

NUCLEAR REGULATORY COMMISSION

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON DECOMMISSIONING ACTIVITIES AND STATUS

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FRIDAY,

SEPTEMBER 28, 2001

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ROCKVILLE, MARYLAND

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The Briefing was held in the Commissioners' Hearing Room, 1F16, One White Flint North, 11555 Rockville Pike, Rockville, Maryland, at 9:30 a.m., Richard A. Meserve, Chairman, presiding.

PRESENT:

RICHARD A. MESERVE, Chairman

GRETA JOY DICUS, Commissioner

EDWARD MCGAFFIGAN, Commissioner

JEFFREY S. MERRIFIELD, Commissioner

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P-R-O-C-E-E-D-I-N-G-S

(9:29 a.m.)

CHAIRMAN MESERVE: Good morning. Before I start this meeting, I do want to make one announcement that we have had action by the Senate this week that Professor Diaz has been reconfirmed, soon to become Commissioner Diaz again. His swearing in will be next week and so you will again have five people across the table with you shortly and we all look forward to his return.

We're meeting this morning to hear from the Office of Nuclear Material Safety and Safeguards, the Office of Nuclear Reactor Regulation, and the Office of Research on the status of NRC's decommissioning program. This briefing is part of the annual update that is provided to the Commission on this program and as you know, we have a series of meetings on the variety of our programs and arenas.

It's interesting to note the rapidly expanding and contracting scope of the decommissioning program. In the brief period I've been Chairman, we've gone from what was expected to be a surge in license termination and decommissioning of civilian nuclear power plants to a condition where almost all the plants are pursuing license renewal. The once

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1 feared torrent of work in the decommissioning program
2 has evaporated before coming to the NRC, thanks to the
3 changing economics of nuclear power generation.

4 Nonetheless, the decommissioning program
5 still faces an abundance of challenges. We're very
6 much interested in hearing from the staff about its
7 progress and the challenges that it is meeting and I'm
8 sure overcoming.

9 With that, why don't we proceed? Dr.
10 Paperiello?

11 DR. PAPERIELLO: Thank you, Mr. Chairman,
12 and good morning to you and the other Commissioners.

13 We appreciate the opportunity today to
14 brief you on the status of the decommissioning program
15 and the comprehensive approach the staff is pursuing
16 in its decommissioning efforts. This program includes
17 integrated activities of the Offices of Nuclear
18 Material Safety and Safeguards, Nuclear Reactor
19 Regulation and Research.

20 As requested by the Commission in its SRM
21 of August 26, 1999, staff provided a comprehensive
22 overview of its activities in SECY-00-0094. As
23 desired by the Commission, staff then developed a
24 followed-on annual overview in SECY-01-0156 that
25 include progress made in a program over the past year.

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1 Some of the topics you'll hear about this
2 morning include a summary of the decommissioning
3 program, specific activities in material and fuel
4 cycle decommissioning, including the status of the
5 SDMP and complex sites, environmental evaluations,
6 reactor decommissioning, regulatory improvements,
7 research activities, efforts by staff to enhance
8 efficiency and effectiveness and future challenges
9 faced by the staff and the Commission. The
10 decommissioning program has made significant progress
11 in all of these areas.

12 With me at the table is Margaret
13 Federline, Deputy Director of NMSS and Larry Camper,
14 Chief of the Decommissioning Branch in the Division of
15 Waste Management at NMSS.

16 At this time, I'll turn the briefing over
17 to Mr. Camper who will introduce the rest of the
18 presentation team.

19 MR. CAMPER: Thank you, Dr. Paperiello.
20 Good morning, Chairman, Meserve, Commissioners.

21 As Dr. Paperiello pointed out,
22 successfully conducting our decommissioning program
23 involves close coordination of several key
24 organizational components including three major
25 offices and of course, the regions.

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1 I am joined this morning by first line
2 managers that are actively involved in the
3 decommissioning program, who will, in fact, provide
4 you with most of the briefing today. I would first
5 like to introduce Robert Nelson to my right. Bob is
6 the Chief of the Facilities Decommissioning Section
7 within the Decommissioning Branch within NMSS.

8 To the left of Ms. Federline is Melinda
9 Malloy who is the Chief of the Operational Rulemaking
10 and Decommissioning Section in the Risk-Informed
11 Initiative, Environmental Decommissioning and
12 Rulemaking Branch within NRR. To my right again is
13 Dr. William Ott, the Assistant Branch Chief of the
14 Radiation Protection Environmental Risk and Waste
15 Management Branch within the Office of Research. And
16 to the left at the end and representing the regions is
17 Bruce Jorgensen who is the Chief of the
18 Decommissioning Branch of the Division of Nuclear
19 Material Safety in Region 3.

20 We have four key messages we hope to make
21 this morning during our briefing. First, we are
22 closely coordinating our efforts to facilitate the
23 safe and effective decommissioning of licensed
24 facilities. Secondly, our decommissioning process is
25 performance oriented and provides ample flexibility

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1 for licensees to safely decommission their facilities.
2 Thirdly, we face challenges, both technical as well as
3 policy and political in this complex arena. And
4 lastly, we are making progress and we have
5 successfully decommissioned several materials and
6 reactor facilities.

7 We look forward to providing you with an
8 overview of the program and we look forward to
9 answering any questions and having any discussions
10 which you might want to have.

11 Mr. Nelson will start the briefing.

12 MR. NELSON: Could I have Slide 3, please?
13 Slide 3, the overview slide, please.

14 (Slide change.)

15 MR. NELSON: Our presentation today will
16 address the five topic areas listed on this slide.
17 Our discussion of these topics will demonstrate that
18 this program is a team effort that spans the Agency
19 effectively, integrating a substantive involvement by
20 the Office of Nuclear Reactor Regulation, the Office
21 of Nuclear Regulatory Research, and the Regions, in
22 addition to the Office of Nuclear Material Safety and
23 Safeguards.

24 The first four topics will summarize and
25 highlight information provided in the SECY paper

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1 01-0156. The final topic, challenges, is intended to
2 supplement the Commission paper by identifying those
3 challenges that we see as we move forward with the
4 program.

5 Although we have attempted to limit the
6 use of acronyms, several are used in our presentation
7 and we have included a list of acronyms at the end of
8 the hard copy presentation package.

9 Next slide, please.

10 (Slide change.)

11 MR. NELSON: The decommissioning program
12 can be divided into five areas listed on this slide
13 and we'll now discuss each of these areas.

14 Slide 4, please?

15 (Slide change.)

16 MR. NELSON: The materials and fuel cycle
17 portion of the decommissioning program encompasses a
18 wide range of activities including the five that will
19 be featured in this presentation as identified on this
20 slide.

21 Other activities include decommissioning
22 guidance consolidation, reviews of decommissioning
23 financial assurance instruments, interacting with
24 other agencies such as the U.S. Environmental
25 Protection Agency and the Interagency Steering

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1 Committee on Radiation Standards, inspection of the
2 decommissioning sites, maintenance of the computerized
3 risk assessment and data analysis laboratory or CRADL,
4 evaluating agreement statement of the implementation
5 of the license termination rule and public outreach.

6 These activities include significant
7 involvement by the Office of Nuclear Regulatory
8 Research in developing dose assessment tools and the
9 Regions. The Regions have project management for
10 several of the decommissioning sites and they conduct
11 all of our inspections. In addition, the Regions are
12 deeply involved with public outreach activities
13 associated with decommissioning sites.

14 In successive slides, we'll discuss each
15 one of these five highlighted areas.

16 Next slide, please?

17 (Slide change.)

18 MR. NELSON: Since the inception of the
19 site decommissioning management program, a total of 33
20 sites have been removed from this program, 22 by
21 successful remediation and 11 by transfer to agreement
22 States for other federal agencies.

23 Twenty-two of the remaining 27 SDMP are
24 complex sites, have submitted decommissioning plans.

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1 Issues associated with the five sites who
2 have not submitted decommissioning plans include the
3 presence of hazardous waste, lack of funds to complete
4 decommissioning, involvement of State and federal
5 agencies and possible restricted use.

6 Two sites have submitted decommissioning
7 plans proposing restricted release and we know of
8 seven additional sites that are considering this
9 approach.

10 SDMP sites may be transferred to the
11 Commonwealth of Pennsylvania when it becomes an
12 agreement State.

13 Next slide, please.

14 (Slide change.)

15 MR. NELSON: License termination file
16 review project is a real success story. This project
17 involved the coordinated effort of the Regions'
18 headquarters staff and contractor staff.

19 By way of background, in 1989, the General
20 Accounting Office issued a report that raised concerns
21 about the Agency's criteria and procedures used to
22 decommission formerly licensed sites. As a result, in
23 1990, the NRC undertook a review of terminated
24 materials licenses to assure that previous licensed

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1 facilities had been properly decontaminated and did
2 not pose a threat to the public health and safety.

3 The Oak Ridge National Laboratory was
4 contracted to review all materials licenses terminated
5 by NRC or its predecessor agencies from the inception
6 of materials licensing. This review had two
7 fundamental purposes: the first, to identify sites
8 with potential or meaningful residual contamination
9 based on the information in the license documentation;
10 and second, to identify shield sources with incomplete
11 or no accounting that could represent public hazard.

