

SUNI Review Complete
Template=ADM-013
E-RIDS=ADM-03
ADD: Jack Cushing

As of: 6/30/20 7:17 AM
Received: June 29, 2020
Status: Pending_Post
Tracking No. 1k4-9hja-bzay
Comments Due: June 30, 2020
Submission Type: API

PUBLIC SUBMISSION

Comment (3)
Publication Date: 4/30/2020
CITATION 85 FR 24040

Docket: NRC-2020-0101

Notice to Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement

Comment On: NRC-2020-0101-0002

Notice To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement

Document: NRC-2020-0101-DRAFT-0006

Comment on FR Doc # 2020-08798

Submitter Information

Name: Nicholas McMurray

Address:

611 Maryland Ave NE
Washington, DC, 20002

Email: mcmurray@clearpath.org

Organization: ClearPath

General Comment

See attached file(s)

Attachments

20200629_ClearPath GEIS Scoping follow-up letter

CLEARPATH



ClearPath
611 Maryland Ave NE
Washington, DC 20002

June 29, 2020

U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Dear U.S. Nuclear Regulatory Commission Staff:

Thank you for the opportunity to provide comments on Federal Register notice "To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement" (85 Fed. Reg. 24040).

ClearPath supports the Nuclear Regulatory Commission ("NRC") staff proceeding with the development of a Generic Environmental Impact Statement ("GEIS") for advanced nuclear reactors. We appreciate the staff's outreach efforts, including the May 28, 2020 public scoping meeting (meeting notice: ADAMS Accession Number ML20148M245; NRC staff slides: ML20147A677) and current public comment period.

Finally, ClearPath would also like to express its appreciation that the NRC is making significant efforts to update its regulatory framework to efficiently and effectively review and license advanced nuclear reactors. The development of a GEIS complements other actions to modernize the NRC's regulatory infrastructure. ClearPath continues to encourage the NRC staff to think creatively about how the GEIS may be expanded to reasonably capture the widest array of nuclear reactor technologies.

Sincerely,

Nicholas McMurray
Nuclear Program Director
ClearPath

Enclosure:

Comments on Federal Register notice "To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement" (85 Fed. Reg. 24040)

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Authors

Hon. Jeffrey S. Merrifield, Partner and Energy Section Leader, Pillsbury Law Firm
Reza Zarghamee, Special Counsel, Pillsbury Law Firm
Nicholas McMurray, Nuclear Program Director, ClearPath

Introduction/Background

As described in the April 30, 2020 *Federal Register* notice “To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement” (85 *Fed. Reg.* 24040), the scope of the Generic Environmental Impact Statement (“GEIS”) will be based upon a plant parameter envelope (“PPE”) consisting of a table of bounding values or parameters for different reactor designs at a site. Because the GEIS will apply only to reactors within the bounds of the PPE, the PPE should be sufficiently inclusive to capture upcoming reactor designs.

As set forth in the NRC’s May 28, 2020 scoping meeting, the staff’s proposed framework for a GEIS represents a promising start but stands to be improved. As a general matter, ClearPath believes that technology-specific feedback on the bounding values of the PPE should come from the advanced nuclear reactor vendors. Therefore, ClearPath largely will refrain from providing such feedback. On the other hand, the underlying assumptions and approaches used to develop the PPE and, more broadly, the GEIS itself are of significant interest to ClearPath.

On February 19, 2019, ClearPath submitted a letter and white paper initially urging the development of a GEIS (ML19059A426). The white paper contained specific examples of how the Nuclear Regulatory Commission (“NRC”) could develop a GEIS. In addition, ClearPath submitted a letter dated January 22, 2020 in support of developing a GEIS as part of the staff’s exploratory process (ML20043F485). It is not the intent of this submission to repeat the white paper or January 2020 letter, but the staff should consider these documents as part of its ongoing scoping efforts.

Based on the January 2020 workshop, ClearPath would like to expand on certain topics raised in its prior submissions and emphasize the following points for consideration.

