

This is a draft document for board discussion

Oppose Receipt of German SNF for Treatment and Storage in the U.S.

Recommendation Manager: David Hoel

Background

In 2016, the Department of Energy (DOE) issued a draft Environmental Assessmentⁱ on a proposal to receive approximately one million graphite-spheres of spent nuclear fuel (SNF) containing approximately 900 kilograms of US-origin highly enriched uranium from the Federal Republic of Germany for processing and disposition in Environmental Management (EM) facilities at the Savannah River Site. While the CAB has been generally supportive of EM involvement in the nuclear non-proliferation goals of the foreign research reactor SNF return program, the German SNF proposal (and the EA) falls short in several key areas of which the CAB has concerns:

1. DOE has not established an adequate and compelling purpose and need for the proposalⁱⁱ.
 - A formal memorandum by National Nuclear Security Administration clearly states that the German Spent Nuclear Fuel “*is not a proliferation concern.*”ⁱⁱⁱ Therefore, bringing it to the US for safeguarding is unnecessary.
 - Processing the German SNF is unnecessary because the current physical state of the German SNF is very stable and substantially proliferation resistant.
 - Germany is a wealthy and stable first-world ally capable of safely and securely managing this SNF.
2. DOE has not identified nor evaluated all reasonable technological and siting alternatives^{iv}, if the SNF is brought to the US.
 - The methods to process the German fuel are not yet fully developed and therefore the potential environmental impacts were vaguely estimated in the draft EA.
 - Not processing the German SNF is a reasonable technological alternative because the current physical form of the SNF is stable and amenable to long-term storage and disposal as is.
 - Processing the German SNF at SRS would actually invite more environmental impacts and risk than not processing; therefore, the alternative of bringing it to the U.S. but not processing must be assessed.^v
 - If constructing a processing facility in L-Area is considered a reasonable alternative (rather than processing the SNF in H-Canyon), then clearly there are other reasonable processing location alternatives than only at SRS.

Discussion

While evaluating the German SNF proposal, it is appropriate for the CAB to consider the backdrop of other overriding environmental issues facing the SRS, which are linked to management of this SNF. While the DOE Savannah River Operations Office and its contractors have done their best to keep

commitments for cleanup and disposition of SRS materials and wastes, this cannot also be said of the support received from DOE Headquarters. DOE has (a) failed in timely establishment of a geologic repository for disposal of EM high-level radioactive wastes and spent nuclear fuel, as required by the Nuclear Waste Policy Act; (b) consistently failed to provide sufficient resources for timely disposition of the large existing inventory of SRS spent nuclear fuel; (c) since 2014, continued to underfund and thus delay its legal SRS EM cleanup commitments, especially regarding treatment of liquid radioactive waste and closure of tanks; and (d) engaging SRNL in research to find a way to process the German SNF would actually create a nuclear proliferation risk where none previously exists. Such DOE failures undermine the CAB's confidence in DOE's ability for timely disposition of the German SNF and associated wastes outside of South Carolina.

Conclusions

1. U.S. receipt and processing of the German SNF is not needed for US nuclear nonproliferation goals, therefore the purpose and need for the proposal is lacking.
2. All reasonable technological and siting alternatives have not been evaluated.
3. It represents an unwarranted additional environmental risk to citizens in the Central Savannah River Area.
4. The proposal will unnecessarily add to an already large burden of indefinite SNF and high-level radioactive waste storage at SRS with no established path for disposal.
5. DOE failures to faithfully keep pace with its SRS cleanup commitments impede the acceptability of this deficient proposal by the citizens of South Carolina and Georgia.
6. SRNL research into how to process this SNF is counter to nuclear non-proliferation goals.

Recommendations

The SRS Citizens Advisory Board recommends that DOE:

1. Correct the deficiencies identified in the Background section (above) in the final Environmental Assessment.
2. Prefer and select the "No Action" alternative described in the Draft Environmental Assessment, i.e., not receive the German SNF for treatment and storage in the U.S.

DRAFT Recommendation
Not Yet Adopted
Sponsored by the Nuclear Materials Committee

ⁱ Draft Environmental Assessment for the *Acceptance and Disposition of Spent Nuclear Fuel Containing U.S.-Origin Highly Enriched Uranium From The Federal Republic Of Germany*, DOE/EA-1977, 01/20/2018

ⁱⁱ The President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations require that federal agencies shall "...specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 CFR 1502.13

ⁱⁱⁱ Memorandum from J. Crocker, NNSA, to K. Picha, DOE-EM, Subject: Proliferation Attractiveness of Jülich Graphite Spheres, August 1, 2013

^{iv} NEPA Regulations require that federal agencies "... Rigorously explore and objectively evaluate all reasonable alternatives..." 40 CFR 1502.14(a)

^v NEPA Regulations require that federal agencies "...Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." 40 CFR 1500.1(e)