



Department of Energy
Field Office, Savannah River
P.O. Box A
Aiken, South Carolina 29802

An important and vital phase of the Savannah River Site's proposed Consolidated Incineration Facility (CIF) began today with an announcement by the Department of Energy (DOE) in the *Federal Register*.

The Department announced the availability of an Environmental Assessment for the construction and operation of a CIF at the Savannah River Site (SRS) and a Proposed Finding of No Significant Impact (FONSI). The Proposed FONSI will be available for a 30-day public review period beginning July 1, 1992, and ending July 31, 1992.

A CIF will enable SRS to reduce the volume and toxicity of hazardous, low-level radioactive, and mixed (combined hazardous and radioactive) wastes by incineration. The Environmental Protection Agency and the South Carolina Department of Health and Environmental Control have regulatory authority over the construction and operation of the proposed CIF and would issue the appropriate permits.

In accordance with the Council on Environmental Quality Regulations for Implementing the Procedures of the National Environmental Policy Act (NEPA), the Department of Energy will not make a final determination on the Proposed FONSI until after the review period has ended.

Because of your past interest in SRS environmental issues and our continuing commitment to involve the public in NEPA activities, I am enclosing a copy of the Proposed FONSI for the CIF Environmental Assessment (EA).

We very much appreciate your interest and participation.

Sincerely,

Stephen R. Wright
NEPA Compliance Officer

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**PROPOSED FINDING OF NO SIGNIFICANT IMPACT,
CONSOLIDATED INCINERATION FACILITY
AT THE SAVANNAH RIVER SITE, AIKEN, SC**

AGENCY: Department of Energy

ACTION: Proposed Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an environmental assessment (EA)(DOE/EA-0400) for the proposed construction and operation of the Consolidated Incineration Facility (CIF) at the Savannah River Site (SRS), Aiken, South Carolina. The CIF would be for the treatment of hazardous, low-level radioactive, and mixed (both hazardous and radioactive) wastes from SRS. Incineration would reduce the volume and toxicity of these wastes. Construction and operation of the CIF would be subject to the South Carolina Department of Health and Environmental Control issuing a hazardous waste permit under the Resource Conservation and Recovery Act (RCRA).

Based on the analysis presented in the EA, DOE believes that the proposed action does not constitute a major Federal action that would significantly affect the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.). Therefore, DOE proposes to issue a finding of no significant impact (FONSI). This proposed FONSI is being made available for public review and comment. DOE will consider comments received in making a final determination on whether to issue a FONSI or to prepare an environmental impact statement (EIS) for the proposed CIF.

DATES:

Comments on the proposed FONSI should be postmarked by [30 days from publication date] to assure consideration. Comments postmarked after that date will be considered to the extent practicable.

ADDRESS:

This proposed FONSI will be distributed to those persons and agencies known to be interested in or affected by the proposed action or alternatives. Comments or requests for copies of the EA should be addressed to:

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FOR FURTHER INFORMATION:

For further information on the CIF project, contact Stephen Wright at the above address. For further information on DOE's general NEPA procedures, contact:

Carol M. Borgstrom, Director
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U.S. Department of Energy
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Telephone: (202) 586-4600 or (800) 472-2756

PROPOSED ACTION: The SRS CIF is part of a combination strategy for the treatment, storage, and disposal of SRS waste as described in the Final EIS,

Waste Management Activities for Groundwater Protection, Savannah River Plant, Aiken, South Carolina (DOE/EIS-0120).

The proposed action involves the construction and operation of the CIF for (1) the treatment of hazardous and mixed waste at SRS to enable SRS to comply with RCRA requirements for the treatment of hazardous and mixed wastes before land disposal; (2) volume reduction of low-level radioactive waste before disposal; and (3) the elimination of current SRS shipments of burnable hazardous waste for off-site treatment and disposal. The CIF is proposed to start operating in 1995.

