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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: **BRIEFING ON PART 50**
DECOMMISSIONING ISSUES
PUBLIC MEETING

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 OFFICE OF THE SECRETARY

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6 BRIEFING ON PART 50 DECOMMISSIONING ISSUES

7 ***

8 PUBLIC MEETING

9
10 One White Flint North
11 Room 1F-16
12 11555 Rockville Pike
13 Rockville, Maryland
14 Wednesday, March 17, 1999
15

16 The Commission met, pursuant to notice, at 1:40
17 p.m., the Honorable SHIRLEY A. JACKSON, Chairman of the
18 Commission, presiding.
19

20 COMMISSIONER'S PRESENT:

21 EDWARD MCGAFFIGAN, JR., Commissioner
22 NILS J. DIAZ, Commissioner
23 GRETA J. DICUS, Commissioner
24 JEFFREY S. MERRIFIELD, Commissioner
25

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1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

2 KAREN D. CYR, GENERAL COUNSEL

3 ANNETTE L. VIETTI-COOK, SECRETARY

4 WILLIAM TRAVERS, EDO

5 CARL PAPERIELLO, NMSS

6 JOHN ZWOLINSKI, NRR

7 STUART RICHARDS, NRR

8 JOHN GREEVES, NMSS

9 GARY HOLAHAN, NRR

10 BRIAN SHERON, NRR

11 SAM COLLINS, NRR

12 SY WEISS, NRR

13 FRANK MIRAGLIA, NRR

14 LARRY CHANDLER, OGC

15 DICK ROSANO, NRR

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P R O C E E D I N G S

[1:40 p.m.]

CHAIRMAN JACKSON: Good afternoon, ladies and gentlemen.

The purpose of today's Commissioner meeting is to discuss issues associated with decommissioning nuclear power plants under 10 CFR Part 50. The Commission will be briefed by members of the NRC staff, followed by representatives from the Nuclear Energy Institute, including a representative from a licensee undergoing decommissioning.

The overall objective of the agency in this area is to establish a safe, complete, and predictable Part 50 decommissioning program.

The decommissioning program has received increased attention recently and new questions have been raised. In this regard, the Commission welcomes the NRC staff and NEI to discuss areas that are working well and recommendations for improvement. Remember, I always like straw men.

There has been recent progress in the decommissioning program, including rule-making activities relating to license termination, decommissioning funding assurance, emergency preparedness, and financial protection.

In addition, the Commission recently concluded that back-fit provisions should be applied to decommissioning plans and has approved a staff plan to

1 undertake rule-making in this area.

2 In the interim, the Commission directed the staff
3 to apply existing back-fit provisions informally to
4 decommissioning plans. The Commission is interested in
5 feedback from the staff and NEI as to whether these
6 improvements to the decommissioning program have begun to
7 have their desired effect.

8 In addition, in areas where they have not met
9 expectations, we would like to hear your views on planned or
10 proposed remedies. I understand that copies of the briefing
11 materials are available at the entrances to the room. So
12 unless my colleagues have any comments they wish to make,
13 Dr. Travers.

14 DR. TRAVERS: Thank you, Chairman Jackson. And I
15 should say top of the afternoon to you today.

16 CHAIRMAN JACKSON: That's right.

17 DR. TRAVERS: I can't say top of the morning.
18 Today, the staff, as you've indicated, will discuss the
19 status of power reactor decommissioning activities. All of
20 the things you mentioned we expect to cover, including
21 lessons learned to date and staff plans for moving forward
22 with several rule-makings.

23 Our decommissioning program for reactors is
24 administered by the Office of Nuclear Reactor Regulation and
25 the Office of Nuclear Materials Safety and Safeguards. NRR

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1 is responsible for the front-end of the reactor
2 decommissioning process; that is, from the point of
3 permanent shutdown until the spent fuel is removed from the
4 spent fuel pool.

5 At this point, decommissioning reactors are
6 transferred to NMSS for the back-end of the oversight
7 process, including the determination of when the site has
8 been cleaned up sufficiently to allow termination of the
9 license.

10 NMSS also has the overall program management
11 responsibility for both reactor and materials safe
12 decommissioning to ensure that both programs have consistent
13 requirements and are properly integrated.

14 You mentioned that we do have a full crew of staff
15 representatives today. Let me introduce them to you for a
16 moment. Carl Paperiello, of course, is Director of the
17 Office of Nuclear Materials Safety and Safeguards and John
18 Greeves is the Director of the Division of Waste Management
19 at NMSS.

20 Brian Sheron is the Associate Director for Project
21 Licensing and Technical Analysis in the Office of Nuclear
22 Reactor Regulation. John Zwolinski is the Director of the
23 Division of Licensing Project Management, NRR. Stu Richards
24 is the Project Director for Project Directorate 4 in
25 Decommissioning. And Dr. Sy Weiss is the Chief of the

1 Non-Power Reactor and Decommissioning Project Directorate in
2 NRR.

3 Now, I'd like to turn it over to John Zwolinski to
4 begin our briefing.

5 MR. ZWOLINSKI: Good afternoon.

6 CHAIRMAN JACKSON: Good afternoon.

7 MR. ZWOLINSKI: As you're aware, the Office of
8 Nuclear Reactor Regulation is about to implement a major
9 reorganization. Decommissioning activities, such as
10 rule-making and licensing actions, have been assigned to the
11 project staff. In short, there is essentially an entire new
12 management team attempting to come up to speed rapidly to
13 address decommissioning issues, moving forward.

14 Based on discussions with the former management
15 team, my senior management, including Mr. Collins, it
16 appears that our staff has been working very hard on a
17 number of initiatives related to decommissioning of
18 reactors.

19 However, I note comments from industry and views
20 of my management which suggest it would be prudent to slow
21 our efforts for a short period while the new management team
22 ensures activities in the decommissioning area are fully
23 integrated. This will result in the development of an
24 overall game plan, including schedules for all NRR-sponsored
25 activities. It would be the staff's intention to ensure

1 that stakeholders' views be considered in our future
2 efforts.

3 Having chaired the back-fit review panel on
4 concerns raised by Maine Yankee regarding the staff's review
5 criteria -- in particular, a postulated zircalloy fire -- it
6 seems prudent to ensure this criteria is indeed the correct
7 criteria to continue to rely upon, or, using a risk-informed
8 reasonableness test, recommend an alternative.

9 Clearly, this criteria is the major area of
10 contention between the industry and the staff.

11 Further, I feel it's important to note the
12 reduction in overall risk of plants in the decommissioning
13 phase of operation. In going forward, I feel we must ensure
14 the staff remains sensitive to our four key outcome goals;
15 that is, maintain reactor safety, reduce unnecessary
16 regulatory burden, address public confidence, and work
17 effectively and efficiently.

18 I believe using these filters to focus and embrace
19 these outcome goals will allow the staff to make
20 decommissioning a more efficient and predictable activity.

21 Our briefing today provides some background on
22 efforts underway and begins to provide some of our thinking
23 in going forward. Of note, as Dr. Travers alluded, John
24 Greeves from NMSS is the program manager for decommissioning
25 and NRR is committed to work with NMSS in its oversight

1 role.

2 Tom King, of Research, also has an important role
3 to play. NRR will also work closely with Research.

4 With that as a brief overview, I'd ask Stu to pick
5 up the presentation.

6 CHAIRMAN JACKSON: Before he goes, I'd note that
7 the Commission -- you recently transmitted SECY 99-035 to
8 the Commission, the status of the decommissioning program
9 and site decommissioning management plan sites to the
10 Commission.

11 But the paper only provides a summary of NMSS
12 decommissioning and related activities. Do you see any
13 benefits in providing a coordinated report that there's an
14 assessment of the status of both NMSS and NRR
15 decommissioning activities to provide more of an agency
16 overall perspective?

17 I mean, I think that would be helpful. It also
18 helps in terms of understanding the extent to which
19 everybody is reading from the same page in terms of an
20 appropriate risk-informed approach.

21 In addition, there are parts of at least
22 off-loading fuel and fuel storage on site or in ISFSIs,
23 where there is a crossover between the Part 50 side of the
24 house, so to speak, and Part 72.

25 I think that having such a coordinated report

1 would allow both you, as well as the Commission to begin to
2 develop that coherent point of view. Does that seem to make
3 sense?

4 DR. TRAVERS: Yes, Chairman. We could certainly
5 look to do that and it would be an appropriate follow-on for
6 some of the other pieces of information you've been
7 receiving in terms of some of the rule-making plans that
8 we've been sending up and so forth.

9 So I think that's something we'd certainly look to
10 do.

11 COMMISSIONER McGAFFIGAN: Madam Chairman, we did
12 get, last year, SECY 98-258, a very good paper on what was
13 then planned in the way of the huge volume of NRR-related
14 activity, coordinated with Research, because I see Cheryl
15 Trottier's name on the paper.

16 I think with what Mr. Zwolinski was just saying,
17 NRR has, I think, a bigger job at the moment of getting some
18 coherent --

19 CHAIRMAN JACKSON: No one has made an issue about
20 that. You notice I didn't say do it a month from now. I'm
21 saying that the next time you send up a full-blown report,
22 which presumably will be after you've had a chance to have
23 your reorganization settle in, and I believe it is a useful
24 thing to have a coordinated report.

25 MR. ZWOLINSKI: We do send a paper up every six

1 months on the decommissioning reactors.

