



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

October 19, 2016

MEMORANDUM TO: Bruce A. Watson, CHP, Chief
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

FROM: Marlayna Vaaler, Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF THE JULY 11, 2016, PUBLIC MEETING AND WEBINAR TO
DISCUSS IMPLEMENTATION OF THE DECOMMISSIONING PLANNING RULE
AND THE POTENTIAL NEED FOR PROMPT REMEDIATION REQUIREMENTS

Background

On July 11, 2016, a Category 3 public meeting was held between U.S. Nuclear Regulatory Commission (NRC) staff, representatives of the Nuclear Energy Institute (NEI), members of the public and interested stakeholders at NRC Headquarters, Two White Flint North, Room T 2 B 5, 11545 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to solicit feedback on the implementation of the Decommissioning Planning Rule (DPR), which went into effect in late 2012, at both power reactor and nuclear materials facilities. The DPR applies to the operational phase of a licensed facility, and requires licensees to operate in a way to minimize unplanned releases of radioactive contaminants to the environment.

In 2013 the Commission directed the staff to collect data through 2015 on the success or shortcomings of the DPR and make a recommendation for or against additional rulemaking to put in place requirements for mandatory radiological remediation during operation, also known as prompt remediation. The meeting was intended to collect information on the implementation of the DPR from interested stakeholders in order to determine whether the DPR is sufficient to address remediation issues prior to decommissioning, or if additional regulations in the area of prompt remediation would be beneficial.

The meeting notice dated June 27, 2016, can be found in the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML16179A220. A notice announcing the public webinar and requesting stakeholder comments was also published in the *Federal Register* on July 6, 2016 (81 FR 43959). A list of attendees is provided in Enclosure 1 (note that the names of some participants were not captured).

Meeting

On July 11, 2016, the NRC staff held a public meeting to discuss the implementation of the Decommissioning Planning Rule to date and seek additional input from the public, licensees, Agreement States, non-Agreement States, and other stakeholders on the need for potential rulemaking to address prompt remediation of residual radioactivity during the operational phase at licensed material sites and nuclear reactors.

Of particular interest to the staff was DPR implementation data from: (1) actual scenarios where a licensee had elected to conduct remediation activities, and the reasoning behind that decision; (2) NRC inspection activities; (3) licensee event reports and other required radiological effluent monitoring reports; (4) the financial assurance mechanisms available to support decommissioning at different types of facilities; (5) the results of industry efforts to identify and monitor groundwater contamination at power reactors as part of the NEI 07-07, "Industry Groundwater Protection Initiative" (ADAMS Accession No. ML072610036), and associated groundwater evaluations; and (6) the effectiveness of the associated guidance promulgated by the NRC and industry groups such as NEI and the Electric Power Research Institute (EPRI).

The NRC staff gave a presentation to provide an overview of the history and fundamental requirements of the Decommissioning Planning Rule, discuss the available NRC guidance documents for implementation of the DPR, and outline the next steps for collecting information to make a rulemaking recommendation to the Commission regarding the potential need for additional requirements in the area of prompt remediation. The staff specifically solicited feedback from licensees that have performed remediation activities as part of the DPR, as well as those stakeholders impacted by these activities, on whether the current requirements are adequate to address remediation of unplanned releases during operation. This presentation is provided as Enclosure 2 and can be found in ADAMS at Accession No. ML16287A449.

Representatives from NEI gave a presentation on the industry viewpoint regarding the potential for rulemaking on prompt remediation during operations, noting that power reactor licensees believe that there is not an adequate technical basis to pursue additional rulemaking regarding prompt remediation and that the current regulatory framework is sufficient to ensure the protection of public health and safety and the environment. NEI also noted that all power reactors currently implement the NEI 07-07 Industry Groundwater Protection Initiative, that compliance with the current regulatory requirements is sufficient to prevent the occurrence of future legacy sites, and that the NRC routinely inspects this compliance. This presentation is provided as Enclosure 3 and can be found in ADAMS at Accession No. ML16287A462.

