

September 14, 2012

MEMORANDUM TO: Andrew Persinko, Deputy Director
Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

FROM: Don Lowman, Project Manager */RA/*
Environmental Protection and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: SUMMARY OF JULY 19, 2012, PUBLIC MEETING IN ROCKVILLE,
MARYLAND, ON POTENTIAL REVISIONS TO 10 CFR PART 61

On July 19, 2012, staff from the Office of Federal and State Materials and Environmental Management Programs conducted the third and last of three public meetings for the purpose of gathering stakeholder views and comments concerning the ongoing site-specific analysis rulemaking to revise the Commission's commercial Low-Level Radioactive Waste (LLW) regulations in 10 CFR Part 61. In a January 19, 2012, Staff Requirements Memorandum (SRM), designated SRM-COMWDM-11-0002/COMGEA-11-0002, the Commission directed the staff to seek stakeholder views on the following new features (requirements) to be included in the ongoing 10 CFR Part 61 rulemaking:

- Allowing licensees the flexibility to use International Commission on Radiation Protection (ICRP) dose methodologies in a site-specific performance assessment for the disposal of all radioactive waste.
- A two-tiered approach that establishes a compliance period that covers the reasonably foreseeable future and a longer period of performance that is not *a priori* and is established to evaluate the performance of the site over longer timeframes. The period of performance is developed based on the candidate site characteristics (waste package, waste form, disposal technology, cover technology and geo-hydrology) and the peak dose to a designated receptor.

CONTACT: Donald Lowman, FSME/DWMEP
301-415-5452

- Flexibility for disposal facilities to establish site-specific Waste Acceptance Criteria (WAC) based on the results of the site's performance assessment and intruder assessment.
- A compatibility category for the elements of the revised rule that establish the requirements for site-specific performance assessments and the development of the site-specific WAC that ensures alignment between the States and Federal government on safety fundamentals, while providing the States with the flexibility to determine how to implement these safety requirements.

The July 19, 2012, Public Meeting Notice and meeting agenda were made publicly available prior to the meeting and can be found in the Agencywide Documents Access and Management System (ADAMS) (ML12173A190). The announcement for this facilitated public meeting was published in the *Federal Register* (FR) on July 11, 2011, (77 FR 40817). Approximately 125 individuals participated in this public meeting, both in person and remotely (electronically) via webinar/telephone. Attendance included representatives from the Electric Power Research Institute (EPRI), the Nuclear Energy Institute (NEI), the U.S. Department of Energy (DOE or the Department), the U.S. Environmental Protection Agency, the Conference of Radiation Control Program Directors (CRCPD), Agreement State representatives, current LLW disposal facility operators, utilities, and members of non-governmental organizations. See enclosure.

For this meeting, the staff relied on a format different from that used in the previous two public meetings.¹ Panels of subject matter experts were assembled to address specific regulatory topics raised in the Commission's 2012 SRM. The staff sought to use the information (feedback) obtained from these discussions to better-inform the development of the rulemaking package. For example, expert panel discussions focused on two discrete topics: (1) the definition of a regulatory time of compliance for a LLW performance assessment; and (2) considerations in the implementation of waste acceptance criteria. A third panel was intended to focus on public policy issues related to LLW disposal. The general format for each panel was that prepared remarks were made by each of the invited subject matter experts followed a roundtable discussion between the respective speakers. Afterwards, time was provided for facilitated public discussion between the panelists and members of the audience. Mr. Chip Cameron was the meeting facilitator responsible for moderating the discussions.

The public meeting was transcribed to serve as an official record of the event, and the stakeholder comments and suggestions provided can be found in the transcript:

<http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/uw-streams.html#2012pwi>

Mr. Larry W. Camper, Director of the Division of Waste Management and Environmental Protection (DWMEP), opened the public meeting with a brief history of the site-specific analysis rulemaking to 10 CFR Part 61 and described staff expectations. Later, at the end of the meeting, Mr. Camper also summarized highlights from each of the panel discussions. He expressed the view that the panel discussions as well as the subsequent feedback from the meeting participants had been constructive and informative. Mr. Camper noted that the staff intended to review the July 19, 2012, meeting transcript as part of its 2012 information gathering

¹ See FR notices dated February 22, 2012, (77 FR 10401), and May 8, 2012, (77 FR 26991).

initiative and consider both oral and written comments received as it prepares a revised technical basis document in support of the limited 10 CFR Part 61 rulemaking. Mr. Camper reminded the audiences that public comments regarding the limited rulemaking were due to the NRC by July 31, 2012, should anyone care to submit written comments.

Below is a summary of key comments and observations from each of the three panel sessions.

