



Department of Energy
 Richland Operations Office
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Nuclear Regulatory Commission
 Matomic Building
 1717 H. Street, N.W.
 Washington, D.C. 20555

Gentlemen:

NOTICE OF INTENT (NOI) TO PREPARE ENVIRONMENTAL IMPACT STATEMENT (EIS)

The Department of Energy (DOE) announces its intent to prepare an EIS in accordance with Section 102 (2) (C) of the National Environmental Policy Act, NEPA, to provide environmental input to a decision on the proposed selection and implementation of a disposal strategy for certain radioactive defense wastes at the Hanford Site. On April 1, 1983, the enclosed NOI was published in the Federal Register (48 FR 14029) and is provided for your information. Also enclosed is a copy of a press release which accompanies the NOI.

The NOI identifies procedures by which interested parties may submit comments or suggestions in connection with preparation and scoping of the EIS.

Very truly yours,

John J. Schreiber

John J. Schreiber, Director
 Waste Management Division

WMD:MWS

- Enclosures:
 1. Notice of Intent
 2. Press Release

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DOENEWS:

FOR IMMEDIATE RELEASE
APRIL 5, 1983

DEPARTMENT OF ENERGY ISSUES NOTICE OF INTENT

The Department of Energy has issued a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) to provide environmental input to the decision on the proposed selection and implementation of a disposal strategy for certain radioactive defense wastes stored at the Hanford Site near Richland, Washington.

The NOI was published in the Federal Register of April 1, 1983. Interested agencies, organizations or individuals have 30 days to submit written comments or suggestions for consideration by the Department in the preparation of the EIS.

Radioactive wastes have been stored at the Department's Hanford Site since the early 1940's when production of plutonium for the nation's defense program began. These wastes consist primarily of high-level radioactive wastes (HLW) from chemical processing of spent fuels, transuranic (TRU) wastes, and capsules containing strontium and cesium salts that have been separated from the HLW. These wastes were primarily generated in the processing of irradiated fuel from the N Reactor--the only production reactor still operating at Hanford--and from eight shutdown production reactors. The fuel is processed to recover source and special nuclear materials.

The Department will evaluate alternatives for long-term disposal in the EIS including:

- Geologic Disposal. This alternative involves retrieval, immobilization, transportation and disposal of a major portion of the wastes into a deep mined geologic repository. Geologic disposal is the reference disposal method for immobilized high-level waste.
- Onsite Stabilization and Isolation. In this alternative, the majority of radioactive wastes are isolated in place and appropriate engineered barriers established between the waste and the biosphere. Wastes stored in tanks, drained liquid sites, and burial grounds, etc., could be stabilized and isolated in place, where retrieval would be more hazardous or would not warrant the cost and risk.
- Continued Storage (No Action). Under this alternative, the existing program of interim storage and active institutional control would be continued indefinitely. The potential impacts of not embarking on a waste disposal program are illustrated by this alternative.

The technical aspects of these options for disposal of defense wastes at Hanford were discussed in a Technical Alternatives Document issued by the Department in 1977 (ERDA 77-44, dated September 1977.) This report is available in the Richland Public Reading Room, Hanford Science Center, Federal Building, 825 Jadwin Avenue, Richland, Washington.

The NOI points out that because of the diversity of waste types and radio-nuclide inventories at Hanford, it may not be possible to select a single final disposal method for all of the Hanford defense wastes. Retrieval, stabilization methods, waste forms, immobilization processes and packaging techniques may vary appreciably for the various alternatives.

Comments or suggestions in connection with the preparation and scoping of the EIS may be submitted to the following address:

Outline for Hanford Defense Waste EIS
ATTN: John J. Schreiber, Director
Waste Management Division
U. S. Department of Energy
P. O. Box 550
Richland, Washington 99352

Copies of comments received will be available for public inspection in the Department's Public Reading Room, Room GA-152, Forrestal Building, 1000 Independence Avenue, N.W., Washington, D.C. and in the Richland Public Reading Room, Hanford Science Center.

Upon completion of the draft EIS, tentatively set for early 1984, its availability will be announced in the Federal Register and public comment will again be solicited.

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News Media Contact: Tom Bauman, Public Affairs Office, (509) 376-7501

RL-83-010

OFFICE OF THE SECRETARY
COMPLIANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT:
INTENT TO PREPARE ENVIRONMENTAL IMPACT STATEMENT--DISPOSAL OF
RADIOACTIVE DEFENSE HIGH-LEVEL AND TRANSURANIC WASTES AT HANFORD

Agency:

Office of the Secretary, DOE.

