



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
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December 20, 2016

MEMORANDUM TO: John P. Segala, Chief
Advanced Reactor and Policy Branch
Division of Engineering, Infrastructure, and Advanced Reactors
Office of New Reactors

FROM: William D. Reckley, Special Advisor–Policy */RA/*
Orders Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF DECEMBER 15, 2016, PUBLIC MEETING
TO DISCUSS ADVANCED REACTOR REGULATORY REVIEWS

On December 15, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16335A457), the U.S. Nuclear Regulatory Commission (NRC) staff held a Category 2 public meeting with the external stakeholders (Nuclear Infrastructure Council (NIC), Nuclear Innovation Alliance (NIA), 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. A list of individuals attending or participating in the meeting by webinar can be found as an enclosure to this summary. The slides and meeting handouts used by the staff and other participants are available in ADAMS under Accession No. ML16355A250.

The staff supported a discussion on a draft Volume 2 – Detailed Information of the Near-Term implementation Action Plans (IAPs) described in the draft “NRC Vision and Strategy for Non-Light Water Reactor Mission Readiness,” issued for public comment (81 FR 47443; July 21, 2016). A draft of the detailed discussion of the IAPs was made available to the public prior to the meeting (ADAMS Accession No. ML16334A495). A list of technical and policy issues is included in the presentation materials and was used during the meeting to support discussions. The second part of the discussions led by the staff involved examples of how advanced reactor designers at different technology readiness levels might use the regulatory roadmap made available for the public meeting on October 25, 2016 (ADAMS Accession No. ML16291A248). The staff benefited from questions and feedback provided during the meeting and invited participants to provide additional feedback on the IAPs, roadmap or other topics to support future discussions. A specific request was made for stakeholders to provide insights on possible technical and policy issues that face non-light water reactor designs. The staff requested that the feedback be provided by late January 2017, to support the next meeting on advanced reactor regulatory reviews, which is tentatively planned for February 2, 2017. The discussions also included the need for tracking and making accessible information on the resolution of regulatory issues. The staff will coordinate the development of information systems at the NRC, NEI, and the Department of Energy (DOE) Gateway for Accelerated Innovation in Nuclear (GAIN).

Mr. Craig Welling of DOE's Office of Nuclear Energy provided an update on the development of the DOE vision and strategies document, the GAIN initiative, and ongoing assessments of research and development activities, including possible needs for the irradiation of fuels and other materials to be used in non-LWR technologies.

A presentation included in the meeting handouts (ADAMS Accession No. ML16355A250) was provided by Mr. Peter Hastings, representing NIA. The subject of the presentation and related discussion was the flexibility provided by the scope of a standard design approval (SDA) being defined as being a "major portion" of a plant design. A working group has been formed by NIA and expects to solicit feedback from industry representatives and provide a paper to the NRC staff in March 2017.

Mr. David Blee represented NIC during the meeting and his presentation is included in the meeting handouts (ADAMS Accession No. ML16355A250). Mr. Blee provided general and specific comments on the NRC staff's draft Volume 2 to the IAPs. NIC encouraged the NRC staff to engage on the topic of non-LWRs using higher enrichments of uranium. Mr. Blee also emphasized the importance of having a pre-licensing design review process.

The NEI presentations and discussions were provided by Ms. Kati Austgen (NEI), Mr. Amir Afzali (Southern Company Services), and Mr. Ed Wallace (GNBC Associates, Inc.) (see ADAMS Accession No. ML16355A250). Mr. Afzali and Mr. Wallace described a utility-led licensing modernization project, co-funded by DOE through the GAIN initiative, intended to develop a technology-inclusive, risk-informed, and performance-based framework for licensing advanced reactor designs. The presentation described approaches for the use of probabilistic risk assessment and the selection of licensing-basis events that advance proposals developed under the Next Generation Nuclear Plant (NGNP) project. The discussions concluded with a general agreement that the topics would be addressed in upcoming meetings that will likely be coordinated with but separate from the more generic advanced reactor regulatory review meetings.

The meeting concluded with a general discussion of issues and plans related to activities for advanced reactor designs. A question was raised about possible schedules for applications and reference was made to an NRC regulatory issue summary (RIS 2016-08) requesting information related to possible applications and a response from Terrestrial Energy USA that states they plan to submit an application for design certification or a construction permit by October 2019 (ADAMS Accession No. ML16336A508).