Panel 1: Time of Compliance/Foreseeable Future

The first expert panel discussion focused on the 2012 Commission direction to introduce to 10 CFR Part 61 a new regulatory requirement to employ a two-tiered approach to the conduct of a LLW performance assessment. Consistent with Commission direction, the first tier would establish a compliance period that covers the “reasonably foreseeable future,” a regulatory concept up to now undefined. Again consistent with Commission direction, the second tier would involve a longer period of performance that is not defined *a priori* and is established to evaluate the performance of the site over longer (geologic/geomorphic) timeframes. In its direction, the Commission further proposed that a longer period of performance would be developed based on the candidate site characteristics and design (waste package, waste form, disposal technology, cover technology and geo-hydrology) and the peak dose to a designated receptor at each LLW disposal facility.

The invited subject matter experts participating in the first panel discussions are listed below.

PARTICIPANT	TITLE	AFFILIATION
Mick Apted	Principal Scientist	INTERA
Paul Black	Chief Executive Officer	Neptune and Company
Dave Esh	Senior Systems Performance Analyst	NRC/DWMEP
Linda Suttora	Technical Advisor	DOE/EM
Rusty Lundberg	Director, Division of Radiation Control	State of Utah
Tim McCartin	Senior Level Advisor for Performance Assessment	NRC/NMSS
Rob Rechard (remote)	Principal Member of Technical Staff	Sandia National Laboratories

Key comments and observations from the first panel discussion included the following:

- Most panelists thought some form of a two-tiered performance assessment approach would be a reasonable regulatory concept to introduce to the regulations. In the matter of the time duration for the respective tiers, there are wide views as to what those time durations should be.
- Some panelists thought the first tier should be defined in such a way so as to allow disposal site operators to distinguish between good sites and designs (for the management of long-lived LLW) over poor sites and designs.
- Panelists who serve as regulators expressed the view that there was value in presenting performance assessment information on estimated health impacts (doses) in the long-term so long as the confidence and attendant uncertainties associated with that information was understood.
- Staff should not introduce a term such as “reasonably foreseeable future” into the regulations without defining its duration. There was some discussion that defining “reasonably foreseeable” was a challenging task and should not be pursued as it is an ambiguous term.

Panel 2: Waste Acceptance Criteria

The second expert panel discussion focused on the 2012 Commission direction to allow licensees the flexibility (option) to establish site-specific WAC based on the results of the disposal site’s performance assessment required by §61.41 and the intruder assessment required by § 61.42.

The invited subject matter experts participating in the second panel discussions are listed below.

PARTICIPANTS	TITLE	AFFILIATION
Brad Broussard	Health Physicist, Texas Commission on Environmental Quality	State of Texas
Jhon Carilli	NNSA/NSO LLW Federal Sub-Project Director	DOE – Nevada
Chris Grossman	Systems Performance Analyst	NRC/DWMEP
David Kocher	Senior Staff Scientist	SENES Oak Ridge
John LePere	General Manager, Nuclear Services	WMG, Inc.
Tom Magette	Senior Vice President – Nuclear Regulatory Strategy	EnergySolutions
John Tauxe	Senior Environmental Engineer	Neptune and Company

Key comments and observations from the second panel discussion included the following:

- Most panelists were supportive of providing flexibility in 10 CFR Part 61 to allow for a WAC option; however, some panelists were concerned that WAC would allow the disposal of waste currently prohibited under State law (i.e., Utah's prohibition concerning greater-than-Class A LLW) and that the final regulation should preserve a state's ability to restrict disposal for certain types and/or concentrations of waste.
- Some panelists expressed the view that the implementation of a WAC option might obviate the need for future rulemakings as LLW streams can be expected to change in the future; the implementation of a WAC option can thus be viewed as lessening the dependence of the current version of the regulation's waste classification system, taking into account the earlier assumptions made in the draft environmental impact statement concerning waste streams.
- Some panelists expressed a concern related to maintaining consistency in the review of WAC-related analyses. Some panelists recommended that NRC staff define a consistent process for conducting a WAC-based review using a combination of both regulations and guidance. It was noted that because of different sites and designs, the development of identical WACs for different disposal facilities was not necessary. One stakeholder suggested that the NRC staff could provide independent reviews of site-specific WACs to ensure consistency on how they were developed.
- Some meeting participants expressed that if the WAC option is added, the future staff assignment to update the §61.55 waste classification tables would no longer be necessary.
- Opinions were mixed among the meeting participants on allowing licensees the flexibility to consider an alternate site-specific active institutional control period based on the development of a site-specific WAC. Some meeting participants were in favor of allowing licensees the flexibility to establish a site-specific duration for active institutional controls based on a particular WAC; some panelists thought 100 years was an appropriate time duration for stipulating how long the government would maintain oversight of a decommissioned LLW disposal site.
- In the matter of regulatory compatibility designation for any new WAC requirement, some of the Agreement State representatives asked for maximum flexibility in determining how any such requirement would be adopted at the state level; some meeting participants raised concerns over trans-boundary issues. Some commented that too much flexibility diminishes public trust in the concept.
- Regarding performance confirmation (i.e. performance assessment maintenance), some meeting participants recommended that the process be focused on continual improvement and learning. The comments focused on a need to routinely update the performance assessment to provide assurance that the site continues to protect public health and safety as new information is gathered (e.g., new waste streams).

