

November 13, 2017

MEMORANDUM TO: John P. Segala, Chief
Advanced Reactor and Policy Branch
Division of Safety Systems, Risk Assessment and Advanced
Reactors
Office of New Reactors

FROM: William D. Reckley, Senior Project Manager **/RA/**
Advanced Reactor and Policy Branch
Division of Safety Systems, Risk Assessment and Advanced
Reactors
Office of New Reactors

SUBJECT: SUMMARY OF SEPTEMBER 28, 2017, PUBLIC MEETING
TO DISCUSS REGULATORY IMPROVEMENTS FOR
ADVANCED REACTORS

On September 28, 2017, the U.S. Nuclear Regulatory Commission (NRC) held a Category 2 public meeting with stakeholders, Department of Energy (DOE), national laboratories, and Nuclear Energy Institute (NEI), to discuss ongoing initiatives within the industry and NRC related to the development and licensing of non-light water reactors (Agencywide Documents Access and Management System [ADAMS] Accession No. ML17263A067). Enclosure 1 contains a list of meeting attendees and participants who joined via webinar. The slides and meeting handouts are available in ADAMS Accession No. ML17272A141.

The staff provided a summary of the NRC's Standards Forum, which was held on September 26, 2017. The presentations from the Standards Forum are available in ADAMS Accession No. ML17272A056. Representatives from the various technology working groups, national laboratories, and other participants in the periodic stakeholder meetings will provide updates on the expected follow up activities from the Standards Forum by the American Nuclear Society (ANS), American Society of Mechanical Engineers (ASME), and other standards development organizations during future public meetings.

The staff summarized comments and questions provided to the Licensing Modernization Project (LMP) on the draft white paper "Probabilistic Risk Assessment Approach." The white paper is available in ADAMS Accession No. ML17158B543 and the staff's comments and questions are available in ADAMS Accession No. ML17233A187. Dr. Karl Fleming, representing the LMP, provided a response to the staff's comments and questions which are available in the slides and meeting handouts (ADAMS Accession No. ML17272A141). A key point in the discussion was the ongoing participation of the NRC staff in preparing a revision to ASME/ANS Non-Light Water Reactor Probabilistic Risk Assessment Standard and planned NRC review of the standard for endorsement.

CONTACT: William D. Reckley, NRO/DSRA
301-415-7490

Representatives from the LMP provided an overview of a proposed safety classification approach for structures, systems, and components (see slides and meeting handouts in ADAMS Accession No. ML17272A141). The LMP subsequently provided the NRC staff with a draft white paper on this topic (see ADAMS Accession No. ML17290A463). The white paper and related comments from the NRC staff will be discussed during future public meetings.

The staff led a discussion after the lunch break related to comments and questions on the advanced reactor design criteria (ARDC). The discussion was a followup to a public meeting held on August 24, 2017 (see the summary in ADAMS Accession No. ML17262A894). The staff described possible changes to ARDC-17 related to electrical power systems and ARDC-26 on reactivity control system redundancy and capability. The staff also described expected clarifications related to discussions within the ARDC guidance for cooling systems to be “leak tight,” gas-cooled reactor cooling functions, and addition of a definition for modular high-temperature-gas-cooled reactor. The staff also confirmed that comments received during the August 24, 2017, public meeting would be considered and addressed along with other comments on the draft guidance. The ARDC will be discussed in the next stakeholder meeting (scheduled for November 2, 2017) with a goal to resolve comments, support meetings with the Advisory Committee on Reactor Safeguards, and finalize the guidance document in early 2018.

The staff led a discussion of activities related to various policy issues for non-light water reactors. A brief discussion of financial protection requirements was provided in preparation for the November 2, 2017, stakeholder meeting, which includes insurance as an agenda topic. The staff offered a “problem statement” to help guide future interactions with a longer term objective of developing recommendations for possible modifications, if warranted, to the Price-Anderson Act, NRC regulations, or both. This was followed by a discussion of the staff’s plans to prepare a Commission paper on the issue of functional containment and related performance criteria.

