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January 29, 2021

Mr. Jeffrey Galan
NNSA NEPA Document Manager
NNSA Office of Material Management and Minimization
Savannah River Site
P.O. Box A, Bldg. 730-2B, Rm. 328
Aiken, SC 29802

Subject: American Nuclear Society (ANS) Comments on the Scope of the Surplus Plutonium Disposition Program (SPDP) Environmental Impact Statement (EIS)

Reference: Notice of Intent to Prepare an EIS for the SPDP, Federal Register Vol. 85, No. 242, December 16, 2020

Dear Mr. Galan:

In response to the December 16, 2020 Notice of Intent referenced above, I write on behalf of the 10,000 members of the American Nuclear Society (ANS) and over 100,000 workers in the nuclear industry to provide comments on the scope of the proposed National Nuclear Security Administration (NNSA) SPDP EIS.

In the notice, NNSA proposes the dilute and dispose approach as the preferred alternative for disposition of the full 34 metric tons of surplus weapons-usable plutonium that is the responsibility of the SPDP. NNSA identifies no other potential alternatives for evaluation. However, using the surplus plutonium as advanced reactor fuel has several notable advantages over dilute and dispose. Those advantages are summarized below and discussed in more detail in the attached ANS Position Statement #47.[1]

- Use as reactor fuel would produce a valuable and useful product – clean energy – from the material that was produced at great expense to the American people. In contrast, dilute and dispose produces no useful product.

[1] ANS Position Statement #47, Disposition of Surplus Weapons Plutonium, May 2020; https://cdn.ans.org/policy/statements/docs/ps47.pdf.

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- The surplus plutonium could be an attractive source of fuel for advanced reactors, particularly those with a fast neutron spectrum. Advanced reactors offer many potential advantages as a clean, safe, and reliable energy source, and there is considerable public and private investment in bringing designs into operation.[2,3] The surplus weapons plutonium could be a reliable initial fuel supply for some designs.
- Dilute and dispose does not destroy any plutonium and does not degrade the material isotopically. From a nonproliferation perspective, it would be preferable to use the material as reactor fuel, thereby destroying some plutonium and transmuting much of the remainder so it would not be attractive for use in nuclear weapons.
- Use of dilute and dispose for all of the surplus plutonium would have significant adverse impacts on the Waste Isolation Pilot Plant (WIPP), the country's only geological disposal facility for transuranic waste. The SPDP EIS should address all WIPP impacts including the country's much-reduced TRU disposal capacity that would result from a decision to implement dilute and dispose at WIPP.

There are also international considerations to the plutonium disposition issue. While the U.S.-Russia plutonium disposition agreement was in force, Russia made it clear it did not approve of the dilute and dispose approach. An advanced reactor option in the U.S. would be similar to Russia's intentions for its own surplus plutonium. It would be prudent for NNSA to provide the new U.S. administration with a plutonium disposition alternative that is more acceptable to Russia than dilute and dispose. Such an option could conceivably foster renewed and much needed cooperation between the two nations in the nonproliferation field.

Accordingly, ANS recommends that NNSA consider use of the surplus plutonium as advanced reactor fuel as another alternative to be evaluated in the EIS. In addition, ANS recommends that NNSA refrain from identifying a preferred

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2 ANS Position Statement 35, "Advanced Reactors," June 2018; https://cdn.ans.org/policy/statements/docs/ps35.pdf.

3 "U.S. Department of Energy Announces $160 Million in First Awards under Advanced Reactor Demonstration Program," October 13, 2020, https://www.energy.gov/ne/articles/us-department-energy-announces-160-million-first-awards-under-advanced-reactor.

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alternative at this time, and instead let the evaluation drive the identification of the preferred alternative.

Thank you for the opportunity to provide these comments. If you have any questions, please contact Steve Nesbit at (704) 578-5817 or snesbit@ans.org .

Sincerely,

Mary Lou Dunzik-Gougar, President
American Nuclear Society

Craig Piercy, Chief Executive Officer
American Nuclear Society