford. This paper offers a brief review of Oregon's involvement with the transport, storage, and disposal of high-level radioactive wastes. There are many other nuclear issues in which Oregon is involved. For example:

- Since 1975, Oregon has been involved in reactor safety and emergency preparedness for the Trojan Nuclear Power Plant and Oregon's two research reactors.
- Since 1980, Oregon has been involved in safety issues related to shipments of low-level radioactive material -- about 1,500 shipments per year to Hanford. Special efforts have been given to large shipments, such as barge shipments on the Columbia River.
- At Governor Atiyeh's direction in 1980, Oregon helped shape Federal law to require regional solutions to low-level waste disposal. Oregon and other Northwest states were first to develop and implement these solutions.
- In 1981, Oregon began aggressive programs to clean up sites containing naturally-occurring radioactive materials.
- In 1981, Oregon began participating in emergency preparedness programs for the nuclear facilities at Hanford.
- In 1985, Oregon began a review of Trojan decommissioning. Our experience there provides valuable knowledge on decommissioning the old Hanford reactors.

- In 1986, Governor Atiyeh initiated a review of the safety of the N-Reactor at Hanford.

Oregon already has addressed the generic issues of high-level radioactive wastes transport, storage and disposal. Oregon now is a state adjacent to a potential repository and defense waste storage site. Oregon also is a state through which much high-level nuclear wastes will be transported regardless of where a repository is built. Our goal is to ensure that Oregon's interests are represented and protected.

We are not convinced that Hanford is an appropriate site for a repository. Further, we must ensure that continued storage or disposal of the defense wastes will not harm Oregon. Even if Hanford is not chosen as the repository, we must address transport from Trojan and Hanford. Because the US DOE's site selection study for the first repository has narrowed the field to three sites, much more detailed information on the Hanford site will be developed over the next five years. We intend to participate fully.

Oregon is currently devoting the time of about four persons to these issues. That includes participating in several public meetings each month. We intend to increase our level of effort.

Issue Summary

America's first commercial nuclear power plants came on-line in the late 1950s. The U.S. government promised to dispose of high-level radioactive wastes from these plants. But all attempts to site a permanent disposal facility have failed. Federal agencies could provide neither good management nor design a publicly acceptable process and schedule to develop disposal facilities. Nuclear power plants, including Trojan, have been obliged to expand temporary, on-site storage for high-level radioactive wastes.

In 1982, Congress passed the Nuclear Waste Policy Act. The Act established the process and schedule for developing a deep geologic repository for high-level radioactive wastes by 1998. The Act also provides for review by the host state and affected Indian Tribes and veto by the host state. A veto by the host state can be overridden by Congress. It gave no rights to affected adjacent states.

The possibility of a permanent repository and the current defense wastes stored at Hanford are of grave concern to Oregonians. Hanford is adjacent to the Columbia River, which flows more than 300 miles between Oregon and Washington. As an adjacent state, Oregon would share many of the economic and environmental costs of the host state. These costs include increased transport of nuclear wastes through the state. And, there are risks and potential costs associated with a repository and defense wastes adjacent to the Columbia River and in a groundwater system that we share.

Retrospective Chronology

Oregon has addressed issues of the transport and disposal of radioactive material, including high-level radioactive wastes, since the early

1960s. Until Hanford was considered as one of three candidate sites for the first repository, Oregon had not addressed the issue of permanent disposal on a site-specific basis. We began those efforts in December 1984.

