AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA), DOE/EA-1211, to identify environmental impacts associated with the construction of a storage site located within the Central Waste Complex (CWC) in the 200 West Area, and relocation of isotopic heat sources from the 324 Building in the 300 Area to the storage site (including handling, transportation, and storage) on the Hanford Site, Richland, Washington.

It is proposed that a covered concrete storage pad (approximately 9.1 meters by 32 meters) be constructed to store isotopic heat sources that will be removed from A-cell of the 324 Building. The 34 isotopic heat sources will be loaded into transportation/storage casks that have been provided by the German Government and then transported to the storage site by rail and truck or truck only. During storage, the casks routinely would be monitored by CWC personnel.

Based on the analysis in the EA, and considering preapproval comments from the State of Washington and the Yakama Indian Nation, DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the *National Environmental Policy Act* (NEPA) *of 1969*, 42 U.S.C. 4321, et seq. Therefore, the preparation of an Environmental Impact Statement (EIS) is not required.

ADDRESSES AND FURTHER INFORMATION

Single copies of the EA and further information concerning the proposed action are available from:

Mr. James E. Mecca, Director
Transition Program Division
U.S. Department of Energy
Richland Operations Office
P. O. Box 550 MS R3-79
Richland, Washington 99352
(509) 376-7471

For further information regarding the DOE NEPA Process, contact:

Carol M. Borgstrom, Director
Office of NEPA Oversight
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585
(202) 586-4600 or (800) 472-2756

PURPOSE AND NEED: The DOE needs to provide improved storage for the isotopic heat sources.

BACKGROUND: In the mid-1980s, 30 sealed isotopic heat sources were manufactured in the 324 Building as part of a bilateral agreement between the Federal Minister for Research and Technology of the Federal Republic of Germany and the DOE. In addition, two production demonstration canisters and 2 instrumented canisters were produced, for a total of 34 isotopic heat sources. This agreement was for developing processes for the treatment and immobilization of high-level radioactive waste. The sources contain a total of approximately 8.3 million curies consisting predominately of cesium-137 and strontium-90 with trace amounts of transuranic contamination.

The sources currently are stored in A-Cell of the 324 Building. It was not intended to store the isotopic heat sources for this length of time in A-cell. Intense radiation fields from the sources are causing the cell windows and equipment to deteriorate.

The 34 isotopic heat sources are classified as remote handled transuranic waste. Transuranic waste is defined as waste contaminated with radionuclides from elements whose

atomic numbers exceed 92 (that of uranium) with concentrations greater than 100 nCi/g (0.0000001 Ci/g) of waste. Remote handled wastes are those with radiation levels exceeding 200 millirem per hour at the surface of a container. Such materials must be handled remotely and require special shielding in treatment, storage, and disposal facilities.

The borosilicate glass waste form in the isotopic heat sources does not meet the definition of a dangerous (hazardous) waste as defined by Washington Administrative Code (WAC) Chapter 173-303, *Dangerous Waste Regulations*. Seals on 31 of the isotopic heat sources have been verified by leak test; seals on the three remaining isotopic heat sources have not been verified. However, a decision has been made to place the remaining three isotopic heat sources into the CASTOR cask(s). The Washington State Department of Health (WDOH) has concurred that isotopic heat sources with verified seals or those placed into CASTOR cask(s) can be considered sealed (no potential to emit radioactive air emissions) and are exempt from WAC Chapter 246-247, *Radiation Protection - Air Emissions*.

PROPOSED ACTION: The proposed action would be the construction of a storage site located within the CWC in the 200 West Area, and the relocation and the storage of the isotopic heat sources. The proposed action would include the construction of a reinforced concrete storage pad near the intersection of 16th Avenue and Dayton Street, adjoining the existing Alkali Metals Storage Pad. The storage pad would have the approximate dimensions of 9.1 meters (30 feet) by 32 meters (105 feet) with a metal roof over the storage pad for weather protection. The proposed action would include fencing around the storage pad, jersey bounce dividers, and a fire break that would surround the storage pad. The dimension of the fire break would be 30 meters (100 feet) from the edge of the storage pad. The fire break would take advantage of: an existing gravel road to the south, and an existing cleared area reserved for future expansion of the Alkali Metals Storage Pad to the north. To the east, the storage pad would be sited as close as practical to the existing gravel road but would still need to maintain vehicle access to the storage pad. Fill and gravel may be placed as necessary to prevent soil erosion.