2 CHAIRMAN JACKSON: You all work it out.

3 MR. RICHARDS: Good afternoon. I'm Stu Richards.
4 If we could have the first slide, please.

5 This is a overview of what we intend to cover
6 today. I think John has already talked about the fact of
7 the reorganization of NRR. There's new people involved in
8 the decommissioning area. I'd like to talk briefly about
9 the staff's views on the safety and risk issues associated
10 with decommissioning. We'll talk a little bit about the
11 licensing and rule-making.

12 As you already noted, the SECY 98-258 covered that
13 in some detail. We'd like to talk more specifically on our
14 future actions, where we think we're headed.

15 Next slide, please.

16 The staff recognizes that when a reactor enters
17 the decommissioning phase, the risk associated with
18 operation at power is eliminated and that the primary
19 radiological risk remaining is associated with the storage
20 of spent fuel.

21 Additionally, the risk related to spent fuel then
22 further decreases over time due to decay. Risk is also
23 reduced as radioactive materials are removed from the site.

24 For the purposes of reduction of regulatory
25 requirements at a decommissioned reactor, a key point in

1 time is when it can be agreed that accident scenarios
2 involving the spent fuel cannot result in an off-site dose
3 in excess of EPA protective action guidelines.

4 CHAIRMAN JACKSON: Let me ask you a quick
5 question. Do you have some ability to go beyond a
6 qualitative assessment of risk to quantify the changes in
7 vulnerabilities during decommissioning? I mean, is this an
8 area where risk assessment methodologies might have a role
9 in a PRA or something like that?

10 MR. RICHARDS: John already mentioned that the
11 cornerstone here is the zircalloy fire.

12 CHAIRMAN JACKSON: Right.

13 MR. RICHARDS: I'm certainly not an expert on the
14 zircalloy fire, although I've been reading a lot about it in
15 the last two weeks. But one of the issues that is clear is
16 that the studies that have been done in the past have a
17 great deal of uncertainty associated with them and then,
18 furthermore, it depends quite a bit on the site-specifics.

19 There's a number of factors; the burn-up of the
20 fuel, the enrichment, the ventilation of the building and
21 whether it's high density.

22 CHAIRMAN JACKSON: I understand what you're saying
23 precisely. I guess really what I'm asking is whether there
24 is whether there is some overall coherent risk
25 assessment-based approach or methodology that could be

1 usefully applied. The results of the new PRAs, the results
2 are going to fall out differently on a site-specific basis,
3 but you have a consistent approach to assessing the risk in
4 a probabilistic way and it just strikes me that -- you know,
5 I don't know what my friend Commissioner Diaz thinks, but
6 there is an opportunity here to try to develop some overall
7 coherence.

8 Because much of what we do in the decommissioning
9 area is often influenced by public concern and public outcry
10 rather than simply considering the risk posed to workers or
11 to members of the public. And so the issue is in looking at
12 the filters that Mr. Zwolinski mentioned, you have the one
13 of maintaining safety at all times, but you have one having
14 to do with effectiveness and efficiency and reducing
15 unnecessary burden and public confidence.

16 But the only way you're going to balance that,
17 keeping your primary focus on maintaining safety, is to have
18 some coherent approach that allows you to really talk about
19 risk and relative risk in a calm way, and that's all I'm
20 really trying to get at.

21 MR. RICHARDS: I think we'll address that later
22 on, but our intention is to integrate various activities in
23 this area and factor risk into that.

24 MR. SHERON: Chairman Jackson, we have an
25 integrated program that's already started. What we are

1 doing is engaging not only our thermal hydraulic people in
2 terms of doing calculations, understanding better the nature
3 of the zircalloy fire, we also have our fire protection
4 engineers looking at the whole issue of what is a zircalloy
5 fire, what does it mean, how does it compare to other kinds
6 of fires, what are the combustion products, how do they
7 behave.

8 We also have the risk staff, the PRA staff engaged
9 in looking at the overall risk associated with how one
10 arrives at a situation where you actually can get to
11 conditions for, say, a zircalloy fire, whether or not that
12 probability is acceptably low and to what extent you need to
13 consider probability when looking at what the requirements
14 are.

15 The whole plan is to have this all come together
16 in about two months time and hopefully we will have this
17 integrated approach which takes into account balance of
18 maintaining safety, reducing unnecessary burden, looking at
19 risk-informed approaches for this, and come up with a
20 recommended approach for dealing with the whole issue of a
21 zircalloy fire.

22 CHAIRMAN JACKSON: I guess what I'm really
23 basically saying is that the risk-informed approach and, to
24 the greatest extent you can, using risk assessment
25 methodologies, is a method of maintaining safety, becoming

1 more efficient and effective, reducing unnecessary
2 regulatory burden, and maintaining public confidence. So
3 that's why I'm pressing you on the issue.

4 DR. TRAVERS: And you're right, that's just the
5 direction we're heading and we're going to talk about that a
6 little bit further.

7 CHAIRMAN JACKSON: Okay.

8 COMMISSIONER DIAZ: If I may.

9 CHAIRMAN JACKSON: Yes.

10 COMMISSIONER DIAZ: In the same vein, your last
11 bullet, significant risk reduction when dose consequences
12 within EPA protective action guidelines, I'm trying to put
13 that in this overall context. Could you tell me what -- how
14 this fits? Because I don't know. I really think -- you
15 know, it comes at me like an issue that it's has to be dealt
16 with separately, but are we integrating it?

17 How do we deal with this bullet, significant risk
18 reduction, when we consider EPA's action guidelines?

19 MR. RICHARDS: Well, I think it really applies to
20 how we treat the licensees with regard to regulatory relief.
21 As the plant shuts down and the fuel decays, of course, the
22 risk decays likewise. But the licensing actions that we go
23 through tend to occur in somewhat of a step-wise function.
24 I think as we get into discussion a little further, you'll
25 see that, again, the cornerstone has been, for some of the

1 earlier big ticket items, the zirc fire, if you postulate a
2 zirc fire in the fuel, you can get off-site releases that
3 require you to have an ET plan.

4 COMMISSIONER DIAZ: But, again, building on the
5 Chairman's, there must be intercepts in here on a
6 risk-informed approach to what these guidelines are and
7 that's what I don't see.

8 Are we connecting them or there's just a separate
9 step-by-step EPA creates relief when the radioactivity decay
10 is beyond a certain point? Is that something that we just
11 look at it as a fact or is it part of a larger scheme of
12 things? That's what I'm trying to ask.

13 MR. RICHARDS: Well, I think, in the future, as
14 Brian Sheron discussed, we're going to try and look at the
15 larger picture and factor into it the risk and see if what
16 we've been basing our decisions on up to this point, it is
17 the right way to do business. It may or may not.

18 All right. The next slide, please.

19 In recognition of the risk reductions, the staff
20 has worked with decommissioning licensees to reduce
21 unnecessary regulatory burden in the areas of staffing
22 reductions, quality assurance, maintenance programs,
23 emergency planning, safeguards and financial protection.

24 Some of these requirements are reduced by
25 exemptions, such as emergency planning and staffing, while

1 others are addressed in Part 50 and allow prompt reductions.
2 Examples include the maintenance rule, ATWS, the pressurized
3 thermal shock, the EQ rule, and fire protection.

4 Next slide, please.

5 COMMISSIONER MERRIFIELD: Madam Chairman.

6 CHAIRMAN JACKSON: Please.

7 COMMISSIONER MERRIFIELD: As I was reading this
8 slide, here we're dealing with basically technical -- some
9 of the significant things relate to technical
10 specifications, as well as limitations or exemptions
11 associated with emergency planning.

12 Are you confident that you've got the guidance in
13 place such that reviewers can, when they're confronted with
14 different technical situations, that different technical
15 reviewers are consistently evaluating the matters before
16 them?

17 This is especially important, it seems to me, when
18 you have issues of emergency responsiveness and
19 preparedness, which, by its nature, goes beyond design basis
20 events. In essence, is the scope of the review that we have
21 clearly articulated and bounded in a staff guidance or
22 standard review plan? So that there is some degree of
23 consistency there.

24 MR. RICHARDS: My experience is limited to my
25 background reading, but I don't think we're quite there yet,

1 although I think the decommissioning staff recognizes that
2 that's a place we have to go. There are draft standard
3 review plans in the works. There are, of course, the
4 rule-makings, and all of these things, I think leading up to
5 this time, are headed towards having a stronger framework.

6 Where we've been in the past, unfortunately, on
7 some of these issues, they've been dealt with on a
8 case-by-case basis as exemptions and it's not efficient and
9 it runs the risk of having them treated differently over the
10 years.

11 So, yes, we need to do better in that area. I
12 think the staff recognizes that and that's where we're going
13 to head.

14 COMMISSIONER MERRIFIELD: For me, I'm particularly
15 concerned that we end up having arbitrary decisions that
16 cause a great degree of variation from one licensee to the
17 next, and I don't think that puts us in a good light.

18 MR. RICHARDS: We want to be predictable and if
19 we're successful in laying down a good framework, it's going
20 to make our job easier, too.

21 COMMISSIONER MERRIFIELD: Thank you.

22 CHAIRMAN JACKSON: This is more of a process
23 issue. Is there anything that prohibits licensees from
24 submitting decommissioning licensing actions while they're
25 still operating, to avoid unnecessary delays?

1 MR. RICHARDSON: In fact, I'm aware that the staff
2 has, in an outreach program, gone out to facilities who have
3 advertised that they intend to shut down, to try and discuss
4 those steps ahead of time, while they're still operating.