There was a general consensus that it would be useful to establish a longer term schedule for the advanced reactor regulatory review meetings and the staff took an action to develop a tentative schedule. A tentative schedule is provided below and the staff requests feedback on the proposed dates as well as technical and policy issues to address at the meetings.

Proposed Dates for NRC Public Meetings on Advanced Reactor Regulatory Reviews

February 2, 2017
March 23, 2017
May 4, 2017
June 15, 2017

August 3, 2017
September 21, 2017
November 2, 2017
December 14, 2017

Please direct any inquiries to me at (301) 415-7490 or william.reckley@nrc.gov.

Enclosure:
List of Attendees

SUMMARY OF DECEMBER 16, 2016, PUBLIC MEETING TO DISCUSS ADVANCED REACTOR REGULATORY REVIEWS, dated December 20, 2016

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OFFICE	NRR/JLD/JOMB/SA
NAME	WReckley WdR
DATE	12/20/2016

OFFICIAL RECORD COPY

Public Meeting to Discuss Non-Light Water Reactor Regulatory Reviews
 October 25, 2016
 Attendance List

Name	Organization	Name	Organization
Bob Caldwell	NRC/NRO/DEIA	Rita Baranwal	INL
Deborah Jackson	NRC/NRO/DEIA	Jim Kinsey	INL
John Segala	NRC/NRO/DEIA	Mark Holbrook*	INL
Matthew Mitchell	NRC/NRO/DEIA	George Flanagan*	ORNL
Joseph Colaccino	NRC/NRO/DEIA	Gary Mays	ORNL
Amy Cabbage	NRC/NRO/DEIA	Brad Reardon	ORNL
William Reckley	NRC/NRR/JLD	David Holcomb	ORNL
Mike Jones	NRC/NRO/DEIA	Randy Belles*	ORNL
Joe Williams	NRC/NRO/DEIA	R Chris Robinson	Y-12 NSC
Arlon Costa	NRC/NRO/DEIA	David Diamond	BNL
Mark Caruso	NRC/NRO/DSRA	Steve Unwin	PNNL
Nicholas McMurray	NRC/NRO/DEIA	John Stamatakos	CNRWA/SWRI
George Tartal	NRC/NRO/DEIA	Nathan Hall	SWRI
Diane Jackson	NRC/NRO/DEIA	Daniel Speaker*	CNWRA/SWRI
Jan Mazza	NRC/NRO/DEIA	Everett Redmond	NEI
Steve Downey	NRC/NRO/DEIA	Russ Bell	NEI
Sud Basu	NRC/RES/DSA	Kati Austgen	NEI
Suzanne Dennis*	NRC/RES/DRA	Marc Nichol	NEI
Yaguang Yang	NRC/RES/DE	Staci Wheeler	ATRC
Iouri Prokofiev	NRC/RES/DE	David Blee	USNIC
Shah Malik	NRC/RES/DE	Vince Gilbert	USNIC
Amy Hull*	NRC/RES/DE	Peter Hastings	Hastings Group
Mike Snodderly	ACRS/NRC	Bill Mills	NEC
Maitri Banerjee*	ACRS/NRC	Amir Afzali	Southern Nuclear
Craig Welling	DOE	Ray Herb*	Southern Company
Trevor Cook*	DOE	Gary Ruf*	PSEG
Steven Dolley	Platts	Adam Reichenbach	Duke Energy
Jana Bergman	Curtiss Wright	Ed Wallace	GNBC Associates

Name	Organization	Name	Organization
Jongseuk Park*	KINS		
Farshid Shahrokhi	Areva NP		
Gary Peters	Areva		
Patricia Campbell	GEH		
Kevin Weaver	TerraPower		
Robin Rickman	Terrestrial Energy		
Stephen Smith	Transatomic Power		
Wendolyn Holland	Transatomic Power		
Dimitri Lutchenkov	X-energy		
Edward Burns	X-energy		
Steve Frantz	Morgan Lewis		
Alex Polonsky	Morgan Lewis		
Tim Dodson*	EPM		
Pareez Golub*	Excel Services		
George Honma*	Consultant		
N P Kadambi	Consultant		
Dale Wuokko*	Global Energy Mgt		

* indicates individual participated by webinar