



December 30<sup>th</sup>, 2022  
U.S. Department of Energy  
Washington, DC 20585

**Subject:** Request for Information Regarding Categorical Exclusions. Docket ID DOE\_FRDOC\_0001-4513. (87 FR 68385).

Dear U.S. Department of Energy Staff:

The Nuclear Innovation Alliance (NIA) is a non-profit “think-and-do” tank working to enable advanced nuclear energy as a solution to mitigate climate change. Through policy analysis, research, outreach, and education, NIA is catalyzing the next era of nuclear energy. We focus on federal policy and regulatory reform to support advanced reactor development and deployment while meeting national environmental and energy security goals. Achieving the environmental benefits that advanced reactors promise is a core goal of NIA and we recognize that National Environmental Policy Act (NEPA) reviews are a critical element of the Department of Energy’s (DOE’s) policymaking.

NIA supports DOE in its efforts to identify activities that should be considered for new or revised categorical exclusions under NEPA. NEPA provides an important and strong mechanism for DOE to meet its environmental policy obligations. Well defined categorical exclusions can facilitate efficient NEPA processes by ensuring the department’s 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.”

**Recommendation 1: Take into account the unique characteristics of advanced reactors that could make them eligible for categorical exclusions.**

Advanced nuclear 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. Some 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 minimis environmental and site impacts. Many microreactors are designed to fit in a cargo container. Therefore, DOE should consider on an environmental performance basis whether these types of characteristics could qualify certain types of advanced reactors for a categorical exclusion.

The DOE should consider which small advanced reactor projects under the authority of DOE could qualify for categorical exclusions. Specifically, microreactors under 10 megawatts constructed and operated near existing DOE nuclear facilities would not likely pose any additional environmental burden associated with construction, operation, and decommissioning. These reactors are critical clean energy projects for the DOE because they enable the testing and demonstration of reactor technology that could be deployed or scaled commercially to meet clean energy needs. The DOE should evaluate the specific reactor characteristics (including size, technology, and operational duration) and siting characteristics (including siting near existing DOE nuclear facilities) that would enable the categorical exclusion of these projects from NEPA reviews.

**Recommendation 2: Consider lessons from recent federal experience.**

Recent DOE experience provides insights on similar NEPA reviews. The DOE conducted an environmental assessment (EA) for the Microreactor Applications Research, Validation and Evaluation (MARVEL) microreactor that is to be built 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. As a result of the EA, DOE issued a finding of no significant impact (FONSI).<sup>1</sup> 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 facilities at INL. The considerations together suggest categorical exclusions could be applicable to advanced reactors and microreactors with certain characteristics and siting conditions.

Additionally, DOE should consider activities other agencies have identified as categorical exclusions. The U.S. Nuclear Regulatory Commission, Department of Defense, and other agencies conduct activities similar to those of DOE. DOE should identify and implement best government practice.

NIA would like to thank DOE for the opportunity to comment in on this request for information. If you have any questions, please contact us at [ecothron@nuclearinnovationalliance.org](mailto:ecothron@nuclearinnovationalliance.org).

Sincerely,

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Analyst  
Nuclear Innovation Alliance

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<sup>1</sup> DOE/EA-2146: Finding of No Significant Impact (November 2021). <https://www.energy.gov/nepa/articles/doeea-2146-finding-no-significant-impact-november-2021>