Relocation of the 34 isotopic heat sources from the 300 Area and interim storage in the 200 West Area would involve transportation and storage. Two types of transportation/storage casks used in the proposed action have been provided by the German Government. The casks would be leak checked after loading to demonstrate the cask is leak tight. Transportation of the loaded casks would use both rail and truck or truck only. Up to eight transports would be required to relocate the isotopic heat sources from the 300 Area to the 200 West Area. One additional transport would be needed to relocate an International Standards Organization (ISO) container containing two empty GNS-12 casks, from the Hanford Site 1100 Area, where it is currently stored.

No Action Alternative. The No Action alternative would keep the isotopic heat sources in the 324 Building. Continued storage of the isotopic heat sources would require that the 324 Building remain operational indefinitely. This alternative would not resolve the concern regarding deterioration of the equipment and windows in A-Cell. The No Action alternative would not meet the purpose and need.

Use Existing Storage Areas Alternative. Other areas were considered; the 400 Area Interim Storage Area (existing storage area), 200 Area ISA (planned to be constructed), and 200 East Area Canister Storage Building (CSB) (under construction). The GNS and CASTOR casks would exceed the 2 millirem per hour requirement for storage at the 400 Area ISA. Placement of these loaded casks in the 400 Area ISA would increase exposure to personnel occupying facilities adjacent to the 400 Area ISA and to personnel performing activities including surveillance and maintenance of the casks currently in storage. The 200 Area ISA is not an existing storage pad and is in the planning stages. Construction of the 200 Area ISA is not scheduled to be completed until the end of fiscal year 1999. The CSB is currently under construction and its availability for this purpose would be in the 2002 time frame. Additionally, the 400 Area ISA, 200 Area ISA, and the CSB are outside the CWC boundary. Alternate storage locations were considered within the 200 West Area CWC that are adjacent to existing rail spurs; however, none of the sites met siting criteria (e.g., free of contaminated soil, adequate space, etc.).

During the comment period, two alternative storage locations were suggested: an area between the experimental barrier cap and the defueled reactor compartment trench just south of the 200 East Area north fence line; and, an area south of 12th Avenue and between Akron and Route 4 just outside the 200 East Area fence line. The experimental barrier cap area is to be used for burial ground activities and therefore is not compatible with above surface storage activities. Both of these sites are outside the CWC boundary.

Alternative Modes of Transportation Alternative. The casks would be transferred entirely by rail. A railroad network exists on the Hanford Site that connects the 300 Area and the 200 West Area. However, no access spur runs from the existing rail line in the 200 West Area to the proposed storage site. This alternative would disturb additional Hanford Site land in the 200 West Area to construct a railroad spur to the site.

ENVIRONMENTAL IMPACTS: The area involved in the proposed action is a partially disturbed area. However, there would be disturbance to undeveloped areas; it is anticipated that the proposed action would disturb less than 0.46 hectare (1.13 acres) of mature sagebrush steppe. To minimize the impact to mature sagebrush steppe, the fire break for the proposed storage site would take advantage of the following: an existing gravel road to the south, and an existing cleared area reserved for future expansion of the Alkali Metals Storage

storage site would take advantage of the following: an existing gravel road to the south, and an existing cleared area reserved for future expansion of the Alkali Metals Storage Pad to the north. To the east, the storage pad would be sited as close as practical to the existing gravel road but would still need to maintain vehicle access to the storage pad.

No Federally or State listed, proposed, candidate, threatened, or endangered species are expected to be effected by the proposed action. To avoid incidental take under the *Migratory Bird Treaty Act*, a supplemental site survey would be performed if construction is scheduled during the March 15, to July 31, 1997 time frame. If nesting birds are found during the supplemental survey, construction would be deferred until the birds have left the nest.

