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November 20, 2019

MEMORANDUM TO: Benjamin Beasley, Chief
Advanced Reactor Licensing Branch
Division of Advanced Reactors and Non-Power Production and
Utilization Facilities
Office of Nuclear Reactor Regulation

FROM: Lucieann Vechioli, Project Manager */RA/*
Advanced Reactor Licensing Branch
Division of Advanced Reactors and Non-Power Production and
Utilization Facilities
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF AUGUST 15, 2019, PUBLIC MEETING TO DISCUSS
REGULATORY IMPROVEMENTS FOR ADVANCED REACTORS

On August 15, 2019, the U.S. Nuclear Regulatory Commission (NRC) held a Category 2 public meeting with stakeholders, including the Nuclear Energy Institute (NEI), to discuss ongoing initiatives related to the development and licensing of non-light-water reactors (non-LWRs or advanced reactors). The staff has posted the meeting notice in the NRC's Agencywide Documents Access and Management System (ADAMS) at Accession No. ML19220A116 and the presentation slides at Accession No. ML19228A263. Enclosure 1 lists the meeting attendees.

The meeting began with NRC updates on preapplication activities, drop-in meetings, and reviews of technical and topical reports. The discussion also touched briefly on the action plan for reviewing and endorsing the non-LWR probabilistic risk assessment standard.

Thomas Sowinski, from the U.S. Department of Energy (DOE), discussed the status of DOE-led activities such as those underway at DOE laboratories, implementation of the Nuclear Energy Innovation Capabilities Act, and coordination efforts with commercial vendors. Rebecca Onuschak will formally take over as the DOE Office of Nuclear Energy lead for the advanced reactor regulatory area, replacing Trevor Cook, who recently retired.

Amir Afzali from Southern Company discussed the Technology Inclusive Content Application Project. The team had a kickoff meeting on July 18, 2019 and met again in early August. Upcoming activities included developing the project plan by September 30 and proposing a set of fundamental safety functions by December 2019.

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Marc Nichol from NEI presented on regulatory issues related to microreactors. NEI is currently working on a white paper that should be available by fall 2019 about micro-reactor licensing activities scope and level of effort. Additional priority issues include aircraft impacts, autonomous operations, resident inspectors, and physical security. Siting and environmental issues will require broader efforts.

Mallecia Sutton and Donald Palmrose from the NRC presented on environmental topics. The NRC staff is seeking stakeholder input on the draft interim staff guidance on environmental considerations associated with micro-reactors. The NRC staff is also interested in stakeholder feedback on developments related to the associated generic environmental impact statement, including appropriate scope acceptance criteria, need for supporting studies, and suggested rulemaking schedule.

Madhumita Sircar from the NRC led the discussion about the effect of high temperatures on concrete, covering prevention and the need to meet code limits.

Participants also discussed the proposed Title 10 of the Code of Federal Regulations (10 CFR) Part 53: Risk-informed, Technology Inclusive Regulatory Framework for Advanced Reactors. William Reckley from the NRC discussed the requirements under the Nuclear Energy Innovation and Modernization Act (NEIMA) that call for the NRC to complete rulemaking to establish a technology-inclusive and regulatory framework for optional use by applicants for advanced reactors. The staff needs to complete the rulemaking by December 31, 2027. A more detailed discussion focused on soliciting feedback will take place during the next stakeholder meeting scheduled for October 10, 2019.

Cyril Draffin, from the U.S. Nuclear Industry Council provided a statement and expressed the council's satisfaction with the NRC's focus on NEIMA implementation.

Participants also discussed non-LWR computer code reports on modeling and simulating non-LWRs. Steven Bajorek from the NRC explained that a combination of NRC and DOE codes will provide a technically superior product than can be attained with further development of only the NRC's conventional LWR codes. The NRC's Hossein Esmaili, Don Algama, and Jon Barr presented on non-LWR computer code development plans for severe accident progression and source term and consequence analysis.

Stewart Magruder from the NRC presented on how to protect sensitive information. He explained the different categories of sensitive unclassified nonsafeguards information, the markings requirements, and export-controlled information.

The meeting ended with an open discussion. The NRC requested feedback about how these meetings can be more engaging and how to increase participation by prospective applicants. The next advanced reactors stakeholder meeting was scheduled for October 10, 2019. Anticipated topics include further discussion on developing an advanced reactor regulatory framework as part of NEIMA implementation, technical challenges with microreactors, and designating export-controlled information.

Enclosure:

1. List of Attendees

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***Via Email**

NRR-106

OFFICE	NRO/DANU	NRO/DANU
NAME	LVechioli	BBeasley
DATE	11/18/2019	11/20/19

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List of Attendees (in person)	
Name	Organization
Benjamin Beasley	U.S. Nuclear Regulatory Commission (NRC)
Madhumita Sircar	NRC
Ata Istar	NRC
Kati Austgen	Nuclear Energy Institute (NEI)
Jan Mazza	NRC
Cristian Marciulescu	Electric Power Research Institute
Casper Sun	NRC
Andy Kugler	AJK-NEPATECH
Nicole LaHaye	Pacific Northwest National Laboratory
Alan Levin	NEI
N.P. Kadambi	Self
Andrew Yeshnik	NRC
Clint Medlock	Southern Company
Nanette Valliere	NRC
John Segala	NRC
Donald Chung	NRC
Cyril Draffin	U.S. Nuclear Industry Council
Farshid Shahrokhi	Framatome
Marc Nichol	NEI
Steve Kline	Bechtel
Daniel Carleton	Terrestrial Energy USA
Nicholas McMurray	NRC
Adrian Muniz	NRC
Robert Beall	NRC
Robert Lanza	ICF
Peter Hastings	Kairos Power
Stewart Magruder	NRC
Boyce Travis	NRC
Everett Redmond	NEI
Christian Rabiti	Idaho National Laboratory
Reza Zarghamee	Pillsbury
Andrea Jennetta	S&P Global Platts
Chris Nolan	Duke Energy
Antonio Barrett	NRC
Hanh Phan	NRC
David Diamond	Brookhaven National Laboratory
Wendy Simon-Pearson	NRC
Donald Palmrose	NRC
Mallecia Sutton	NRC
Steve Lynch	NRC
Hossein Esmaili	NRC
Jason Schaperow	NRC
Don Algama	NRC
Steven Bajorek	NRC

Lucieann Vechioli	NRC
William Reckley	NRC
Amir Afzali	Southern Company
Jon Barr	NRC