5 The next slide, please.

6 This slide portrays the status of various plants
7 in the decommissioning phase. You should note that most
8 facilities have already passed the point where spent fuel
9 heat-up type events are not an issue with regard to off-site
10 doses reaching the EPA protective action guidelines.

11 Additionally, with regard to Millstone, because
12 it's a multi-unit site, there is really not much benefit to
13 be gained there by a reduction of the EP plan because they
14 already have an EP plan in place for the other two units.

15 Questions on this slide?

16 CHAIRMAN JACKSON: Better go ahead while you have
17 a chance.

18 MR. RICHARDSON: This is one of my favorite
19 slides.

20 CHAIRMAN JACKSON: Well, in that case. Going back
21 to Commissioner Diaz's question on the EPA protective action
22 guidelines. Where along this line?

23 MR. RICHARDSON: Limited spent fuel heat-up. When
24 you get to that point, that's the point at which we
25 determine that you can't get that off-site release and it

1 leads the way for some significant relief.

2 COMMISSIONER DIAZ: And now that this is your
3 favorite.

4 MR. RICHARDSON: I'm going to learn from this.

5 COMMISSIONER DIAZ: It's a good figure, but I
6 don't see the time set up in here, just some milestones.
7 What are the times?

8 MR. RICHARDSON: The times, I think, are largely
9 related to the utility and when they want to make the
10 submittal.

11 COMMISSIONER DIAZ: Okay. But there must be a
12 time in which you're limited spent fuel heat-up situation
13 crosses the EPA, and that, of course, is the subject of the
14 question on the zirc fire and so forth. That's correct?

15 MR. RICHARDSON: That's the 64 dollar -- 64,000
16 dollar question, I guess.

17 COMMISSIONER DIAZ: But anyhow, these are put in
18 here by utilities, but from the standpoint of regulatory
19 decision-making, there will be some times when you get this
20 thing set up properly, we will see a time scale, not only
21 the milestones.

22 MR. RICHARDSON: I'd have to stop short of saying
23 we're going to be able to come back to the table and say 12
24 months or whatever the time is, because, again, sometimes
25 you get into site-specific circumstances with the density of

1 the storage of fuel, the burn-up, those kind of factors.

2 COMMISSIONER McGAFFIGAN: Madam Chairman?

3 COMMISSIONER DIAZ: Two or three months
4 differences?

5 CHAIRMAN JACKSON: I think it really does depend
6 on several factors, but that, again, is part of my pressing
7 you on how and whether you have some ability to kind of
8 really model -- you know, have some approach to modeling
9 where these crossovers may occur, modeling the risk
10 basically.

11 MR. RICHARDSON: Yes.

12 CHAIRMAN JACKSON: It may come out differently on
13 a site-specific basis, but you need to be able to do that in
14 order to put things like the zircalloy fire within the right
15 kind of context.

16 Commissioner McGaffigan.

17 COMMISSIONER McGAFFIGAN: Just to follow-up on
18 that point. I think that's the point that Mr. Zwolinski and
19 Mr. Sheron have been making, that in some sense, this prior
20 approach that we had was very deterministic and it was not
21 risk-informed in the sense of calculating what's the
22 probability of a seismic -- that the zirc clad fire issue
23 comes up because you have to have a postulated drain-down of
24 the spent fuel pool and then spontaneous combustion, as I
25 understand it, in the cladding.

1 So you have to deal with the probability of spent
2 fuel pool drain-down and that's the element I think that's
3 going to risk-inform this process, is looking not just at
4 the consequences, but is it ten-to-the-minus-six,
5 ten-to-the-minus-eight, what is the probability of that --

6 CHAIRMAN JACKSON: Of the initiating event.

7 COMMISSIONER McGAFFIGAN: Of the initiating event.
8 Because there's always, I suppose, some -- as long as you've
9 got spent fuel sitting in a pool, it could be 20 years, it
10 could be one of these places like SONGS-1 that's been shut
11 down forever but if somebody went in there and got the
12 pooled drained and then set off high explosives or
13 something, I suppose they could get a pretty good event
14 going. I don't know.

15 But they've still got a lot of activity left in
16 that fuel. So the question is probabilities, I think.

17 MR. RICHARDSON: Next slide, please.

18 CHAIRMAN JACKSON: You asked for it.

19 MR. ZWOLINSKI: But the slide also depicts a run
20 of NRR activities, as well as NMSS activities, and we're
21 engaged for quite a long time and we're going to try to get
22 after that a little bit better as far as our near-term
23 activities.

24 MR. RICHARDSON: All right. Areas in which
25 decommissioning licensees typically seek relatively early

1 relief from requirements include emergency preparedness,
2 security, and insurance. Exemption requests in these areas
3 have been generally site-specific and have been dealt with
4 on a case-by-case basis.

5 In 1993, the staff initiated a first step to stop
6 dealing with these issues on a case-by-case exemption basis.
7 This step was SECY 93-127, which related to financial
8 protection rule-making. Of particular note, SECY 93-127
9 established the zirc fire as a reasonably credible event
10 from the staff's viewpoint.

11 The premise --

12 CHAIRMAN JACKSON: Is it still reasonably
13 credible?

14 MR. RICHARDSON: Well, that's, I think, what we're
15 going to take under review again. Up to this point, the
16 staff has been doing reviews on that basis.

17 CHAIRMAN JACKSON: You know, the reason it's an
18 important one is that, as I recall, they wouldn't appear --
19 I believe you indicated at the time that it was a seismic
20 event or some design failure mode of a spent fuel pool that
21 could lead to something like this.

22 One could reasonably ask if that's a credible
23 event. Is it not credible for operating reactor, since they
24 have fuel stored? And so it's important to answer the
25 question in the overall probabilistic sense, because it has

1 implications, I would claim, not just for decommissioning
2 plants, but for operating plants, anytime you have the fuel
3 stored.

4 I think that was a point, in a sense, that
5 Commissioner McGaffigan was alluding to, that anytime we
6 have it --

7 COMMISSIONER MERRIFIELD: Madam Chairman?

8 CHAIRMAN JACKSON: Yes, please. Good,
9 participatory meeting.

10 MR. MIRAGLIA: With respect to the credibility
11 event for operating plants, that issue did come up in the
12 mid '80s, I believe, and it was looked at in a generic way
13 and also a plant-specific way, and the event of that fire
14 was bounded by the other accidents that were looked at in
15 terms of the environmental --

16 CHAIRMAN JACKSON: So that's why you didn't lift
17 it out.

18 MR. MIRAGLIA: In terms of safety. And so it
19 didn't --

20 CHAIRMAN JACKSON: You didn't lift it out.

21 MR. MIRAGLIA: Didn't come as a significant
22 contributor and the emergency plans and everything else was
23 in place.

24 So that was looked at in that context in about the
25 mid '80s.

1 CHAIRMAN JACKSON: And I appreciate the point
2 you're making in terms of where the probabilities of some
3 event with potential great consequence for the public and
4 something -- one thing swamping another, but there's still a
5 fact that we get pressed from time to time on the whole
6 spent fuel pool issue.

7 MR. MIRAGLIA: I understand.

8 CHAIRMAN JACKSON: And so the one thing still is
9 bounding for that part. So it's just -- it's almost like a
10 parenthetical remark, but it's --

11 MR. MIRAGLIA: And if I could add, in the context
12 of the paper that Stu just mentioned, in terms of financial
13 protection, it was looked at and in the context of
14 developing what model should be used to get relief from
15 indemnity requirements, the reasonably credible is tied to
16 the Price Andersen type language and the actions described
17 indicated that it would take a seismic event and that this
18 was probably still very low probability.

19 But in that context, that was a reasonable place
20 to start and I think what we've shown in terms of where
21 we've been in trying to implement that, it deserves a
22 re-look and that's what the staff is engaging in right now.

23 CHAIRMAN JACKSON: Thank you.

24 COMMISSIONER MCGAFFIGAN: This is a question that
25 maybe is really for the second panel. But when we did that

1 paper in '93, was this issue highlighted and did you get any
2 immediate feedback from the industry at that time saying
3 there might be a problem here or was decommissioning so
4 distant an issue at that point that there wasn't a lot of
5 attention paid to the paper?

6 MR. WEISS: We didn't receive any industry
7 comments on that. There was an SRM that came back down from
8 the Commission to do that effort, to determine what the
9 temperature and the time should be.

10 DR. TRAVERS: But the issue of a zirc fire, as
11 Frank just mentioned, is reasonably credible in the context
12 of Price Andersen requirements, was highlighted in the
13 paper, and it was really the basis upon which the Commission
14 SRM was written. The option that was proposed and ultimately
15 accepted included that as the driving function for reducing
16 ultimately -- I think it's the secondary indemnity
17 requirements in some cases.

18 COMMISSIONER McGAFFIGAN: Right, the Price
19 Andersen.

20 DR. TRAVERS: Price Andersen.

21 CHAIRMAN JACKSON: Commissioner Merrifield.

22 COMMISSIONER MERRIFIELD: Going back to 1993, that
23 was also at the point where the Commission directed the
24 staff to develop an analysis for the appropriate cooling off
25 period for a zirconium fire. Subsequently, Brookhaven did a

1 report, which I think was in 1997, which came up with some
2 separate analysis for PWR and BWR cooling off periods.

