Dems on NRC split over generic review to speed advanced nukes

ENERGY DAILY

September 22, 2020 | BY JEFF BEATTIE

The Nuclear Regulatory Commission's Democratic members split Monday on a commission decision advancing the development of a generic environmental review for advanced reactors, an approach designed to speed deployment of technologies on which the industry has pinned its hopes for a revival.

In a memo issued Monday, the NRC directed staff to continue developing a "technology-neutral" generic environmental impact statement (GEIS) for the construction and operation of advanced reactors. Staff has been fleshing out the scope of a possible GEIS since February; Monday's memo said the new decision by NRC's majority "supplants" the need for staff to return to NRC seeking commission approval of a rulemaking plan on the matter, thus green-lighting staff to proceed.

As NRC staff has planned it, the GEIS would address environmental issues seen as common to all advanced reactor projects, thus shaving down the work and cost of site-specific reviews that the agency has largely relied upon in the past with new plants to comply with the National Environmental Policy Act (NEPA).

The use of a GEIS would be a major boost for companies hoping to deploy small modular, sodium-cooled, pebble bed, "fast neutron" and other advanced reactors under development. Nuclear industry officials hope that the new reactors—which are designed to have cost, safety and dual-use advantages over the existing fleet—will give a boost to the sector, which is having difficulty competing in competitive markets against subsidized renewables and plants burning cheap shale gas.

But Democratic Commissioner Jeffery Baran strongly opposed proceeding with the GEIS effort in a statement released Monday.

"It is important for NRC to conduct thorough and efficient…NEPA reviews for advanced reactor applications. I am not convinced that a …GEIS for advanced reactors is the way to achieve that goal for two primary reasons," said Baran.

First, Baran said he did not think a GEIS would be of much use because there is such wide variation among advanced reactor technologies that "there is only a narrow set of resource categories that could potentially be considered generically, such as land use and water resource impacts." That would produce such a narrow GEIS that it wouldn't reduce much time or effort from the traditional site-specific NEPA reviews, he suggested.

Secondly, Baran said the GEIS approach would fail to meet the basic purposes of NEPA , turning the law's required "environmental review into a check-the-box exercise of limited value rather than a meaningful evaluation of environmental impacts.

"NRC cannot conduct a credible environmental review of a hypothetical reactor of unknown size and unknown design using unknown fuel with unknown accident scenarios and unknown safety features at an unknown site," said Baran, who joined NRC in October of 2014 after working as a Democratic aide in the House of Representatives.

Interestingly, Baran was not joined in that view by NRC's other Democrat, Christopher Hanson, who joined NRC in June after serving as a Democratic staff member on the Senate Appropriations Committee.

Hanson approved the staff's November proposal to continue developing a GEIS for advanced reactors, but he also expressed some misgivings and urged staff to keep evaluating whether the effort is valuable.

"While I approve the staff's initiating the GEIS, I question the efficiencies to be gained here, and so I urge the staff to be open-minded and refine its assumptions as it continues to develop the GEIS," said Hanson in comments released Monday.

"The universe of advanced nuclear reactor technologies and their potential sites is wide and varied, such that the common ground that can be analyzed generically may be too small for a useful GEIS," he added. "Nonetheless, I do not want to stop the staff's process at this stage because I can also see potential benefits."

NRC's three Republican members supported moving ahead with the GEIS for advanced reactors.

After NRC launched a review of the GEIS idea last year, attorneys with Hogan Lovells in a Nov. 22, 2019, blog post said the initiative could produce significant benefits and "streamline the NEPA process."

"There are a number of environmental review issues that are common to a large selection of advanced reactor applicants, such as with modular construction, responses to accidents, use of higher-enrichment fuel, and placement below-grade," said the law firm.

In Monday's memo, NRC's commissioners directed the staff to develop a GEIS that is as encompassing as possible, and specifically to make it as "inclusive of as many advanced nuclear reactor technologies as possible." In doing that, the commissioners suggested that staff might develop the GEIS to apply to reactors within a certain range of power output—and urged that staff make that decision carefully if it chose that approach.

“If the staff chooses to use power level as a bounding term, it should ensure that the power level ultimately applied is the result of a risk-informed and performance-based analysis that thoroughly incorporates input from external stakeholders,” said the commission.

The memo also clearly gives the staff the option of recommending that the initiative be dropped if staff makes that judgement.

In the scoping process, “the staff should provide a discussion of the number of resource areas the staff expects to disposition generically and for which types of reactor technologies (e.g. microreactors, liquid metal-cooled fast reactors, molten-salt reactors),” said NRC.

“Alternatively, if after the scoping process the staff determines that the development of the GEIS is no longer viable or practicable, the staff should notify the commission.”

NRC’s GEIS initiative is one of several steps the agency has taken to prepare for multiple anticipated licensing applications from advanced reactor vendors, and to process them as efficiently as possible when they arrive. The agency has been under heavy pressure to do so from the nuclear industry and their allies in Congress, and developed the GEIS at the urging in June 2019 of Sen. John Barrasso (R-Wyo.), chairman of the Environment and Public Works Committee and Sen. Mike Braun (R-Ind.), chair of the committee’s Clean Air and Nuclear Safety Subcommittee.

Last July, the same senators, joined by Sen. Mike Crapo (R-Idaho), applauded an initial framework for the GEIS released by NRC in February, but pushed NRC to expand it.

In a letter to NRC Chairman Kristine Svinicki, they said the initial GEIS proposal would apply only to “advanced nuclear reactors which generate small amounts of electricity,” but should be expanded to also cover “light-water small modular reactors or larger non-water advanced reactors.”