



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

November 9, 2018

Dr. Michael L. Corradini, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**SUBJECT: RESPONSE TO ADVISORY COMMITTEE ON REACTOR SAFEGUARDS ON THE
DRAFT PROPOSED RULE, "EMERGENCY PREPAREDNESS FOR SMALL
MODULAR REACTORS AND OTHER NEW TECHNOLOGIES"**

Dear Dr. Corradini:

I am responding to your letter dated October 19, 2018, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18291B248), in which you provided comments from the Advisory Committee on Reactor Safeguards (ACRS) on the draft proposed rule, "Emergency Preparedness for Small Modular Reactors and Other New Technologies," and the associated draft regulatory guide, DG-1350, "Performance-Based Emergency Preparedness for Small Modular Reactors, Non-Light-Water Reactors, and Non-Power Production or Utilization Facilities."

Your letter was in response to the discussions on the draft Commission paper on the proposed rule (ADAMS Accession No. ML18213A269) transmitting the *Federal Register* notice (ADAMS Accession No. ML18213A278), as well as DG-1350 (ADAMS Accession No. ML18213A284), that took place during the ACRS's 657th meeting on October 4-5, 2018. In this letter, the ACRS concluded that it found "no technical obstacles at this time to the rulemaking and recommend that it move forward." Regarding this conclusion, the NRC staff has no comment.

The letter further offered a recommendation that "[f]or the rule to be applied effectively, the staff will also need to provide guidance to define their expectations for the technical adequacy of mechanistic source terms." Regarding this ACRS recommendation, the staff agrees that developing mechanistic source terms is not an easy task. Each applicant develops potential source terms from credible accidents for their facility and the staff evaluates these source

CONTACTS: Andrew Carrera, NMSS/DRM
301-415-1078

Kenneth Thomas, NSIR/DPR
301-287-9252

Arlon Costa, NRO/DSRA
301-415-6402

terms in various areas of its application review, such as the review of design basis and beyond design basis accident analyses. As part of these accident analyses, the applicant applies site specific factors, such as meteorological conditions, to determine the offsite dose consequences for the design at the specific location of the facility.

In addition, at the ACRS meeting, the NRC staff indicated that the draft proposed rule is “technology-inclusive,” which means that it will apply to a wide variety of designs, most of which have not been developed yet. The NRC staff does not need specific information about source terms as it relates to emergency preparedness in order to develop this rule. Since source term information is developed and evaluated in other review areas, this rule does not address the requirements for developing the various source terms.

Nonetheless, to facilitate the applicants’ development of the source term information needed in order to apply this rule effectively for a specific design, the NRC staff has revised DG-1350 to include the new section A-3.1, “Source Term,” in the version that will be issued concurrently with this proposed rule for public comment. Section A-3.1 provides source term guidance for identifying release scenarios for which doses could be assessed by considering a spectrum of accidents credible for the facility and providing a technical basis for the screening of any identified release scenarios from quantitative consideration. The staff also included references directing the reader to existing guidance documents, such as NUREG-0800 (formerly issued as NUREG-75/087), “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition” (ADAMS Accession No. ML042080088). Although the NRC staff prepared these existing guidance documents mainly for large-light-water reactors, applicants and licensees for small modular reactors, non-light-water reactors, and non-power production or utilization facilities may use these guidance documents in developing probabilistic risk assessments and source terms for their given designs and applications, as appropriate. As the agency gains experience in reviewing the applications in this area, the staff will continue to evaluate the need to further enhance our guidance on source term development.

The NRC staff appreciates the ACRS’s review and valuable input on this draft proposed rule and associated guidance document and looks forward to working with the ACRS as the rulemaking progresses.

Sincerely,

/RA by V. Ordaz for/

Frederick D. Brown, Director
Office of New Reactors

cc: Chairman Svinicki
Commissioner Baran
Commissioner Burns
Commissioner Caputo
Commissioner Wright
SECY

SUBJECT: RESPONSE TO ADVISORY COMMITTEE ON REACTOR SAFEGUARDS ON THE DRAFT PROPOSED RULE, "EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS AND OTHER NEW TECHNOLOGIES." **DATED:**

DISTRIBUTION:

NON-PUBLIC
 RidsOgcMailCenter
 RidsNrrOd
 RidsNroDlse
 RidsNroDsra
 RidsNroOd
 RidsResDE Resource

RidsNrrDlp
 RidsNsirOd
 RidsNsirDpr
 RidsEdoMailCenter
 Resource
 RidsAcrsAcnw_MailCTR
 PHolahan, NMSS

MKhanna, NMSS
 ACarrera, NMSS
 KThomas, NSIR
 ACosta, NRO
 GLappert, NMSS

ADAMS Accession No.: Letter: ML18305B312

***concurred via e-mail**

OFFICE	NMSS/DRM/MRPB/PM	QTE*	NMSS/DRM/RRPB/RS*	NMSS/DRM/RRPB/BC*	NMSS/DRM/D*
NAME	ACarrera	JDougherty	GLappert	MKhanna	PHolahan
DATE	11/1/18	11/1/18	11/2/18	11/2/18	11/5/18
OFFICE	NSIR/DPR/D*	RES/DE/D*	NRO/DSRA/D*	NRR/DLP/D*	NRO/DSLE/DD*
NAME	MScott	BThomas	JMonniger	LLund	ACampbell
DATE	11/5/18	11/5/18	11/5/18	11/5/18	11/5/18
OFFICE	RES/DSA/D*	OGC*	NRO/D		
NAME	MCase	SVrahoretis	FBrown (VOrdaz for)		
DATE	11/5/18	11/7/18	11/9/2018		

OFFICIAL RECORD COPY