



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

July 14, 2021

**SUBJECT: DRAFT WHITE PAPER ON PRE-APPLICATION ENGAGEMENT TO OPTIMIZE  
ADVANCED AND SMALL MODULAR REACTOR APPLICATION REVIEWS**

Dear Prospective Applicants for Advanced or Small Modular Reactors:

Consistent with the Commission's Policy Statement on Advanced Reactors, the U.S. Nuclear Regulatory Commission (NRC) staff is issuing this letter to encourage early interactions with advanced reactor and small modular reactor vendors and prospective applicants through formal and informal pre-application engagement. Pre-application engagement activities can include meetings, informal information exchanges, and formal regulatory reviews. A robust pre-application engagement plan will help to maximize the benefit of early interactions with the NRC staff in order to optimize application reviews. The engagement plan should include an appropriate mix of meetings, technical reports for NRC staff information, white papers for NRC staff feedback, and topical reports for regulatory assessments. Such engagement would help to establish a common understanding of the safety case for the design, develop resolutions for first-of-a-kind issues, and identify gaps in information and data necessary to establish the safety of the design early in the process.

At advanced reactor stakeholder meetings held in November 2020, and in January and May 2021, the NRC staff discussed the draft white paper, "Pre-application Engagement to Optimize Application Reviews." The NRC staff has revised the white paper and the final draft is available at the NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML21145A106. This white paper emphasizes the importance of pre-application interactions with reactor developers and prospective applicants to provide stability and predictability in the licensing process through early identification and resolution of technical and policy issues that could affect certification or licensing. The draft white paper proposes a set of pre-application activities that, if utilized appropriately, will enable staff to offer a more predictable, efficient review of a certification or license application with a potentially shorter schedule. The NRC staff intends to issue the final white paper as part of a future interim staff guidance on the contents of advanced reactor licensing applications.

In the draft white paper, the NRC staff also noted the importance of testing programs as they could become long-lead activities for the certification or licensing of new designs. Therefore, the NRC staff encourages any new or advanced reactor developer to engage early on novel safety features to ensure a clear path for compliance with the requirements in 10 CFR 50.43(e) regarding NRC approval of applications for nuclear reactor designs which differ significantly from light-water reactor designs that were licensed before 1997 or use simplified, inherent, passive, or other innovative means to accomplish their safety functions.

If you have any questions on pre-application activities, please contact William Kennedy ([William.Kennedy@nrc.gov](mailto:William.Kennedy@nrc.gov)), Michael Dudek ([Michael.Dudek@nrc.gov](mailto:Michael.Dudek@nrc.gov)), Amy Cabbage ([Amy.Cabbage@nrc.gov](mailto:Amy.Cabbage@nrc.gov)), or Adrian Muñiz ([Adrian.Muniz@nrc.gov](mailto:Adrian.Muniz@nrc.gov)).

Sincerely,



Signed by Kennedy, William  
on 07/14/21

William B. Kennedy, Acting Chief  
Advanced Reactor Licensing Branch  
Division of Advanced Reactors and Non-Power  
Production and Utilization Facilities  
Office of Nuclear Reactor Regulation



Signed by Dudek, Michael  
on 07/13/21

Michael Dudek, Chief  
New Reactor Licensing Branch  
Division of New and Renewed Licenses  
Office of Nuclear Reactor Regulation

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