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**To:** [Kock, Andrea](#)  
**Cc:** [Regan, Christopher](#); [Reed, Wendy](#)  
**Subject:** [External\_Sender] Clarification of Industry Response to NRC's Request for Public Input on the Spent Fuel Reprocessing Regulatory Basis  
**Date:** Thursday, May 28, 2020 5:08:40 PM  
**Attachments:** [05-28-20\\_NRC\\_Reprocessing.pdf](#)

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**THE ATTACHMENT CONTAINS THE COMPLETE CONTENTS OF THE LETTER**

May 28, 2020

Ms. Andrea Kock, Director  
Division of Fuel Management  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Subject:** Clarification of Industry Response to NRC's Request for Public Input on the Spent Fuel Reprocessing Regulatory Basis (Public Meeting of March 4, 2020, ML20063L785)

**Project Number: 689**

Dear Ms. Kock:

The Nuclear Energy Institute (NEI), on behalf of its members, appreciates NRC's openness and transparency, as reflected in a March 4 public meeting during which staff provided an update on the status of NRC's spent fuel reprocessing rulemaking and sought public input to an upcoming paper that will be submitted to the Commission on this subject. In this meeting, NRC described its efforts to move forward on a reprocessing rulemaking between 2006 (in response to expressions of interest from industry) and 2016 (when NRC suspended work on the rulemaking due to budgetary constraints and an apparent lack of commercial interest in reprocessing).

We thank NRC for staff's thoughtful consideration of the regulatory needs associated with potential future reprocessing and for having advanced the dialogue on this topic. We look forward to continued engagement in this decision-making process. Please do not hesitate to contact me with any comments or questions.

Sincerely,

Rodney McCullum  
Senior Director,  
Decommissioning & Used Fuel

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Dear Ms. Kock:

The Nuclear Energy Institute (NEI)<sup>1</sup>, on behalf of its members, appreciates NRC's openness and transparency, as reflected in a March 4 public meeting during which staff provided an update on the status of NRC's spent fuel reprocessing rulemaking and sought public input to an upcoming paper that will be submitted to the Commission on this subject. In this meeting, NRC described its efforts to move forward on a reprocessing rulemaking between 2006 (in response to expressions of interest from industry) and 2016 (when NRC suspended work on the rulemaking due to budgetary constraints and an apparent lack of commercial interest in reprocessing). Staff then posed the following two questions for public discussion:

- Should the NRC discontinue the spent fuel reprocessing rulemaking?
- What is the intention of industry with regard to the construction, licensing and operation of spent fuel reprocessing facilities?

The NRC should not discontinue the rulemaking, but should continue to maintain it in suspended status while the staff researches the potential changes to the rulemaking scope related to the needs of advanced reactors and develops a cost estimate for the overall rulemaking effort. This research should start immediately.

We thank NRC for asking the second question, as it has been the subject of considerable dialogue within the industry subsequent to the March 4 meeting. This dialogue has brought additional clarity to our position on the

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<sup>1</sup> The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

Ms. Andrea Kock

May 28, 2020

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rulemaking. As a result, we recommend that NRC conduct an evaluation of the ways that advanced reactor technologies, which include light water and small modular reactors, may impact the deployment and regulation of reprocessing along with any changes in the state of reprocessing technology since 2016, prior to making any decision on whether or not to actively resume the rulemaking.

We believe that the landscape for reprocessing has changed significantly from what NRC was considering previously. Advanced nuclear reactors are under development today that can reduce the amount of spent fuel generated from nuclear energy. Some of the designs will even be able to recover energy from spent fuel (i.e., the spent fuel from one reactor can be the fuel source for another reactor). Developers with designs that may eventually source their fuel from the spent fuel of other reactors are generally not planning to do this for their first reactors. This is primarily because they are focused on designing and licensing the reactor without the added burden of addressing both technical and regulatory issues with the processing of spent fuel from other reactors. No commercial reprocessing capability currently exists in the U.S. that could potentially provide reprocessed fuel for an advanced reactor. However, if there were a capability to reprocess then these designs could consider sourcing from spent fuel for their reactors.

Although initial advanced reactor development is not dependent on reprocessing technology, the NRC should not delay in researching the reprocessing technologies that would be relevant for these designs and their fuel cycle. We encourage the NRC to move expeditiously to assure that staff is prepared to address identified regulatory gaps in the most effective and efficient manner possible and make a decision on resuming the rulemaking.

Finally, it is important that any evaluation of a proposed rulemaking include a thorough consideration of the total cost of proceeding and a proposal for how these costs would be funded. 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.

We thank NRC for staff's thoughtful consideration of the regulatory needs associated with potential future reprocessing and for having advanced the dialogue on this topic. We look forward to continued engagement in this decision-making process. Please do not hesitate to contact me with any comments or questions.

Sincerely,



Rod McCullum

c: Mr. Christopher Regan, NRC/NMSS/DFM  
Ms. Wendy Reed, NRC/NMSS/DFM