



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 20, 2018

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 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 DECEMBER 13, 2018, PUBLIC MEETING TO
DISCUSS REGULATORY IMPROVEMENTS FOR ADVANCED
REACTORS

On December 13, 2018, the U.S. Nuclear Regulatory Commission (NRC) held a Category 2 public meeting with stakeholders, Nuclear Innovation Alliance (NIA), Nuclear Industry Council (NIC) 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 (non-LWRs) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18249A337). A portion of the meeting included discussions about the staff's development of a draft regulatory basis document in response to the Commission's staff requirements memorandum dated November 19, 2018 (ADAMS Accession No. ML18324A478) for SECY-18-0076, "Options and Recommendations for Physical Security for Advanced Reactors" (ADAMS Accession No. ML18052B032). 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. ML18348B091.

NRC staff from the Office of Nuclear Regulatory Research (RES) provided presentations on NRC activities related to modeling and simulation of non-LWRs. Presentations were provided on: (1) the combinations of NRC and Department of Energy (DOE) computer codes making up the Comprehensive Reactor Analysis Bundle (CRAB) for various non-LWR technologies, (2) MELCOR code development for non-LWRs, and (3) consequence analysis (MACCS) code development for non-LWRs.

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

Ashley Finan of NIA described a paper being developed on establishing interface requirements in support of staged licensing, and in particular to support standard design approvals. Ms. Finan stated a draft of the report would be provided to the NRC for the purpose of soliciting staff comments and suggestions. The staff mentioned that references to the report could be made in a future revision to the NRC's paper "A Regulatory Review Roadmap for Non-Light Water Reactors" (ADAMS Accession No. ML17312B567) and possibly in a regulatory guide or other reference being prepared on the scope and content of applications.

David Blee and Jeffrey Merrifield of NIC described the results of a survey of developer priorities. The survey respondents gave the highest priorities to: (1) resolution of NRC policy issues, (2) preparing licensing submittal guidance, (3) enhancing pre-licensing engagements, and (4) addressing issues (including fuel cycle) for use high-assay low enriched uranium (HALEU). Stephen Crowe of Urenco presented on next generation nuclear fuels, including the need for additional enrichment capabilities for HALEU and transportation options for HALEU fuel. Mr. Crowe emphasized that a number of activities related to fuel cycle facilities, transportation, and reactor development needed to be performed in parallel.

NRC staff described ongoing and planned activities related to various policy issues, and stated that an updated status table was being prepared to post on the NRC's advanced reactor website. The updated policy table will be used, along with survey results from NIC and NEI, to coordinate and prioritize activities in 2019. Kati Austgen from NEI discussed ongoing efforts by the Advanced Reactor Regulatory Task Force to identify and prioritize policy and key technical issues. Christian Marciulescu of the Electric Power Research Institute (EPRI) provided an update on a limited scope topical report supporting the qualification of TRISO fuel particles, stating that the topical is expected to be submitted in spring 2019. The next periodic stakeholder meeting is scheduled for February 7, 2019, and will focus on policy and technical issues associated with the civil and structural design of non-LWR facilities, including the possible use of seismic isolators. The tentative dates for the other stakeholder meetings in 2019 are March 28, May 9, June 27, August 5, October 10, and December 11.

NRC staff from the Office of New Reactors (NRO) and Office of Nuclear Security and Incident Response (NSIR) provided background on SECY-18-0076 and the related SRM. The staff requested suggestions on the scope of a potential rulemaking that would define alternative security requirements for advanced reactors with attributes similar to those defined in the NRC's "Policy Statement on the Regulation of Advanced Reactors" (Volume 73 of the *Federal Register*, page 60612, October 14, 2008). Examples described in the SECY and SRM include changes to the requirements for a minimum number of armed responders and secondary alarm stations. Representatives from industry (NEI, Tennessee Valley Authority, and NuScale Power) expressed support for the effort and stated they would assess other requirements for possibly including in the scope of a possible rulemaking and the associated draft regulatory basis document. A representative of the Union of Concerned Scientists voiced their continued opposition to the rulemaking effort. The Commission's direction in the SRM to complete the regulatory basis document by November 2019 establishes a need to define the scope and prepare a draft regulatory basis within the next several months. The staff stated that another meeting or teleconference would, if needed, be arranged, noticed and conducted in mid-January 2019.