12 Oak Ridge examined in excess of 37,000
13 license files terminated through 1994. From its
14 evaluation of these files, Oak Ridge identified
15 approximately 1200 licenses that required further
16 review and these reviews were conducted by the
17 Regions.

18 As a result of the regional reviews, 39
19 sites were found to have residual contamination in
20 excess of NRC's criteria for unrestricted use. Of
21 these 39 sites, 10 are currently undergoing
22 decommissioning and 29 have been successfully
23 remediated, transferred to an agreement State or
24 another federal agency.

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1 A listing of the contaminated sites and
2 the current status is provided as Attachment 6 to the
3 Commission paper.

4 The Regions have completed reviewing all
5 sites identified by the Oak Ridge National Laboratory
6 and the project is now complete. The staff is
7 preparing a final report which should be finalized
8 today.

9 Next slide, please.

10 (Slide change.)

11 MR. NELSON: In response to a staff
12 requirements memorandum dated March 31, 1997, the
13 staff carried out a decommissioning pilot program.
14 The primary objective of this program was the
15 evaluation of a performance oriented approach for
16 decommissioning that was applied to a few volunteer,
17 noncomplex sites. Under this pilot program, the
18 participating licensees simply submitted their
19 residual contamination goals to NRC and initiated
20 decommissioning without prior approval of the
21 decommissioning plan.

22 The study showed that performed-based
23 decommissioning can be done safely by certain
24 qualified licensees and the program also demonstrated
25 a cost and schedule savings for the Agency.

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1 Although successful, the study's
2 population was small. Staff is preparing a report and
3 a complete report to the Commission on the pilot
4 program is under development and should be delivered
5 to the Commission shortly.

6 Next slide, please.

7 (Slide change.)

8 MR. NELSON: Another significant program
9 area within the decommissioning program is West Valley
10 oversight. NRC's responsibilities under the West
11 Valley Demonstration Project Act include the
12 activities that are listed here. For example, NRC
13 recently observed a technical meeting of DOE staff
14 which was convened to review procedures for making
15 incidental waste determinations.

16 After these procedures are finalized, they
17 will be submitted to NRC for review. In support of
18 activities such as these, we routinely interact with
19 the DOE staff at West Valley, the New York State
20 Department of Environmental Conservation, the New York
21 State Energy Research and Development Authority, the
22 U.S. Environmental Protection Agency, particularly
23 Region 2, and several public interest groups.

24 A recent example of such an interaction
25 was the annual regulatory round table that was hosted

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1 by the Department of Energy on July 17th and a follow-
2 up meeting is scheduled for early in October.

3 Because of the importance of this project,
4 we expect to have focused discussions with the
5 Commission on West Valley in the future.

6 May I have Slide 9, please?

7 (Slide change.)

8 MR. NELSON: In August 2000, the staff
9 provided the Commission with an analysis of issues to
10 facilitate remediation of decommissioning sites in
11 nonagreement States. Staff also provided options to
12 address these facilities and the Commission directed
13 the staff to pursue several of these options. One of
14 the principal options approved by the Commission was
15 to pursue an agreement with the Department of Energy
16 to provide long-term control as authorized under the
17 Nuclear Waste Policy Act for a limited number of
18 decommissioning sites that may choose to use the
19 restricted release option of the license termination
20 rule.

21 NRC and DOE management have entered into
22 an agreement in principle, in March of 2001, to
23 develop that MOU and that MOU would define the process
24 and the criteria to make the determinations necessary
25 regarding transfer of a potential site.

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1 Although we've completed a draft MOU in
2 April of this year, DOE has put the review on hold
3 pending a review of the broader policy issue.

4 The staff is also preparing a response to
5 Commission's request to further develop the option of
6 increasing financial assurance requirements. This
7 information will be included in a Commission paper
8 scheduled for October of this year.

9 In addition, the Commission also
10 tentatively approved the staff's recommendations to
11 request authorized and appropriations for remediation
12 to be directed by State and federal agencies at
13 formerly licensed sites in nonagreement States where
14 there is insufficient funding or there may be
15 insufficient funding.

16 This project is directly tied to the
17 terminated license review project which I described
18 earlier because that review assisted in determining
19 the population of candidate sites.

20 Based on our review to date, the total
21 population of sites that may need funding assistance
22 appears to be quite small. We are in the early stages
23 of discussions with several States and other federal
24 agencies regarding their willingness to direct any

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1 remediation effort. The staff will provide a full
2 report to the Commission in April of 2002.

3 Next slide, please.

4 (Slide change.)

5
6 MR. NELSON: As part of our licensing
7 review process, the staff conducts environmental
8 reviews to determine and assess the potential
9 environmental impacts of any proposed licensing
10 action. Activities included in this area are the
11 review of environmental assessments that are prepared
12 by the staff, the preparation of guidance for
13 developing environmental assessments and environmental
14 impact statements, the review of environmental impact
15 statements prepared by other agencies for which our
16 Agency is a cooperating agency, and the development of
17 environmental impact statements for licensing actions
18 that require them.

19 An example is the revision to NUREG 0586,
20 the generic environmental impact statement on
21 decommissioning nuclear facilities which was published
22 in 1988. This revision will be a supplement which
23 will address only power reactors. The intent of this
24 draft supplement is to consider in a comprehensive
25 manner all aspects related to radiological

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1 decommissioning of power reactors by incorporating
2 updated information, regulations and guidance.

3 We hope to publish the draft supplement
4 for public comment next month which will be followed
5 up by a series of public meetings.

6 At this point I'd like to turn our
7 presentation over to Melinda Molloy, who will discuss
8 the reactor decommissioning portion of our program.

9 MS. MOLLOY: Thank you. In addition to
10 the reactor decommissioning activities, I will also be
11 addressing regulatory improvements which, of course,
12 span the entire decommissioning program.

13 May I have the next slide, please?

14 (Slide change.)

15 MS. MOLLOY: There are presently 19
16 nuclear power plants in the United States that are
17 currently shut down and are in various stages of
18 decommissioning. NRR, NMSS and the Regions work
19 closely together to ensure integration of NRC
20 decommissioning activities.

21 At the beginning of the decommissioning
22 process which starts when the licensee permanently
23 ceases operations, of course, through license
24 termination, work is coordinated in a way that would
25 maximize the staff's expertise. For example, the

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1 project management lead for a plant is taken by NRR
2 until after all the fuel is safely removed from the
3 spent fuel pool to another licensed storage facility
4 such as an independent spent fuel storage installation
5 or a permanent disposal site at which time NMSS would
6 pick up the project management lead.

7 NRC review of license termination plans is
8 closely coordinated between NRR and NMSS, for
9 instance, license termination plans are currently
10 under review for Maine Yankee, Saxton and Adam Neck.
11 The Trojan license termination plan review has been
12 completed.

13 As another example, NRR, NMSS and the
14 Regions work closely on partial site release requests
15 and are handling one currently from Maine Yankee and
16 have completed one already for the Trojan facility.

17 As a planning assumption, as we have over
18 the past several years assumed that there would be
19 about one new plant shut down per year, recent
20 successes in license renewal, as the Chairman
21 mentioned, as well as license transfers have led us to
22 the current planning assumption that there probably
23 won't be any new plant shutdowns over the next several
24 years, although we do plan in the next several years
25 to be processing some license terminations for plants

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1 that are already in the decommissioning pipeline.
2 This time of relative stability gives us an
3 opportunity to reflect on our experience and to
4 consider how we can improve our regulatory program for
5 decommissioning of reactor facilities.

6 Could I have the next slide, the one on
7 experience. There we go.

8 (Slide change.)

9 MS. MOLLOY: Based on reactor
10 decommissioning experience gained during the 1980s and
11 in the early 1990s, in the mid-1990s, the Commission
12 began an effort to significantly change the
13 regulations for decommissioning power reactor
14 facilities to make them more current, efficient and
15 uniform, to reduce regulatory burden and provide
16 greater simplicity and flexibility.

17 Five years ago this past July, the NRC
18 published a final rule that redefined the
19 decommissioning process for reactors. And a year
20 later, the NRC published a final rule, the license
21 termination rule, to provide specific radiological
22 criteria for decommissioning. These two rules, in our
23 view, provide a solid risk-informed, performance-
24 based, regulatory structure for decommissioning power
25 reactor facilities.

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1 Since then, we've handled a number of
2 decommissioning plants and we have seen that these
3 regulations can be effectively implemented and gained
4 insight and experience that indicate that there is
5 considerable flexibility and how the rules may be
6 implemented by our licensees.

7 Relatively to public interest and
8 participation in the reactor decommissioning, under
9 the 1996 process rule as I call it, after the licensee
10 permanently ceases operation of the reactor and
11 submits the post-shutdown decommissioning activities
12 report, the NRC notices its receipt and requests
13 public comment on the report and then holds a public
14 information meeting in the vicinity of the reactor
15 site.