3 We are now in 1999, where are we as a Commission
4 in our analysis of the Brookhaven model and when are we to
5 expect a final determination on where we are going to be
6 going with that issue that we've been searching out since
7 1993?

8 MR. SHERON: I'll try and answer that. As I said
9 before, we have this integrated study going on. One part of
10 that study is to do thermal hydraulic analyses of the spent
11 fuel pool using what we believe is a more advanced thermal
12 hydraulic model than what Brookhaven used.

13 My understanding of the Brookhaven model is they
14 sort of instantaneously assumed all of the water was lost in
15 the pool and then the fuel would heat up and there was no
16 consideration, for example, of how one would lose the water.

17 For example, if you only lose the water by a
18 seismic event, I think as the Chairman said, that's a very,
19 very low probability event, for example, then perhaps the
20 way you do it is through losing cooling and then it's a slow
21 boil-off, then you have to look at the heat transfer
22 mechanisms because now you would have steam cooling, as well
23 as radiation effects, and you would have a much longer time
24 to find replenishment water.

25 So, again, one has to look at the whole integrated

1 effect, both the thermal hydraulics, from a more advanced
2 standpoint, as well as the actual sequences and relative
3 probabilities, and that's what we're doing now and hopefully
4 in about two months we will have sort of recommendation.

5 But I think to answer your question specifically,
6 we're doing a more sophisticated analysis than we believe
7 what Brookhaven had done in 1996.

8 COMMISSIONER MERRIFIELD: I think that's positive
9 and the reason this raises a question for me is, obviously,
10 as a Commission, we should never short-change our commitment
11 to safety and ultimately we want to make sure that we come
12 up with the right numbers and the right analysis at the same
13 time.

14 There are -- I'm a New Hampshire Yankee, not a
15 Maine Yankee, but there are facilities out there where this
16 makes real dollars. These are non-operating plants.
17 Ultimately, the cost of that is going to be passed off to
18 consumers.

19 And I think we shouldn't lose sight of that as
20 we're going about the process of making sure we make the
21 right determination.

22 COMMISSIONER DIAZ: You just said something that
23 is very interesting to me, which is how you remove heat from
24 this fuel element and, of course, there is always a tendency
25 of just looking at convection. But in reality, there are

1 many ways in which you would lose heat and, of course,
2 you've got to remember that for some years, the only thing I
3 had to cool fuel elements I was working with was radiation.

4 Radiation is a great equalizer. You can have fuel
5 element very, very, very cool in here and one very, very,
6 very hot in here. They might already irradiated into each
7 other. What they do is actually they share the heat and the
8 masses get combined and you -- is our analysis taking into
9 consideration the fact that in this pool, even if you have
10 fuel elements that have only been out three months, another
11 has been out five years, that there is a tendency to average
12 temperatures when you are in a certain confined environment
13 and you have a little bit of conduction, a lot of
14 convection, and a little bit of radiation as the temperature
15 goes up.

16 MR. SHERON: I don't know. Is Gary --

17 MR. WEISS: I think it is. Some of the licensees
18 have gone to a checkerboard array in loading spent fuel
19 pool, so they'll have the hot assemblies surrounded by the
20 cool assemblies.

21 MR. HOLAHAN: This is Gary Holahan, of the staff.
22 My recollection of the method used by Brookhaven, I don't
23 recall it including radiative heat transfer. I think it was
24 probably assumed to be minimal in a tightly packed assembly,
25 in a closed box. So I think that's just an example of one

1 of the things, one of the assumptions that we want to go
2 back and re-look at.

3 COMMISSIONER DIAZ: Because if it gets hot enough
4 to get a fire, it gets hot enough to radiate.

5 MR. HOLAHAN: Yes. And I think one --

6 COMMISSIONER DIAZ: A little bit.

7 MR. HOLAHAN: One of the things we're interested
8 in, of course, these are closed boxes and so radiation to
9 the --

10 COMMISSIONER DIAZ: They radiate into each other,
11 but the temperature gets more uniform and distributed, yes.
12 It doesn't radiate out a lot. It radiates inside.

13 MR. SHERON: If you're not busy for the next two
14 months, we could do that.

15 MR. RICHARDSON: The point of this slide is that
16 the staff's use of the zirc fire originated somewhat with
17 the paper and that has had impact on exemption requests in
18 EP and insurance and, to some extent, security.

19 Those three areas, as has been mentioned, involve
20 some significant costs to the utility and that's one of the
21 reasons we want to look at that so hard.

22 Next slide, please.

23 CHAIRMAN JACKSON: Let me -- never mind.

24 MR. RICHARDSON: Based on the staff's experience
25 to date and based on industry comments, the site-specific

1 analysis needed to demonstrate that a zirc fire cannot occur
2 are time-consuming to perform and time-consuming for the
3 staff to review.

4 Additionally, dealing with issues on an individual
5 exception basis precludes the degree of regulatory
6 predictability that we desire, hence the need to look into
7 this area.

8 Next slide, please.

9 COMMISSIONER DICUS: Madam Chairman.

10 CHAIRMAN JACKSON: Please.

11 CHAIRMAN DICUS: Before he removes that slide.
12 It's my understanding that the staff performed what was
13 called a simplified heat-up analysis of the Maine Yankee
14 spent fuel pool in order to expedite their exemption
15 approval process. I guess that leads me to ask perhaps
16 three questions.

17 First of all, is my understanding correct? Then
18 if it is, if this could be done for Maine Yankee, is it
19 possible for the staff to develop some sort of generic
20 methodology for verifying the results of licensees' analyses
21 or provide an NRC-approved methodology to licensees to
22 perform such analyses?

23 And if my understanding is correct, why couldn't
24 Maine Yankee use a simplified method for these analyses?

25 MR. WEISS: What the staff did was do an adiabatic

1 heat-up calculation of the fuel assembly and that assumed no
2 heat left the fuel assembly and we calculated -- the staff
3 calculated that it would be ten hours before this particular
4 assembly would reach the temperature at which we'd have to
5 worry about the zirc fire.

6 We also looked at this ten-hour period as
7 providing enough time to evacuate people, if that was
8 necessary, and that was the reason -- the justification for
9 approving Maine Yankee's exemption.

10 CHAIRMAN JACKSON: Let me ask -- do you want to
11 continue on this?

12 MR. SHERON: On the second part of your question
13 about could we provide any kind of, say, a model, what I'm
14 hopeful is that when we finish this integrated study that I
15 described, that could lead to a number of possibilities.
16 One might be, for example, if a licensee, for example, could
17 demonstrate the ruggedness, the seismic ruggedness of their
18 spent fuel pool, as well as, say, an ability to provide some
19 sort of makeup water at some certain time, for example, if
20 you had lost cooling, for example, because we may be able to
21 demonstrate, from a risk standpoint.

22 Otherwise, there may be ways to come up with a
23 simplified method to do some sort of a heat-up analysis, but
24 hopefully this is what this whole integrated study will
25 flesh out for us.

1 COMMISSIONER DICUS: And that goes back, I think,
2 to Commissioner McGaffigan's point that he raised first
3 about probability of initiating event occurring in the first
4 place.

5 MR. SHERON: Yes.

6 MR. ZWOLINSKI: Commissioner Dicus, in going
7 forward, we may be able to get to the point where we would
8 even suggest a rule-making in which there would be dates
9 certain and the staff would get out of the day-to-day
10 reviews of exemptions and amendments.

11 So I'm not sure where our next couple or three
12 months are headed. We are putting a lot of energy into this
13 activity that will forge a pathway to the future and it may
14 indeed be in the area of rule-making over a case-by-case
15 exemption, for example.

16 So that's the more integrated view and it would be
17 presumptuous to get out in front of that.

18 COMMISSIONER MCGAFFIGAN: Madam Chairman, I'm sort
19 of excited about the integrated approach that the staff is
20 proposing, because I think there is a real opportunity. You
21 know, there is a mass of activity that needs to be done.
22 That was documented in last year's SECY paper. But that the
23 opportunity here in the decommissioning area is that we're
24 really laying down a framework for the first time.

25 So all the things we talk about when we have

1 risk-informed Part 50 meetings about all the handcuffs that
2 are on us aren't really there as much, I don't think, and a
3 risk-informed decommissioning rule that might encompass many
4 of these rules that were contemplated could be a real
5 opportunity.

6 It's a result that I fondly hope for, although I
7 know it's not guaranteed in the next to or three month
8 study.

9 CHAIRMAN JACKSON: Talking about a risk-informed
10 rule and believing you have to be comprehensive, you made
11 the point earlier on that the risk associated with fuel
12 storage justifies changes in emergency planning,
13 on-site/off-site insurance, safeguards.

14 How do the assumptions regarding emergency
15 planning relate to a seismic event? This is for my
16 edification. In other words, given a seismic event and the
17 collateral damage to the community, loss of power,
18 communications, emergency sirens, damages to highways and
19 byways, is the emergency plan and how you fold risk into it
20 designed to accommodate all of this collateral effect in the
21 event of a seismic initiator?

22 MR. ZWOLINSKI: Going back to the basics, the
23 emergency plan is essentially developed for beyond design
24 basis accidents. So once we get beyond design basis, you're
25 talking events such as perhaps a zircalloy fire or the

1 collapse of the spent fuel pool or other events, and then
2 our exercises that we run are essentially predicated on
3 events that would have off-site releases.