Enclosure:

1. List of attendees

SUMMARY OF DECEMBER 13, 2018, PUBLIC MEETING TO DISCUSS TO DISCUSS
REGULATORY IMPROVEMENTS FOR ADVANCED REACTORS – DATED October 09, 2019

DISTRIBUTION:

PUBLIC

WReckley

RidsAcrsAcnw_MailCTR Resource

RidsNroDsra Resource

RidsNroDsraArpb Resource

ADAMS Accession No.: ML18354A958

NRO-002

OFFICE	NRO/DSRA	NRO/DSRA
NAME	WReckley	JSegala
DATE	12/20/18	12/20/18

OFFICIAL RECORD COPY

Attendance List – Attended at least part of meeting in person		
Name		Organization
Andrew	Barto	NRC/NMSS
James	Hammelman	NRC/NMSS
Patricia	Holahan	NRC/NMSS
Brian	Smith	NRC/NMSS
Arlon	Costa	NRC/NRO
Kevin	Coyne	NRC/NRO
Dayna	Dority	NRC/NRO
Tim	Drzewiecki	NRC/NRO
Michelle	Hart	NRC/NRO
Michelle	Hayes	NRC/NRO
John	Monninger	NRC/NRO
Hanh	Phan	NRC/NRO
Bill	Reckley	NRC/NRO
John	Segala	NRC/NRO
Martin	Stutzke	NRC/NRO
George	Tartal	NRC/NRO
Boyce	Travis	NRC/NRO
Chris	Van Wert	NRC/NRO
Lucieann	Vechioli	NRC/NRO
Ismael	Garcia	NRC/NRR
Pete	Lee	NRC/NSIR
Alison	Rivera	NRC/NSIR
Joe	Rivers	NRC/NSIR
Steve	Bajorek	NRC/RES
Jon	Barr	NRC/RES
Shawn	Campbell	NRC/RES
Mike	Case	NRC/RES
Keith	Compton	NRC/RES
Hossein	Esmaili	NRC/RES
Matt	Humberstone	NRC/RES
Richard	Lee	NRC/RES
Stewart	Schneider	NRC/RES
Casper	Sun	NRC/RES
Kim	Webber	NRC/RES

Jeffery	Wood	NRC/RES
William	Corwin	Advanced Reactor Materials
Jana	Bergman	Curtiss-Wright
Christian	Marciulescu	EPRI
Jim	Anderson	Excel
Farshid	Shahrokhi	Framatome
Mark	Holbrook	INL
Jim	Kinsey	INL
Darrell	Gardner	Kairos Power
Stephen	Crowne	LES/Urenco
Stephen	Burdick	Morgan Lewis
David	Matthews	NEC
Katie	Austgen	NEI
Everett	Redmond	NEI
Mike	Tschiltz	NEI
David	Young	NEI
Ashley	Finan	NIA
David	Blee	NIC
Jeffrey	Merrifield	NIC/Pillsbury
Kevin	Deyette	NuScale
Caroline	Cochran	Oklo
Alex	Popova	Oklo
Brad	Rearden	ORNL
Patrick	Mattie	SNL
Amir	Afzali	Southern Company
Jason	Redd	Southern Nuclear
Pete	Gaillard	TerraPower
Tara	Neider	TerraPower
Pat	Asendorf	TVA
Dan	Stout	TVA
Edwin	Lyman	USUCS
Parvez	Khambatta	Westinghouse

Attendance List – Webinar Attendees		
Name		Organization
Eddie	Ashe	ASME
Randy	Belles	ONRL
John	Bolin	GA
Acacia	Brunett	ANL
Scott	Bussey	NRC/OCHCO
Marcia	Carpentier	NRC/OGC
Kevin	Casey	TVA
Lap	Cheng	BNL
Gordon	Clefton	gclefton68@gmail.com
Brian	Cohn	OSU
David	Diamond	BNL
Matt	Dennis	SNL
Steven	Dolley	steven.dolley@spglobal.com
Michelle	Gonzalez	NRC/RES
Dave	Grabaskas	ANL
Jamie	Heisserer	NRC/OEDO
Martin	Karr	karrmd@centrusenergy.com
Molly	Marsh	NRC/OGC
Fredrick	McCrary	SNL
Brian	Meadors	brianmeadors@gmail.com
Wayne	Moe	INL
Gary	Rochau	SNL
Gary	Rochau	gary.rochau@comcast.net
Pranab	Samanta	BNL
Aaron	Sanders	NRC/NMSS
Emily	Sandt	SNL
Mark	Snell	SNL
Matthew	Talbot	mtalbot@rhinocorps.com
Leslie	Terry	NRC/NRO
Craig	Welling	DOE/NE
Christopher	Wiegand	EPRI
Amy	Cubbage	NRC/NRO
Alex	Huning	ORNL
Michael	Cheok	NRC/RES

James	Maltese	NRC/OGC
Fred	Schofer	NRC/NMSS
Jill	Shepherd-Vladimir	NRC/NMSS
Nanette	Valliere	NRC/OCMSB
Patrick	White	MIT