16 Then in order to terminate the facility
17 license, the licensee must submit a license
18 termination plan for NRC review and approval which is
19 accomplished by a license amendment. The NRC will
20 notice receipt of and request public comments on that
21 plan. A public meeting is then held to discuss the
22 content of the plan and the NRC process for reviewing
23 it and then we offer an opportunity for a public
24 hearing on the license amendment that's associated

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1 with the approval of the license termination plan by
2 the Commission.

3 Participation by State and local
4 government representatives and members of the public
5 at outreach meetings has been high. NRC program
6 office and regional representation at these public
7 meetings as well as efforts by our regional offices to
8 get out and make various presentations to local
9 citizen advisory groups and other members of the
10 public are an important aspect of our decommissioning
11 outreach efforts.

12 In early 1999, the staff proposed using a
13 risk-informed approach to decommissioning plant issues
14 and the use of risk insights to guide the development
15 of new and/or revised decommissioning regulations and
16 for review of requests for exemptions. As part of
17 this effort, the staff completed a study of accidents
18 at decommissioning plants, spent fuel pools, which was
19 issued this past January. Based on the conclusions in
20 this study, the staff has developed policy options and
21 recommendations related to regulatory decision making
22 in the areas of assurance, emergency preparedness and
23 safeguards. These are currently under review before
24 the Commission -- they are currently before the
25 Commission for review.

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1 Could I have the next slide?

2 (Slide change.)

3 MS. MOLLOY: We believe we've been very
4 successful in implementing our regulatory processes
5 for decommissioning facilities, yet we continue to try
6 to improve them. For example, there are three
7 rulemakings that are currently underway to further
8 refine the regulatory requirements and options for
9 decommissioning power reactors. These include a
10 recently published rule on partial site release which
11 defines the process for obtaining NRC approval to
12 release a portion of a reactor site or facility for
13 unrestricted use prior to license termination.

14 Earlier this year, there was a publication
15 of a proposed rule on decommissioning trust provisions
16 for power reactors. And most recently, the staff has
17 developed a rulemaking plan and has gained Commission
18 approval to issue an advanced notice of proposed
19 rulemaking related to entombment as an option for
20 decommissioning power reactors.

21 Over the last two years, the staff has
22 developed numerous guidance documents covering a wide
23 range of topics to guide the staff and licensees in
24 implementing the NRC's decommissioning regulations and
25 we also have several other documents under development

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1 are planned. Two of the most important documents
2 already completed include NUREG 1727, the NMSS
3 decommissioning standard review plan and a regulatory
4 information summary which provides information on how
5 the staff plans to handle requests for partial site
6 release from power reactor licensees pending
7 completion of the rule that I just mentioned.

8 Another significant effort under way, as
9 Bob has already mentioned, is the supplement to the
10 generic environmental impact statement on
11 decommissioning that pertains particularly to
12 reactors, the NUREG 0586 and the supplement that we're
13 working on for that.

14 Because public and other stakeholder
15 interest in decommissioning is high and the staff
16 values their participation, we utilize a variety of
17 means to communicate, inform, seek input and feedback
18 and we also routinely are looking for ways to improve
19 our outreach activities. A considerable amount of
20 information is already available on the
21 decommissioning program through the NRC website and
22 the public electronic reading room. The website, as
23 you know, is currently being redesigned to enhance the
24 type and amount of information available and to
25 provide some better ease of use.

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1 In addition, we have developed the
2 reference documents such as NUREG 1628, the NRC NUREG
3 on staff responses to frequently asked questions
4 concerning decommissioning of nuclear power plants.
5 We typically hold public meetings on decommissioning
6 in the evening so that we can get a broader public
7 attendance. For two meetings in the recent past, the
8 staff held an open house and poster session prior to
9 the public meeting so that the public would have an
10 opportunity to speak with the staff and ask questions
11 in a little less formal setting.

12 The development of many NRC regulatory
13 documents includes public meetings, scoping meetings
14 and workshops to inform, solicit, input and discuss
15 various issues.

16 Because the decommissioning is very
17 diverse and responsibilities span several
18 organizations at NRC, interoffice communications is
19 very critical to program effectiveness and we give
20 them a very high priority. There are three primary
21 means to ensure effective communication and
22 coordination, the first of which is the Office of
23 Nuclear Material Safety and Safeguards, Office of
24 Nuclear Reactor Regulation, Office of Nuclear
25 Regulatory Research and Regions have management

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1 representatives that convene and interface on a bi-
2 weekly basis in what we call decommissioning
3 management board meetings.

4 Next, we have annual decommissioning
5 counterpart meetings which bring the NRC
6 decommissioning staff and managers together to discuss
7 issues and developments in the decommissioning arena
8 from the perspectives of the regions and the programs'
9 offices.

10 And thirdly, NRR and NMSS have established
11 an MOU that defines the program responsibilities of
12 both organizations for reactor decommissioning and
13 what the mutual support expectations are. In
14 implementing the MOU, the staff of management of both
15 of the office interface on a very frequent basis.
16 This MOU is presently under review to determine
17 whether any changes are needed or desirable.

18 Because the Office of Nuclear Regulatory
19 Research plays such a vital role in supporting NRC's
20 decommissioning activities, we've asked Dr. William
21 Ott to discuss several examples of recent research
22 efforts, products and initiatives for decommissioning
23 programs.

24 DR. OTT: Thank you. The Office of
25 Nuclear Regulatory Research supports decommissioning

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1 efforts by providing tools to assess environmental
2 contamination on-site and as a consequence of movement
3 through the environment.

4 Slide No. 14?

5 (Slide change.)

6 DR. OTT: Lists five recent products or
7 on-going activities. They're improving this tool box
8 for dose assessment to allow more realistic estimates
9 of doses from environmental contamination.

10 As a background to the current activities
11 described here, I'd like to mention a few
12 accomplishments leading up to this year. The D&D
13 screening model was developed and modified to address
14 concerns about excessive conservatism. The final
15 probabilistic version of this code utilizes parameter
16 distributions for USDA, Department of Agriculture
17 defined soil types which allows more site-specific
18 consideration of certain parameters at each site.

19 We have completed work to characterize and
20 model all the source terms and to assess problems such
21 as activated metals and power plant wastes that may be
22 important to concepts like entombment.

23 We've completed extensive work on uranium
24 absorption which is pointing the way to more
25 phenomenologically correct ways to model absorption

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1 and performance assessments. This work has all laid
2 the foundation for the activities that are listed on
3 the slide.

4 The first of these deals with the RESRAD
5 family of codes which was developed by DOE at the
6 Argon National Laboratory and is widely used within
7 DOE and outside. NMSS staff, EPA staff and many
8 States use one or more versions of this code.
9 Concerns were raised about certain aspects of the code
10 and addressed by RES in response to a user need
11 request from NMSS. Argonne was funded to conduct an
12 extensive review of the technical basis for the
13 parameter values in the code and assumptions in RESRAD
14 and to develop a probabilistic version consistent with
15 the recently published NUREG 1573 on low level waste
16 PA. We are currently working on a probabilistic
17 version of RESRAD build to address building
18 contamination.

19 The second issue with many environmental
20 models is that they represent a single simplification
21 or conceptualization of how an actual environmental
22 system works without considering alternative
23 interpretations of available data.

24 We are doing work at the University of
25 Arizona to develop a methodology for systematically

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1 interpreting available data, selecting appropriate
2 models and then testing those models. Quantification
3 of the uncertainty associated with alternative
4 conceptual models is the ultimate goal of this
5 project.

6 The third item refers to monitoring
7 strategies for the unsaturated zone. Successful
8 detection of containment failure on the unsaturated
9 zone would provide much earlier warning of failure and
10 allow a response that prevents the contamination from
11 actually reaching saturated formations. This will be
12 particularly valuable at sites which qualify for
13 restricted release.

14 Many of the SDMB sites with minimal
15 processing left slags with elevated levels of
16 radioactive trace elements as a result of
17 concentration during metal extraction processes. We
18 have conducted work at Johns Hopkins University and
19 Pacific Northwest National Laboratory to identify the
20 minerals present, which minerals contain the
21 radioactive contaminants and their rates of
22 degradation. The final product which should be
23 available this fall will be leaching model which will
24 allow a more realistic treatment of the source term

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1 over time for these slags than has been possible up to
2 this time.

3 4SIGHT is a code developed for NRC by the
4 National Institute of Standards and Technology to
5 predict long-term performance of concrete as a barrier
6 material at waste isolation sites. It's a first of
7 its kind tool and should be applicable to underground
8 vaults, covers, entombments or anywhere else that
9 concrete is used as a barrier material.

10 We sought to validate this work with both
11 contemporary and archeological data, but we're
12 unsuccessful beyond about 50 to 70 years. The
13 conclusion that you draw from this is that reliance on
14 predictions beyond this time frame will require
15 monitoring to confirm predicted performance.

16 I'd like to end by mentioning a couple of
17 initiatives that we've undertaken in the last year.
18 We have a draft radionuclide transport plan which is
19 being prepared for circulation for outside comment.
20 We've already coordinated this with NMSS and presented
21 the plan to ACNW on July 17th. We next plan to go to
22 NRR and agreement States and then again back to NMSS.
23 And in parallel, to post on the website and issue an
24 FRN seeking public comment. That should be
25 accomplished within the next week or so.