4 CHAIRMAN JACKSON: I understand that, but you
5 specifically relate to the risks associated with fuel
6 storage justifying changes in emergency planning. If you
7 get to beyond design basis and you, in fact, do have the
8 potential for off-site release and if the initiator of that
9 design basis -- beyond design basis event were a seismic
10 event, which, if it's strong enough to cause some
11 destruction of the spent fuel pool and catastrophic
12 drain-down of it, presumably there is collateral damage.

13 MR. ZWOLINSKI: Throughout the entire area.

14 CHAIRMAN JACKSON: Correct. And so the question
15 is do you then -- is that folded into how emergency planning
16 is addressed.

17 MR. RICHARDSON: The question is, is there
18 emergency planning organization left to respond with that
19 kind of a seismic event.

20 CHAIRMAN JACKSON: Well, no. It's an important
21 point. It relates to how you do the planning.

22 MS. CYR: The Commission -- if I could ask Larry
23 to address it, because the Commission specifically addressed
24 this in the licensing with respect to Diablo Canyon.

25 MR. CHANDLER: It was addressed in the mid '80s in

1 the Diablo Canyon proceeding and the Commission, as I
2 recall, ruled that separate consideration of earthquakes in
3 the context of emergency planning was not required under the
4 Commission's regulations.

5 CHAIRMAN JACKSON: So, in fact, then there is no
6 specific consideration of collateral damage.

7 DR. TRAVERS: There is not, but fundamentally, by
8 its very nature, the kind of planning that does take place
9 in connection with being prepared to respond to a
10 radiological event in a nuclear power plant, communications
11 and ability to transmit information and provide state and
12 local planners with the tools, I think, are ones that we
13 recognize as steps that would put them in a better position,
14 regardless of the extent of the collateral damage that could
15 take place.

16 We don't specifically, as Larry pointed out,
17 incorporate or require in the plans a consideration of that,
18 but I think there's a recognition that the kinds of planning
19 that would be done or is done in connection with preparing
20 for these events would put you in better stead.

21 CHAIRMAN JACKSON: We should go on.

22 MR. RICHARDSON: Next slide, please.

23 As described in SECY 98-258, there are a number of
24 rule-makings and other regulatory actions underway in the
25 decommissioning area. With the reorganization now occurring

1 in NRR and with a different set of managers taking
2 responsibility for decommissioning, we feel this is an
3 appropriate point to step back, take a fresh look at the
4 work accomplished to date, gather input from our
5 stakeholders, and then ensure that we are headed for an end
6 point that integrates the solutions to the issues before us.

7 To the degree possible, we intend to use
8 risk-informed approach. We intend to establish a working
9 group to accomplish this task and to provide a framework for
10 future activities. And as we've discussed, we specifically
11 intend to consider the role of the zirc fire in the
12 production requirements.

13 CHAIRMAN JACKSON: You mentioned that your output
14 is plan and schedule. What is your outcome?

15 MR. RICHARDSON: Hopefully, our outcome is a
16 predictable licensing business that ensures safety, while
17 reducing the burden on the utilities.

18 CHAIRMAN JACKSON: I'm just trying to make you
19 fold it back together. Mr. Zwolinski.

20 MR. ZWOLINSKI: It's a necessary.

21 CHAIRMAN JACKSON: We've talked about the four
22 filters, and do the four filters come back relative to this
23 outcome to be your four metrics?

24 MR. RICHARDSON: Well, I think that's what's
25 driving us to our end product is those four filters.

1 COMMISSIONER MERRIFIELD: Madam Chairman, talking
2 about going forward, I want to reverse just a little bit and
3 talk about circling back around to it.

4 I was reviewing -- in the process of getting ready
5 for this, I was reviewing the Maine Yankee back-fit appeal
6 panel results and it was a sentence in the summary that
7 jumped out at me, said the most compelling observation was a
8 lack of staff sensitivity to elapsed time in schedules
9 confronting the Commission and nuclear power plants.

10 Now, I know that Dave Matthews, in a memorandum to
11 Sam Collins, attempted to respond to that particular
12 sentence and focusing primarily on the fact that the staff
13 had been meeting NRR's one-year, two-year and three-year
14 timeliness goals, and, in accordance with those figures, it
15 had seemed to have done a fairly good job.

16 But they may have met the goals, but the question
17 to me is are the goals the right goals.

18 So as you are a new management team, I'm wondering
19 if you have considered at all going back and reassessing
20 whether those timeliness goals are appropriate given the
21 unique economic and scheduling pressures confronting
22 decommissioning nuclear power plants.

23 MR. RICHARDSON: I think we've heard the message
24 from the industry on that. We've had some meetings with the
25 NEI working group. They've made it very clear that

1 immediately upon entering decommissioning, you're looking at
2 costs being spent and, in some cases, they don't think they
3 should have to spend.

4 I think the staff recognizes that, like we
5 mentioned before, and in at least one case, we've gone out
6 to an operating reactor planning to decommission and talked
7 about getting the submittals headed in that direction.

8 The focus of our efforts is to establish a
9 framework that will make it easier to work through and I
10 think today we're much more sensitive to the costs involved
11 and need to get on with it, but the staff has been trying to
12 balance that with the need to serve our public with the
13 safety issue.

14 COMMISSIONER DIAZ: The last two bullets seem to
15 suggest that your comment was a plan that might be different
16 than 98-258. And if that is so, is the Commission going to
17 receive a revised plan before you get to your final details
18 or this is just an amendment that can be folded in into
19 98-258?

20 It seems to me like we are going beyond 98-258 in
21 many respects and I think what we might need to see is how
22 far beyond 98-258 we have gone.

23 MR. RICHARDSON: I don't think we can answer that
24 yet. I think that that paper was a good paper. It
25 demonstrates a lot of the good work that's been going on.

1 This is just an opportunity for us to make sure that those
2 actions are being integrated and they're headed towards the
3 final product or at least where we want to go at this time.

4 Whether we need fine-tuning or major surgery, I
5 don't think we're prepared to tell you right now.

6 COMMISSIONER DIAZ: But you will be aware of it
7 and let us know as soon as you can.

8 MR. RICHARDSON: Yes, sir.

9 MR. SHERON: If I could just add to Mr.
10 Merrifield's question. One thing we do have right now which
11 we put in place just within the past two months is revised
12 office letter 803, which describes the staff processes for
13 processing license amendments, and one of the things we
14 stressed in this new process, this revised process, is very
15 early interaction with the licensees when they come in for
16 any kind of a license amendment.

17 And one of the first things in this interaction
18 process is to establish schedules. So the licensee will
19 tell us right up front what their needs are, what their
20 schedule is. We will assign a priority to it based on,
21 again, through our four filters, and then hopefully, in
22 interacting very early on with the licensee, we will make
23 commitments on when we can produce the documents that they
24 need. They will, in turn, make commitments on when they
25 will respond, for example, to any questions that we have and

1 so forth.

2 But it will be a much more structured process,
3 much more predictable, and everybody will know when things
4 are going to happen.

5 COMMISSIONER MERRIFIELD: If I may just ask a
6 follow-up. I know that all the folks in NRR and I know Sam
7 Collins has been doing a terrific job of trying to reassess
8 priorities and restructuring and working with Arthur
9 Andersen. Have you given any thought to the notion of
10 perhaps having some review that's targeted toward
11 decommissioning?

12 I mean, there's a lot of -- we have folks at NRR
13 who are doing a lot of projects, doing a lot of work. Is
14 there any usefulness in having a subgroup within NRR that
15 are targeted just on the decommissioning issues, so we can
16 get some greater focus to that from the staff?

17 CHAIRMAN JACKSON: They are. That's part of their
18 reorganization.

19 MR. SHERON: The decommissioning will be under
20 Stu. He will basically be the accountable person, if you
21 want to call it that.

22 Now, granted, he will be, as a project director,
23 he will be responsible for overseeing the entire review
24 process. From the standpoint of the technical staff that
25 has to do certain parts of the review, there won't -- we

1 don't plan right now to have, for example, dedicated staff
2 in the systems division or in the engineering division, but
3 as --

4 COMMISSIONER MERRIFIELD: That's my question. So
5 you don't have staff.

6 MR. SHERON: Not dedicated.

7 COMMISSIONER MERRIFIELD: Not dedicated staff.
8 That was where my question was going.

9 MR. SHERON: But, again, as Bill just mentioned,
10 we are moving towards a centralized work planning control
11 and that, hopefully, will help us in identifying available
12 resources that can be put on any decommissioning work and so
13 forth.

14 CHAIRMAN JACKSON: In fact, let me, if I may.
15 Sam, may I call on you to talk a little bit about that
16 centralized work planning and control, so that you can
17 provide some context for this discussion?

18 MR. COLLINS: Good afternoon, Chairman,
19 Commissioners. Sam Collins, Director of NRR. I'd like to
20 make two points. One is in regard to the specific question.
21 We actually had talked about, in our planning processes, as
22 well as a part of the organization, the benefits of having
23 embedded or matrix staff.

24 The issue is not unique to decommissioning. It
25 also applies to license renewal, it applies to improved

1 standard tech specs, and other programs that cut across the
2 areas.

3 There are pros and cons that we have discussed
4 internally and with Arthur Andersen and we may very well
5 start a pilot, but we're not ready to commit in this area.

6 The pros and cons pivot on whether you can isolate
7 staffs by assigning them within technical disciplines to a
8 program area and, therefore, they don't interact with their
9 peers, who are doing a light function in other program
10 areas.