Panel 3: Public Policy

The third panel was intended to allow for a less-structured discussion by stakeholders and public interest groups principally on Commission-directed regulatory matters currently before the staff concerning 10 CFR Part 61.

The invited subject matter experts participating in the panel discussions are listed below.

PARTICIPANTS	TITLE	AFFILIATION
Ralph Andersen	Senior Director, Radiation Safety & Environmental Protection	NEI
Lisa Edwards	Senior Program Manager	EPRI
Earl Fordham	Regional Director – Washington State Department of Health	Low-Level Waste Forum
Ed Maher (remote)	Past President, Health Physics Society	Health Physics Society
Arjun Makhijani	President	Institute for Energy and Environmental Research
Jennifer Opila	Radioactive Materials Unit Leader – Colorado Department of Public Health and Environment	CRCPD
Christopher Thomas	Executive Director	HEAL Utah

Key comments and observations from this so-called roundtable discussion included the following (not rank-ordered):

- Depleted Uranium (DU) is a unique waste stream distinctive from classic Part 61 types of LLW. DU clouds the on-going rulemaking discussions on how to revise the existing LLW regulation. DU disposition needs to be examined/re-examined separately on a different track ala greater-than-Class C.
- There is a need for a high level of compatibility with the performance objectives but flexibility with the WAC.
- Clearance criteria for the disposal of low-activity radioactive waste should be developed as the use of existing LLW disposal sites for this low-risk waste stream is inefficient use of those sites.

- Compatibility between the Agreement State's and the Federal government's disposal criteria and radiation standards is essential.
- The LLW Manifest Guidance (NUREG/BR-0204) is not only out-dated, but it needs to be re-written. The staff needs to accelerate the schedule for conducting the currently-proposed 2013 public meeting.
- The currently proposed look-see at the draft proposed rule at the end of the calendar year for 30-days is too short and should for at least 60 days.
- There are a limited number of LLW disposal sites so there is a need to maximize the use of those sites and the adoption of site-specific WACs can help in this effort. On the other hand, this is contrary to the Low-Level Waste Policy Act where the governors of the sited states went to the federal government and said they were becoming the dumping grounds for the whole country.
- The NRC should pursue a rulemaking to produce a more risk-informed and performance-based regulation.
- NRC should not abandon the organ dose element of Subpart C in 10 CFR 61 as organ doses are the foundation of effective dose.
- The ongoing rulemaking effort should be aligned with the envisioned rulemaking to 10 CFR Part 20.
- The ongoing rulemaking effort should better integrate the Agreement State as partners in the process. Agreement State are co-regulators; not stakeholders.

Enclosure:
Attendance List

- Compatibility between the Agreement State’s and the Federal government’s disposal criteria and radiation standards is essential.
- The LLW Manifest Guidance (NUREG/BR-0204) is not only out-dated, but it needs to be re-written. The staff needs to accelerate the schedule for conducting the currently-proposed 2013 public meeting.
- The currently proposed look-see at the draft proposed rule at the end of the calendar year for 30-days is too short and should for at least 60 days.
- There are a limited number of LLW disposal sites so there is a need to maximize the use of those sites and the adoption of site-specific WACs can help in this effort. On the other hand, this is contrary to the Low-Level Waste Policy Act where the governors of the sited states went to the federal government and said they were becoming the dumping grounds for the whole country.
- The NRC should pursue a rulemaking to produce a more risk-informed and performance-based regulation.
- NRC should not abandon the organ dose element of Subpart C in 10 CFR 61 as organ doses are the foundation of effective dose.
- The ongoing rulemaking effort should be aligned with the envisioned rulemaking to 10 CFR Part 20.
- The ongoing rulemaking effort should better integrate the Agreement State as partners in the process. Agreement State are co-regulators; not stakeholders.

