

# PUBLIC SUBMISSION

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**Docket:** NRC-2020-0101

Generic Environmental Impact Statement for Licensing of New Nuclear Reactors (formerly Advanced Nuclear Reactor Generic Environmental Impact Statement)

**Comment On:** NRC-2020-0101-0134

Generic Environmental Impact Statement for Licensing of New Nuclear Reactors

**Document:** NRC-2020-0101-DRAFT-0170

Comment on FR Doc # 2024-22385

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## Submitter Information

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## General Comment

Please see ClearPath's public comment on the Nuclear Regulatory Commission's Proposed Rule titled "Generic Environmental Impact Statement for Licensing of New Nuclear Reactors" (89 FR 80797).

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## Attachments

20241218 ClearPath NRC NR GEIS Proposed Rule Public Comment

# CLEARPATH

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December 18, 2024

U.S. Nuclear Regulatory Commission  
Washington, DC 20555

**Subject:** ClearPath Comments on Proposed Rule, “Generic Environmental Impact Statement for Licensing of New Nuclear Reactors” [Regulation Identifier Number RIN 3150-AK55; Docket ID NRC-2020-0101]

Dear U.S. Nuclear Regulatory Commission Staff:

Thank you for the opportunity to provide comments on the Nuclear Regulatory Commission’s (NRC) Proposed Rule titled “Generic Environmental Impact Statement for Licensing of New Nuclear Reactors” (89 FR 80797).

ClearPath's mission is to accelerate American innovation to reduce global energy emissions.<sup>1</sup> To advance that mission, we develop cutting-edge policy solutions on clean energy and industrial innovation. An entrepreneurial, strategic nonprofit, ClearPath (501(c)(3)) collaborates with public and private sector stakeholders on innovations in nuclear energy, carbon capture, hydropower, natural gas, geothermal, energy storage, and clean manufacturing to enable private-sector deployment of critical technologies.

ClearPath commends the staff’s efforts to date to develop the now-titled Generic Environmental Impact Statement (GEIS) for Licensing of New Nuclear Reactors (NR GEIS) as an example of developing a rule that is performance-based, technology-inclusive, and able to accommodate the widest variety of nuclear reactor technologies possible. Moving forward, the staff should consider near-term and long-term rule implementation and adhere to Commission recommendations and Congressional mandates.

In the near term, before the rule is finalized, the staff should consider how the findings in the NR GEIS can be applied to first-mover license applications and Early Site Permits. In the long term, the staff should ensure that the rule can accommodate the widest possible range of licensing actions and reactor technologies. Furthermore, the staff should consider how additional Category 2 issues (or even all Category 2 issues in certain situations) could be treated as Category 1 issues for licensing actions, specific locations, and/or specific reactor technologies to achieve the efficiency gains called for by Congress.

On February 19, 2019, ClearPath submitted a letter and white paper initially urging the development of a GEIS.<sup>2</sup> The white paper contained specific examples of how the NRC could

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<sup>1</sup> ClearPath does not receive funding from industry.

<sup>2</sup> ClearPath, “White Paper: Advocating the Use of Generic Environmental Impact Statements in Support of the Construction and Operation of Advanced Nuclear Reactors,” February 19, 2019 (ADAMS Accession Number ML19059A426)

develop a GEIS. In addition, ClearPath submitted letters dated January 22, 2020<sup>3</sup> and June 29, 2020<sup>4</sup> related to the development of the NR GEIS.

Since starting the development of the NR GEIS, there have been multiple Congressional, NRC, and industry activities related to the environmental review process. Relevant legislation includes the Nuclear Energy Innovation and Modernization Act (NEIMA), the Fiscal Responsibility Act (FRA), and the ADVANCE Act. The NRC is currently responding to these pieces of legislation, updating its list of Categorical Exclusions (CATEX), updating its emergency planning and siting rules, and responding to industry interest around the “rapid licensing” of microreactors.