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1 Earlier this year we, along with five
2 other federal agencies, signed a Memorandum of
3 Understanding to facilitate coordination and
4 cooperation on the research and development of all
5 aspects of multi-media environmental models. The goal
6 of this MOU is to seek a shared technology and a
7 common set of tools for environmental analyses, rather
8 than the current structure where each agency develops
9 and supports similar anecdotal capabilities and in
10 some ways we have a diverging technology.

11 The central challenges for this program
12 are complex sites and innovated waste management
13 options, such as entombment and accelerated
14 transportation of waste.

15 A focus currently is complex sites with an
16 eye toward entombment. An area to monitor and track
17 for us is ATW. I think that's the end of my remarks
18 on research.

19 MR. NELSON: Thank you. Dr. Ott's
20 discussion concludes our presentation on the five
21 principle program areas.

22 I'd like to take a few minutes and discuss
23 some initiatives that we've undertaken to enhance the
24 efficiency and effectiveness of the decommissioning
25 program.

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1 (Slide change.)

2 MR. NELSON: This slide lists five such
3 initiatives and in the interest of time I will only
4 address the phased review process and improved
5 inspection efficiency.

6 We've implemented a phased review process
7 for any decommissioning plan of license termination
8 plan that proposes restricted release. The first
9 phase of this review is limited to a review of the
10 financial assurance and institutional control
11 provisions of the plan. Only if a staff finds these
12 provisions acceptable would we initiate the second
13 phase which would involve the rest of the technical
14 review and the development of the environmental impact
15 statement.

16 This approach ensures that our resources,
17 as well as licensee funds, required to complete the
18 technical review and environmental review are not
19 committed until acceptable conditions for restricted
20 release are established.

21 The second example is the improvements to
22 the inspection program. The Regions have undertaken
23 several initiatives to improve efficiency in this
24 area. The initiatives include conducting routine
25 inspections during site visits for other purposes,

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1 limiting the scope of SDMP inspections that do not
2 have -- at sites that do not have approved
3 decommissioning plans. Most of these sites are in a
4 possession only status and therefore there aren't any
5 activities with radioactive materials under way.

6 Focusing inspections on important licensee
7 activities. If multiple inspections are needed, then
8 the inspection activities are divided in a manner that
9 avoids duplication of inspection procedure objectives.

10 Next slide, please.

11 (Slide change.)

12 MR. NELSON: As we move forward with the
13 decommissioning program, we've identified several
14 challenges. In the interest of time, I'll discuss
15 only the first three.

16 Under staff challenges, the first site
17 specific dose modeling. This represents a continuing
18 challenge to both licensees and the staff. While the
19 staff has prepared extensive guidance on both the
20 preparation and review of dose assessments, each site
21 specific analysis by its nature is unique. This is
22 due to variations in hydrogeologic parameters, the
23 nature and extent of the residual activity at the
24 site, scenario chosen to represent the average member

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1 of the critical group, the pathways of exposure at the
2 site and other site specific variables.

3 In addition to the guidance we have
4 developed, we encourage licensees to meet with us
5 prior to submission of the decommissioning plan so we
6 can discuss concept for dose modeling at the site and
7 specific approaches they might take. In this way,
8 when we get the dose modeling, the proposed dose
9 modeling we have a better idea of what we expect from
10 the licensee and what issues may be before us.

11 Additional complications can arise if
12 other agencies are involved that use a dose assessment
13 model other than the one the licensee has chosen to
14 use. To address this issue, the staff, led by the
15 Office of Nuclear Regulatory Research is participating
16 in an interagency effort to develop common approaches
17 to dose modeling.

18 The second example of the staff challenge
19 is the lessons learned that we've experienced during
20 the review of decommissioning plans and license
21 termination plans.

22 We've identified a number of recurring
23 problems that we've seen and also lessons learned from
24 those problems. Over the past year, we've attended a
25 variety of seminars, conferences and public workshops

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1 to discuss these lessons learned. In addition, we are
2 preparing a regulatory information summary to formally
3 communicate these to our stakeholders.

4 Also, as a matter of standard practice, we
5 discuss these lessons learned in our routine meetings
6 with licensees.

7 A challenge that faces both the Commission
8 and the staff is the implementation and compliance
9 with restricted release provisions of the license
10 termination rule. This remains a challenge because of
11 the difficulty associated with licensees identifying
12 an independent third party to assume and carry out
13 responsibilities for any necessary control and
14 maintenance of the site.

15 As discussed briefly earlier to address
16 this issue, the staff is negotiating a Memorandum of
17 Understanding with the Department of Energy to
18 facilitate transfer of restricted release sites to the
19 Department under the Nuclear Waste Policy Act. This
20 section of the act allows, but does not compel, the
21 Department to assume title and custody for such sites
22 following termination of the license by NRC under
23 specific conditions.

24 However, tentative agreement has not been
25 reached and there is no agreed upon date to complete

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1 the MOU. Further, the MOU would not assure the
2 Department's acceptance of any specific site and each
3 site would have to meet the Department's acceptance
4 criteria.

5 I'd like to turn the briefing back over to
6 Larry Camper who will provide concluding remarks.

7 MR. CAMPER: As we hope you can see from
8 our presentation, the decommissioning program is
9 indeed multi-faceted, involving activities that span
10 the Agency. We believe that we are effectively
11 integrating the program's various components including
12 regulation and guidance developing, licensing,
13 research, inspection and very importantly, public
14 outreach.

15 We have initiated and will continue to
16 initiate a number of enhancements that will improve
17 the program's efficiency and effectiveness and we are
18 currently examining the technical and policy issues
19 that confront us.

20 This concludes our formal presentation.
21 We look forward to answering your questions and
22 addressing your comments.

23 Thank you.

24 CHAIRMAN MESERVE: Thank you very much.
25 You covered a lot of territory.

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1 Commissioner Dicus?

2 COMMISSIONER DICUS: Thank you. Almost
3 back in the Dark Ages, early 1990s I think it was,
4 long before I was here at the NRC, obviously before
5 1996, but I was up here for a conference on
6 decommissioning in relation to my responsibilities,
7 former responsibilities and one of the things that was
8 talked about and if I recall correctly it was former
9 Commissioner Gail de Planque, perhaps former Chairman
10 Selin, talking about the importance of site
11 characterization to do a proper decommissioning. And
12 in the paper that -- the information paper that
13 accompanies this presentation, at least three sites
14 are discussed in detail where the clean up of the
15 decommissioning was far more complicated than was
16 originally thought because site characterization had
17 not been done as it should be.

18 I guess my question goes to since this has
19 been an on-going issue, at least for a decade now, or
20 perhaps longer, what are we doing in this regard?
21 Where are we in trying to be sure and I'm talking
22 about if we go into the issue of new power plants and
23 preliminary site acceptance that we might get into,
24 where are we at looking at the tail end of the
25 situation and I wasn't real clear in your presentation

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1 that you really went into the details on the
2 importance of site characterization as it pertains to
3 decommissioning.

4 Does someone want to address that?

5 MR. NELSON: Yes ma'am. Site
6 characterization, as you mention, is very important
7 and is one of a dozen or so lessons learned that we've
8 identified through the recent review process.

9 Site characterization is complicated at
10 the sites that you refer to largely because of the age
11 of the site. The waste was deposited years ago,
12 sometimes 20 to 30 years ago and the records of those
13 depositions simply don't exist any longer and the
14 people who were there at these sites at that time are
15 no longer there.

16 We called the process, the process of
17 reviewing that historical information, called it
18 historic site assessment and it's the fundamental
19 process to start the characterization effort.
20 Unfortunately, if the records don't exist and the
21 people are gone, the only way you can get a complete
22 understanding of the site is by going out and taking
23 samples. In that case, you have to know where to look
24 and again, that draws you back to your historical
25 records. So if the historical records aren't there,

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1 there's a high probability that the characterization
2 you do at the front end is not going to be adequate
3 and what you find is as you remove material, you find
4 more.

5 We have stressed the importance of the
6 historical site assessment in the review and also
7 suggested for these types of sites that licensees try
8 and seek out former employees, residents that may have
9 lived near the site at the time to get some additional
10 information of how this material may have been
11 deposited.

12 COMMISSIONER DICUS: That goes to part of
13 what you were addressing on Slide 16 with implementing
14 lessons learned.

15 MR. NELSON: Yes ma'am. Let's say the
16 sites we have right now that are active sites that we
17 know at some point in time will be decommissioned.
18 Really, it's reactors, but it's also with an emphasis
19 on the material side of the house which I think we're
20 dealing with.

21 What are we doing today to ensure that the
22 historical knowledge is being gathered today for those
23 sites that are still active that might be
24 decommissioned at some point in time to deal with
25 this?

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1 MR. CAMPER: Fair question. We spent a
2 lot of time doing this. Over the last year, for
3 example, either myself or other management within the
4 Office have gone to meetings with professional
5 societies, with licensee meetings and have tried very
6 hard to share with them a series of lessons learned.
7 There are about 12 of them really. This is one.
8 Another one, for example, is that operational
9 groundwater or operational monitoring of groundwater
10 is probably not adequate to determine whether or not
11 you have a groundwater problem in terms of site
12 characterization. So one thing we're trying to do is
13 get out there often and get the word out.

