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General Comment

See attached file(s)

Attachments

NIA Comment on NRC ANPR for NEPA CEs 07 21 2021

Nuclear Innovation Alliance

July 21st, 2021

IN RE: ADVANCE NOTICE OF PROPOSED RULEMAKING; REQUEST FOR COMMENT.; CATEGORICAL EXCLUSIONS FROM ENVIRONMENTAL REVIEW, DOCKET ID NO. NRC-2018-0300

COMMENTS PROVIDING INPUT TO NRC AMENDMENTS TO REGULATIONS REGARDING CATEGORICAL EXCLUSIONS UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT

I. Executive Summary

The Nuclear Innovation Alliance (NIA) strongly supports NRC's planned rulemaking to consider and potentially modify its regulations under the National Environmental Policy Act (NEPA), including amending its identification of activities eligible for categorical exclusions (CEs). NEPA provides an important and strong mechanism for the NRC to meet its environmental policy obligations. Well defined CEs can facilitate efficient NEPA processes by ensuring agency resources are focused on the purpose of the statute, which is to perform environmental assessments (EAs) or environmental impact statements (EIS) for "major Federal actions significantly affecting the quality of the human environment."

NIA's 2019 report, *Nuclear Innovation and NEPA*, examined how NRC can meet its NEPA obligations for advanced reactor demonstration projects.[1] Due to advanced reactor's environmental and safety benefits, our first recommendation from that report suggested that NRC reevaluate its presumption that any commercial power reactor requires an EIS and consider whether certain advanced reactor projects could qualify for categorical exclusions. As part of its broader transformation into a performance-based agency, NRC should ensure that its NEPA regulations are rooted in environmental performance. As discussed in the specific recommendations below, the wide range of advanced reactor designs differ significantly from large, conventional light water reactors upon which NRC's current regulations are based. NIA recommends that NRC look at what other agencies classify as CEs, consider under what conditions an advanced reactor can qualify for a CE, and treat aspects of Part 53 activities as CEs just as NRC does for certain 10 CFR 50 and 52 activities.

II. About NIA

The Nuclear Innovation Alliance (NIA) is a non-profit "think-and-do-tank" working to enable advanced reactors as a solution to mitigate global climate change. Through policy analysis, research, and education, we are catalyzing the next era of nuclear energy. Our project areas focus on federal policy and regulatory reform to support advanced reactor development and deployment while meeting national environmental goals. Achieving the environmental benefits

[1] Nuclear Innovation Alliance. "Nuclear Innovation and NEPA: Streamlining NRC NEPA Reviews for Advanced Reactor Demonstration Projects While Safeguarding Environmental Protection." September 2019. Available at: https://www.nuclearinnovationalliance.org/streamlining-nrc-nepa-reviews-advanced-reactor-demonstration-projects

that advanced reactors promise is a core goal of NIA and we recognize that NEPA reviews are a critical element of NRC's environmental policymaking.

III. Recommendation 1: Consider activities other agencies have identified as Categorical Exclusions

The NRC should leverage experience with categorical exclusions by other agencies when evaluating which NRC activities qualify for categorical exclusion. The U.S. Department of Energy (DOE), Department of Defense, and other agencies conduct activities similar to those of NRC and its licensees. NRC should identify and implement best government practice. Leveraging experience from NEPA processes for a recent DOE microreactor is an example of how NRC can learn from other agencies. The DOE is conducting an environmental assessment (EA) for the MARVEL microreactor to be sited at Idaho National Laboratory (INL). Although DOE regulations normally require an EIS for a reactor project, the size of the reactor led DOE to first conduct an EA. While it has yet to be finalized, the draft environmental assessment proposes a finding of no significant impact (FONSI).[2] Utilizing DOE experience with microreactor NEPA reviews could facilitate the NRC's review of microreactors regarding future categorical exclusions.

IV. Recommendation 2: Consider under what conditions an advanced reactor could qualify for a categorical exclusion

As described in our report on NEPA, advanced reactors feature many characteristics that improve environmental performance. Many advanced reactors use dry cooling technology or other systems that do not require water withdrawals. Many may produce significantly less spent nuclear fuel, or even consume it. Most advanced reactor designs are between 3 and 1,000 times smaller than conventional light-water reactors, leading to less material input and lower land use. Some advanced reactors are designed to be portable and enable quick return of a site to greenfield status, so there is no long-term site impact. Microreactors especially may be so small and have such limited quantities of radiological material that they have *de minimus* environmental and site impacts. Many microreactors are designed to fit in a semi-cargo container. NRC should consider on an environmental performance basis whether these types of characteristics could qualify certain types of advanced reactors for a categorical exclusion.

Again, recent experience at DOE provides insights on similar NEPA reviews. For the environmental assessment of the MARVEL microreactor, DOE's analysis led to a proposed determination of a FONSI. DOE found that the microreactor would not significantly affect environmental justice, water resources, air quality, land use, aesthetics, noise, or local socioeconomic conditions. Notably, MARVEL is a 100-kilowatt thermal microreactor fueled with high-assay low enriched uranium (HALEU). While smaller than proposed commercial designs, the DOE did not find a significant impact with the HALEU fuel fabrication, decommissioning, and other support activities associated with reactor operation. Finally, the DOE did not find cumulative impacts to the site when taking into account the many other nuclear

[2] DOE/EA-2146

facilities at INL. The considerations together suggest categorical exclusions could be applicable to advanced reactors and microreactors with certain characteristics and siting conditions.

V. Recommendation 3: Include certain activities related to Part 53 as Categorical Exclusions

In the existing code, 10 CFR 51.22 (c), NRC has designated certain activities that are either procedural or otherwise unrelated to environmental performance under 10 CFR 50 ("Part 50") and 10 CFR 52 ("Part 52") as categorical exclusions. Although Part 53 is early in the development process, NRC should consider whether to add similar activities in Part 53 now as a categorical exclusion for each corresponding activity under Parts 50 and 52. These include the following sub-sections of 10 CFR 51.22(c): (3), (9), (12), (17), (22), and (23).