<u>DATE</u>	<u>EVENT</u>
Early 1960s	The Oregon Health Division began to monitor the Columbia River downstream from Hanford because of radioactive releases from the government reactors and defense wastes stored there.
Early 1970s	The State considered the safety of future transport and disposal of high-level radioactive wastes before the Trojan nuclear plant was sited and built.
1976	Trojan came on-line.
1975-1978	The status and future of transport and disposal of high-level radioactive wastes again was reviewed during a contested case to site the Pebble Springs nuclear plants.
1978-1979	Before allowing expansion of the storage capacity at Trojan, it was concluded, following extensive public hearings, that future safe transport and disposal of high-level radioactive wastes was achievable.
1979-1980	At the request of the 1979 Legislature, a review of high-level radioactive waste disposal was conducted. The study concluded that the technology for future safe disposal existed but that specific sites must thoroughly be studied.
1980-1981	Oregon began to develop written agreements on the transportation of radioactive material.
1981	At Governor Atiyeh's request, the Legislature established the authority to regulate the transportation of radioactive material in Oregon and to establish an emergency preparedness program for transportation accidents. The Radioactive Materials Advisory Committee, composed of representative local governments, state agencies, and industry was formed. It provides guidance for both development of regulatory programs and emergency response.
February 1982	Representative Ron Wyden requested Oregon comments on Nuclear Waste Policy Act proposal.
March 1982	Governor Atiyeh requested that the Act provide for review by adjacent states. (Letters to Representative Wyden, and Senators Hatfield and Packwood.)

- May 1982 Governor Atiyeh provided additional comments on the Act and renewed his request that the Act provide for reviews by adjacent states. (Letter to Representative Wyden.)
- July 1982 Governor Atiyeh re-emphasized the need for review by adjacent states. (Letter to Representative Wyden.)
- Oregon implemented a program to regulate the transport of radioactive materials in and through the state. With that completed, work began on an emergency preparedness program.
- Since 1982, the emergency preparedness program has trained more than 1,000 fire, law enforcement, and other emergency workers. Radiation detection kits have been distributed along primary routes. A general plan for handling an emergency has been developed.
- December 1982 Oregon received the initial Hanford Site Characterization report from US DOE.
- Congress passed the Nuclear Waste Policy Act. The Act established the process and schedule for developing a permanent repository for high-level radioactive wastes. Governor Atiyeh supported the Act but continued to argue for rights of adjacent and affected states.
- February 1983 US DOE Secretary Don Hodel informed Governor Atiyeh of federal plans for implementing the Nuclear Waste Policy Act.
- April 1983 Concerned about early nomination of Hanford for detailed studies, Governor Atiyeh directed ODOE to lead a Hanford Review Committee of state agencies to address Oregon's interests. (Memo to State agencies.)
- US DOE notified Governor Atiyeh of its intent to prepare an Environmental Impact Statement regarding defense-related nuclear wastes at Hanford.
- Governor Atiyeh notified US DOE and NRC of Oregon's intent to participate in Hanford review. (Letters to Alex Fremling and John Davis.)
- Governor Atiyeh discussed a cooperative review effort with Governor Spellman of Washington. (Letter to Governor Spellman.)

May 1983 Oregon proposed and the Western Interstate Energy Board agreed to a policy resolution establishing a regional review of transporting high-level waste.

June 1983 Oregon representatives toured the repository and defense waste facilities at Hanford.

Oregon requested US DOE review funding from the U.S. Senate Appropriations Committee. (Letter to Steve Crow.)

July 1983 Governor Atiyeh proposed and the National Governor's Association agreed to a policy resolution to the NRC to provide for affected adjacent state reviews.

Governor Atiyeh requested review funding from US DOE and recommended a joint state review to Governor Spellman of Washington.

US DOE refused the funding request, but agreed to reconsider Oregon's case when potential sites were narrowed from nine to three. Washington state said that a joint review was premature.

September 1983 Oregon again requested US DOE review funding from U.S. Senate Appropriations Committee. (Letter to Steve Crow.)

Oregon representatives toured the repository and defense waste facilities at Hanford and the repository facilities at the Nevada Test Site.

October 1983 Oregon renewed requests for review funds from US DOE. (Letter to Alex Fremling.)

February 1984 US DOE denied Oregon's request for review funds.