14 We're also publishing the RIS which Bob
15 mentioned in his comments. We are also working with
16 NEI developing a series of questions and answers that
17 will be memorialized within our current on-going
18 guidance consolidation project. It will be a three
19 volume guidance consolidation NUREG for
20 decommissioning and we want to memorialize all those
21 lessons learned in that document.

22 I think more importantly, the point you're
23 making is something we're very, very concerned about
24 because as Melinda pointed out, we have three LTPs
25 right now still in play. We'll go into a brief

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1 hiatus, but we know there's three or four more coming.
2 What's terribly important is that we memorialize these
3 lessons learned, that we document what we have found,
4 that we get the word out and that we work with
5 industry to try to address the problem.

6 MS. FEDERLINE: If I could just add one
7 thing that we feel we need to do is sensitize
8 licensees earlier operating facilities.

9 COMMISSIONER DICUS: That's the point I'm
10 getting to.

11 MS. FEDERLINE: Earlier in the process and
12 this is what we're trying to do with educating people.
13 You and I participated in ANS seminar and I think Russ
14 Malore was a breath of fresh air, the Yankee CEO
15 talking about think it through to the end. In other
16 words, operating facilities have to be concerned and
17 focused on thinking during the operating phase about
18 what's going or what will go on in decommissioning.
19 And we're trying to encourage that by getting Larry
20 out to some operating facilities and to some
21 conferences where operating facilities are
22 participating.

23 COMMISSIONER DICUS: Yes, that's the point
24 I'm making here and I'm glad to know about this and as
25 Margaret mentioned, she and I did participate in that,

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1 but being sure that we're being very proactive in
2 dealing with this so that these problem sites that
3 we're dealing with today, we can leave a legacy in the
4 future that we don't have them to deal with unless
5 it's in some sort of accident scenario.

6 DR. PAPERIELLO: Commissioner, I'd just
7 like to point out that we already have in the
8 regulations in the decommissioning rules requirement
9 to keep records of spills and upsets. I mean the
10 practical matter is you have to keep the radioactive
11 material out of soil. When we talk about complicated
12 sites, we're really talking about soil contamination
13 and in many cases or practices in the 1950s and 1960s
14 at which low level waste was just put into in-ground
15 settling ponds and buried on site and things like that
16 which, of course, led to the current situation.

17 COMMISSIONER DICUS: Okay, switching if I
18 could, Mr Chairman, going a little bit further,
19 switching topics a bit, with regard to our
20 decommissioning regulations and the fact that the
21 agreement States are required to adopt the LTR, at
22 least dose criteria, I can't remember what category
23 it's in. I think it's two or three, but whatever, but
24 14 States have not adopted any decommissioning
25 regulations. Would someone -- I know we have at least

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1 one agreement State, Office of Agreement States and
2 Tribal Programs person with us, but would you care to
3 address where the other 14 are and what are we doing
4 about it?

5 MR. CAMPER: It's a timely question. As
6 you know, the organization of agreement States meeting
7 is coming up week after next.

8 COMMISSIONER DICUS: I think it's going to
9 be on the top --

10 MR. CAMPER: Indeed, it is. And we want
11 to -- there is a decommissioning panel discussion to
12 take place which I'm participating in and one of the
13 things we really want to get a handle on is how is it
14 going out there?

15 It's interesting, we've not seen a
16 groundswell of problems. We've not heard the States
17 come to us and say this is not working well. We've
18 not heard an opposition to the LTR, by and large, to
19 the States that have put their regulations in place,
20 took a more conservative approach than R25 millirem in
21 ALARA for unrestricted.

22 COMMISSIONER DICUS: At least one has gone
23 more conservative, I think.

24 MR. CAMPER: I think there are two.

25 COMMISSIONER DICUS: Two, okay.

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1 MR. CAMPER: I'm not sure which two.
2 Maine is one and Ohio is the other.

3 COMMISSIONER DICUS: Yes.

4 MR. CAMPER: But my sense is that the
5 others are headed toward the LTR. Probably, the
6 Administrative Procedures Act or the equivalent of
7 that or the dealing of the legislature that is slowing
8 it down at this point in time, but we definitely want
9 to talk to them and find out how it's going and what
10 kinds of problems they're observing as they move
11 toward implementation.

12 COMMISSIONER DICUS: To your knowledge, do
13 any of these States have particularly difficult
14 decommissioning sites to do that have not implemented
15 the LTR? Do we have any information?

16 MR. CAMPER: I --

17 COMMISSIONER DICUS: I think we're going
18 to get some feedback.

19 MR. COMBS: I'm Fred Combs, Deputy
20 Director in State Programs. We're not aware of any
21 particularly difficult sites that the States have in
22 mind, but I might also add that the States do have the
23 ability to give the effect of the regulation to what
24 we call a legally binding requirement which could be

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1 a license condition which would be designed to
2 essentially get to the same purpose as the LTR.

3 COMMISSIONER DICUS: Okay, thank you. And
4 if I could, Mr. Chairman, one final question and then
5 I'll give up my time. I had one other question, but
6 I think I'll pass on that for the moment.

7 Regarding, I think this was from Slide 7
8 regarding your pilot study and the evaluation of the
9 pilot study and as this pertained to continuing with
10 almost archaic DSI 9, but I think you made the
11 statement this can be done safely, determining what
12 you're doing in the policy, may be done safely by
13 quote unquote qualified licensees. Would you define
14 what is a qualified licensee? I think you made the
15 comment, Mr. Nelson.

16 MR. NELSON: Yes. What I meant by
17 qualified licensees, maybe that was a poor term, but
18 licensees that met the criteria for inclusion in the
19 program and that would be that they didn't have
20 extensive groundwater contamination, that it was
21 either uniform soil contamination or building surface
22 contamination such that we didn't -- so for these
23 sites, we used the SDMP action plan criteria which is,
24 as you know, is a concentration-based criteria and
25 could be applied to these sites. So it was that type

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1 of site that -- and they had to be volunteer sites in
2 order to be included within the original pilot
3 program.

4 COMMISSIONER DICUS: So would you be able
5 to extend it then -- having done the pilot, you think
6 it works, but would it only be something you would do
7 decommissioning for sites that did not have
8 groundwater contamination?

9 MR. NELSON: That would certainly have to
10 be a consideration if the pilot program were extended.
11 The key element of the -- I view the key elements of
12 the pilot program, we had pre-approved clean-up
13 criteria in the form of the SDMP action plan. We had
14 the soil values. We had the building surface
15 contamination values basically pre-approved. Under
16 the LTR we have a similar situation where we have
17 approved generic criteria for both soil and buildings,
18 but the application of those is specifically soil is
19 limited. For example, the soil criteria cannot be
20 used, the generic criteria cannot be used if there is
21 any groundwater contamination, so again if we were to
22 extend this, it could not -- the likely condition
23 would be the groundwater contamination could not exist
24 at that site and the generic criteria would have to

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1 meet the other -- there are several other conditions
2 would have to be able to be met.

3 COMMISSIONER DICUS: Okay, the other
4 question I had had to do with the cores, but I think
5 I'll pass on that for the moment.

6 Thank you, Mr. Chairman.

7 CHAIRMAN MESERVE: Commissioner
8 McGaffigan.

9 COMMISSIONER McGAFFIGAN: Thank you, Mr.
10 Chairman. I'll start by saying that I think we've
11 made a fair amount of progress. I do think this paper
12 and the paper the preceding year, a major step forward
13 in trying to bring everything together and some of
14 what you all talked about in terms of the coordination
15 among the offices is clearly a step forward from I'd
16 say three years ago. And so I commend you for that.

17 Since nobody -- I don't think the word EPA
18 has been said yet, so I'll say it.

19 (Laughter.)

20 COMMISSIONER DICUS: I came close.

21 COMMISSIONER McGAFFIGAN: You were
22 hinting. One of the things I note, one of the complex
23 sites we have is Kiski Valley and somebody was talking
24 to me recently about one effect of the December 7,
25 2000 EPA uranium rule, MCL rule will be that we may

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1 end up with a lot more Kiski Valleys or at least there
2 will be a lot of people who treat water out there to
3 take the uranium out to get it down to the MCL value,
4 will end up with source material in their filters.
5 Have you all thought about that or did EPA think about
6 that? In the case of Kiski Valley it was because
7 Babcock and Wilcox was nearby, but as I say, it's
8 fairly straight forward if you're yanking a bunch of
9 uranium out into your filtration system, however
10 you're going to do it. You're over time going to end
11 up with source material there and you're probably
12 going to end up with some complex decommissioning
13 issues, depending on how all this works.

14 Is there -- does anybody have a thought?

15 MR. NELSON: I don't know that we
16 specifically examined that at this point, but you
17 would also have actually a mixture of norm and
18 possibly source material because the effluent is
19 carrying things like soils and fertilizers and other
20 naturally occurring materials in addition to whatever
21 might be in their form of licensable material or
22 source material. So it even adds more complexity to
23 the situation in making that distinction.