Preliminary agenda topics for the November 2, 2017, stakeholder meeting include:

- Advanced Reactor Design Criteria
- Regulatory Roadmap Document
- Insurance Requirements (with participation by American Nuclear Insurers)
- Use of higher assay low enriched uranium (pending NEI white paper)
- Licensing Modernization Project White Papers
 - Possible feedback on safety classification white paper
- Functional containment white paper

Preliminary agenda topics for the December 14, 2017, stakeholder meeting include:

- Licensing Modernization Project White Papers
 - Defense in Depth
- Siting Issues (population centers, population densities)
- Functional containment white paper
- ASME Division 5 (high temperature materials)

In addition, a meeting on possible changes to physical security requirements for advanced reactors has been tentatively scheduled for the afternoon of December 13, 2017.

Enclosure:

1. List of attendees

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NAME	WReckley
DATE	11/13/2017

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Public Meeting to Discuss Regulatory Improvements for Advanced Reactors
September 28, 2017
Attendance List

Attendance List – Attended at least part of meeting in person		
Name	Organization	
James Hammelman	NRC/NMSS	
Mark Caruso	NRC/NRO	
Amy Cubbage	NRC/NRO	
Nishka Devaser	NRC/NRO	
Tim Drzewiecki	NRC/NRO	
Michelle Hayes	NRC/NRO	
Barbara Hayes	NRC/NRO	
Jan Mazza	NRC/NRO	
Nicholas McMurray	NRC/NRO	
John Monninger	NRC/NRO	
Malcom Patterson	NRC/NRO	
Bill Reckley	NRC/NRO	
Jeff Schmidt	NRC/NRO	
John Segala	NRC/NRO	
Courtney St. Peters	NRC/NRO	
George Tartal	NRC/NRO	
Boyce Travis	NRC/NRO	
Chris Van Wert	NRC/NRO	
Joe Williams	NRC/NRO	
Andrew Yeshnik	NRC/NRO	
Bob Fitzpatrick	NRC/NRR	
Steven Lynch	NRC/NRR	
Joe Rivers	NRC/NSIR	
Shivani Mehta	NRC/RES	
Farshid Shahroki	Areva	
N. Prasad Kadambi	Consultant	
Jana Bergman	Curtiss Wright	
Craig Welling	DOE/NE	

Peter	Hastings	Hastings Group
Rita	Baranwal	INL
Mark	Holbrook	INL
Jim	Kinsey	INL
Karl	Fleming	LMP
Steven	Frantz	Morgan Lewis
Kati	Austgen	NEI
Mike	Tschiltz	NEI
Jeff	Merrifield	Pillsbury
Eryk	Turski	Polish Atomic Energy Agency (PAA)
Amir	Afzali	Southern Co.
Jason	Redd	Southern Co.
Jeff	Sharkey	Southern Co.
Edward	Burns	X-energy
Alex	Huning	X-energy

Attendance List – Webinar Attendees

Name	Organization
Robert Bari	BNL
Randy Belles	ORNL
Scott Bussey	NRC
Marcia Carpentier	NRC
Lisa Marie Cheney	Innovative Business Group.net
Timothy Crook	Transatomic Power
Suzanne Dennis	NRC
Steven Dolley	Platts
George Flanagan	ORNL
David Grabaskas	ANL
Brian Hamilton	
Jerald Head	GE
Ryan Hon	GA
Raj Iyengar	NRC

Jun	Liao	Westinghouse
Chris	Lui	NRC
Edwin	Lyman	UCS
Steven	Lynch	NRC
SHAH	MALIK	NRC
Wayne	Moe	INL
Jill	Monahan	Westinghouse
chantal	morin	CNSC
JongSeuk	PARK	KINS
Malcolm	Patterson	NRC
Per	Peterson	Kairos Power
Mike	Poore	ONRL
Alex	Popova	Oklo
Pranab	Samanta	BNL
Matt	Smith	Westinghouse
Edward	Wallace	GNBC Associates
Otto	Walter	ANI
staci	wheeler	Alpha Tech Research Corp
Patrick	White	MIT
David	Wootan	PNNL