The types of waste proposed to be incinerated by the CIF include hazardous waste and low-level radioactive and mixed waste (waste that is or is presumed to be both hazardous and radioactive). These wastes are primarily generated during normal SRS operations and consist of solids, sludges, and organic and aqueous liquids; examples are oils, paints, solids, solvents, rags, clothing, and floor cleaning equipment. The CIF would not receive or treat waste containing dioxins or polychlorinated biphenyls.

The CIF would have a rotary kiln combustion chamber and a secondary combustion chamber (SCC) to ensure 99.99 percent destruction of all hazardous constituents. The CIF offgas treatment system would ensure that the SCC offgas meets all applicable regulatory requirements before discharge to the environment. At designed operating capacities, approximately 30 pounds per hour of residual ash would result from CIF operation and would be solidified for disposal at SRS in a proposed RCRA-permitted facility.

The CIF would be located near the center of the SRS in the 200-H Chemical Separations Area. The facility would consist of a new concrete and steel open building of approximately 31,000 square feet with processing

facilities, control rooms, waste receiving areas, and waste handling areas. The CIF process building would have an exhaust stack to handle the offgas from the incinerator and the exhaust air from the building ventilation system. The offgas would be cooled in a quench vessel and would enter a free jet scrubber to remove particulates and acid gases before entering a cyclone separator to remove entrained moisture. The offgas would also pass through a mist eliminator, and a series of high-efficiency particulate air (HEPA) filters to remove fine particulates (including radioactive particulates) before the emissions would be monitored and released through the stack. The building ventilation system would provide exhaust hoods around each of the kiln seals for the collection and HEPA filtration of any emissions.

ALTERNATIVES CONSIDERED: Under the No Action alternative, the CIF would not be constructed or operated. Untreated waste would continue to accumulate at SRS. This would not allow SRS operations to comply with RCRA land ban requirements.

An off-site treatment and disposal alternative would involve shipping burnable hazardous waste to off-site incinerators (DOE or commercial) and shipping mixed wastes to off-site DOE mixed waste incinerators (commercial capacity is not available). However, sufficient capacity would not be available at DOE incinerators for the volume of SRS mixed waste. Even if capacity were available, the alternative would impose the costs and environmental impacts of necessary modifications to these other facilities and of off-site transportation of hazardous and mixed wastes. It would also make SRS operations more dependent upon the availability of other facilities.

Another alternative is to construct two incinerators at SRS--one incinerator to burn miscellaneous solid and liquid hazardous wastes, with a subsequent upgrade to handle radioactive waste, and the second to burn only organic liquid waste from the Defense Waste Processing Facility. This alternative would allow the use of different technologies and potentially lower direct treatment costs. However, this alternative would substantially duplicate facilities and increase costs. The duplication of equipment would also result in higher actual and potential emissions, e.g., from duplicate tank vents. Moreover, a single incinerator and two separate incinerators would have to meet the same destruction and removal efficiency requirements and other offgas quality standards. Therefore, separate facilities would not necessarily or significantly reduce pollutant emissions compared to a single facility.

Other treatment methods for hazardous wastes considered as alternatives are solidification, biological treatment, and chemical treatment. A separate treatment method could be used for each waste stream, possibly increasing the efficiency of the treatment of each waste. If separate waste treatment processes were chosen, facility costs would be higher because of the need to construct, operate, and maintain multiple facilities. Such multiple facilities would increase land usage and fugitive emissions and possibly duplication of equipment. No other treatment method compares favorably with incineration, which the U.S. Environmental Protection Agency (EPA) has identified (40 CFR Part 268) as the Best Demonstrated Available Technology for treatment of many hazardous wastes.