The NR GEIS can accelerate the deployment of nuclear energy by ensuring that NRC staff resources are focused on the most important environmental review topics. Although the number of upcoming new reactor applications is uncertain, the staff’s previous analysis that the NR GEIS “would reduce the costs of environmental reviews for licensing advanced nuclear reactors by at least 20 percent and potentially up to 45 percent” is a significant cost savings for even a small number of applications.<sup>5</sup> Furthermore, the staff’s changes to the proposed rule have made it more performance-based and technology-inclusive. For example, the staff previously changed the NR GEIS to apply to all new reactors by using a performance-based, technology-neutral framework that utilizes a Plant Parameter Envelope (PPE) instead of a prescriptive MW-thermal limit. This aligns the proposed NR GEIS rule with prior ClearPath comments, Commission direction in SRM-SECY-21-0098, and Congressional mandates in NEIMA, the FRA, and the ADVANCE Act.

The following are additional considerations to include in the final rule which further satisfy the intents of NEIMA, the FRA<sup>6</sup> and the ADVANCE Act while ensuring staff resources are well utilized and that the NR GEIS is more easily adaptable for future reactor license applicants.

### **Recommendation 1: Redesignate the five Non-Resource Related Issues as Category 1 issues**

ClearPath reiterates its prior position that the “Purpose and Need,” “Need for Power,” “Site Alternatives,” “Energy Alternatives,” and “System Design Alternatives” are superfluous. In every case, the relevant license applicant will have done these analyses before approaching the NRC with their final project proposal. It is not the NRC’s specialty or responsibility to understand the business case of the reactor for which they are performing an environmental review.

There are two basic types of project proponents: governmental authorities and private entities. Governmental authorities like public utility commissions and grid planners perform their own assessments to decide if additional generation is necessary. The NRC has no special competency in determining local grid requirements, so there is no benefit to an additional NRC analysis in these cases. Similarly, any public or private entity developing the project would have weighed the costs and benefits of alternative energy sources, site locations, and reactor designs before a license application is submitted to the NRC. In every instance, the NRC has no special expertise to assess the business case, so there is no benefit to having them reconsider these choices during an environmental review.

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<sup>3</sup> ClearPath submission to determine developing an advanced reactor GEIS, January 22, 2020 (ADAMS Accession Number ML20043F485)

<sup>4</sup> ClearPath Comments on Federal Register notice “To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement” (85 Fed. Reg. 24040), June 29, 2020 (ADAMS Accession Number ML20182A118)

<sup>5</sup> <https://www.nrc.gov/docs/ML2122/ML21222A053.pdf>

<sup>6</sup> Among other topics, the FRA amended NEPA by setting page limits and EIS/EA deadlines that likely can only be met by use of the NR GEIS or other changes to the environmental review process

Moreso, Section 107(d) of the National Environmental Policy Act (NEPA), as added by the 2023 FRA amendments, states only that “[e]ach environmental document shall include a statement of purpose and need that **briefly** summarizes the underlying purpose and need for the **proposed agency action**” (emphasis added). This framing provides the justification to treat the “Purpose and Need” and “Need for Power” as generic Category 1 issues. First, an applicant is required to submit a purpose and need statement *to comply with NEPA*; the statute does not direct project applicants or the authorizing agency to conduct a detailed “Need for Power” assessment. Instead, the NRC can view the statement of “Purpose and Need” as compliance with NEPA, not as a project-specific review.

Furthermore, as revised by the FRA, Section 102(2)(C) of NEPA states that an agency’s EIS must include a discussion of “a reasonable range of alternatives to the **proposed agency action**, including an analysis of any negative environmental impacts of not implementing the proposed agency action in the case of a no action alternative, that are technically and economically feasible, and meet the purpose and need of the proposal (emphasis added).” As the NRC staff notes in SECY-24-0046<sup>7</sup> (Enclosure 1), the reasonable range of alternatives to the regulatory or licensing decision generally “would be defined as and limited to the no action alternative (i.e., not issuing the license) because not engaging in regulatory or licensing decisions is the only reasonable alternative to the agency action.” As noted above, an applicant will have considered which siting and energy alternatives, if any, are technically and economically feasible and consistent with the applicant’s identified “Purpose and Need” for the facility. Said another way, if the decision to seek a license is solely on the applicant, and the NRC’s role is to issue a license or not, then there is no basis for the NR GEIS to treat the three Alternatives analyses as Category 2 items.