Size and Type of Reactor

The NRC staff’s March 4, 2020 document, “Responses to Public Comments Received on the Exploratory Process for Advanced Reactor Generic Environmental Impact Statement” (ML20044C854), states the staff’s intent to use a PPE to bound any advanced reactor project up to approximately 30-MWth per reactor. Per the scoping meeting slides, it is assumed that the total thermal power generated by all units on site can be no more than 60-MWth total.

As written, these values unnecessarily exclude many advanced reactor designs. Consistent with Section II of the ClearPath white paper and the NRC staff’s March 4, 2020 response to public comments, the proposed GEIS should be inclusive of Generation III+ and Generation IV

technologies.¹ Therefore, ClearPath encourages the NRC to expand this value, or, alternatively, to weigh MWth together with other factors to provide for performance-based criteria. By this approach, a 30-MWth cutoff would be appropriate only if other parameters are expanded to the point that generic treatment becomes unreasonable. This approach affords greater flexibility than simply selecting a MWth value and building the remainder of the PPE around it. ClearPath recommends that the NRC consult the recently issued Environmental Impact Statement (“EIS”) for the Clinch River Early Site Permit (“ESP”), which provides a workable example for the development of performance-based PPE values.

Use of Past GEIS and Staff Actions

ClearPath is heartened to find that the NRC staff plans to use existing GEIS to develop the proposed advanced nuclear reactor GEIS. These include NUREG-1437 on License Renewal, NUREG-0586 on Plant Decommissioning, and NUREG-2157 on Continued Storage.² Given the prior comment on the overly exclusive initial PPE parameters, ClearPath feels that the NRC staff has not taken full advantage of the advances made in these prior GEIS. As ClearPath has indicated on several occasions, NUREG-1437 is particularly useful as a template for the proposed GEIS, because it lays out a diverse array of licensing scenarios, from which those applicable to a given action may be selected. The same approach may be used for advanced nuclear reactors.

An upfront investment in the development of an expansive advanced nuclear reactor GEIS will obviate the need for NRC to constantly revisit the document, and expand its scope on an *ad hoc* basis in the future. NRC staff has raised the possibility of an *ad hoc* approach to developing the advanced nuclear reactor GEIS in its March 4, 2020 response to public comments:

“The staff believes that enough environmental issues can be addressed generically for small advanced reactor projects to justify initiating a GEIS effort now, but that not enough issues could currently be satisfactorily addressed at a generic level for larger reactor projects to justify the costs of the additional effort” (ML20044C854)

ClearPath strongly disagrees with this assertion. As mentioned during the May 2020 scoping meeting and in comments from Kairos Power (ML20154K705), revisiting a GEIS multiple times will require more resources over a longer period of time and may lead to inconsistent outcome, as issues may be revisited and reopened. ClearPath believes that it makes more sense for the NRC to expend the necessary resources now to develop an inclusive GEIS. To this end, ClearPath urges the staff to take advantage of the significant amount of work already performed in these earlier GEIS and the Clinch River ESP.

¹ ClearPath is encouraged that the staff changed their position from the January 08, 2020 workshop (ML19347A733) to develop a technology inclusive GEIS, consistent with Section II of the ClearPath white paper, that defines an advanced reactor as both Generation III+ and Generation IV designs. Specifically, as stated in the staff’s March 4, 2020 response,

The staff agrees with the commenter that the GEIS effort can be extended to both non-light water and light-water technologies, and that any limitations of the GEIS would be based primarily on the size of the project or amount of resources used and not on the technology per se.” (ML20044C854)

Finally, this submittal will continue to use the term advanced reactors as the broader definition

² See slide 9 of the May 28, 2020 scoping meeting (ML20147A677).