At the end of the meeting, members of the public and interested stakeholders were invited to ask questions, provide feedback, and make comments on the implementation of the DPR to date and the potential need for additional prompt remediation requirements. Many of these comments were able to be addressed by the NRC staff members present at the meeting, and the major comments are summarized in Enclosure 4.

The feedback and comments received during this meeting, as well as the additional information collected by the NRC staff on implementation of the DPR from the sources described above, were used to inform a SECY paper that provides the Commission with "an evaluation of options and the NRC staff recommendations regarding the need for rulemaking to address the remediation of residual radioactivity at licensed facilities during the operational phase of facility

life, also known as prompt remediation.” Once finalized, this SECY paper will be available to the public at ADAMS Accession No. ML16235A298.

No Public Meeting Feedback forms were received.

Please direct any inquiries to me at 301-415-3178 or by e-mail at marlayna.vaaler@nrc.gov.

Sincerely,

/RA/

Marlayna Vaaler, Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Enclosures:

1. List of Attendees
2. NRC Presentation Slides
3. NEI Presentation Slides
4. Summary of Public Comments

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ADAMS Accession No. ML16287A442

OFFICE	NMSS/RDB/PM	NMSS/RDB/LA	NMSS/RDB/BC	NMSS/RDB/PM
NAME	MVaaler	CHolston	BWatson	MVaaler
DATE	10/11/16	10/18/16	10/19/16	10/18/16

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LIST OF ATTENDEES
JULY 11, 2016, PUBLIC MEETING AND WEBINAR
TO DISCUSS IMPLEMENTATION OF THE DECOMMISSIONING PLANNING RULE
AND THE POTENTIAL NEED FOR PROMPT REMEDIATION REQUIREMENTS

U.S. Nuclear Regulatory Commission

Andrea Kock, NMSS
Bruce Watson, NMSS
Marlayna Vaaler, NMSS
Jack Parrott, NMSS
Bob MacDougall, NMSS
Thomas Nicholson, RES
Undine Shoop, NRR
Steve Garry, NRR
Micheal Smith, NRR
Manuel Jimenez, NRR

Nuclear Energy Institute

Janet Schlueter
Jerry Hiatt
Jerry Bonanno

Webinar Participants

Liz Gormson
Jim Cordell
Aaron Linard
Matthew Barvenik
Alan Frazier
Jeff Wagner
Matt Darois
Janet Aremu-Cole
Rebecca Tadesse
Amaryl Morie
Chris Schneidmiller
Martin Cohn
Stewart Bland
David Spangler
Charles Denton
Ron Lavera
Martin Hug
Laura Pring
John Egdorf

Karen Kim
Ernest Bates
James Shepherd
Phung Tran
Glen Vickers
Linda Gersey
Brandon Boyd
Robert Evans
Dawn Kolkman
Zach Ryals
Steve Taylor
Jack Gadzala
Cornelius Maryland
Bill Irwin
Robert Haemer
Xiaoqian (Carol) Wen
Patrick Donahue
Matthew Darois
Mark Richter
Janice Dean
Harvey Taylor
Linda Wilson
Karen Blanchard
Scott Murray
Phil Couture
Stephanie West
Steven Rezab
Bryan Werner
Matthew Bartlett
Adnan Khayyat
Gehan Flanders
Antonio Gonzalez
Glenn Corbin
Richard Lamboi
Bryan Miller
Michael Kunowski
Steven Harrison
James Vouglitois
James Carswell
Ken Yale
Peter Luthiger
Bernard Bevill
Chris Myers
David Miller
Neil Sheehan
Justin Cochran
John Hickman
Larry Harisis