May 1984 Governor Atiyeh received the draft mission plan for the repository from US DOE.

June 1984 Governor Atiyeh again requested US DOE review funds from Secretary Hodel. (Letter to Don Hodel.)

July 1984 ODOE hired a transportation coordinator to address Oregon's concerns on transportation of radioactive material.

ODOE published procedures for high-level radioactive wastes shipments in Oregon to ensure effective regulation and emergency response.

July 1983 to December 1984 Additional storage capacity for high-level radioactive wastes at Trojan was reviewed and approved. It was concluded that the ability to safely transport and dispose high-level radioactive wastes could be

developed. However, because of uncertainty of when a repository would be operational, Oregon launched a review of the plans and funding for continued temporary storage of Trojan high-level radioactive wastes beyond the useful plant lifetime. This issue was addressed in a broader review of Trojan decommissioning.

August 1984

US DOE denied Governor Atiyeh's request for review funds.

September 1984

Oregon began an intensive review with the Western Interstate Energy Board of the safe transport of high-level radioactive wastes to a repository. This effort involves meetings about every three months. Oregon and Nevada serve as co-chairs of that review.

December 1984

In a draft environmental assessment, Hanford was recommended as one of three sites to study as a potential repository.

Governor Atiyeh endorsed ODOE proposals for increased efforts to resolve Oregon's concerns regarding a Hanford repository and storage of defense wastes.

January 1985

Oregon's Hanford Review Committee, consisting of nine state agencies, began technical reviews. The committee meets about every two to three months. (See attached membership and mission.)

ODOE hired a Manager, Radioactive Materials Programs to devote half-time to high-level waste issues. Oregon's effort increased to about 1.5 persons.

ODOE began working with the Legislature on concerns about high-level wastes.

Governor Atiyeh proposed a joint Oregon/Washington review of the Hanford repository and storage of defense wastes to Governor Gardner. (Letter to Governor Gardner.)

Governor Atiyeh and Governor Gardner of Washington agreed to initiate a joint review.

Oregon initiated discussions with the Umatilla Indians, an affected tribe, to participate in a joint review. (Letter to Elwood Patawa.)

February 1985

Governor Atiyeh again requested funding from US DOE for an Oregon review. (Letter to Ben Rusche.)

Oregon representatives spoke on high-level waste issues at a conference sponsored by the Columbia River Intertribal Fish Commission. Oregon offered to cooperate with the affected tribes.

March 1985

ODOE's Hanford Advisory Committee was formed to ensure public concerns are being addressed. The Committee meets about every two months. (See attached membership and mission.)

At Oregon's request, US DOE held a public hearing in Portland on the proposed repository. ODOE and several legislators expressed concerns (testimony of Lynn Frank).

Oregon sent numerous concerns about the proposed repository to US DOE (letter to Ben Rusche).

Oregon began attending monthly meetings of Washington's Nuclear Waste Board and Advisory Council. Oregon liaisons have been established for Washington's committees on environmental monitoring, transportation, socio-economics, and defense wastes.

April 1985

The Oregon Legislature passed Senate Joint Memorial 13 calling for the amendment of the Nuclear Waste Policy Act to include Oregon as an affected state. The Legislature also passed Senate Bill 622 calling for timely removal of spent nuclear fuel from Trojan. Governor Atiyeh signed Senate Bill 622.

Oregon's Hanford Review Committee toured the repository and defense waste facilities at Hanford.

Governor Atiyeh supported Governor Earl of Wisconsin in a request to NRC to broaden its perspective on transportation issues. (Letter to Governor Earl.)

May 1985

US DOE again refused to provide direct funding but agreed to support the joint review with Washington.

Representative Weaver introduced an amendment to the Nuclear Waste Policy Act to include Oregon as an affected state.

ODOE presented to the Washington Nuclear Waste Board a proposal for a joint Oregon/Washington review effort, and partial funding of Oregon's review by Washington.