11 Then, of course, there are some benefits to that,
12 as obviously prompted to your question, to having a specific
13 dedicated source. So we have to weigh those, but we have
14 talked about it and considered those areas.

15 The second point, prompted by the Chairman, having
16 to do with the centralized planning process. Brian touched
17 on this. Dr. Sheron mentioned that we believe that this
18 will kind of bring together the attributes which will
19 accomplish one of the goals that you have in mind, which is
20 to be able to track work and to track products, whether it
21 be by due dates or labor rates.

22 Specifically, this group will be able to integrate
23 work products with assigned goals and although we're
24 reaching toward the fall program, before this becomes a
25 reality in the permanent context, we would have a template

1 for a work product. In this case, it would be a licensing
2 action for decommissioning.

3 That template would be based on a process or
4 procedure which is formalized, which has expectations, and
5 has staff who are assigned to that type of a product.

6 A decommissioning licensing action by Maine Yankee
7 would come into the centralized work area and it would be
8 assigned to the staff at the staff level, coordinating with
9 the branch, using this template and using these
10 expectations, and then we would track that by labor rate and
11 track that by due date.

12 So it manifests itself in a number of the
13 attributes that a dedicated staff would be, but it provides
14 for some oversight and flexibility as well as measuring and
15 accountability that would be not unique to decommissioning.

16 COMMISSIONER McGAFFIGAN: Madam Chairman.

17 CHAIRMAN JACKSON: Please.

18 COMMISSIONER McGAFFIGAN: I'm pleased with what
19 Mr. Sheron has said with regard to the priority that's going
20 to be given to licensing, decommissioning licensing actions
21 or exemptions.

22 I've read, as I did it as part of the CSS task
23 force, the office letter in its current draft that you're
24 talking with the industry about, the NEI and public
25 meetings.

1 And it strikes me, there is still some ambiguity.
2 Decommissioning is not particularly highlighted in there and
3 it looked to me like a lot of decommissioning items might
4 still be assigned priority three within the current system
5 rather than getting priority two. They wouldn't deserve
6 priority one.

7 So you might want to clarify, under that office
8 letter, how you're going to handle decommissioning. I think
9 what I interpret you as saying is that some of these may
10 well be priority twos, based on the cost beneficial, or
11 certainly at the top of priority three.

12 But I think you may want to clarify specifically
13 in that guidance or in that office letter what the
14 decommissioning is, because this is consistent with the SRM
15 the Commission had last June 30th on SECY 98-075.

16 The other point I'd make in response to
17 Commissioner Merrifield that Mr. Collins didn't make -- one
18 problem with the centralized staff is that you have to have
19 enough workload, and we have the staff at the moment on tech
20 spec conversions that has more than doubled its
21 productivity.

22 You know, I think we're all very proud of it, over
23 the last year, done wondrous things, but then they're going
24 to hit a lull late this year because people have decided to
25 delay their applications, and they're going to get another

1 tidal wave of applications sometime in 2000, 2001, and it's
2 hard to smooth out the workload, and then you pull people --
3 so, that's another con, I think, in terms of -- in license
4 renewal, we know we have a growing workload, at least we
5 hope we do.

6 In some other areas, the workload goes up and down
7 and the matrix organization may fit better.

8 COMMISSIONER MERRIFIELD: There are pros and cons
9 with each. I'm pleased to hear that's there's serious
10 thought going into whether this should happen or not. I
11 don't know what the best way is.

12 One of the other issues that's out there, however,
13 is where you don't have a dedicated staff, you sort of run
14 towards the priorities.

15 CHAIRMAN JACKSON: But that's the whole point of
16 the whole planning that Sam and his folks have undertaken,
17 coupled with these playoffs against which things warrant,
18 and this may turn out to be one that warrants it, some more
19 permanent structure, but I don't think it's something that
20 the five of us sitting at this table are going to be able to
21 do.

22 COMMISSIONER MERRIFIELD: Oh, no.

23 CHAIRMAN JACKSON: It's really more that they get
24 the message both from us as well as from those licensees
25 that are going to undergo decommissioning, you know, that it

1 has to get the attention that it gets, but I'm confident,
2 particularly with their working with Arthur Andersen, that
3 the methodologies that are being put into place with the
4 kind of management attention that they're getting, you know,
5 will allow them to wax and wane as they need to and/or put
6 some more permanent structure into place if it's called for.

7 COMMISSIONER MERRIFIELD: I was attempting to
8 respond to Commissioner McGaffigan. far be it for me to
9 assert that the Commission should be micro-managing at that
10 level. I agree that that would be inappropriate.

11 As long as they are looking at that and depending
12 upon the preferred solution that they choose, as long as
13 it's appropriately disciplined, I agree.

14 CHAIRMAN JACKSON: That's why I placed the
15 question of what are your outcomes, because if they're
16 focused on their outcomes, then, you know, as they say, you
17 know, the rest will follow.

18 MR. RICHARDS: Next slide, please.

19 This slide highlights some of the rulemakings
20 currently underway. I think we've touched on most of them
21 up to this discussion. I'd like to note we have delayed the
22 EP proposed rule and the financial protection final rule due
23 dates to July of this year.

24 Security rulemaking SECY paper is presently before
25 the Commission. Shift staffing and financial assurance

1 rulemakings are under development.

2 COMMISSIONER McGAFFIGAN: Madame Chairman, could I
3 ask a question about the safeguards and security paper
4 that's currently before the Commission?

5 When I read the paper, it was one of the things
6 that helped precipitate this meeting, because it didn't
7 address the zirc-clad fire issue at all. It basically asked
8 us to make a decision with regard to whether that rulemaking
9 should include a vehicle barrier system requirement or not.
10 That's the issue before us.

11 Do you want us to vote on that paper, or do you
12 want us to wait until we get this late-May integrated
13 rulemaking approach and then vote on the vehicle barrier
14 system issue then, or what is the staff's preference? What
15 is the status of this paper, given everything else you've
16 said to us today?

17 MR. RICHARDS: Commissioner, I think that we'd
18 prefer that you go ahead and vote on it. We felt that, in
19 the recommendation, there was enough latitude for the staff
20 heads that we can work with that.

21 COMMISSIONER McGAFFIGAN: But you recognize the
22 vote is strictly on whether you have a vehicle barrier
23 system in the rulemaking; it's not on the timing of when the
24 security requirements might be made or might be decreased,
25 which is tied to this overall issue of how you're going to

1 deal with the risk-informed timing for these -- what we do
2 currently by exemption for the reduced requirements.

3 MR. RICHARDS: Can we get back to you on that? My
4 understanding in the security area is that the zirc fire is
5 a consideration, but it's not the only issue.

6 COMMISSIONER McGAFFIGAN: Right.

7 MR. RICHARDS: Not being a security person and not
8 wanting to get in trouble, that's as far as I'd like to
9 comment on that.

10 CHAIRMAN JACKSON: That's fair.

11 You mentioned site-specific cost estimates with
12 financial assurance. What factors are more amenable to
13 site-specific treatment than others? I see someone has
14 already anticipated the question. Oh, you're the security
15 man.

16 MR. ROSANO: Yes.

17 CHAIRMAN JACKSON: Okay. Let's rewind the tape.

18 MR. ROSANO: Rewind the tape.

19 Actually, with respect to the vehicle barriers,
20 the question has to do with the particular kind of site, and
21 it's true that, in certain circumstances, we would feel that
22 vehicle barriers may be necessary regardless of zirc fire
23 but that there are other configurations of the plant where
24 zirc fire becomes an issue, and the way the paper was
25 written, it was written in order to give us sufficient room

1 to consider both configurations, and I would go along with
2 Stu's suggestion that we would prefer to have a vote on
3 that, and yet, it would still be integrated in with the
4 other areas in the integrated paper that goes up later.

5 CHAIRMAN JACKSON: Okay. Thank you.

6 Now, back to site-specific cost estimates for
7 financial -- decommissioning financial assurance. What
8 factors are more amenable to site-specific estimates than
9 others? Do you have kind of a short list?

10 MR. RICHARDS: Are we talking the insurance
11 requirements or accumulating funds for decommissioning?

12 CHAIRMAN JACKSON: Well, I'm talking about
13 accumulating funds for decommissioning. Maybe that's not
14 what you mean here.

15 MR. RICHARDS: Well, there's both. Personally, I
16 can't speak to that last bullet. I haven't got enough
17 background materials. So, if there's someone that can help
18 me on that.

19 MR. WEISS: Is this on the insurance requirements?

20 CHAIRMAN JACKSON: On financial --

21 MR. WEISS: Accumulating funds?

22 CHAIRMAN JACKSON: Right.

23 MR. WEISS: The latest issue on accumulating funds
24 was to look at the staff document -- I think it's 1307.
25 This document is revised periodically to adjust the factor

1 which is how much decommissioning should cost on a yearly
2 basis.

3 The industry had felt that we were not taking into
4 account the latest means that the utilities are using to get
5 rid of waste, which is waste compaction, volume reduction,
6 vendors that will take all this from a utility and process
7 it for them, and Research revised that NUREG, and I believe
8 that the savings -- or the difference in decommissioning
9 cost might be of the order of 100 to 200 million dollars.

10 CHAIRMAN JACKSON: All right.

11 MR. RICHARDS: Next slide, please.

12 COMMISSIONER McGAFFIGAN: Madame Chairman, I've
13 got the security paper in front of me, and I just want to
14 clarify with the security person.