Michael Peters
Howard Shuman
John Mitchell
Lynne Fairbent
B. J. Smith
Bernadette Baca
David Jansen
Lidia Litinski
Quinton Dailey
Cynthia Costello
David J. Allard
Frieda Fisher-Tyler
Kevin O'Sullivan
Dwight Shearer
Gregory Varnadoe
W. John Smith
Jenny Goodman
Diane Becker
Sarah Lopas
Karen Tuccillo
Paul Schwartz
William Maier
Elizabeth Kurz
Rachel Browder
Sheena Whaley
Brian Bonser
Rhex Edwards
Steve Hammann
A. Joseph Nardi
Marlone Davis
Tony Leshinskie
Mark Verdoorn
Eric DiLandro
Richard McGrath
Julian Sessoms
Judith Schuerman
Solange De Santis
Joseph Melnic
Dale Wuokko

Enclosure 2

**U.S. Nuclear Regulatory Commission
Presentation Slides**

ML16287A449

Enclosure 2

Enclosure 3

**Nuclear Energy Institute
Presentation Slides**

ML16287A462

Enclosure 3

SUMMARY OF COMMENTS FROM THE
JULY 11, 2016, PUBLIC MEETING AND WEBINAR
TO DISCUSS IMPLEMENTATION OF THE DECOMMISSIONING PLANNING RULE
AND THE POTENTIAL NEED FOR PROMPT REMEDIATION REQUIREMENTS

During the public comment portion of the prompt remediation public meeting and webinar, the NRC staff received feedback and answered questions from members of the public and other stakeholders on the implementation of the Decommissioning Planning Rule to date and the potential need for additional requirements in the area of prompt remediation.

Questions and feedback were received on the following topics (note that the below is an overall summary of the comments received and does not reflect the NRC staff's acceptance of, or agreement with, any of the opinions stated):

- An industry commenter noted that power reactors are already required to (1) meet the requirements of Title 10 of the Code of Federal Regulations (10 CFR) Part 20, "Standards for Protection Against Radiation," (2) conduct operations in accordance with the as low as reasonably achievable (ALARA) principles, and (3) maintain compliance with the Technical Specifications that mandate dose limits to workers and members of the public. The commenter also stated that the existing regulations are adequate to address remediation during operation and that nothing within the current regulatory framework is "broken."
- An industry commenter noted that the NEI 07-07 Industry Groundwater Protection Initiative has been implemented at all power reactor sites, peer reviewed by industry experts, and inspected by the NRC. The commenter also noted that environmental monitoring programs are in place at all reactor sites and are routinely inspected by the NRC.
- An industry commenter noted that the current regulations are sufficient to address the need for remediation of unplanned releases during operation. The commenter stated that since the DPR already mandates subsurface evaluation, decisions on whether or not to remediate releases, and the overall timeliness of those activities, are based on the DPR, the requirements of 10 CFR Part 20, and the evaluations conducted under 10 CFR 70.25(g), "Financial assurance and recordkeeping for decommissioning," for certain types of licensees, as well as the requirements of the Environmental Protection Agency's 40 CFR 190, "Environmental Radiation Protection Standards for Nuclear Power Operations."
- A State commenter noted that the DPR has not been very beneficial for plants that are already undergoing decommissioning and that the fundamental principles of the DPR should be extended to apply throughout the decommissioning process since the dismantlement and decontamination activities undertaken during decommissioning could change the radiological release profile at the site.

