



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

October 25, 2022

MEMORANDUM TO: Kevin Hsueh, Chief
Radiation Protection and Consequence Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Carla Roque-Cruz, Project Manager /RA/
Licensing Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE AUGUST 24, 2022, SOURCE TERMS AND
RADIOLOGICAL CONSEQUENCE ANALYSES

On August 24, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff held an Observational Public Meeting to discuss source terms and radiological consequence analyses. The NRC provided a presentation on the basis for the source term in the proposed Revision 1 to Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors" Draft Regulatory Guide, DG-1389. The presentation focused on the results and information contained in Sandia National Lab report "Accident Source Terms for Light-Water Nuclear Power Plants Using High-Burnup or MOX Fuel," SAND2011-0128 January 2011 and can be found at Agencywide Documents Access and Management System (ADAMS) (ML20093F003). The Nuclear Energy Institute provided a presentation, focusing on the impact of the revised guidance on boiling water reactors (BWRs) and including the results of three example calculations that used selected aspects of DG-1389. Analyses results, which exceeded the regulatory limits, were used to comment that certain aspects of the proposed guidance needed to be revised in order for the guidance to be usable. Specifically, industry proposed that the resolution to the higher doses was to update the BWR release fractions with different accident scenarios selection and to credit suppression pool scrubbing in the BWR release fractions. The meeting notice can be found at Accession ADAMS No. ML22235A752. The NRC slides and industry meeting slides can be found at ADAMS Accession Nos. ML22229A071 and ML22235A703 respectively.

The NRC staff discussion of the basis for the proposed source term, noted that the process of providing revised release fractions took many years of work and the industry's proposal to remove station blackout sequences, would likely make the release fractions larger. The staff also observed that the industry examples, contained unusual assumptions that likely contributed to the results of some examples exceeding the regulatory limits.

Enclosure:
List Of Attendees

CONTACT: Sean Meighan, NRR/DRA
301-415-9094

During the meeting, in response to a question related to the RG revision schedule, the staff noted that it continues to work toward the December 2022 milestone to issue the final RG consistent with what was communicated during the March 2022 ACRS meeting.

Staff from the Union of Concerned Scientists provided a comment related to the use of “obsolete” guidance (RG 1.183 Revision 0) rather than using improved knowledge (Revision 1). The staff explained the issues with the Commission direction on the backfitting/forward fitting considerations and stated that certain changes using Revision 0 would need a justification of the methods used and license amendment requests are subject to the NRC’s safety evaluation.

No regulatory decisions were made in the meeting. Enclosure:

List of Attendees

SUBJECT: SUMMARY OF THE AUGUST 24, 2022, PUBLIC MEETING – SOURCE TERMS
AND RADIOLOGICAL CONSEQUENCE ANALYSES DATED: 10/25/2022

DISTRIBUTION:

PUBLIC

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KHsueh, NRR

Accession No.: ML22300A097

NRR-106

OFFICE	NRR/DORL/LLPB	NRR/DRA/ARCB	RES/DSA/FSCB	NRR/DRA/ARCB: BC
NAME	CRogue-Cruz	SMeighan	HEsmaili	KHsueh
DATE	10/24/2022	10/21/2022	10/24/2022	10/25/2022

OFFICIAL RECORD COPY

LIST OF ATTENDEES

Public Meeting to Discuss Source Terms and Radiological Consequence Analyses

August 24, 2022

U.S. Nuclear Regulatory Commission (NRC)	
First Name	Last Name
Brent	Ballard
Andrew	Barto
Philip	Benavides
Mark	Blumberg
Shawn	Campbell
Sheldon	Clark
James	Corson
Stephanie	Devlin-Gill
Elijah	Dickson
Hosseini	Esmaili
Mike	Franovich
Nicholas	Hansing
Trey	Hathaway
Kevin	Heller
Linda	Howell
Kevin	Hsueh
Tara	Inverso
Lois	James
Stacy	Joseph
Daniel	King
John	Lehning
Don	Marksberry
Sean	Meighan
Joseph	Messina
Tony	Nakanishi
John	Parillo
Jason	Piotter
April	Pulvirenti
Carla	Roque-Cruz
Michael	Salay
Zhe	Yuan

Enclosure

U.S. Nuclear Regulatory Commission (NRC)	
First Name	Last Name
Edward	Stutzcage
Shilp	Vasavada
Kimberly	Webber
John	Wise
Mary Frances	Woods

Non-NRC		
First Name	Last Name	Affiliation (if provided)
Don R	Algama	DOE
Jill P	Anderson	
Uriel	Bachrach	
David C	Basham	Constellation Nuclear
Thomas	Basso	
Dwayne	Blaylock	
Butch	Bornt	
Rob	Burg	
Johnathan	Chavers	
Yong-Joon	Choi	
Joe	Coletta	
Aladar	Csontos	
Caryl	D	
Robert	Daum	EPRI
Jeremiah	Doyle	NuScale
Thomas	Eichenberg	
Björn	Engström	Gäst
William P.	Evans	SNC Corporate
Jacob	Fakory	DEP
Madeline	Feltus	DOE
Jeff	Gabor	Jensen Hughes
Shane	Gardner	GE Power Portfolio
Lisa	Gerken	FRA-FL
Jeffrey	Head	
Randy H.	Jacobs	GE Power Portfolio
Shane	Jurek	
Sean T.	Kinnas	
Peter W	Kissinger	
Jeffrey R.	Kobelak	
Samuel	Lafountain	
David Lyle	Luxat	Sandia National Labs
Edwin	Lyman	
Jill	Magnusson	NuScale
Alex J	Markivich	Services - 6
John R	Massari	Constellation Nuclear
Nicolas	Mertz	
Dave	Mitchell	
Lisa	Momkus	Oklo
Etienne	Mullin	NuScale
Carole	Naugle	FRA-FL
Ann	Pfaff	DEP
J.	Phillips	
Frances	Pimentel	

Non-NRC		
First Name	Last Name	Affiliation (if provided)
Douglas P	Pollock	
Monica	Ray	
Eric	Scott	PSEG
Neil	Sheehan	
Fred	Smith	
Scott	Stanchfield	Entergy
Adam	Stein	Breakthrough Institute (BTI)
Charles	Stroupe	
Lawrence	Svetlana	
Christie B	Taylor	
Brian M	Timm	
Jennifer	Uhle	
Daniel J	Vincent	
Chris	Walker	
Lauren	Williams	GE Power Portfolio

Note: Attendance list based on Microsoft Teams participant. This list does not include individuals who did not provide their last name either in registering for the meeting or by a follow-up email.