

PR 51
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NUCLEAR ENERGY INSTITUTE

Anthony R. Pietrangelo
VICE PRESIDENT
REGULATORY AFFAIRS

February 5, 2009

Ms. Annette Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 200555-0001

Attention: Rulemaking and Adjudications Staff

Subject: Nuclear Energy Institute comments on U.S. Nuclear Regulatory Commission Proposed Rule 10 CFR Part 51 *Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation* (73 Fed. Reg. 59547) and related *Waste Confidence Decision Update* (73 Fed. Reg. 59551), each dated October 9, 2008

Project Number: 689

Dear Ms. Vietti-Cook:

The Nuclear Energy Institute (NEI),¹ on behalf of the nuclear energy industry, commends the U.S. Nuclear Regulatory Commission (NRC) for acting to facilitate the conduct of licensing activities, including proceedings on Combined Operating License (COL) applications for new reactors, by proposing a revision to 10 CFR Part 51 *Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation* (73 Fed. Reg. 59547) and updating the NRC's waste confidence findings in a corresponding *Waste Confidence Decision Update* (73 Fed. Reg. 59551). Accordingly, we are pleased to submit these comments in support of this proposal and to provide industry's response to the one specific question for public comment posed by the NRC therein.

The Commission's actions currently under consideration will facilitate sustained electricity generation from nuclear power plants deep into the 21st century — a matter of vital importance to the national interest as nuclear energy is the nation's largest source of electricity generation that does not release greenhouse gases and other harmful air pollutants. Since 1999, when the Commission last considered the need for further evaluation of its Waste Confidence determination, COL applications

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabricators, nuclear material licensees, and other organizations and individuals involved in the nuclear energy industry.

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have been submitted for 26 new commercial nuclear power reactors. In addition, 51 license renewals have been issued, with more than 40 additional renewals planned.

We believe, as reflected in the NRC's proposal, that there is more than ample basis for the Commission to express its confidence in the continued safe and effective management of spent nuclear fuel (SNF) until disposal capacity is developed. The conclusion of the Commission's 1990 Waste Confidence review that spent nuclear fuel can be safely stored without significant environmental impact for at least 100 years² has only been bolstered and strengthened by further consideration³ and additional evaluation.⁴

Further, it is important to note that the 70,000 MTU limit in the Nuclear Waste Policy Act is artificial and not based on technical considerations. The U.S. Department of Energy's (DOE) 2008 Yucca Mountain Final Supplemental Environmental Impact Statement demonstrates that up to 130,000 MTU of commercial SNF can be disposed of without significant environmental impacts, and an independent study by the Electric Power Research Institute has concluded that the physical capacity of Yucca Mountain is sufficient to provide for the disposal of between approximately 260,000 MTU and 570,000 MTU of commercial SNF.⁵ Similarly, a December 2008 DOE report concluded that "three times the statutory limit of 70,000 MTU, or possibly more, could be accommodated by expanding the repository layout at Yucca Mountain."⁶

Whether the course of the nation's disposal program is to expand the current repository, develop a second repository, or even select an alternate repository — possibly one designed to accommodate different waste forms derived from advanced nuclear fuel recycling technologies — it is important that the Commission provide a thorough and realistic assessment of the basis for maintaining waste confidence over the time frames necessary for such decision-making to take place and be implemented. We believe that this proposal provides such an assessment.

Based on the foregoing, it is fully appropriate for the Commission to undertake the proposed revision to 10 CFR Part 51 and update its waste confidence findings. What the Commission has proposed will establish a sound and consistent regulatory framework — applicable to all NRC reactor and SNF storage licensing actions — that fully recognizes and takes into account the significant

² 55 *Fed. Reg.* at 38,513.

³ In Hearings on H.R. 45 Before the House Subcommittee on Energy and Power of the Committee on Commerce, 106th Congress, in 1999, NRC Chairman Shirley Ann Jackson stated "we have not identified any safety or environmental issues that would preclude issuance of an independent spent fuel storage license for 100 years."

