FINDING OF NO SIGNIFICANT IMPACT

Management of Spent Nuclear Fuel
on the Oak Ridge Reservation
Oak Ridge, Tennessee

AGENCY: U.S. DEPARTMENT OF ENERGY

ACTION: FINDING OF NO SIGNIFICANT IMPACT

SUMMARY: The U.S. Department of Energy (DOE) has completed an environmental assessment (DOE/EA-1117) of the proposed management of spent nuclear fuel (SNF) on the DOE Oak Ridge Reservation (ORR). On June 1, 1995, the DOE issued a Record of Decision (ROD) [60 *Federal Register* 28680] based on the analyses presented in a programmatic environmental impact statement (PEIS) for the Department-wide management of SNF. To implement the ROD, ORR SNF would be retrieved from storage; transferred by truck to a hot-cell facility, if segregation by fuel type and/or repackaging is required; loaded into containers/transport casks that meet regulatory requirements; and shipped via truck to off-site storage at either the Savannah River Site or the Idaho National Engineering Laboratory. The proposed action may also include construction and maintenance of a SNF dry cask storage facility on the ORR to enable reactor operations to continue in the event of an interruption of offsite SNF shipments. Based on the results of the analysis reported in the EA, DOE has determined that the proposed action is not a major Federal action that would significantly affect the quality of the human environment within the context of the National Environmental Policy Act of 1969 (NEPA). Therefore, preparation of an environmental impact statement (EIS) is not necessary, and DOE is issuing this Finding of No Significant Impact (FONSI).

PUBLIC AVAILABILITY OF EA AND FONSI: The EA and FONSI may be reviewed at and copies of the documents obtained from:

U.S. Department of Energy
Public Reading Room
55 Jefferson Circle
Oak Ridge, Tennessee 37830
Phone: (423) 241-4780.

INFORMATION ON THE NEPA PROCESS: For further information on the NEPA process, contact:

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BACKGROUND: On June 1, 1995, the U.S. Department of Energy (DOE) issued a Record of Decision (ROD) [60 *Federal Register* 28680] based on the analyses presented in a programmatic environmental impact statement (PEIS) for the Department-wide management of spent nuclear fuel (SNF). In the ROD, DOE selected "regionalized storage of SNF by fuel type" as the preferred alternative. Implementation of the preferred alternative would require that aluminum-clad SNF from the DOE complex be transported for storage at the DOE Savannah River Site in South Carolina and non-aluminum-clad SNF, except for production reactor fuel from Hanford, be transported for storage at the DOE Idaho National Engineering Laboratory, pending final disposition.

The proposed action is the management of SNF on the DOE Oak Ridge Reservation (ORR) to implement the preferred alternative of regional storage. To implement the ROD, ORR SNF would be retrieved from storage; transferred by truck to a hot-cell facility, if segregation by fuel type and/or repackaging is required; loaded into containers/transport casks that meet regulatory requirements; and shipped via truck to off-site storage at either the Savannah River Site or the Idaho National Engineering Laboratory. Transport from Oak Ridge to off-site storage and impacts at off-site storage locations were evaluated in the PEIS; thus, they are not part of the proposed action addressed in this EA. The proposed action may also include construction and operation of a dry cask SNF storage facility on the ORR to enable reactor operations to continue in the event of an interruption of off-site SNF shipment.

ALTERNATIVES: A no-action alternative was evaluated. If no action is taken, neither construction of a dry cask storage facility nor shipment of SNF from the ORR would occur. SNF would remain in present storage locations on the ORR. Because of limited storage space, operations on the ORR that generate SNF would have to cease, including operation of the High Flux Isotope Reactor, which produces radioisotopes for medical applications.

ENVIRONMENTAL IMPACTS: Impact analyses resulted in the following findings:

- Up to 3 acres of land would be cleared at the site of the dry cask storage facility. This loss of less than 0.05% of the pine forest on the ORR would reduce a minimal amount of wildlife habitat, but would contribute to cumulative impacts resulting from forest loss as other projects on the ORR remove similar habitat. The relative loss of habitat from the proposed action is quite small.

- No federal- and state- listed, threatened, or endangered species of plants or animals, and critical habitat would be affected by land disturbance, construction, and transport operations.

- Exposure to radioactivity during on-site transportation of SNF associated with segregating, repackaging, and storage activities would result in 1.36×10^{-4} (0.000136) fatal cancers in workers and 4.28×10^{-6} (0.00000428) fatal cancers in the general public. These risks are less than one-tenth of the DOE annual limit for occupational radiological exposure, which would result in a risk of 2×10^{-3} (0.002) fatal cancers, and the cancer

fatality risk associated with annual exposure to background radiation, which is approximately 2×10^{-4} (0.0002).

- Stored SNF at the dry cask storage facility would result in annual worker radiological doses less than DOE's limit of 5 rem and as-low-as-reasonably-achievable level of 0.025 Mev/h (2.5 mrem/h). Public doses would be negligible.

- Accidents involving handling the SNF would result in a cancer fatality risk to the maximally exposed individual (public) and to the worker of 9.6×10^{-7} and 1.9×10^{7} (0.00000096 and 0.00000019), respectively. This risk is quite small in comparison with general population cancer risk of 2×10^{-4} (0.0002) fatalities from exposure to background radiation.

- Clean Air Act-regulated pollutant emissions generated during handling and onsite transport would include small quantities of fugitive dust, sulfur dioxide, nitrogen oxides, unburned hydrocarbons, and carbon monoxide from vehicle exhaust emissions, and from earth disturbance during construction of a dry cask storage facility as well as truck traffic. These emissions would temporarily increase onsite pollutant concentrations, but this effect would be temporary, and offsite pollutant concentrations would not be affected because of dispersal in the atmosphere as distance increases from the source.

- Because there would be no effluents discharged during the proposed action, there would be no direct impacts to water resources. Indirect effects of erosion and sedimentation to streams during earth disturbance for construction of a dry cask storage facility would be minimized by the implementation of Best Management Practices, such as the use of straw barriers and silt fences.

- There are no archaeological and historic sites, prime farmlands, wetlands, or floodplains at or near the proposed site for the dry cask facility. Handling and transport of SNF on the ORR would not affect any of these resources.

- The current pool of ORR workers would provide labor for the proposed action. Therefore, the local employment and economy would not be affected.

- The nearest minority and economically disadvantaged population is located in the city of Oak Ridge, approximately 8 miles from ORNL facilities. Because impacts of the proposed action would be concentrated at ORNL facilities and no offsite impacts are expected, there would be no environmental justice issues associated with the proposed action.

DETERMINATION: Based on the findings of the environmental assessment and Finding of No Significant Impact, DOE has determined that the proposed management of spent nuclear fuel on the Oak Ridge Reservation does not constitute a major Federal action that would significantly affect the quality of the human environment within the context of the National Environmental Policy Act. Therefore, preparation of an environmental impact statement is not required.
Issued at Oak Ridge, Tennessee, this ____ day of _____ 1996.

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Oak Ridge, Tennessee