The “Purpose and Need,” “Need for Power,” and three “Alternatives” analyses are best determined by external public and private entities — not through NRC-led environmental reviews aimed at determining the environmental impact of a license decision. At a minimum, the NR GEIS should treat all of these items generically as Category 1 issues. Ideally, these items could all be treated as non-applicable due to their in-depth consideration by other external entities before submitting a license application to the NRC.

## **Recommendation 2: Include Limited Work Authorizations (LWAs) in the scope of the final rule**

LWAs can be an important tool to accelerate the deployment of new reactors as many new designs have less safety-related or safety-significant systems, structures, and components. This would allow for a greater amount of site work to commence before the issuance of a Construction Permit of Combined License (COL) and the start of full-scale nuclear construction. An LWA may be a standalone application or included as part of an Early Site Permit, Construction Permit, or COL application. Since the NRC must perform an environmental review as part of an LWA review, it is practical to include a LWA review within the scope of the NR GEIS. Any type of pre-construction and early limited construction work included in an LWA often has well-understood and managed environmental impacts, making them a suitable subject for generic treatment. Applying the NR GEIS to this type of work would streamline project timelines while ensuring that all environmental protections remain intact.

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<sup>7</sup> ADAMS Accession Number ML24078A013

### **Recommendation 3: Ensure applicability to provisions of the ADVANCE Act and FRA**

ClearPath recommends ensuring that this rulemaking fully aligns with the Congressional mandate of the FRA and ADVANCE Act. There are multiple sections in the ADVANCE Act that relate to the development of the NR GEIS, including:

- Section 206 — The efficient licensing of new reactors at existing brownfield sites could be partially achieved by having additional Category 2 issues<sup>8</sup> be Category 1 issues on all projects sited in defined brownfield areas.
- Section 207 — The expedited procedure timelines for issuing COLs will likely require treating additional Category 2 issues as Category 1 issues by leveraging previous environmental reviews and/or using the findings in the NR GEIS to accelerate the review of an Environmental Assessment (EA) and an associated Finding of No Significant Impact (FONSI).
- Section 208 — Beyond the potential for an EA/FONSI or even a CATEX, the NR GEIS could be expanded to allow widespread deployment of standardized reactor designs with well-understood environmental impacts due to their smaller footprint and potentially novel use cases.
- Section 506 — This section specifically refers to the “expanded use of categorical exclusions, environmental assessments, and generic environmental impact statements.” ClearPath provided comments<sup>9</sup> on the implementation of this section and the NR GEIS plays a key role in its implementation. The NR GEIS should be broadly viewed as one of many interconnected efforts to perform more efficient environmental reviews.
- Section 204 — The use of the NR GEIS can broadly improve the efficiency of the NRC’s review of projects on additional locations, such as DOE sites.
- Section 504 and Section 505 — Taken together, performance metrics and milestones should also be considered as the NRC staff implements the NR GEIS and other related provisions to improve the Agency’s overall efficiency.

Finally, the staff’s recommendations in SECY-24-0046, which relate to implementing the FRA, would also directly affect the use of the NR GEIS.

### **Recommendation 4: Apply findings from the NR GEIS to an Environmental Assessment (EA) or Categorical Exclusion (CATEX)**

The NR GEIS is applicable to the development of an EIS; however, it is likely that a number of new reactors would only require an EA as directed by the FRA.<sup>10</sup> As the staff awaits Commission direction on SECY-24-0046 to satisfy the FRA, the staff should ensure that the technical findings in the NR GEIS can, to the extent needed, be used to accelerate the completion of an EA and the issuance of a FONSI. Furthermore, the findings in the NR GEIS could also be used to help justify a CATEX for a nuclear reactor. ClearPath comments on the ongoing CATEX rulemaking are dated July 20, 2021<sup>11</sup> and September 16, 2024.<sup>12</sup>

<sup>8</sup> For example, “Surface Water Quality Degradation Due to Chemical and Thermal Discharges,” “Construction Impacts on Historic and Cultural Resources,” “Operation Impacts on Historic and Cultural Resources,” “Construction Environmental Justice Impacts,” “Operation Environmental Justice Impacts,” and the five “Non-Resource Related Issues”

