

May 28, 2020

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: Public Meeting on “*Status of Spent Fuel Reprocessing Rulemaking*” (held March 4, 2020, ML20063L785)

Project Number 689

Attention: Ms. Wendy Reed

I write on behalf of the American Nuclear Society (ANS)¹ to express our support for continued NRC action on proposed rulemaking for spent fuel reprocessing, also referred to as used fuel recycling. ANS and the 10,000 nuclear technology professionals it represents are committed to advancing, fostering, and promoting the development and application of nuclear sciences and technologies to benefit society.

As stated in ANS Position Statement #43, “Nuclear Technology’s Critical Role in the World’s Future Energy Supply,” any meaningful effort to significantly reduce air pollution and carbon emissions, while advancing global human development and standard of living, must include a large, long-term, and sustainable role for nuclear energy. Along with advancements in reactor technology and the availability of nuclear fuel, minimization of waste represents a key factor needed to ensure the long-term sustainability of nuclear energy, both in the United States and globally.² ANS Position Statement #45, “Nuclear Fuel Recycling,” which supports the development of a policy and legal framework that includes used fuel recycling, points out that recycling (i.e., the combination of reprocessing and fuel fabrication) has the potential to significantly enhance uranium resource utilization by reclaiming a larger fraction of the unused energy in used fuel (~95 percent) and to minimize the volume and toxicity of radioactive waste requiring disposal in a geologic repository.³

We recognize that a once-through fuel cycle may be the most cost-effective path for the domestic light water reactor fleet in the near term. However, in the long term, with nuclear energy providing a significant fraction of U.S. electricity production, waste

¹ ANS works on behalf of its members to advocate for policies that advance nuclear science and technology. In Washington, D.C. and at the state level, ANS looks for opportunities to support policies that advance nuclear science in medicine, energy, education, and aerospace. ANS works in a variety of ways to encourage policies that recognize the benefits nuclear science and technology brings to our lives.

² American Nuclear Society Position Statement 43: Nuclear Technology’s Critical Role In The World’s Future Energy Supply. August 2019. <https://cdn.ans.org/policy/statements/docs/ps43.pdf>

³ American Nuclear Society Position Statement 45: Nuclear Fuel Recycling. June 2014. <https://cdn.ans.org/policy/statements/docs/ps45.pdf>

minimization via recycling will likely be warranted. Also, many advanced reactor systems currently under development are specifically designed to take advantage of the energy value that exists in our current reserves of used nuclear fuel. In this case, the lack of an efficient, technically robust, and technology-inclusive regulatory foundation for reprocessing and recycling is a barrier to innovation. This in turn precludes advanced reactor vendors from capitalizing on the full value of their designs in a future where nuclear waste disposal costs are realistically quantified and allocated.

Hence, ANS supports a resumption of NRC action on its spent fuel reprocessing rulemaking. The NRC has identified significant gaps in the existing regulations (per SECY-11-0163), including those associated with two of the most frequently raised concerns about nuclear fuel recycling: (1) costs and (2) nonproliferation. Addressing these regulatory gaps would tangibly reduce the regulatory uncertainty associated with deploying reprocessing technologies, thereby lowering the costs and risks of deployment. Additionally, NRC rulemaking should address other gaps found elsewhere in 10 CFR (e.g., Gap 4, “Exclusion of Irradiated Fuel Reprocessing Facilities in 10 CFR 74.51”). Wherever possible, rulemaking should adopt risk-informed, performance-based approaches. Finally, and consistent with recently enacted legislation on advanced nuclear energy systems, the costs associated with rulemaking should not be borne by fees to existing reactors and facilities.

While no new reprocessing facilities are planned in the United States at this time, this in itself should not be the rationale for suspending rulemaking. Rulemaking is a deliberative process, and it is important to establish a comprehensive regulatory framework prior to any license application being submitted. Moreover, completing the reprocessing rulemaking would support future options for, and potential innovations toward, used fuel management as well as clean energy generation using advanced reactors. ANS members have substantial expertise in the field and stand ready to support the rulemaking effort. The NRC should engage ANS as well as the DOE, the National Nuclear Security Administration, and its international regulatory partners in this endeavor.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. H. Piercy', written in a cursive style.

Craig H. Piercy, Executive Director/CEO
American Nuclear Society

C: Mr. Christopher Regan
Ms. Andrea Kock
Mr. Yawar Faraz