15 My reading of this paper is that the option that
16 the staff is asking us -- the whole issue is the vehicle
17 barrier system.

18 Three options are discussed, one of which is the
19 status quo, retain the current security.

20 The second is rulemaking without vehicle bond
21 protection, without a requirement for a vehicle barrier
22 system, and the third is one that would allow flexibility as
23 to whether they retain the current one or whether they go to
24 some other one, but a vehicle barrier system, as I read the
25 plain English here, is required under option three, the

1 recommended option.

2 CHAIRMAN JACKSON: Now, I'm going to admonish you.
3 I mean if we're going to get into -- if we're going to tie
4 it back to the decommissioning, then it's fair game for --

5 COMMISSIONER McGAFFIGAN: It is decommissioning.

6 CHAIRMAN JACKSON: Okay.

7 COMMISSIONER McGAFFIGAN: It's the decommissioning
8 paper.

9 CHAIRMAN JACKSON: All right.

10 COMMISSIONER McGAFFIGAN: I want to understand --
11 you're asking us to decide that a vehicle barrier system --
12 a rule should go forward on physical security for
13 decommissioning plants that requires a vehicle barrier
14 system. I thought I heard you say it might or might not.

15 MR. ROSANO: Yes, sir, we are asking for that, and
16 let me just see if I can clarify the answer, and actually, I
17 should identify myself, which I didn't. I'm Dick Rosano
18 from Reactor Safeguards.

19 The request of the staff is based on the belief
20 that there are issues that -- excuse me -- there are risks
21 associated with getting vehicle -- the design basis vehicle
22 close to areas of the plants, close to the spent fuel pool,
23 and it depends on the configuration of the spent fuel pool.

24 It depends on whether it's above ground, below
25 ground, depends on whether there is literally vehicle access

1 to the pool itself, driving a vehicle into the pool, and
2 that these things have to be considered and that a vehicle
3 barrier would be required, but then it would be
4 site-specific

5 It would be based on an analysis at the site as
6 the configuration, whether further exemptions could be
7 allowed for the vehicle barrier based on the configuration
8 of the plant, but that the vehicle barrier would continue to
9 be one of the expectations and requirements in security.

10 COMMISSIONER McGAFFIGAN: That's all I needed.

11 CHAIRMAN JACKSON: Okay. Fine. Thank you.

12 MR. RICHARDS: Next slide, please.

13 This slide lists a number of issues in the
14 decommissioning area beyond what we've already talked. We
15 don't intend to go into detail on these issues unless the
16 Commission desires.

17 It would be a good time to note, however, that we
18 have a decommissioning board chaired by John Greeves of
19 NMSS. The board serves to ensure that decommissioning
20 activities are being addressed by the various offices, are
21 being coordinated.

22 CHAIRMAN JACKSON: Let me ask you one -- since you
23 did put decommissioning financial assurance, and there was
24 this earlier issue about site-specific estimates, you know,
25 we did have one rulemaking on decommissioning funding

1 assurance that related to a number of things, but included
2 in it was a reporting requirement, and so, I have a couple
3 of questions about that.

4 I mean has the staff worked out what the process
5 and criteria are to evaluate these reports when they are
6 submitted? I think the first submittals are supposed to
7 come in, in fact, this month.

8 MR. RICHARDS: I believe you're right as far as
9 we're expecting it this month.

10 MR. WEISS: We've issued the standard review plan.

11 CHAIRMAN JACKSON: You have.

12 MR. WEISS: That has been published.

13 CHAIRMAN JACKSON: Okay. Does that include
14 trigger levels for -- the staff will use to determine that
15 additional financial assurance or other actions are
16 necessary?

17 MR. WEISS: I don't know. We'd have to get back
18 to you on that.

19 CHAIRMAN JACKSON: And have you worked out what
20 regulatory or corrective actions the staff would require if
21 a determination is made that the level of decommissioning
22 funding at a particular licensee was inadequate?

23 MR. WEISS: We don't have the person here that can
24 respond that.

25 CHAIRMAN JACKSON: Okay. If you could get back on

1 that, I'd appreciate it. Thank you.

2 MR. RICHARDS: Last slide.

3 In summary, the staff has gained a lot of
4 knowledge and experience from past activities.

5 Our intent now is to build on that experience and,
6 with input from our stakeholders, to define a vision of
7 where we want to go with decommissioning requirements and
8 guidance and to establish a licensing process that maintains
9 safety, yet is efficient, relatively predictable, and which
10 recognizes the reduced risk associated with a plant
11 decommissioning.

12 That completes the planned presentation, and we'll
13 be pleased to answer any other questions.

14 CHAIRMAN JACKSON: Commissioner Dicus?

15 COMMISSIONER DICUS: Yes.

16 When Commissioner Merrifield and I visited
17 Millstone, in addition to, of course, touring the plant and
18 visiting with the licensee, we also met with some state and
19 local officials and together with several public interest
20 groups, both those tending to be more friendly and those
21 tending to be not so friendly.

22 One of the issues that came up -- actually, I
23 think a couple of groups might have mentioned it, which --
24 it had to do with the public indicating that they would like
25 to have hearing opportunities or at least some sort of

1 interaction with the licensees and the staff, NRC staff,
2 regarding the decommissioning alternatives that a licensee
3 might choose in the early part of the process, even prior to
4 the submittal of a licensee's PSDAR.

5 Have you been giving that any thought? Have you
6 been hearing that? I don't know who has been in some of
7 these public meetings, but thinking about the pros and cons
8 of more public involvement in the early part of the
9 decision?

10 MR. RICHARDS: That has come up in my limited
11 experience. I went out to a public meeting that was out at
12 San Onofre a few weeks ago. That question was broached, and
13 my understanding with the staff is that it's not an uncommon
14 question.

15 I think the answer is that the Commission has
16 defined acceptable alternatives for the industry, and it's
17 the industry's choice. So, to enter into some kind of a
18 process that would allow public participation, I think you'd
19 have to reconsider some decisions that have already been
20 made.

21 But the public does have some opportunity to
22 participate, though. You know, the rule now requires, I
23 guess, a meeting with the public within the two years of the
24 plant shutting down, more or less.

25 Of course, they have the opportunity to petition

1 for a hearing under some of the amendments that are made. I
2 understand there is a hearing before the license
3 termination, when that submittal comes in, and if there are
4 other safety concerns, of course, there's always the 2.206
5 petition process.

6 So, if there is a safety concern, the opportunity
7 is there for public participation but so far not for the
8 utility's decision on which of those paths to elect.

9 COMMISSIONER MERRIFIELD: Obviously, safety was a
10 concern for these individuals, but it was an issue of having
11 some ability to influence or at least comment on the
12 direction that the utility was going to go before a decision
13 was made how that facility would be dealt with, whether it
14 would SAFSTOR or whether it was immediate decommissioning.

15 I'm not saying we bought in on that, but that was
16 certainly the opinion that they reflected to us, they'd like
17 to have some additional input up front before that decision
18 is made.

19 MR. RICHARDS: It's a policy decision, and you
20 know, I don't begrudge you that, because just that one
21 meeting at San Onofre, you've got a group who wants to see,
22 you know, the plant removed and you've got others who say
23 why can't you just leave it there?

24 CHAIRMAN JACKSON: I think the point you're making
25 is that, by virtue of some previous but, in some sense,

1 fairly recent Commission decisions on what the
2 decommissioning approach is -- and we have a rule that the
3 Commission promulgated.

4 MR. WEISS: When the rule was promulgated, we did
5 not get any comments requesting hearings.

6 CHAIRMAN JACKSON: Right. And so, it has certain
7 things built into it. That's not to say that it can't be
8 revisited, but the staff is following what that rule
9 requires, which was promulgated within the last five years.

10 COMMISSIONER MERRIFIELD: What may be appropriate
11 is the same question for the next panel, which may very well
12 be what Commissioner Dicus had in mind.

13 CHAIRMAN JACKSON: Right.

14 COMMISSIONER MERRIFIELD: That might be
15 appropriate, to give them fair warning.

16 MR. ZWOLINSKI: In going forward, I would really
17 expect us to engage stakeholders, in addition to NEI,
18 members of the public.

19 If we're going to be credible in our actions going
20 forward, we do need to ensure the public's been involved.
21 Whether it's at local meetings or here at headquarters, I
22 envision more involvement from the public.

23 CHAIRMAN JACKSON: I don't believe that the rule
24 precludes public involvement.

25 MS. CYR: The issue is the Commission has

1 established what are acceptable methods of decommissioning.
2 We've said, if you choose one of these, that's okay, and
3 then we set a process in place by which that is implemented,
4 which provides for them to submit this plan and have a
5 public meeting in that context.

6 That's not to say that -- as you say, there can't
7 -- couldn't be more public interaction, more available
8 information earlier on, either from us or the licensee.

9 CHAIRMAN JACKSON: That's right. And it was meant
10 to lay out a stable, predictable, hopefully credible process
11 that would allow us to get at these issues having to do with
12 both effectively doing our job but having expedited a
13 process as the complexity of the issues allows, and by
14 laying out what are the acceptable alternatives, you know,
15 the Commission was trying to bound the issue, but it didn't
16 -- but built into is the opportunity for meetings with
17 members of the public as a licensee goes down a particular
18 path. But there are specified acceptable alternatives in
19 the rule.