⁴ DOE's 2001 Yucca Mountain Final Environmental Impact Statement, in addressing the impacts of long-term storage as part of its consideration of the "no-action" alternative, concluded that, even in the case of a loss of institutional control after 100 years, there would be no release of radioactive material from concrete storage modules with internal steel spent fuel canisters for 1,000 years.

⁵ EPRI Technical Report 1015046, *Program on Technology Innovation: Room at the Mountain*, June 2007.

⁶ DOE/RW – 0595, *THE REPORT TO THE PRESIDENT AND THE CONGRESS BY THE SECRETARY OF ENERGY ON THE NEED FOR A SECOND REPOSITORY* (December 2008).

experience that has been gained with the safe long-term storage of spent nuclear fuel and the continued international scientific consensus supporting the feasibility of geologic disposal.

The Commission's determination that "spent fuel generated in any reactor can be stored safely and without significant environmental impacts beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations until a disposal facility can reasonably be expected to be available"⁷ is unequivocally supported by industry's vast experience with the safe storage of spent nuclear fuel under NRC oversight and regulation. At the same time, it is reflective of a realistic appraisal of the possibilities for the future course of the U.S. disposal program.

Industry has now safely maintained spent-fuel storage pools for over 40 years and has, over the past 25 years, successfully loaded and emplaced at Independent Spent Fuel Storage Installations over 1,000 dry-cask storage systems at 40 locations. Many of these systems are also licensed for transportation and, should it prove advantageous to move these casks to centralized interim storage sites, industry has demonstrated the safety of spent-fuel transportation having conducted over 3,000 shipments covering 1.7 million highway, barge and rail miles. Internationally, tens of thousands of additional shipments have also been safely conducted. In compliance with NRC and U.S. Department of Transportation regulations, industry is committed to continuing to take all necessary actions to ensure that this outstanding record of safety is maintained.

With regard to disposal, the NRC has appropriately recognized that "confidence in the technical feasibility of a repository alone is not sufficient to bring about the broader societal and political acceptance for a repository."⁸ We agree that it is appropriate for the NRC to have continued confidence in the technical feasibility of geologic disposal and believe that the NRC has conducted a reasonable assessment of the extended timeframes that could be necessary to reach societal and political acceptance of a repository, either at Yucca Mountain or elsewhere. We also point out that, during these extended timeframes, there is likely to be additional progress on technologies to close the fuel cycle. This would further enhance the technical feasibility of disposal and, in turn, lead to improved prospects for societal and political acceptance.

Since 1999, progress on the Yucca Mountain licensing process, and similar progress internationally, has provided support for increased confidence in the technical feasibility of geologic disposal. Further, industry continues to meet high safety and environmental protection standards with respect to long-term spent-fuel storage. It is therefore appropriate that the NRC continue its finding of waste confidence. In doing so, the NRC has appropriately considered national and international experience to factor in the inherent uncertainties associated with political and societal processes.

⁷ 73 *Fed. Reg.* 59551.

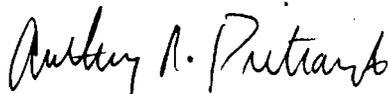
⁸ 73 *Fed. Reg.* 59549.

The foregoing leads us to recommend, in response to the specific question for public comment posed by the NRC,⁹ that the Commission adopt the proposed alternative revision of specific Waste Confidence Finding 2, which does not include a specific timeframe for the availability of a repository. We agree with the NRC's assessment of an approach for determining a repository "target date." However, identifying the exact number of years involved is not necessary because, for whatever length of time is needed, the NRC's regulations will continue to provide a high standard of safety in the storage of spent nuclear fuel, and industry is compelled to comply with these regulations.

We agree with the Commission's decision to reaffirm Findings 1, 3 and 5, as well as with the proposed revision of Finding 4. In each case, we conclude that the NRC has provided a sound and comprehensive basis in the update in support of these findings. Given the significant number of ongoing and near-term licensing actions that are supported by the NRC's Waste Confidence rule, we encourage the NRC to finalize the proposed revision in as timely a manner as possible.

Again, NEI appreciates the Commission's action on this important matter.

