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NRC to Issue Proposed Rule on Advanced Reactor Licensing

The Nuclear Regulatory Commission has directed the staff to publish a proposed rule and draft guidance to establish a licensing process for commercial nuclear power plants that is risk-informed, performance-based, and technology-inclusive. This is the first regulatory framework developed for advanced technologies and designs that includes non-light-water reactors.

"The NRC is proposing a rule that will transform the way the agency reviews new reactor applications, while continuing to fulfill our mission to assure the safety of the public," said NRC Chair Christopher Hanson. "This proposed rule leverages significantly more risk insights than our existing regulatory framework in making safety determinations. Applicants can use our existing regulations today, but this proposed rule will provide future nuclear developers a clear, additional pathway for licensing."

The proposed rule, to be published in the Federal Register in about six months, will create a new Part 53 section under the NRC's regulations (10 Code of Federal Regulations) as an alternative to the existing, large light water reactor licensing approaches under Parts 50 and 52. The rule, in meeting the requirements of the Nuclear Energy Innovation and Modernization Act, will give plant designers and plant operators flexibility in determining how their nuclear power plant will meet safety criteria. The rule sets out criteria in areas including reactor siting requirements; analyzing potential accidents; defining safety functions; categorizing structures, systems, and components; addressing construction and manufacturing requirements; providing defense in depth; and protecting the public and plant workers during normal operations. The proposed rule also modifies agency regulations for operator licensing, employee fitness-for-duty, physical security and site access authorization.

The staff's effort to craft the proposed rule began in 2020. The staff conducted extensive public engagement with 21 rounds of public review and comment on preliminary rule language. The staff held 24 public meetings with stakeholders as well as 16 public meetings with NRC's independent advisory group, the Advisory Committee on Reactor Safeguards. The staff will seek feedback from the public when it issues the proposed rule and draft guidance later this year.