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EPRI to focus on long-term plant operations, including fuel

The Electric Power Research Institute this year is coordinating an industry effort to focus heavily on research and development initiatives designed to support long-term nuclear plant operations, the incoming chair of EPRI's nuclear power council said in a January 21 interview.

Specifically, the nuclear power industry will use EPRI as its R&D arm to address some of the potential life-limiting issues that nuclear plants face such as material aging and fuel cladding, Maria Korsnick said. Korsnick, a senior-level advisor at EPRI, also is senior vice president of operations and chief operating officer at Constellation Energy Nuclear Group.

Korsnick said the long-term operations project is just starting in a formal sense, although R&D initiatives in areas such as material aging have been under way for years. The project is "building on information that's already there, but giving it a longer-term view," she said. "So the long-term operations project is sort of pulling together some things that have been in play and also asking some new questions."

She said fuel cladding is a good example of the project's focus. Although officials of the nuclear power industry have long been talking about new types of fuel claddings, the long-term operations project will provide an opportunity to determine whether new claddings are practical and useful at reactors whose 40-year operating licenses have been renewed for another 20 or 40 years, she said.

Korsnick said the long-term operations project is important now that nuclear plants are moving toward extended operations. Utilities are starting to ask whether plants can operate beyond the 20-year license renewals, she said. "That's really what this long-term operation focus is. It's to say, 'What potential life-limiting issues do we have?' And, 'Let's use the R&D arm in the meantime to address those issues,'" she said. Utilities, for example, will need to look at how materials like concrete will age over a lifespan that might be longer than what planners originally had in mind when developing plants, she said.

Korsnick also said the program could help utilities make better decisions about what components to replace and when. Utilities might rethink whether to install certain information technology devices, such as online monitoring systems, if they decide to operate plants for longer than originally anticipated, she said. Korsnick said that if a reactor operates for 40 years beyond its original 40-year license, the type of systems installed might make more of a difference than if it were to operate for a shorter period of time.

"There are some strategic decisions that interplay, and we could scope out those problems now just to understand the issues," she said. Korsnick said that "the intent of this project

is to pull together what the issues are and be very purposeful about helping industry step through a decision making process."

The project's near-term focus entails identifying those issues, she said. ERPI might be able to pull together enough information for decision making in the 2015 timeframe, she said. In addition to US utilities, other organizations — such as DOE, the department's national laboratories, industry vendors and international utilities — are interested in the findings, Korsnick said.

Reprocessing

Meanwhile, EPRI and the Nuclear Energy Institute have also been exploring the option of reprocessing spent nuclear fuel to help industry form an opinion on closing the fuel cycle, especially since President Barack Obama's administration decided to terminate the Yucca Mountain repository project in Nevada, Korsnick said. "There's a lot of interesting things being discussed," she said.

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