Action:

Notice of intent to prepare an environmental impact statement (EIS) pertaining to the disposal of certain radioactive defense wastes stored at the Hanford Site near Richland, Washington.¹

Summary:

The Department of Energy (DOE) announces its intent to prepare an EIS, in accordance with Section 102 (2)(C) of the National Environmental Policy Act, to provide environmental input to the decision on the proposed selection and implementation of a disposal strategy for certain radioactive defense wastes at the Hanford Site. These wastes consist primarily of high-level radioactive wastes (HLW) from chemical processing of spent fuels, transuranic (TRU) wastes, and capsules containing strontium (⁹⁰Sr) and cesium (¹³⁷Cs) salts that have been separated from HLW. Excluded from consideration in this EIS are: low-level radioactive wastes (LLW) in burial grounds; and wastes generated by decontamination and decommissioning after the year 1980.

Date:

Comments are due within 30 days of the date of this notice.

Alternatives:

1. Geologic Disposal. Geologic disposal is the reference disposal method for immobilized high-level waste. DOE's National Waste Terminal Storage (NWTs) program is expected to begin operating a geologic repository for commercial nuclear waste by 1998. There is no known technical reason why such a repository could not accommodate defense high-level wastes which are to be committed to geologic disposal. This course will be pursued unless it should cause unacceptable adverse impacts to national security programs, facilities, or information. The Nuclear Waste Policy Act of 1982, Section 8, requires an evaluation of this Issue, considering factors relative to health and safety, regulation, cost efficiency, transportation, public acceptance, and national security. In the meantime, close liaison between the Defense Waste and NWTs programs will continue to assure technical and scheduling compatibility.

¹This notice of Intent (NOI) supersedes an NOI issued October 26, 1977, in the Federal Register (42 FR 56538), announcing the DOE intention to prepare an EIS for the long-term management and disposal of Hanford defense HLW only.

It is recognized that site specific factors must be considered in making the decision on the appropriate disposal actions to be taken for various types of waste at each of DOE's major waste sites. Hanford's high-level waste tanks are isolated from the water table and contain much less radioactivity than tanks at Savannah River and Idaho. Potentially hazardous and readily retrievable high-level waste at Hanford will be evaluated for disposal in a geologic repository. The retrievable waste that requires repository disposal will be stored pending immobilization. If practical, immobilization capabilities will be incorporated into existing facilities. Some categories of less hazardous (but previously designated HLW) and/or not readily retrievable wastes will be evaluated for in-place stabilization and isolation, or for retrieval and immobilization.

With respect to transuranic (TRU) wastes, the objective is to end interim storage and achieve permanent disposal. Newly generated and stored defense TRU waste will be certified for compliance with waste acceptance criteria, after processing if necessary, and eventually sent for emplacement in the Waste Isolation Pilot Plant (WIPP). Certification of newly generated waste will be initiated in 1983. Stored waste will be retrieved, examined, processed if necessary, and certified. After WIPP is operational, in 1989, waste generating sites will send certified waste directly to WIPP.

Before 1970, TRU contaminated solid material was disposed of by burial as low-level waste. The National Academy of Sciences and others have found that retrieval of this waste can be more hazardous than leaving it in place. The reference plan for such buried waste is to monitor and reevaluate it periodically and to take remedial actions if necessary.

2. Onsite stabilization and isolation. In this alternative, the majority of radioactive wastes are isolated in place and appropriate engineered barriers established between the waste and the biosphere. Wastes stored in tanks, drained liquid sites, and burial grounds, etc., are stabilized and isolated in place, where retrieval would be more hazardous or would not warrant the cost and risk. Environmental, safety, and economic evaluations will be made to determine if stored TRU (post 1970 generated) should be retrieved for repository disposal consistent with the reference plan, or be stabilized and isolated onsite. Examples of engineered improvements being considered include soil, rip-rap, clay, asphalt, and concrete covers over sites to reduce soil erosion and prevent surface water intrusion, and sub-surface grouting to restrict groundwater intrusion and immobilize wastes in place. After use, (unusable) cesium (Cs) and strontium (Sr) capsules are disposed in a geologic repository or in a near-surface disposal facility. Encapsulated and some other high heat-producing wastes may be allowed to decay further before implementation of the disposal mode.
3. Continued Storage (No-Action). Under this alternative, the existing program of interim storage and active institutional control is continued indefinitely. Continued present waste management practices would allow

use of a near-surface, dry-well storage facility (DWSF) for Cs and Sr capsules to assure safe storage with minimal institutional control. The potential impacts of not embarking on a waste disposal program are illustrated by this alternative.

Because of the diversity of waste types (i.e., HLW, TRU), sites, and radionuclide inventories, it may not be possible to select a single alternative for all wastes. Retrieval, stabilization methods, waste forms, immobilization processes, and packaging techniques may differ appreciably within the various alternatives.

Background Information:

In 1943, the U.S. Army Corps of Engineers selected the 570-square mile Hanford Site in southeastern Washington for production of special nuclear materials, principally plutonium, for national defense activities. Hanford facilities were operated by the U.S. Atomic Energy Commission (1947-1974) and its successors, the U.S. Energy Research and Development Administration (ERDA) (1974-1977) and the U.S. Department of Energy.