24 DR. PAPERIELLO: This brings back old
25 memories because once when I was in Region 3, probably

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1 somewhere in the mid-1980s, I had a call from an EPA
2 lab about this subject and I just basically told them
3 the legal answer. If you concentrate uranium and you
4 get it above 500 parts per million, you need a
5 license.

6 I mean that's a legal answer, but that's
7 the way the rules are now written.

8 COMMISSIONER MCGAFFIGAN: When I look at
9 the Kiski -- the discussion here about Babcock and
10 Wilcox' disposal, that's going to be in the Corps of
11 Engineers hands. Do we know if Congressman Mertha --
12 I have not paid attention to the appropriations bills
13 this year. Has he gotten them an additional increment
14 in the FUSRAP program for the fiscal year --

15 MR. CAMPER: Not yet. EPA is currently
16 going through its performance assessment for the site.

17 COMMISSIONER MCGAFFIGAN: So they may not
18 need additional --

19 MR. CAMPER: They may or may not,
20 depending on the outcome, but my understanding from
21 talking to the Corps is the sense they get is
22 regardless of whether their performance assessment
23 indicates that it's a go, in other words, in terms of
24 continuing their remediation process, there remains a
25 strong interest by the Congressman seeing that the

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1 site is remediated. But that is still actively in
2 play as we speak.

3 But one comment on the Kiski thing too,
4 the only thing that complicates this and not only the
5 technical issue raised, but like a Kiski, you get into
6 the question, this question of who's responsible?

7 COMMISSIONER MCGAFFIGAN: Right, who is
8 the licensee.

9 MR. CAMPER: Exactly. The water treatment
10 facility, they view their liability as perhaps not
11 being the appropriate place where it can be placed and
12 who is ultimately responsible and Kiski, for example,
13 we've been working with those folks for a long time.
14 Now we're making a lot of progress recently to get a
15 decommissioning plan in here, but you do go through a
16 lot of the behind the scenes discussions and what have
17 you as to who is ultimately responsible.

18 COMMISSIONER MCGAFFIGAN: I think in the
19 case of some of these Western States with lots of
20 uranium in their water supply, it's going to be
21 ultimately God is responsible, whoever put the uranium
22 in the Rocky Mountains. It's had to sue. Whereas if
23 Babcock & Wilcox may be a more easy person to sue.

24 At the B & W operating, parks operating
25 facility, on page 4 of 60 of this attachment, there's

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1 a mention of a site-specific value for plutonium 241
2 at 1250 picocuries per gram as a clean up level. And
3 that just struck me as high compared to these other
4 levels that I see for thorium or uranium or whatever.

5 Why is it so high?

6 MR. NELSON: Because the contamination is
7 very localized. It's a very small, it's almost a hot
8 spot criteria. This is not widespread contamination,
9 so it's not a number that was derived based on a
10 uniform distribution. It's really very -- almost hot
11 particle spots.

12 COMMISSIONER MCGAFFIGAN: So it's sort of
13 a probabilistic approach in some sense?

14 MR. NELSON: Right, and based on the
15 characterization which we had for the site which is
16 pretty extensive at the time, we knew, had a very good
17 idea where these hot spots were and were able to
18 assess not only the magnitude but the impact so we
19 basically derive this site unique value based on this
20 localization of the contamination.

21 COMMISSIONER MCGAFFIGAN: And that was
22 prior to the decommissioning rule, but it would pass
23 muster today as sort of within the decommissioning
24 rule framework?

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1 MR. NELSON: The plan was developed,
2 approved under the site decommissioning management
3 plan. We have not gone back and done a dose
4 assessment based on those criteria.

5 DR. PAPERIELLO: Can I make an
6 observation? If I recollect, plutonium 241 is a beta
7 emitter, not an alpha emitter. The half life compared
8 to a daughter, americium is fairly short, so you're
9 going to get 1200 picocuries of plutonium decaying
10 into a much smaller concentration of americium. So I
11 think that has a lot to do with the particular
12 dosimetry besides being a small area.

13 COMMISSIONER MCGAFFIGAN: One of the
14 issues that comes up and again I have our EPA friends
15 in mind is looking at what DOE is doing in its
16 decommissioning programs. Do you all try -- I know to
17 try to sort of keep an eye on what decisions DOE makes
18 say at Rocky Flats with the help of various EPA
19 regional offices and just sort of keep book as to what
20 decisions they're making and then sort of guesstimate
21 -- it's very hard. I mean I've looked at some of the
22 Rocky Flats material. I have a heck of a time
23 figuring out what dose they are using as their
24 decommissioning criterion. It looks like a bunch of
25 just sort of deals get made.

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1 But is this something you try to do just
2 to see what's happening in DOE space where EPA is the
3 regulator and see how good a job they're doing?

4 MR. CAMPER: We keep an eye on it. I mean
5 we do monitor from time to time, but of course, we're
6 always driven by our standard. Now what I do find
7 interesting in some of our discussions with our
8 colleagues over at DOE is we've worked toward
9 developing MOU. One of the things that they've had
10 some reservations about as we move toward an MOU or
11 try to develop one is what are we doing in our
12 decommissioning process. Now we do find it
13 interesting that we have what we believe is a solid
14 standard of work toward, it's known and that's what we
15 always strive for. Yet, they have had some concerns
16 about what is our decommissioning process. How clean
17 are your sites? Now when you bear in mind some of the
18 things you were just pointing out that there's a
19 certain irony there, but having said that we have
20 worked diligently to try to make them aware of our
21 decommissioning process and how clean our sites really
22 are that they might ultimately, perhaps assume
23 responsibility for, even under a restricted pathway.

24 COMMISSIONER McGAFFIGAN: Has DOE -- when
25 we, back in the Dark Ages, as Commissioner Dicus

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1 referred to the past, my recollection is around 1997,
2 1998, DOE was trying to do something like our
3 decommissioning rule and indeed, I think we sent them
4 comments around 1999 about their rule to try to be
5 helpful and they solicited us and made comments, but
6 our friends at EPA basically or DOE's friends at EPA
7 basically said if you put that rule forward or you
8 finalize it, I think they'd actually got a proposed
9 rule out, but if you dare finalize your
10 decommissioning rule, DOE would be inconsistent with
11 our what it is drinking water principles and CRCLA
12 principles or whatever and it would be horrible. Has
13 DOE ever formally said they're not going to finalize
14 that rule or is it sort of still sit there with like
15 we've had a fitness for duty rule that sat with the
16 staff for a fair number of years between proposed --
17 is it sort of sitting there waiting for whether the
18 new EPA will take a different view from the old EPA?

19 John Greeves has a hand up in the back.

20 MR. GREEVES: John Greeves. I think we
21 probably ought to give you a hard answer, but my
22 understanding is yes, they have an order out there on
23 their decommissioning approach and it really lines up
24 with the license termination rule.

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1 COMMISSIONER McGAFFIGAN: They have an
2 order out there rather than finalizing that rule?

3 MR. GREEVES: Uh-huh.

4 COMMISSIONER McGAFFIGAN: They never
5 really finalized --

6 MR. GREEVES: They do orders by
7 rulemaking. Maybe OGC can help me on this. They
8 referred to their regulatory structure as a set of
9 orders. They publish them, post them, get comments on
10 it and it looks very much to me like the rulemaking
11 type process that we have, but I think we probably
12 should get back with you. They're instructions to
13 themselves.

14 COMMISSIONER McGAFFIGAN: I understand
15 that, but I could have sworn that they didn't finalize
16 whatever thing that DOE, that EPA --

17 MR. GREEVES: I go to meetings all the
18 time and they refer to these orders, but I think for
19 certainty we can send you something and document that.

20 DR. PAPERIELLO: May I respond to that?
21 To my knowledge, part 834 which is the rule you're
22 discussing is still in draft. I don't think it's been
23 withdrawn. I don't think it's been gone to final.
24 And I'm not aware. I do track things like that.

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1 COMMISSIONER McGAFFIGAN: Was the proposed
2 rule put out for comment and they received various
3 comments including from us and then they just never
4 finalized it? Part 834 --

5 DR. PAPERIELLO: I see references to it on
6 the internet. People discuss it, but I know it's not
7 been final.

8 COMMISSIONER McGAFFIGAN: I wish them well
9 in trying to finalize it.

10 MR. GREEVES: Could I just -- your
11 question is how DOE is using different numbers? At
12 Rocky Flats, a lot of these sites are negotiated with
13 local entities. John Till was going to come in and
14 talk to ISCORS. In fact, a lot of this flows through
15 the ISCORS information process and John Till was going
16 to come in, but due to recent events it got disrupted
17 and talk about how they worked at Rocky Flats. A lot
18 of their numbers are not going to be based on dose.
19 They're going to be based a little bit on site
20 specific negotiation.

21 COMMISSIONER McGAFFIGAN: And on technical
22 practicality those sorts of things probably to some
23 degree.

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1 MR. GREEVES: And negotiation with local
2 stakeholders as to how low can you set this picocurie
3 per gram number.

4 MS. FEDERLINE: We are following EPA's
5 records of decision, not in a formal documented way,
6 but to keep up with it and we're finding that there
7 are a lot of different criteria that end up through
8 this process.