Enclosure:
Attendance List

ML12244A494

OFC	DWMEP	DWMEP	DWMEP	DWMEP
NAME	DLowman	TMoon	GSuber	DLowman
DATE	9/7/12	9/10/12	9/12/12	9/14/12

OFFICIAL RECORD COPY

Attendance List

NAME/ AFFILIATION	NAME/ AFFILIATION
BOBY ABU-EID, NRC/FSME	CARLOS CORREDER, US DOE
OLEMEKU ALEDAN, NRC/FSME	SUSAN CORBETT, Sierra Club Nuclear Issues Action Team*
GEORGE ALEXANDER, NRC/FSME	BILLY COX, EPRI
MIGUEL AZAR, Exelon Corporation*	ABIGAIL CUTHBERTSON, DOE/NNSA/Office of Global Threat Reduction
SVEN BADER, Areva*	DIANE D'ARRIGO, Nuclear Information & Resource Service
CYNTHIA BARR, NRC/FSME	CASEY DEITRICH, FDCH*
JERRY BONANNO, NEI*	JOSEPH DICAMILLO, Studsvik*
DORIS BRADSHAW, Military Toxics Project*	NISHKA DEVASER, NRC/FSME*
STEPHANIE BROCK, State of Kentucky*	WILLIAM DORNSIFE, Waste Control Specialists
WARD BRUNKOW, URENCO USA	ARNOLD EDELMAN, DOE/EM*
TED BUCKNER, Southeast Compact*	NORMAN EISENBERG*
TISON CAMPBELL, NRC/OGC	MIKE ELSEN, State of Washington Department of Health*
MARK CARVER, Entergy*	HENRY ERBES, DOE/EM*
S.Y. CHEN, ANL*	JUDY FAHYS, Salt Lake Tribune*
TOM CLEMENTS, Friends of the Earth*	JULIE FELICE*
FRANK COCINA, US DOE/NNSA/GTRI	KATHLEEN FERRIS, Citizens to ENDIT*

Enclosure

DEAN FOLLMANN, NIH*	SHAWN HARWELL, NRC/NRR*
ELIZABETH FOLTZ, State of Kentucky*	RICHARD HAYNES, State of South Carolina*
NATHAN GARNER, State of Kentucky*	BRIAN HEARTY, U.S. Army Corps of Engineers*
MIKE GARNER, Northwest Compact/Washington State Ecology	SARAH HERNESS, Radwaste Monitor
CHRISTINE GELLES, US DOE/EM	HOWARD HUIE, DOE/EM*
DEBBIE GILLEY, State of Florida Department of Health*	ISAIAH HUNTER
SONNY GOLDSTON, EFCOG Waste Management Working Group	DAVID JAMES, EPRI*
JOHN GREEVES, JTG Consulting	RICH JANATI, State of Pennsylvania
HARRY GREGORY, South Carolina Sierra Club*	DONNA JANDA, NRC Region I/RSO*
KAREN HADDEN, SEED Coalition*	SUSAN JENKINS, State of South Carolina
JAMES HANLEY, EPA*	GRAHAM JOHNSON, Duke Energy*
RICHARD HARPER, NRC/OGC	THOMAS KALINOWSKI, DW James Consulting*
ANN P. HARRIS, We The People, Inc. of the U.S.*	J. SCOTT KIRK, Waste Control Specialists*
WILLIE HARRIS, Exelon Corporation*	DEREK WIDMAYER, NRC/ACRS*
JOSEPH E. HART, U.S. Army*	MING ZHU, DOE/EM*
MICHAEL KLEBE, Illinois Emergency Management Agency Division of Nuclear Safety*	JUAN RECTOR, State of Tennessee*
MIKE LEE, NRC/FSME	PHIL REED, NRC/RES*
JAMES LIEBERMAN, Talisman*	ED REGNIER, US DOE*
LISA LONDON, NRC/OGC	WENDY REED, NRC/RES*
TODD LOVINGER, Low-Level Waste (LLW) Forum	A. CHRISTIANNE RIDGE, NRC/FSME/DWMEP
DON LOWMAN, NRC/FSME	KATE ROUGHAN, QSA Global

MICHAEL MANCINI*	DON SAFER, TN*
DAVID MARTIN, US DOE/NNSA/GTRI	JANET SCHLUETER, NEI
SEAN McCANDLESS, EnergySolutions	JOHN SCHRAGE, Exelon Corporation*
CHRISTOPHER McKENNEY, NRC/FSME	DANIEL SCHULTHEISZ, US EPA
JOHN MILLER, International Isotopes, Inc.*	ADAM SCHWARTZMAN, NRC/FSME
TARSHA A. MOON, NRC/FSME/LLW	JAMES SHAFFNER, NRC/FSME
MATT PACENZA, HEAL Utah*	DAN SHRUM, EnergySolutions
LEAH PARKS, NRC/FSME*	DEBRA SHULTS, State of Tennessee*
DREW PERSINKO, NRC/FSME	REBECCA TADESSE, NRC
HOWARD POPE*	HEATHER THACKER*
KATHRYN H. PRYOR, Health Physics Society*	LEE THOMASSON, Dominion Energy
MICHAEL WEBER, NRC/EDO	MARK YEAGER, South Carolina Department of Health and Environmental Control (SCDHEC)*
RACHEL WHITE*	MICHAEL ZITTLE, Oregon State University*
BRIAN WOOD, New York University	