Concerns about a Lack of Design Information

Practical reliance upon the earlier GEIS also obviates the need to develop specific information regarding potential environmental impacts from advanced nuclear reactor designs. This would allay a recurring concern, raised by several commenters and NRC staff, regarding a supposed lack of available information regarding the environmental impacts of new advanced reactor designs. In ClearPath's opinion, the entire issue is obviated through consideration of (1) the decades of experience acquired regarding the existing reactor fleet and (2) the basic distinction between existing technologies and advanced nuclear reactors, which have a much smaller geographical and environmental footprint. Consider that the earlier GEIS were developed with large light-water reactor technologies in mind. Certainly, the environmental impacts anticipated from such technologies are likely to be significantly greater than those caused by smaller advanced nuclear reactors, including ones that are larger than the 30-MWth value selected in the initial PPE. The paucity of empirical data on the actual environmental impacts of advanced nuclear reactors is thus no reason to shy away from generic treatment, given that older designs with greater environmental footprints already are the subject of GEIS.

Moreover, to reiterate a principle articulated in ClearPath's previous submittals, the NRC itself is not obligated to evaluate all conceivable environmental impacts to the extent that it can rely upon the sound determinations of other governmental authorities. The current environmental review process was developed while federal and state permitting regimes were in their nascency. Since the 1970s, permitting authorities have become more sophisticated in their environmental reviews. Thus, the proposed GEIS should largely defer to these permitting authorities on issues that they will evaluate in making permitting decisions. Such deference would be consistent also with NRC staff's March 4, 2020 response to public comments:

"Current regulations in 10 CFR Part 51 encourage the staff to incorporate by reference analyses performed by other parties, including State or other federal agencies, and the staff does so when appropriate. However, the staff must ensure that any information incorporated by reference into an NRC document is accurate and properly interpreted" (ML20044C854)

Thus, rather than engaging in purely redundant reviews of matters resolved by other agencies, NRC should defer to prior analyses as long as the underlying data and methodologies are sound. This principle of ClearPath's proposal will alleviate the burden on NRC itself to generate data regarding potential environmental impacts for purposes of developing a GEIS.

Purpose and Need For and Alternatives Analysis

During the scoping meeting, NRC staff suggested that the "alternatives analysis" and "purpose and need for" components of the environmental review should be addressed through Supplemental Environmental Impact Statements ("SEIS"). ClearPath disagrees. As set forth in ClearPath's prior submittals, NUREG-1437 shows that multiple potential alternatives (not all of them applicable to a given project) may be captured in a single GEIS, leaving it to the reviewing agency to determine which ones deserve consideration for a given project.

As for the "purpose and need for" component of the review, ClearPath reiterates its prior position that it is entirely superfluous. There are two basic types of project proponents: governmental authorities and private corporations. If the impetus to increase or generate power reflects a governmental decision (e.g., for sites in which energy facilities are regulated by a public utilities commission), the need for power analysis has already been performed by the relevant

governmental authorities. If the impetus to expand baseload power is a private party decision, then the project proponent already would have performed the analysis and will bear the risk of an incorrect market-based decision.

Thus, there is no reason to insist that these two elements be addressed in a SEIS. In fact, insisting on such treatment will largely defeat the purpose of GEIS, inasmuch as these are two of the most intensive components of an environmental review.

Additional Outreach

ClearPath encourages NRC to consider future outreach activities before issuing the official draft GEIS by May 1, 2021. Among other things, NRC should consider providing a pre-draft version of the GEIS for discussion. Advanced reactor developers will continue to develop their designs over the next year, and information generated during this period can provide additional detail for the draft GEIS. Additional comments will also help to ensure that the draft, and ultimately final, GEIS is practical and useful and was a worthwhile use of staff resources.

Additional early outreach can also address NRC staff concerns cited in the March 2020 response letter regarding resources (ML20044C854). Similarly, ClearPath urges the NRC staff to closely examine Section V and the two appendices of its white paper, which include a preliminary assessment of major categories of potential environmental impacts suitable for generic treatment. These sections of the white paper also describe how the NRC can defer to federal and state permitting authorities to mitigate certain types of environmental impacts.