

February 10, 2014

MEMORANDUM TO: Kathy Gibson, Director
Division of Systems Analysis
Office of Nuclear Regulatory Research

FROM: Michelle Flanagan */RA/*
Fuel and Source Term Code Development Branch
Division of Systems Analysis
Office of Nuclear Regulatory Research

SUBJECT: PUBLIC MEETING TO DISCUSS FUEL FRAGMENTATION,
RELOCATION AND DISPERSAL RESEARCH PLAN AND
REGULATORY RESOLUTION STRATEGY

DATE & TIME: Thursday, March 13, 2014; 12:00 PM – 5:00 PM EST
Friday, March 14th, 2014; 9:00 AM – 5:00 PM EST

LOCATION: U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Commission Hearing Room
Rockville, MD 20852

PURPOSE: The U.S. Nuclear Regulatory Commission staff is performing additional research and analysis on fuel fragmentation, relocation and dispersal under Loss-of-Coolant Accident (LOCA) conditions and is soliciting relevant input from interested parties on various technical issues associated with this subject. The purpose of this meeting is to have technical discussions and an information exchange related to research on fuel fragmentation, relocation and dispersal under LOCA conditions. Various potential approaches to regulatory resolution of fuel fragmentation, relocation and dispersal under LOCA conditions will also be discussed. The potential implications of the research findings to the analysis of non-LOCA events that result in fuel rod rupture will also be discussed. Stakeholders from industry, research institutes, licensees and utilities, regulatory agencies, both domestic and international, and other interested public stakeholders are encouraged to participate in the meeting. The NRC is available to answer questions and to engage in a dialogue in order for external stakeholders to understand the NRC staff's thinking, and for the external stakeholders to ask whether and how the NRC considered specific information, considerations or issues that are of interest to external stakeholders. Stakeholders wishing to make a presentation

MEETING CONTACT: Michelle Flanagan, RES/DSA/FSCB
301-251-7547
Michelle.flanagan@nrc.gov

are asked to call or e-mail the meeting contact by March 3, 2014 and indicate the length of time requested for planning purposes. A detailed agenda will be developed and issued before the meeting, after receiving these requests.

BACKGROUND:

On January 7, 2013, the Commission issued SRM-12-0034 (available in ADAMS at ML13007A478), which provided direction to the staff on a proposed rulemaking (10 CFR 50.46c) on emergency core cooling system performance during Loss-of-Coolant Accidents. The subject proposed rulemaking did not address fuel fragmentation, relocation and dispersal under LOCA conditions; however the SRM provided direction to the staff on this related subject. The SRM stated:

“The staff should complete its research on fuel fragmentation, relocation, and dispersal, and incorporate any necessary changes before requesting Commission approval of the draft final rule. The staff should inform the Commission if this action is not practicable or has unintended consequences. In this case, the staff should provide the Commission an information paper containing additional details of the anticipated research into fuel fragmentation, the staff’s best judgment of the impact the results of that research could have on the proposed rule, and the staff’s best estimate of when final conclusions may be drawn from this work. In addition, this paper should clearly and specifically indicate which elements of the proposed rule, if any, should be deferred pending completion of fragmentation research and which elements, if any, could proceed to implementation without concern that they will be revised based on the anticipated research.”

The staff has completed three stages of a research plan. The first stage was a literature review of historic experimental LOCA programs documented in “Fuel Fragmentation, Relocation, and Dispersal During the Loss-of-Coolant Accident (NUREG-2121).” The second and third stages were experimental and analytical investigations that were aimed at quantifying the amount of fuel fragmentation, relocation and dispersal that could occur under LOCA conditions. The staff presented this work to the ACRS in December 4, 2013 (official transcript and view graphs are available in ADAMS at ML13356A004).

The staff is now developing a white paper to outline their remaining research plan related to fuel fragmentation, relocation and dispersal. The staff will present a summary of the stages of the research plan completed to date and discuss the elements of the remaining research plan. The staff is also developing a white paper that will describe possible alternatives for regulatory resolution of fuel fragmentation, relocation and dispersal under LOCA conditions, including possible staff approaches for responding to the Commission’s direction related to the draft final rule. The staff will describe its preliminary alternatives and approaches, and answer questions on these preliminary alternatives and approaches. The staff will also describe its plan for issuing the White Paper for public information. The potential implications of the research findings to the analysis of non-LOCA events that result in fuel rod rupture will also be discussed. The staff is soliciting any information that interested stakeholders feel should be considered as the staff finalize the research plan and move forward with regulatory resolution of this issue. Any stakeholders interested in making a presentation should call or e-mail the meeting contact by March 3, 2014 and indicate the length of time requested for planning purposes.

CATEGORY 3: This is a Category 3 Public Meeting: Public participation is actively sought for this meeting to fully engage the public in a discussion of research and regulatory approaches for fuel fragmentation, relocation and dispersal. No classified, proprietary, or protected information will be discussed.

TELECONFERENCING: Interested members of the public unable to attend the meeting may participate by telephone via a toll-free teleconference. For additional details, please call or e-mail the NRC meeting contact listed on this meeting notice. Those interested in participating in this meeting by teleconference should call or e-mail the meeting contact as soon as possible, but no later than March 3, 2014.

WEB CONFERENCING: Interested members of the public who are unable to attend the meeting may participate remotely on the internet and via a toll-free audio teleconference bridge-line. For additional details, please call or e-mail the NRC meeting contact listed on this meeting notice. Those interested in participating in this meeting by Web conference should call or e-mail the meeting contact as soon as possible, but no later than March 3, 2014.

PARTICIPANTS: Participant's from the NRC include management and staff from the Office of Nuclear Reactor Regulation (NRR), the Office of New Reactors (NRO), and the Office of Nuclear Regulatory Research (RES).

NRC

Michelle Flanagan (RES)	Patrick Raynaud (RES)
Harold Scott (RES)	Paul Clifford (NRR)
Tara Inverso (NRR)	Shanlai Lu (NRO)

Industry and Public

Various representatives of the industry, from EPRI, fuel vendors, and from utilities, as well as international stakeholders are expected to attend. Representatives from Non-Governmental Organizations (NGO) have been informed of the public meeting.

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ADAMS Accession No.: ML14029A171

OFFICE	RES/DSA/FSCB	BC:RES/DSA/FSCB	D:RES/DSA
NAME	M. Flanagan	R. Lee	K. Gibson
DATE	1/29/14	1/29/14	2/10/14

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