<sup>9</sup> ClearPath Comments on the ADVANCE Act Report to Congress on Efforts to Facilitate Efficient, Timely, and Predictable Environmental Reviews for Nuclear Reactor Applications, dated October 11, 2024 (ADAMS Accession Number ML24289A052)

<sup>10</sup> This would include a separate but related rulemaking that revises 10 CFR 51.20, similar to the recommendation in Enclosure 2 of SECY-24-0046

<sup>11</sup> ClearPath Comments on Proposed Rule, “Categorical Exclusions From Environmental Review” [Regulation Identifier Number RIN-3150-AK54; Docket ID NRC-2018-0300], dated July 20, 2021 (ADAMS Accession Number ML21209A486)

<sup>12</sup> ClearPath Comments on Proposed Rule, “Categorical Exclusions From Environmental Review” [Regulation Identifier Number RIN-3150-AK54; Docket ID NRC-2018-0300], September 16, 2024 (ADAMS Accession Number ML24262A251)

### **Recommendation 5: Allow site or technology-specific treatment of Category 1 issues**

In lieu of an EA/FONSI or CATEX for a nuclear reactor, additional Category 2 issues could be considered Category 1 issues. This is discussed as it relates to several sections of the ADVANCE Act in Recommendation 3 and could depend on specific technologies and/or locations. Ultimately, it may be possible to treat all issues as Category 1 issues for a specific reactor technology on a specific location, like a brownfield or an existing nuclear plant site. This would facilitate the industry's and NRC's efforts to efficiently license microreactors, non-power reactors, and other larger power reactors safely.

### **Recommendation 6: Acknowledge compliance with the Endangered Species Act and other environmental laws**

Projects are required to comply with environmental laws like the Endangered Species Act (ESA), Clean Water Act, and Clean Air Act. As such, the staff's Category 2 reviews related to the ESA should consider that compliance with the ESA is *required* irrespective of the environmental review.<sup>13</sup> While it may not be possible to treat these items as Category 1 issues, regulatory guidance should acknowledge the fact that compliance with these environmental laws and associated regulations is required, which is very likely to reduce the burden on both applicants and staff resources while still ensuring environmental compliance.

### **Recommendation 7: Reconsider Climate Change as a Category 1 issue**

The effects of climate change are a long-term issue; however, a nuclear reactor needs to be designed to withstand external events, including some events impacted by climate change. To an extent, withstanding climate change effects are captured by a nuclear plant's safety review and maintained through its current licensing basis. Other effects, such as potential environmental impacts from thermal discharges, are considered by compliance with environmental laws and a reactor's license.

As set forth in ClearPath's recent submission to the NRC,<sup>14</sup> decarbonizing the electrical and industrial sectors will require unprecedented infrastructure investment, including gigawatts of new clean energy generation. In addition to scale, this infrastructure build-out must be done rapidly to meet U.S. decarbonization goals and electricity demand growth. Nuclear energy is critical to reduce emissions in both the electrical and industrial sectors. Furthermore, nuclear electricity and heat can be used for a wide suite of carbon dioxide removal technologies. Therefore, the operation of a nuclear energy plant has a positive impact, reduces emissions, and can reduce the negative impacts of climate change. Treating climate change in the environmental review as a Category 2 issue is counterintuitive when considering the net benefits of nuclear energy as well as that the impacts of climate change are considered through other aspects of a license review and during operation.

### **Conclusion**

The proposed rule is an example of an NRC rule that is performance-based, technology-inclusive, and able to accommodate the widest variety of reactor technologies

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<sup>13</sup> <https://www.thenewatlantis.com/publications/we-dont-need-this-much-permitting>

<sup>14</sup> ADAMS Accession Number ML24262A251

possible. Further enhancements to the rule can build upon this work. A robust NR GEIS can ensure that staff resources are focused on the most important environmental review topics. In addition, there are still further opportunities for the NR GEIS to consider how additional items could be considered generically, including location and technology, in accordance with the FRA amendments to NEPA and the ADVANCE Act.

ClearPath appreciates the staff taking a holistic approach to updating its environmental review requirements. Please do not hesitate to reach out for additional information or to discuss this letter.

Sincerely,

Nicholas McMurray  
Managing Director, International and Nuclear Policy  
ClearPath