9 COMMISSIONER McGAFFIGAN: I would just
10 mention in passing and I'll pass on at this point, the
11 EPA rule that they proposed in 1996 had -- it didn't
12 get proposed. It got seen by us and never been seen
13 by the public, but it was not dissimilar from our
14 license termination rule in that it had their famous
15 15 millirems and groundwater MCLs, but they also had
16 ACLs, alternative concentration levels and technical
17 impracticality waivers and you could go to 85
18 millirems with restricted release. We go to 100, so
19 there was -- it had many of the same features and lots
20 of flexibility compared to the diatribes we get about
21 15 millirems in groundwater. It was 15 millirems in
22 groundwater was sort of the standard and then let's
23 negotiate which is the way EPA often goes. But I
24 think I've shot my wad. I'll pass to the next
25 Commissioner.

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1 CHAIRMAN MESERVE: Commissioner
2 Merrifield?

3 COMMISSIONER MERRIFIELD: Thank you very
4 much, Mr. Chairman. I'd like to associate myself with
5 the comments of Commissioner McGaffigan relative to
6 the value of SECY-01-0156 which I think is a very
7 useful document and it is a great improvement on a
8 year by year basis from where we were. Obviously, I
9 think this is becoming an annual report. I think it
10 serves two very important purposes, the first one of
11 which I think it demonstrates, allows us a tool for us
12 to more closely follow the activities that we have
13 under way and I think by having the staff go through
14 that, I think it provides an opportunity to review on
15 a site by site basis the activities we have and I
16 think that's important for us in managing all of these
17 programs to make sure we have a good handle on it.

18 Secondly, I think as a public confidence
19 standpoint, I think it is a document to which we can
20 take to our public and our stakeholders and
21 demonstrate to them that we indeed do have a good
22 understanding of the sites that we have under our
23 responsibility and the methodology and a mechanism to
24 have those appropriately cleaned up.

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1 That all having been said, I think the
2 report is about 80 percent of where we need to be. I
3 think there are sites for which we have under our
4 control for which there are decommissioning activities
5 or decommissioning like activities which are not
6 captured within the framework of this report. There
7 is really no significant discussion regarding the
8 uranium mill tailings program. There is no discussion
9 about the decommissioning activities for research
10 reactors or non-power reactors. I think that there
11 are -- it lacks a discussion about the magnitude and
12 significant problems that the Commission may have to
13 face relative to decommissioning and there are some
14 areas where we have decommissioning-like activities at
15 on-going sites which are plant activities. I don't
16 think the Division of Fuel Cycle Safety and Safeguard
17 activities have been picked up within the context of
18 this report and I think to make it a more useful
19 report for all parties it will be helpful for us to go
20 more that direction.

21 My own view is I think there's been a lot
22 of progress between NMSS and NRR in coordinating their
23 activities. I think there's probably more that can be
24 done in that regard. There may be some need for
25 additional brainstorming between the two sides of the

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1 house to see if there are additional area that are not
2 identified and I would suggest to the staff that
3 perhaps further interaction with the Commission to
4 identify areas for which the Commissioners may have
5 information requests or knowledge they'd like to have
6 borne out in this report.

7 I've got two questions. The first one is
8 that besides West Valley which was brought out in the
9 report, what would we characterize as the more
10 significant remediation activities which are currently
11 underway at this point both within NRR and NMSS in the
12 decommissioning area?

13 MR. CAMPER: In terms of sites, I mean for
14 example, Sequoyah Fuels comes to mind. Sequoyah
15 Fuels, as you're aware, has actually approached us
16 about characterizing the waste on their site as
17 11(e)(2) material. That is currently being assessed
18 by the staff. We're in the near term coming to the
19 Commission with a paper that will propose two options
20 and a recommendation.

21 The major issue there, of course, is if in
22 the final analysis the material at the site is
23 characterized as 11(e)(2) material, then that would
24 serve to address as choose to control problem at
25 Sequoyah Fuels.

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1 Now SFC has had dialogue with the effect
2 of the Indian tribe about serving as an institutional
3 control, third party liable for the responsibility.
4 That was a no go. They've had some conversations with
5 the State and the State again is not particularly
6 interested in that liability.

7 So depending upon the decision that we
8 ultimately make as an agency in that particular site,
9 that would have a marked impact upon addressing the
10 more complicated sites.

11 I think on the reactor side, the material
12 side and the fuel cycle side sites are terribly
13 complicated by comparison to the reactor side. In
14 reality, the reactor side is pristine by comparison
15 and I think the reactor, the major problem we've seen
16 in the reactor has been more -- they're implementing
17 a new rule. It is dose-based standard. They're
18 becoming familiar with it. You always go through that
19 type of growing process. I think Commissioner Dicus
20 has pointed out something earlier that's very
21 important in terms of an early problem that reactor
22 sites need to be aware of is the fact that your
23 operational program from under and groundwater will
24 probably not be adequate in most cases to determine
25 whether or not you have a groundwater problem at your

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1 site for purposes of decommissioning, so working with
2 industry to get that word out early is a big deal in
3 the reactor side. But I think in terms of the
4 material sides, there are complicated sides. There's
5 something like 26 or 27 of them. They're making
6 progress. Site characterization is a problem for
7 them, but we are working at the lessons learned.

8 I think the biggest challenge frankly is
9 this question about institutional control as a
10 restrictive release.

11 COMMISSIONER MERRIFIELD: You mentioned
12 the 11(e)(2) issue. Are there any other significant
13 problems or Commission policy considerations
14 associated with the decommissioning program that you
15 see that may be coming forward to the Commission
16 within the context of the next year?

17 MS. FEDERLINE: One thing that I would add
18 here is that an important concept is staff using
19 innovative solutions and over the past year you've
20 seen that we brought forward four or five papers that
21 have suggested innovative solutions to particular
22 sites and I think you will continue to see that over
23 the next year. WE're really looking for practical
24 solutions for these sites and many of them are very
25 specific to the sites because of the problems that are

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1 dictated by either political funding, you know, actual
2 characterization of the materials. So we feel it's
3 important to exercise or bring forward innovative
4 solutions and you're going to see us continuing to do
5 that.

6 MR. CAMPER: To footnote that, I think
7 it's a good point. Licensees, as you know,
8 decommissioning is a very expensive process and
9 they're going to want to find ways under the
10 performance-based approach in the rule to save money.
11 We will be bringing to you in the near term a
12 Commission paper that addresses an innovative
13 approach, if you will. It's being proposed by one of
14 our sites, AAR, it's the Part 40 site. The essence of
15 it, not to get too deeply into it, but what is being
16 proposed is to use the unimportant quantity in value,
17 the .05 percent by weight as a cap to serve as a
18 decommissioning criteria. It has significant policy
19 implications and we hope to move that paper to you in
20 the next week or two. It's currently going through
21 management review at this point. That's a fairly
22 complicated and significant policy issue that we'll
23 need for you to take a good look at for us.

24 COMMISSIONER MERRIFIELD: I appreciate
25 that. I think as we look toward the meeting next

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1 year, you may want to think about highlighting some of
2 the areas where there are particular decommissioning
3 activities that are useful, to go into a little bit
4 more detail and certainly outline the areas of
5 Commission interest or involvement that may be needed
6 over the course of the next year, will probably be a
7 helpful addition to this.

8 A final comment I want to make at the end,
9 but I'm going to pass for now.

10 CHAIRMAN MESERVE: Thank you. I just have
11 a few smaller points in comparison to the ones that
12 Commissioner Merrifield has raised.

13 On Slide 5 you indicate in the SDMP sites
14 that there are five sites that not have submitted
15 decommissioning plans and it is puzzling to me that
16 all these years after this program has been started we
17 have five sites that have not been forced to submit
18 decommissioning plans. I understand they're
19 complicated, but are these ones where we have
20 tolerated this situation? Have we given extensions of
21 time or what's happened that we have five where it
22 isn't even their first step that's been taken?

23 MR. NELSON: I can address that. Several
24 of the sites that have been mentioned already, Kiski
25 Valley which is not a licensee, the principal problem

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1 there is financial. The water authority is a very
2 small municipal authority and their funding is very
3 limited and so whatever funds they expend they need to
4 have some assurance that they're on a path to success
5 so the remedy chosen for that site is crucial because
6 the rate payers will have to bear the cost. The very
7 small rate payer base will have to bear the cost
8 unless they can acquire those funds from some other
9 source. So that's been the principal problem with
10 Kiski Valley.

11 The B&W SLDA is another example of the
12 site that hasn't submitted a decommissioning plan in
13 that site. It has a long history. We had, for
14 example, at one point were anticipating a
15 decommissioning plan and developed a draft
16 environmental impact statement that was ultimately
17 withdrawn and then Congressman Mertha got legislation
18 enacted to have the Corps look at that site.

19 There are two sites in Michigan very
20 closely related. The Michigan Department of Natural
21 Resources site and the SEA Services site. Basically,
22 they're part of the same hazardous waste landfill.
23 And the remedy at these two sites is going to largely
24 be determined by the hazardous waste remedy, so we're
25 working very closely with the State. One of it is a

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1 State licensee, the Michigan Department of Natural
2 Resources. It's the smaller of the two landfill
3 areas. A much larger one is the SEA Services site and
4 it's just taking time to walk through those dual
5 processes of a remedial action program plan under the
6 State requirements and our requirements as well.