June 1985

ODOE's Hanford Advisory Committee toured the repository and defense waste facilities at Hanford.

Oregon established a cooperative effort with US DOE and Washington on high-level shipments from Hanford.

Oregon representatives toured the old Hanford reactors and observed other decommissioning activities at Hanford.

July 1985

Oregon and Washington signed a contract for \$20,000 to develop a joint review process by October 1985. Governor Atiyeh requested further support from Governor Gardner on implementing the joint review. (Letter to Governor Gardner.)

ODOE took legislators on a tour of Hanford repository and defense waste activities.

ODOE established a steering group for the Hanford Advisory Committee. The group provides overall direction. It meets every two months.

Oregon began discussions with US DOE on written agreements for issues of mutual concern. Initial effort was devoted to emergency preparedness and response for radiation accidents in Oregon and at Hanford.

ODOE spoke on emergency preparedness at a national conference on transportation of high-level waste sponsored by NRC.

August 1985

ODOE spoke on high-level waste issues at a conference on Hanford sponsored by Representative Wyden and Portland Commissioner Lindberg.

ODOE worked with legislators to introduce a resolution on high-level waste issues to the Western Legislative Conference. The resolution called for broader involvement of the states. It was approved in October 1985.

Governor Atiyeh spoke in support of a resolution on high-level waste transportation at the Western Governor's Association meeting. The resolution was approved.

September 1985

ODOE conducted the first comprehensive drill in Stanfield for a transportation accident involving radioactive material. Drills are now conducted every three to four months at different locations in Oregon.

ODOE requested approval from the Legislative Emergency Board to accept further funds from Washington and to devote 2-1/4 additional persons to Hanford repository issues. The request was approved in October 1985. (Letter from Lynn Frank.)

October 1985

Oregon and Washington reached agreement on a joint review of the repository. Washington agreed to provide Oregon \$100,000 for efforts from October 1985 to September 1986. Senator Hatfield added supporting language in US DOE's appropriations bill.

The Legislative Interim Committee on Hazardous Materials was formed. The Committee decided to devote about half of its efforts to high-level waste issues. ODOE began working closely with the committee, including monthly presentations. (Memo to Bill Bradbury.)

ODOE, Health Division, and ODOE's Hanford Advisory Committee sponsored a public workshop on radiation releases from Hanford last year.

Oregon recommended and the Commercial Vehicle Safety Alliance approved a resolution calling for more state involvement in the transportation of high-level waste.

Oregon proposed conditions for the planned shipments of spent nuclear fuel from Taiwan. US DOE agreed the conditions were reasonable. Since they were unable to meet the condition that the planned route is safe and economic, US DOE dropped their plans to ship through the Northwest.

November 1985

Health Division began devoting 1/4 of a person's time to high-level waste issues. This raised Oregon's effort to about 2 persons.

ODOE took the Legislative Interim Committee on a tour of the Hanford repository and defense waste facilities.

Oregon representative spoke at a national conference on high-level waste transportation sponsored by US DOE.

December 1985

Oregon provided US DOE with numerous concerns on the transportation of high-level wastes. (Letter to Philpott.)

January 1986

With ODOE's help, the appropriate legislative committees of Oregon and Washington and the affected Indian Tribes met to discuss mutual concerns about Hanford.

ODOE hired a Hanford Coordinator, bringing Oregon's level of effort on high-level waste issues to about 3 persons.

Oregon initiated a joint meeting with US DOE, the Navy, and the affected Indian Tribes to discuss a proposal to ship part of a decommissioned nuclear

submarine to Hanford for disposal. All concerns were cooperatively resolved. The shipment took place in April 1986 without any major problems.

February, 1986

Governor Atiyeh met with US ODOE and the Navy to review the planned shipment of a submarine reactor compartment to Hanford. Governor Atiyeh also reviewed repository and defense waste concerns with US DOE. Governor Atiyeh asked US DOE to investigate secure, long-term funding for Oregon to more fully address our concerns.