Sincerely,



Anthony R. Pietrangelo

- c: The Honorable Dale E. Klein, Chairman, U.S. Nuclear Regulatory Commission
 The Honorable Peter B. Lyons, Commissioner, U.S. Nuclear Regulatory Commission
 The Honorable Gregory B. Jaczko, Commissioner, U.S. Nuclear Regulatory Commission
 The Honorable Christine Svinicki, Commissioner, U.S. Nuclear Regulatory Commission
 Karen D. Cyr, Esq., General Counsel, U.S. Nuclear Regulatory Commission
 Mr. R. William Borchardt, Executive Director for Operations, U.S. Nuclear Regulatory
 Commission

⁹ 73 *Fed. Reg.* 59550, NRC asked "whether it should revise its approach to Finding 2 and adopt a more general finding of reasonable assurance that SNF generated in any reactor can be stored safely and without significant environmental impacts until a disposal facility can reasonably be expected to be available."

Rulemaking Comments

From: REED, Joseph [jsr@nei.org] on behalf of PIETRANGELO, Tony [arp@nei.org]
Sent: Thursday, February 05, 2009 4:47 PM
Subject: Nuclear Energy Institute comments on U.S. Nuclear Regulatory Commission Proposed Rule 10 CFR Part 51 Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation (73 Fed. Reg. 59547) and related Waste Conf
Attachments: 02-05-09_NRC_Comments on Proposed Revision to 10 CFR 51 and Related Waste Confidence Decision 2.pdf

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We believe, as reflected in the NRC's proposal, that there is more than ample basis for the Commission to express its confidence in the continued safe and effective management of spent nuclear fuel (SNF) until disposal capacity is developed. The conclusion of the Commission's 1990 Waste Confidence review that spent nuclear fuel can be safely stored without significant environmental impact for at least 100 years has only been bolstered and strengthened by further consideration and additional evaluation.

Further, it is important to note that the 70,000 MTU limit in the Nuclear Waste Policy Act is artificial and not based on technical considerations. The U.S. Department of Energy's (DOE) 2008 Yucca Mountain Final Supplemental Environmental Impact Statement demonstrates that up to 130,000 MTU of commercial SNF can be disposed of without significant environmental impacts, and an independent study by the Electric Power Research Institute has concluded that the physical capacity of Yucca Mountain is sufficient to provide for the disposal of between approximately 260,000 MTU and 570,000 MTU of commercial SNF. Similarly, a December 2008 DOE report concluded that "three times the statutory limit of 70,000 MTU, or possibly more, could be accommodated by expanding the repository layout at Yucca Mountain."

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Based on the foregoing, it is fully appropriate for the Commission to undertake the proposed revision to 10 CFR Part 51 and update its waste confidence findings. What the Commission has proposed will establish a sound and consistent regulatory framework — applicable to all NRC reactor and SNF storage licensing actions — that fully recognizes and takes into account the significant experience that has been gained with the safe long-term storage of spent nuclear fuel and the continued international scientific consensus supporting the feasibility of geologic disposal.

The Commission's determination that "spent fuel generated in any reactor can be stored safely and without significant environmental impacts beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations until a disposal facility can reasonably be expected to be available" is unequivocally supported by industry's vast experience with the safe storage of spent nuclear fuel under NRC oversight and regulation. At the same time, it is reflective of a realistic appraisal of the possibilities for the future course of the U.S. disposal program.

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Sincerely,

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Vice President, Regulatory Affairs

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Commission Proposed Rule 10 CFR Part 51 Consideration of Environmental
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Date: Thu, 5 Feb 2009 16:46:57 -0500

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X-MS-Has-Attach: yes

X-MS-TNEF-Correlator:

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Commission Proposed Rule 10 CFR Part 51 Consideration of Environmental
Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor
Operation (73 Fed. Reg. 59547) and related Waste Conf

Thread-Index: AcmH20TBhg22VkJHiS0Wk4vNsKJoXtQ==

From: "PIETRANGELO, Tony" <arp@nei.org>

Sender: "REED, Joseph" <jsr@nei.org>

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X-PolicySMART: 609541, 425095

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