During construction activities, because the amount of soil disturbance would be minimal and temporary, anticipated impacts to the environment are not expected to be consequential. Small amounts of fill and gravel may be used as necessary from existing approved Hanford Site borrow pits.

During construction of the proposed action, it is expected that there would be no adverse effects on the cultural resources.

It is expected that only nonhazardous solid waste would be generated during the construction phase of the proposed action. Waste resulting from the proposed action would be expected to be minimal compared to annual Hanford Site waste generation. The proposed action would not release any particulate matter, and there would be no thermal releases or gaseous discharges in significant amounts. Therefore, these impacts to the environment are expected to be small. Small amounts of approved herbicides may be used to control vegetation within the fire break area. Herbicide application would be part of the ongoing Hanford Site herbicide program and performed by licensed personnel.

Worker Radiation Exposure. Total cumulative dose for the proposed action is estimated to be 8.9 person-rem for the railroad and truck scenario, and 6.0 person-rem for the truck scenario. Applying the International Commission on Radiological Protection coefficient for low dose, low dose-rate whole body irradiation of 0.0004 latent cancer fatalities (LCF) per person-rem effective dose equivalent, projected LCFs of 0.0036 and 0.0024 respectively would be predicted. Based on this calculation, no LCF would be expected.

Accident Impacts. During rail/truck loading and unloading, transportation, and storage activities for the proposed action, no reasonably foreseeable accidents that would breach the structural containment of casks were identified. Therefore, no releases would be expected.

The only reasonably foreseeable accidents for the proposed action would be typical (nonradiological) construction accidents during the construction phase. All construction personnel would follow approved safety procedures for the construction activities. Public

health and safety would not be affected because the area would be closed to the general public. Typical construction hazards would be present; however, the risk of a severe accident is small.

Socioeconomic Impacts. Only small numbers of workers would be involved at any one time. Therefore, no socioeconomic impacts are expected from the proposed action.

Environmental Justice. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* requires that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs and activities on minority and low income populations. With respect to Executive Order 12898 regarding environmental justice, distribution of minority and low income populations have been identified for the Hanford Site. The analysis of the impacts in this EA indicates that there would be minimal impacts to both the offsite population and potential workforce by implementing the proposed action, because the entire proposed action would occur on the Hanford Site and the offsite environmental impacts from the proposed action analyzed in this EA are expected to be minimal. Therefore, it is not expected that there would be any disproportionate impacts to any minority or low-income portion of the community.

Cumulative Impacts. Solid waste generated from the proposed action would not be expected to be substantial compared to annual Hanford Site solid waste generation. Disposal of waste as a result of the proposed action substantially would not affect any associated disposal sites. Because the proposed action would involve a small construction force, no substantial change would be expected in the overall workforce on the Hanford Site.

DOE has prepared a draft Hanford sitewide biological management plan to protect shrub steppe and other ecological resources on the Hanford Site. Under this sitewide approach, the potential impacts of projects would be evaluated and appropriate mitigation would be developed based on the cumulative impacts to the ecosystem. DOE has developed mitigation thresholds for late-successional sagebrush steppe habitat areas for the 200 West Area. For individual sites in this area, the mitigation threshold is 1 hectare (2.5 acres). Because the proposed action is below the threshold and does include efforts to minimize the impacts to mature sagebrush steppe, the cumulative impact to biological resources is expected to be minimal.

The potential impacts from the proposed action are not expected to contribute substantially to the cumulative impacts of operations on the Hanford Site.

DETERMINATION: Based on the analysis in the EA (DOE/EA-1211), and after considering the preapproval review comments of the State of Washington and the Yakama

Indian Nation, I conclude that the proposed Relocation and Storage of Isotopic Heat Sources at the Hanford Site, Richland, Washington does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS for the proposed action is not required.

Issued at Richland, Washington, this 6th day of June 1997.

John D. Wagoner
Manager
Richland Operations Office