ODOE invited the affected Indian Tribes to establish liaisons with Oregon's Hanford Review Committee and Hanford Advisory Committee. The Umatilla Tribe has done so.

ODOE and representatives from the Legislative Interim Committee met with the Yakima Tribe to discuss closer working relationships.

ODOE's Hanford Advisory Committee held a public briefing on defense waste in Portland.

ODOE worked with US DOE to provide public open houses on defense waste in The Dalles and Portland. Governor Atiyeh expressed Oregon's concerns in the introductory videotape.

Oregon's Hanford Review Committee and Washington's Nuclear Waste Board held a joint meeting to discuss defense waste issues.

Due in part to Oregon's and Washington's requests, US DOE declassified 40 years of data on radiation releases from Hanford. Governor Atiyeh decided to launch a review of this information, together with Washington and the affected Indian Tribes. A regional review committee was established. (Letter to Michael Lawrence.)

Governor Atiyeh proposed joint letters from Oregon and Washington to US DOE and NRC. These letters called for more Hanford-related meetings being held in the Northwest. Governor Gardner agreed. (Letters to John Herrington and Nunzio Palladino.)

The vice-chair of ODOE's Hanford Advisory Committee spoke before Washington's Advisory Council on cooperative efforts.

March 1986

Representatives from ODOE and the Legislative Interim Committee meet with the Umatilla Tribe to discuss closer working relationships.

ODOE arranged for a briefing of the Legislative Interim Committee by the Western Interstate Energy Board on how to improve Oregon's liability laws for transportation accidents involving high-level waste.

April 1986

ODOE assisted US DOE in establishing the Northwest Citizens Forum on Defense Wastes. ODOE is providing staff support to the Oregon members.

ODOE represented Oregon at a National Conference of State Legislators meeting on high-level waste issues.

Governor Atiyeh directed ODOE to review the safety of the N Reactor at Hanford in light of the Russian reactor accident. (See attached workplan.)

May 1986

ODOE worked with the Western Interstate Energy Board on a resolution calling for independent reviews of the federal government's reactors.

Governor Atiyeh asked the National Academies of Science and Engineering to work with Oregon on the review of N-Reactor safety.

ODOE briefed the Oregon Congressional delegation on Hanford and high-level waste issues and asked for their continued support.

Governor Atiyeh requested support from the Congressional delegation on funding to resolve Oregon's concerns about the proposed repository and defense waste at Hanford. (Letters to Senator Hatfield and Representative AuCoin.)

ODOE's Hanford Advisory Committee conducted public workshops on defense wastes in Wilsonville and Pendleton. At Oregon's request, US DOE agreed to hold a public hearing on defense wastes in Portland during July.

The Water Resources Department hired a geo-hydrologist dedicated to Hanford issues. This brought Oregon's effort on high-level waste issues to about 4 persons.

President Reagan announced selection of Hanford as one of three sites for further study as a potential repository.

These are future milestone events:

<u>Prospective</u>	<u>Event</u>
August 1986	Comments are due on the draft environmental impact statement for defense wastes.
1987	US DOE announces its decision on defense wastes.
1986-1994	US DOE's detailed characterization of the Hanford site will produce a broad range of site-specific data and information over the next five to eight years. To influence a final decision, Oregon must conduct a thorough and critical review of all issues covered by detailed studies produced by US DOE.
1991-1994	The President will select the first repository site.
1991-1998	If Hanford is selected for the first repository, Oregon must decide whether to influence Washington's authority to veto. If so, Oregon must work with Washington to prevent Congressional override. If not, Oregon must address and resolve any remaining concerns about site construction and operation. In either case, Oregon must resolve remaining concerns about transport of high-level wastes from Trojan and Hanford.
1998 At the Earliest	If Hanford is selected and the selection is upheld, transport and disposal of high-level wastes will begin.

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