ENVIRONMENTAL CONSIDERATIONS: The CIF would occupy 3 acres of previously developed land adjacent to H-Area, a location that has been subjected to construction impacts since the early 1950s. The peak construction workforce of 175 workers would have negligible effects on area land use, housing, and social services. No significant impacts on ecological resources are expected due to the minimal habitat quality of the proposed CIF site. No floodplains, wetlands, or archaeological or historical sites exist on the proposed site. Air quality impacts from construction activities are expected to be negligible. Once operational, the facility would employ 39 people. It is anticipated that many of these positions would be filled by personnel already employed at SRS.

Liquid wastes from CIF processing operations would be collected in permitted storage tanks before being treated for disposal in a SRS RCRA permitted vault disposal unit. Other liquid wastes, such as sanitary wastewater, would be analyzed and treated, as appropriate, before being discharged in compliance with current National Pollutant Discharge Elimination System permits.

Air emissions from the CIF would be controlled to levels significantly below the applicable EPA Prevention of Significant Deterioration emission requirements. Therefore, the CIF would not be expected to significantly change regional ambient air quality or affect public health. The CIF would be designed and operated to achieve a 99.99 percent minimum destruction and removal efficiency of principal organic hazardous constituents, as required by South Carolina air pollution control and hazardous waste management regulations for the wastes proposed to be incinerated at the CIF. Trial burn and periodic emission monitoring programs required by state and Federal

regulations would be undertaken to confirm that CIF air emissions are within state and Federal standards.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR Part 61) limit radionuclide emissions from DOE facilities to not exceed amounts that would cause more than 10 mrem per year of effective dose-equivalent to any member of the public. A NESHAP permit for CIF construction has been obtained from EPA. Total annual radionuclide releases to the atmosphere from the proposed CIF routine operations are estimated to be 1200 curies. The maximum effective dose to an individual at the SRS boundary from such releases is projected to be 0.003 mrem per year. The maximum combined dose from the existing operation of SRS and the CIF would remain at approximately 0.5 mrem to the maximally exposed individual at the plant boundary. This is well below the NESHAP limit.

Routine CIF processing activities would result in only minor and ordinary radiological and chemical exposures to on-site operating personnel. Engineering and administrative controls would ensure that the annual effective dose equivalent to any SRS worker would not exceed the DOE limit of 5 rem (DOE Order 5480.11) and that any chemical exposure is within safe limits.

Potential accidents associated with CIF operations are addressed in the EA and a safety assessment document for the facility. Facility accidents addressed in the EA include natural phenomena (wind or tornado), earthquakes, fire, nuclear criticality, explosion in the incinerator chamber(s), benzene release, and human-caused external events. On-site transportation accidents were also evaluated. Using a relation between radiation dose and consequent health effects of 4×10^{-4} latent cancer fatalities per person-rem, none of these accidents would be expected to produce any radiation-induced fatal

cancers in the exposed population, either on-site or off-site.

For carcinogens such as benzene, EPA requires that risk be reduced to below 10^{-4} (i.e., 1 excess cancer death in ten thousand people) in exposed receptors. In the case of benzene release under maximum credible accident conditions involving a spill of the benzene inventory into the secondary containment system, the carcinogenic risk is 6×10^{-7} for the maximally exposed off-site individual, 4×10^{-6} for an individual at the spill site, and 2×10^{-8} for an on-site individual 5 miles from the spill, when computed using the EPA risk assessment methodology. Smaller but potentially more frequent releases could occur from minor spills or process upsets. However, the analysis determined that no chronic exposure hazards would exist for on-site or off-site populations, and that the probability of an accident that could produce a harmful exposure would be very low.

PROPOSED DETERMINATION: Based on the information and the analyses in the EA for the CIF, DOE believes the proposed action does not constitute a major Federal action that would significantly affect the quality of the human environment within the meaning of NEPA. Therefore, DOE proposes to issue a FONSI and not require the preparation of an EIS. DOE will make a final determination after a 30-day public comment period.

Issued at Washington, D.C., this 24th day of June
1992.


Peter N. Brush
Acting Assistant Secretary
Environment, Safety and Health