- A State commenter noted that decisions about remediation activities are a good opportunity to engage stakeholders in the decommissioning process, potentially enhance public perception, and increase the involvement of State and local government regulatory bodies.
- A State commenter noted that groundwater monitoring during decommissioning is important because groundwater intrusions can occur after plant shutdown. The commenter also stated that groundwater monitoring standards should be a part of the decision making process for remediation activities, including the use of natural attenuation versus prompt remediation and considerations regarding acute versus chronic contamination scenarios.
- A State commenter noted that Electric Power Research Institute (EPRI) guidance is available to inform the remediation decision making process, and that having an established process to follow increases public trust in, and perception of, the decommissioning process.
- A State commenter noted that guidelines for prompt remediation should be identified and established either through regulation or endorsed industry guidance (i.e., via NEI or EPRI). The commenter also stated that licensees should take action quickly to evaluate unplanned releases, make remediation decisions, and that no unmonitored releases should be allowed.
- A State commenter noted that while the current dose limits established in the regulations do protect the public health and safety, there is a concern that funding may not be available to address additional remediation during decommissioning for contamination that was not properly identified and monitored during the operation of the facility. The commenter also stated that the NRC staff should collect data on previous decommissioning activities, assess the impacts of identifying unexpected contamination at those sites, evaluate how this affected unplanned costs, and determine who had overall site cleanup responsibility.
- A member of the public noted that the regulations could establish a level of contamination at which prompt remediation becomes mandatory, but that this approach would require robust site characterization efforts. The commenter also stated that this approach could evaluate the potential health impacts of any releases, establish appropriate monitoring points across the site, and maintain a broader understanding of the radiological profile of the site.
- An industry commenter noted that tritium releases are monitored adequately at power reactor sites, and that effective monitoring and control of releases may be a better way to address tritium contamination than prompt remediation requirements. The commenter also stated that extraction of groundwater via pumping to address tritium may inadvertently enhance transport of residual groundwater plumes containing radionuclides such as Cesium-137 or Strontium-90, thereby introducing a new challenge for evaluating the possibility of increased discharges of other contaminants to the environment.
- An industry commenter noted that while there is generally little health and safety benefit associated with prompt remediation of tritium, there is a benefit associated with public perception in avoiding the negative impacts of delaying groundwater remediation activities, thereby causing degradation to the groundwater resource. The commenter also stated that, in cooperation with State and local authorities, several licensees have chosen to conduct remediation activities to maintain a positive environmental stewardship relationship.

As part of its efforts to discuss the implementation of the DPR and seek additional input from the public, licensees, Agreement States, non-Agreement States, and other stakeholders on the need for potential rulemaking to address prompt remediation of residual radioactivity during the operational phase at licensed material sites and nuclear reactors, the NRC staff published a notice requesting stakeholder comments in the *Federal Register* on July 6, 2016 (81 FR 43959).

Ten comment letters were received as a result of this notice, and are available for review in the Agencywide Documents Access and Management System (ADAMS) as follows:

- Comment (1) of Larry Nicholson, on Behalf of NextEra Energy and Florida Power and Light, on Consideration of Rulemaking to Address Prompt Remediation of Residual Radioactivity During Operations (ADAMS Accession No. ML16237A053).
- Comment (2) of Janet Schlueter, on Behalf of the Nuclear Energy Institute, on Consideration of Rulemaking to Address Prompt Remediation of Residual Radioactivity During Operations (ADAMS Accession No. ML16237A054).
- Comment (3) of Jordon Gonda, on behalf of the State of Vermont, Agency of Natural Resources, Department of Public Health and Department of Public Service, on Remediation of Residual Radioactivity During Operation (ADAMS Accession No. ML16239A138).
- Comment (4) of Jonathan Downing, on behalf of the Wyoming Mining Association, on Remediation of Residual Radioactivity During Operation (ADAMS Accession No. ML16239A139).
- Comment (5) of Sue Smith, on behalf of the Conference of Radiation Control Program Directors, Inc., on Remediation of Residual Radioactivity During Operation (ADAMS Accession No. ML16239A140).
- Comment (6) of Catherine Ribaldo on Remediation of Residual Radioactivity During Operation (ADAMS Accession No. ML16239A141).
- Comment (7) of Eric Abelquist, on behalf of the Health Physics Society, on Remediation of Residual Radioactivity During Operation (ADAMS Accession No. ML16239A142).
- Comment (8) of Scott Murray, on behalf of Global Nuclear Fuel, on Remediation of Residual Radioactivity During Operations (ADAMS Accession No. ML16242A148).
- Comment (9) of Tim Tate, on behalf of AREVA, Inc., on Proposed Rule Making for Prompt Remediation (ADAMS Accession No. ML16267A379).
- Comment (10) of William Goranson, on behalf of Energy Fuels, on Remediation of Residual Radioactivity During Operations (ADAMS Accession No. ML16250A010).