Nine plutonium production reactors were constructed and operated along with companion chemical processing plants and waste management facilities. By the end of 1971, eight of the reactors and related facilities were shut down, leaving only the N Reactor in operation, with one chemical processing plant (PUREX) placed in standby in 1972. Fuel discharged from the reactors was processed, to recover source and special nuclear materials, leaving a wide variety of radioactive wastes. These defense wastes include HLW and TRU.

After PUREX startup, and at the completion of currently anticipated fuel processing in the early 1990's, the amount of HLW and suspect HLW stored will consist of approximately 200,000 m³ of liquids, damp solids, and slurries stored in about 177 underground tanks (eight of these tanks are now under construction); and about 4 m³ of major heat source fission products (⁹⁰Sr and ¹³⁷Cs) recovered from the HLW and stored underwater in about 3,600 sealed metal capsules. Of the total amount of radioactivity, less than one percent is located in cribs, ponds, burial trenches, reverse wells, etc., consisting of several million cubic meters of contaminated soils and sediments. Most of the TRU waste is contained in about 25 of these sites. Consistent with the national program before 1970, TRU contaminated solid waste was not distinguished from other low-level solid waste and was disposed of by shallow-land burial. The U.S. Atomic Energy Commission then declared that TRU waste be stored retrievably in packages designed to last 20 years or more, pending decisions on its permanent disposal.

Radioactive waste has been managed at the Hanford Site since 1944. The impacts associated with these continuing operations were assessed in an EIS entitled, Waste Management Operations, Hanford Reservation, published in December 1975 (ERDA-1538). In that document, the environmental impacts from waste management operations at the Hanford Site were determined to be acceptable and the actions being carried out for reducing the mobility of HLW were found to be satisfactory in terms of storage. Technical alternatives for

disposal of high-level radioactive wastes at Hanford were examined in Alternatives for Long-Term Management of Defense High-Level Radioactive Wastes, Hanford Reservation, Richland, Washington (September 1977), ERDA 77-44. This document is a significant reference in identification of the alternatives for this NOI.

Important Issues for Comparing Alternatives:

The following issues will be analyzed for each of the alternatives during the preparation of the EIS. This list is neither intended to be all inclusive, nor a predetermination of impacts.

1. Effects of implementation of the alternative on the communities surrounding the Hanford Site.
2. Potential health effects from radiation exposure to the worker, the public, and the environment from implementing the alternative.
3. Radiological and nonradiological risks of potential accidents from man-made and natural events.
4. Nonradiological impacts of implementing the alternative.
5. Level of radioactivity to stabilize and isolate in place; i.e., degree of retrieval.
6. Transportation impacts.
7. Resource commitments (land, water, etc.).
8. Categorization of waste sites.
9. Effects of time on decision variables and parameters.
10. Measures to mitigate adverse environmental impacts.

Schedule of EIS Preparation

Following receipt of comments on this NOI, a draft environmental impact statement (DEIS) will be prepared and made available to state and Federal agencies and the public for review and comment. Completion of the DEIS is tentatively scheduled by the end of 1983. Following the comment period on the DEIS, a final EIS that will take into consideration comments received will be prepared and distributed to state and Federal agencies and members of the public expressing an interest in the final EIS, a decision will be made as to which alternative will be pursued by DOE.

Comments and Scoping:

All interested parties are invited to submit comments or suggestions in connection with the preparation and scoping of the EIS. Those desiring to submit comments or suggestions for issues to be addressed in the DEIS should

submit them within 30 days of the date of this notice to the following address: Outline for Hanford Defense Waste EIS, Attn: John J. Schreiber, Director, Waste Management Division, U.S. Department of Energy, Richland, Washington 99352.

A copy of the comments received on this Notice of Intent will be retained by DOE and made available for inspection at the Public Reading Room, Room IE-090, Forrestal Building, 1000 Independence Avenue, NW, Washington, D.C., between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, and at the Richland Public Reading Room, Federal Building, 825 Jadwin Avenue, Richland, Washington, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. A public scoping meeting is not planned.

Copies of the documents currently planned to be used in the preparation of the DEIS are available for public inspection at the Richland Public Reading Room, Federal Building, 825 Jadwin Avenue, Richland, Washington.

Upon completion of the DEIS, its availability will be announced in the Federal Register, and public comments will again be solicited.

Those not desiring to submit comments or suggestions at this time, but who would like to receive a copy of the DEIS for review and comments should notify John J. Schreiber at the above address. Those seeking further information on the environmental process may contact: Raymond F. Pelletier, Office of Environmental Compliance, EP-362, U.S. Department of Energy, Washington, D.C. 20585, (202) 252-4600.

Dated at Washington, D.C., this 25th day of March 1983, for the Department of Energy.

William A. Vaughan, Assistant Secretary for Environmental Protection, Safety, and Emergency Preparedness