



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

July 17, 2023

FEDERALLY RECOGNIZED TRIBES
ALL AGREEMENT STATES

NOTIFICATION OF PROPOSED RULEMAKING: REGULATORY FRAMEWORK FOR
FUSION ENERGY SYSTEMS (STC-23-053)

Purpose: To provide notice of the U.S. Nuclear Regulatory Commission's (NRC) proposed rulemaking to revise its regulations to license and regulate fusion energy systems under the NRC's byproduct material framework contained in Title 10 of the *Code of Federal Regulation* (10 CFR) Part 30, "Rule of General Applicability to Domestic Licensing of Byproduct Material," and associated regulations.

Background: In 2019, through the Nuclear Energy Innovation and Modernization Act (NEIMA; Public Law 115-439), Congress directed the NRC to develop the regulatory infrastructure to support the development and commercialization of advanced nuclear reactors, including both nuclear fission reactors and fusion reactors. NEIMA requires the NRC to "complete a rulemaking to establish a technology-inclusive, regulatory framework for optional use by commercial advanced nuclear reactor applicants" by December 31, 2027. The development of a regulatory framework is intended to provide clarity and predictability for developers of fusion technologies. In response to NEIMA and the continued development of fusion technologies, the Commission directed the NRC staff in 2020 to "consider appropriate treatment of fusion reactor designs in our regulatory structure by developing options for Commission consideration on licensing and regulating fusion energy systems." In response (ML20288A251; November 2, 2020), the NRC staff stated that it would assess the potential risks posed by fusion technologies and possible regulatory approaches separate from the ongoing rulemaking for advanced nuclear fission reactors that would create 10 CFR Part 53, "Risk-Informed, Technology-Inclusive Regulatory Frameworks for Commercial Nuclear Plants."

On January 3, 2023, staff submitted SECY-23-0001, "Options for Licensing and Regulating Fusion Energy Systems," to the Commission with a rulemaking plan (ML22273A178) that detailed options for licensing and regulating fusion energy systems.

On April 13, 2023, the Commission issued SRM-SECY-23-0001, "Options for Licensing and Regulating Fusion Energy Systems" (ML23103A449) approving the staff's Option 2 to license and regulate fusion energy systems under the NRC's byproduct material framework contained in 10 CFR Part 30 and associated regulations. Under the limited-scope rulemaking approved under Option 2, the Commission directed staff to consider the existence of fusion systems that already have been licensed and are being regulated by the Agreement States, as well as those that may be licensed prior to the completion of the rulemaking.

The NRC will develop a new volume of NUREG-1556, "Consolidated Guidance About Materials Licenses," dedicated to fusion energy systems, so as to provide consistent guidance across the National Materials Program.

Discussion: The NRC is developing a draft proposed rule and draft guidance. The NRC plans to hold a variety of outreach activities throughout the rulemaking process, including public meetings during the development of the proposed rule and during the public comment period. These public meetings will be open to all, including the Tribal nations. In addition, we welcome requests for consultation. Please inform the NRC contact if your Tribal nation would like to request consultation, governed by the NRC Tribal Policy Statement, and if there are other avenues of communication the NRC can use that you think would be beneficial to your Tribal nation.

If the Commission approves the proposed rule, it will be published in the *Federal Register* for public comment, which is estimated to occur in early 2025. The documents related to this rulemaking can be found on the Federal rulemaking website at <https://www.regulations.gov> by searching for Docket ID NRC-2023-0071.

You may visit the NRC's public meeting website for information about any public meeting at <https://www.nrc.gov/pmns/mtg>. For more general information about the NRC, what we regulate, how we regulate, and our rulemaking process, please visit our website at <https://www.nrc.gov> or view our Information Digest NUREG-1350 (<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1350/>).

If you have questions or concerns regarding this rulemaking or correspondence, please contact Dennis Andrukat, Rulemaking Project Manager, Division of Rulemaking, Environmental, and Financial Support, at (301) 415-3561, or by email at Dennis.Andrukat@nrc.gov. We appreciate and thank you for your interest in this activity and welcome your feedback.

Sincerely,



Signed by Giantelli, Adelaide
on 07/17/23

Adelaide Giantelli, Chief
State Agreement and Liaison
Programs Branch
Division of Materials Safety, Security,
State, and Tribal Programs
Office of Nuclear Material Safety
and Safeguards

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