7 The Mallinckrodt site is another kind of
8 example. It's actually -- they're decommissioning in
9 two phases. They submitted a decommissioning plan
10 which is called Phase 1 which is looking at the
11 buildings and above ground areas and they owe us a
12 decommissioning plan on Phase 2. The issue --

13 CHAIRMAN MESERVE: St. Louis?

14 MR. NELSON: Yes. The issue with
15 Mallinckrodt is is that there's also a core interface
16 because there is FUSRAP waste and the issue with the
17 licensee -- both the Corps and the licensee is whose
18 is whose, defining between the parties who's
19 responsible for what waste and that has just taken a
20 very long time to get that agreement reached.

21 Another site that may be on the list,
22 Shieldalloy Newfield is actually an active licensee.
23 We've just now been advised that they are planning to
24 shut down and submit a decommissioning plan within the
25 near future.

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1 So I think that covers the sites that are
2 in that category of not submitting decommissioning
3 plans.

4 In summary, as I mentioned in the
5 discussion, the principal concerns are hazardous waste
6 for NMDR and SEA site, cost for Kiski Valley and for
7 Mallinckrodt, it's an interagency issue and for the
8 SLDA we have a new process under way.

9 We're tracking all those very closely and
10 hopefully bringing these along. One of the licensees
11 we had to take enforcement action against for failing
12 to submit a decommissioning plan on time and we now
13 have that we think back on track.

14 CHAIRMAN MESERVE: Okay. I appreciate
15 that. You've indicated that had this effort to
16 engage DOE in developing an MOU where they might take
17 on the long term institutional responsibility that
18 might obviate this policy issue you have at Sequoyah
19 Fuels if that were to be done.

20 Is this a problem of DOE of their having
21 too many items on their plate and they haven't gotten
22 around to it or is the indication you've had is they
23 are resisting taking on the role?

24 MR. CAMPER: Two things. I think some --
25 it is some of that --

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1 CHAIRMAN MESERVE: Some of which?

2 MR. CAMPER: Some of the -- you have new
3 managers, you have new problems. I mean not too
4 recently you were facing the energy crisis in
5 California and I think to some degree there was a
6 reluctance by some of the managers we were talking
7 with at DOE to surface this type of issue at this
8 point in time. I mean literally we were having weekly
9 discussions with our counterparts over DOE and many of
10 the managers weren't in place yet and so they looked
11 at this and they said how important is this as
12 compared to other things they have on their plate
13 right now. So there were certainly some of that.

14 But this has been interesting for us.
15 It's been frustrating on the one hand and at times
16 encouraging on the other. We have made progress. We
17 did get an agreement, in principle, to proceed to
18 develop the MOU. We did have numerous staff
19 interactions and management discussions. We did
20 exchange drafts of the MOU and we thought we were
21 moving along smartly.

22 Then what happened was there became a
23 concern by some of the managers and staff within their
24 long-term stewardship program as to what would
25 entering into an MOU with us, what might it mean? In

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1 other words, a concern about why should, frankly, why
2 should DOE position itself to be voluntarily taking on
3 additional sites, additional liabilities under the
4 151(b) provision. They have quite a basketful
5 already. There is some concern about taking on more
6 voluntarily and there is this question of what does it
7 mean when you say your sites are decommissioned? We
8 work with them to try to clarify that for them so they
9 understand how sites are cleaned when they are, in
10 fact, decommissioned.

11 But I think it came down to the idea that
12 if we enter into an MOU, we're giving the impression
13 that it's a fait accompli that we will take these
14 sites and therefore let us stop now and explore the
15 much broader policy question and as a result of that
16 the work on the MOU has slowed to a crawl.

17 MS. FEDERLINE: If I could just add, we
18 are working this at all levels. Marty met at his
19 level over at DOE and explored -- and we have some
20 indication that they are more ready now at all levels
21 to begin to engage on this.

22 CHAIRMAN MESERVE: I think as you
23 described it, they wouldn't be obligated on any
24 particular site to take the responsibility. They'd
25 have the right to examine it. So isn't quite the all

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1 or nothing obligation that they'd be taking on.
2 They'd have to be satisfied that they were to do it
3 and that ought to give them some solace as to their
4 downside liability that they -- by agreeing in
5 principle they're not agreeing to all sites.

6 MR. CAMPER: That is correct. The 151(d)
7 provision, as you know, of course is discretionary.
8 Case by case. The MOU we put in place to criterion
9 the process whereby they could consider the sites
10 under that discretionary provision.

11 CHAIRMAN MESERVE: You mentioned that this
12 other inter-agency effort that you have to develop
13 tools, I presume this is a follow-on to the MARSSIM
14 effort? Is this the same type of effort?

15 DR. OTT: Actually, no. It's different.
16 This effort is aimed entirely at research and
17 development activities of the two agencies and -- six
18 agencies. And the organizations that are involved are
19 generally their offices of research and development,
20 whereas MARSSIM and MARLAP --

21 CHAIRMAN MESERVE: The actual guidance
22 document.

23 DR. OTT: Right.

24 CHAIRMAN MESERVE: I thought one of you
25 had mentioned that there's an effort underway to

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1 develop common guidance on dose modeling. That's
2 independent of the research effort.

3 Is that a follow on to MARSSIM or what's
4 the -- how is that being pursued? It seems to me a
5 lot of these issues you've raised about interagency
6 coordination would be alleviated in public confidence
7 quite frankly and enormously helped if you had a
8 common approach and it was well, gee, EPA would have
9 required this or some other Agency would have required
10 that. That you have at least a common framework would
11 help to eliminate that friction.

12 MS. FEDERLINE: One of the challenges that
13 we face is in the other agencies. Our research arm is
14 working with their research arm. We're engaged with
15 the regulatory sides of the house. We need to get
16 those other two arms in the other agencies talking to
17 each other and that's one of the challenges that we're
18 working towards. We are engaged on that issue, but it
19 is a challenge.

20 DR. OTT: In this particular case, in our
21 MOU on research, we've actually had considerable
22 interest from the regulatory side of EPA as well as
23 our regulatory side. And the group that's involved
24 with the operation that Carl referred to is MARMOD or
25 MARPAR and Tony Walburst. They've been attending our

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1 MOU meetings and they've actually got a representative
2 in one of our working groups. So there is a nexus of
3 connection there between this effort and the other
4 one.

5 DR. PAPERIELLO: That is a problem. There
6 is more coherence on this within the NRC than the
7 agencies which we are engaged. I find in EPA
8 different offices are modeling differently. So
9 there's a problem within the Agency. DOE is the same
10 way. I'm not saying it's all, but every laboratory,
11 national lab has its own modeling. Okay, and with
12 various degrees of use within the DOE. So this is
13 what -- this effort is a big effort, I won't say a big
14 effort. It's an effort.

15 I think it's important, but there are
16 things we can control, and things we can't control,
17 but we've made -- it's been painful, but we have
18 gradually made progress. These practical problems
19 ISCORS can solve. It's just hard to do. It's just
20 not easy.

21 CHAIRMAN MESERVE: Keep pushing. Okay,
22 thank you very much. On behalf of the Commission, we
23 very much appreciate the briefing as well, and I know
24 -- Commissioner Merrifield, I know, had some closing
25 remarks he wanted to make.

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1 COMMISSIONER MERRIFIELD: Mr. Chairman, in
2 a slightly different tack, quite different tack
3 actually, I do want to make a public comment to you to
4 thank you for the leadership that you have shown for
5 the Agency responding to the incident of September
6 11th. This has been a tremendous challenge for our
7 Agency. Our staff, some of whom are sitting at the
8 table, some of whom are sitting in the audience, have
9 been here around the clock away from their families
10 working hard to make sure that the facilities that we
11 regulate remain the most highly protected and secure
12 industrial facilities in the United States.

13 I know we have not been taking to the
14 media to trumpet all of the work that we have been
15 doing, but I don't think anyone should take from that
16 that we're not working very hard. There are others
17 recently who have taken to the media who have been
18 talking in a "sky is falling" approach as to what is
19 happening with our plants. I don't think that's
20 appropriate. I think some of it is inaccurate. Some
21 of it is misleading. And all of it is needlessly
22 inflammatory.

23 I think one of the lessons we ought to
24 fall back on is the wise words of our former great
25 President, FDR, who once said the most that we have to

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1 fear is fear itself. And I think the actions that we
2 are taking and the Chairman is leading us on in a
3 prudent and appropriate reassessment of our security
4 and interactions and interagency context to make sure
5 that we have the appropriate defense in depth at these
6 facilities is the right way to go and again I want to
7 thank you for the leadership you've shown, Mr.
8 Chairman.

9 CHAIRMAN MESERVE: Thank you very much.
10 I know for several of the people in the room this is
11 the first hour and a half we've had an opportunity to
12 think about something else in the last two weeks.
13 Appreciate your comments.

14 With that, we're adjourned.

15 (Whereupon, at 10:52 a.m., the briefing
16 was concluded.)

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