



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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July 29, 2021

Ms. Kati R. Austgen
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SUBJECT: STAFF RESPONSE TO NUCLEAR ENERGY INSTITUTE'S INPUT ON
ANALYSIS OF APPLICABILITY OF THE U.S. NUCLEAR REGULATORY
COMMISSION'S REGULATIONS FOR NON-LIGHT WATER REACTORS

Dear Ms. Austgen:

On September 23, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20241A017), the U.S. Nuclear Regulatory Commission (NRC or the staff) issued its draft white paper, "Analysis of Applicability of NRC Regulations for Non-Light Water Reactors".¹ The draft white paper provides the staff's position on the applicability of various regulations to non-light water reactor (LWR) applicants under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 50 and Part 52. By letter dated October 20, 2020 (ADAMS Accession No. ML20308A662), the Nuclear Energy Institute (NEI) provided its input on the staff's draft white paper. The NEI and the staff independently gave presentations on this topic during public meetings held on December 10, 2020 (ADAMS Accession No. ML21006A414) and February 25, 2021 (ADAMS Accession No. ML21068A141). On February 18, 2021 (ADAMS Accession No. ML21049A098), the NRC issued an appendix to the draft white paper that provided additional information on how to document compliance and request exemptions. This letter communicates planned revisions to the staff's draft white paper.

The NEI encouraged the NRC to consider two objectives while finalizing its draft white paper:

Objective 1: Clearly identify all regulations that are broadly not applicable to non-LWRs (using "entry conditions," as needed). In determining whether a regulation is applicable or not applicable to non-LWRs, the NRC should base its determination on the technical aspects of the design and the underlying safety purpose of the regulation, neither of which changes based on the licensing process used (i.e., 10 CFR Part 50 versus 10 CFR Part 52).

Objective 2: Establish a process to address the regulations that are broadly not applicable to non-LWRs in a manner that minimizes the number of exemptions. This approach would provide consistency and predictability to the application process, as compared to expecting applicants to individually assess the entire body of regulations, and to seek numerous specific exemptions.

¹ The draft white paper states that the contents of the paper are subject to change and should not be interpreted as official agency positions.

The staff's draft white paper identifies regulations that are generically inapplicable to non-LWR applicants.² Thus, the scope of regulations an individual non-LWR applicant must assess for the need for exemptions has already been narrowed to exclude regulations identified as generically inapplicable to non-LWRs in the tables in the draft white paper. In response to stakeholder feedback, the staff evaluated whether there were any additional regulations that might be generically inapplicable to non-LWRs, and also considered ways to reduce the burden of applying for potential exemptions for non-LWR applicants. The draft white paper is based on the NRC's current regulatory framework, and any changes to current regulations are outside the scope of this project.

Generic changes to the NRC's regulatory framework for non-LWRs are best addressed through the rulemaking process. The NRC is undertaking several rulemakings that will affect future non-LWR applicants and are intended to provide flexibility with fewer exemptions. One important effort is the Risk-Informed, Technology Inclusive Regulatory Framework for Advanced Reactors (RIN 3150-AK31) that is commonly referred to as the Part 53 rulemaking. Others address emergency planning and physical security. While these rulemakings are pending, exemptions provide the regulatory flexibility that a non-LWR applicant may seek. This approach is consistent with the flexibility provided for any applicant that identifies regulations that are not needed for the applicant's design or site.

There are, in addition, procedural alternatives to exemptions that the NRC has used successfully in the past to license new technologies. An applicant may request that the staff develop a rule of particular applicability or an order (for example, as part of the notice of docketing and opportunity to request a hearing) to identify requirements particular to its design in lieu of or in addition to seeking exemptions from the applicable requirements. Orders and rules of particular applicability do not apply generically and would require resources and substantial pre-application engagement to identify areas where such an order or rule would be useful to clarify the relationship between current regulatory requirements and a specific design and to reduce the need for exemptions. Nonetheless, these options are available for use in connection with a specific application, especially in cases where an applicant has a mature design and desires early Commission engagement. Pre-application engagement should help to determine if these options would be useful in a particular context. If these interactions result in a staff determination that an application-specific order or the like would be useful, the staff would interact with the Commission to develop such an approach.

The staff acknowledges that certain regulatory requirements differ between 10 CFR Part 50 and 10 CFR Part 52. Some of these differences are due to NRC's expectation that most new reactor applicants would use 10 CFR Part 52, rather than 10 CFR Part 50, to construct and operate new reactor facilities. The ongoing rulemaking to clarify Parts 50 and 52 and their interrelationship (RIN 3150-AI66) is expected to ensure consistency in new reactor licensing reviews as well as address other new reactor licensing issues.

The recently issued appendix to the draft white paper discusses ways an applicant may document regulations that are inapplicable to a particular design or application because of entry conditions already present in the rule. It also includes examples of demonstrating compliance

² The staff's draft white paper identifies regulations that generically do not apply to non-LWR applications for construction permits and operating licenses under 10 CFR Part 50 and design certifications, combined licenses, and standard design approvals under 10 CFR Part 52. The paper does not address regulations associated with early site permits, limited work authorizations, or manufacturing licenses under 10 CFR Part 52, but these regulations could apply if an applicant sought such approvals for a non-LWR design.

with, and requesting exemptions from, applicable regulations within the technical content of a license or design certification application. The latest revision to the draft white paper clarifies how the design information already required by NRC regulations to be included in applications can form sufficient bases for exemptions to the regulations identified in Table 6 of the draft white paper. Additionally, the staff has reviewed the regulations to determine whether any entry conditions not already identified are associated with a regulation listed in the tables in earlier drafts of the white paper, and whether any Three Mile Island items in 10 CFR Section 50.34(f) may be satisfied as a result of compliance with other regulations. The results of that review can be found in the latest revision of the white paper.

The revised draft white paper was made publicly available (ADAMS Accession No. ML21175A287) for discussion at the advanced reactor stakeholder public meeting on July 15, 2021. It will ultimately be incorporated into staff guidance.

If you have any questions, I can be reached by phone at (301) 415-3229 or by e-mail at Michael.Orenak@nrc.gov.

Sincerely,

Michael Orenak, Acting Chief
Advanced Reactor Technical Branch
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***via e-mail**

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