20 Are there other questions you have?

21 Commissioner Diaz.

22 COMMISSIONER DIAZ: I think just a comment. I
23 think that, you know, looking at this issue, I think the
24 Chairman just used the word "predictability." I think what
25 we're looking, you know, from you is some regulatory

1 predictability that is based on realistic technical
2 assessment of the issues and is bounded by risk assessment.
3 I think that's what the outcome should be.

4 CHAIRMAN JACKSON: Commissioner McGaffigan?

5 COMMISSIONER MCGAFFIGAN: No further questions.

6 CHAIRMAN JACKSON: I commend you on your thinking,
7 and I admonish you on outcomes, because that's where we are,
8 waiting for the outcomes.

9 Thank you very much.

10 MR. SHERON: Thank you, Chairman.

11 CHAIRMAN JACKSON: I'll call forward the NEI
12 decommissioning work group presenters, Mr. Meisner, Mr.
13 Beedle, and Ms. Hendricks.

14 Good afternoon.

15 MR. BEEDLE: Thank you, Madame Chairman. Good
16 afternoon, Commissioners.

17 I would like to, first of all, acknowledge those
18 here at the table with me.

19 Lynette Hendricks is the director of the NEI plant
20 support group, Mike Meisner is president of the Maine Yankee
21 decommissioning effort, and we also have three members of
22 the industry in the audience, Ed Sherer from Southern
23 California Edison, Ken Powers from Consumers, and Jerry Van
24 Ordenaan from Connecticut Yankee, all involved in some phase
25 of decommissioning and members of the working group.

1 We are certainly glad to see the reorganization,
2 and we look forward to outcome, and I think that the staff
3 is working hard to try and come to grips with these
4 decommissioning issues, but also I'd like to echo the
5 industry's support for the goals that the staff has
6 developed for reactor safety, for efficient, effective
7 regulation, for elimination of unnecessary burden, and for
8 public confidence, and all four of those are very operative
9 in the decommissioning effort, in fact maybe more so than
10 the operating plants, as Mike Meisner is going to attest to.

11 So, with that, I'd like to turn to Mike and let
12 him talk about some of the practical, very deck-plate kind
13 of issues at the decommissioning process.

14 Mike?

15 MR. MEISNER: Thank you, Ralph.

16 On behalf of the NEI's decommissioning working
17 group, I want to tell you how much we appreciate the
18 opportunity to come here today. As far as I know, it might
19 be the first time the industry has been able to brief the
20 full Commission on decommissioning in general.

21 I've got some prepared remarks, and then I'd
22 surely like to take your questions, and I hope you'll ask me
23 some of the same questions as you asked the staff.

24 CHAIRMAN JACKSON: And we may ask you during your
25 prepared remarks.

1 MR. MEISNER: Good.

2 First overhead, please.

3 About the only appropriate place to start, really,
4 is with safety, reviewing safety, and risk significance of
5 the decommissioning facility.

6 I want you to kind of get a picture in your mind
7 of a plant like Maine Yankee. When you walk around a plant
8 that's ready for decommissioning, you're struck by one
9 thing, and that's simplicity.

10 At Maine Yankee, the spent fuel is managed in a
11 self-contained nuclear island, it's isolated electrically
12 and mechanically from the remainder of the facility, and the
13 remainder of the facility is in what we call a cold and dark
14 commission; systems are drained, they're de-energized, and
15 it's literally cold and dark.

16 You have to go in with a flashlight into our old
17 control room, with a heavy coat.

18 There are few moving parts and lots of times for
19 operators to react to any condition.

20 So, I want to first take a deterministic analytic
21 view of Maine Yankee safety, and this is reflective of
22 decommissioning plants in general.

23 So, as of January 1st of this year, the time to
24 boil for the spent fuel pool is 85 hours, or
25 three-and-a-half days, and it would take an addition 432

1 hours, or 18 days, to boil down to the top of active fuel,
2 and either of those give plenty of time for operators to use
3 a number of different proceduralized means to restore water
4 to the pool.

5 So, given these long periods of time, it's not
6 surprising that the limiting decommissioning design basis
7 accident for Maine Yankee has nothing to do with the spent
8 fuel.

9 It's a low-level waste resin spill that results in
10 off-site dose consequences of 100 millirem TEDE. That's
11 nearly four orders of magnitude lower than the operating DBA
12 consequences and well below the 1-rem EPA protective action
13 guideline that would lead to off-site emergency action.

14 A probabilistic look, now, provides additional
15 confidence and a minimal safety significance of
16 decommissioning. You need to remember that, in these simple
17 machines, there is really little opportunity for human error
18 to introduce significant failure modes.

19 We rely for the most part on passive components
20 and long times to failure.

21 In fact, the only event that even comes close to
22 the radar screen is a -- beyond the design basis event is
23 the notorious zirc-alloy fire that we've been talking about,
24 and as you know, it requires as its initiating event a
25 catastrophic seismic event that drains the spent fuel pool,

1 and by the way, that catastrophic seismic event, in most
2 cases, is about three to four times what the plants are
3 designed for, their current design basis seismic event.

4 CHAIRMAN JACKSON: What's the magnitude or
5 intensity of the seismic event at this frequency that you
6 have here are we talking about?

7 MR. MEISNER: If I remember correctly, the Maine
8 Yankee design basis is .15 or 2 g ground motion. The event
9 that's required to disrupt our pool and drain it is in the
10 .6 to .7 g range.

11 CHAIRMAN JACKSON: And what about -- what damage
12 to the reactor would you expect?

13 MR. MEISNER: Well, the reactor, of course, is
14 de-fueled, and if it were to occur at an operating facility,
15 of course, the plant wouldn't be designed for it, and we
16 would see leaking systems all over the place.

17 Would it be something that goes to core damage? I
18 couldn't tell you.

19 CHAIRMAN JACKSON: Okay.

20 MR. MEISNER: In analyzing this event, the zirc
21 fire event, it's really been wrapped up in a lot of
22 significant conservatisms that we don't have time to go into
23 now, but even with the conservatisms, when you get down to
24 the probabilistic evaluation, it can't rise above a
25 probability of two times 10 to the minus six.

1 Now, that probability was calculated by NRC
2 contractors some 10 years ago. When you take into account
3 more recent Lawrence Livermore seismic hazard curves, you
4 obtain an additional at least fivefold reduction in event
5 probability.

6 In fact, we have some folks looking at this now.
7 We think it's more like a 10-fold probabilistic reduction
8 using current Lawrence Livermore seismic hazard curves. If
9 you then use the EPRI seismic hazard curves, you can add
10 probably an additional 10-fold reduction.

11 So, for facilities like Maine Yankee -- and this
12 two times 10 to the minus six is generic. If you take into
13 an account a facility like Maine Yankee, where we're already
14 in a quite low seismic environment, it's virtually obvious
15 by inspection that we can't -- we put a zirc-alloy fire in
16 that pretty much into the same category or bin as an
17 airplane crash into the spent fuel pool.

18 It's very, very low, 10 to the seventh, 10 to the
19 minus eighth, and one thing you're struck by when you go out
20 to the plants really is that the real risk in
21 decommissioning is occupational. It's radiation protection
22 for the workers on-site and hazardous waste exposure for
23 those workers, as well.

24 Next overhead, please.

25 With that as a backdrop, with some sense of what

1 we face from a safety point of view, I want to talk about
2 some of the constraints licensees face in decommissioning
3 their facility, and the first is cost.

4 The major issue with us and with cost is that it's
5 fixed. It's usually capped by rate-makers, and it's
6 effectively capped by 10 CFR 50.82.

7 Fixed prices, as you know, lead to problems when
8 licensees must spend large amounts of their budget
9 unnecessarily early in decommissioning.

10 COMMISSIONER McGAFFIGAN: The issue of
11 "effectively capped by 10 CFR 50.82" I don't think is right,
12 because you know, the Commission, as recently as a ruling a
13 week ago, pointed out in -- I think it was in a Seabrook
14 case, a footnote to an order we issued that we recognized
15 that our decommissioning costs don't include everything,
16 ISFSIs, green fields, etcetera.

17 So, we've made it very clear throughout the whole
18 history of 50.82 and our interpretations of it that there's
19 a difference between what we can do on the radiological side
20 and what a state regulator or FERC or someone might decide
21 is prudent on a broader basis to include in decommissioning
22 funds.

23 MR. MEISNER: I need to explain that more. Given
24 the short time, I'm speaking a bit in shorthand, but what I
25 was referring to is there's a test in 50.82 that says, if

1 you're going to significantly increase your decommissioning
2 costs that you've already estimated, that you can't do it,
3 and that's the effective cap I was talking about.

4 You can't do it, but -- we could come to the NRC
5 and get approval to do it, but we are not allowed under the
6 regulations to increase our costs once that's estimated any
7 significant extent.

8 So, if there were a major delay, for instance, in
9 decommissioning, for whatever reason, we would need to come
10 to the NRC to get approval to proceed, else we could not do
11 that, and I think we can find that in 50.82 later.

12 MS. CYR: The requirement as I recall it is that
13 licensees can spend the money as long as it doesn't go
14 significantly above, because the idea was we wanted to make
15 sure we retained sufficient amount of funds to get it to a
16 stable state at the end, and so, that was why there was this
17 test in here that you could spend at a certain rate based on
18 predicted costs before you had to come back to us and sort
19 of revisit with us why they needed to spend more.

20 COMMISSIONER McGAFFIGAN: I see.

21 MR. MEISNER: So, how do we get in this situation
22 where we're kind of capped and we can get stretched at the
23 same time?

24 I think it's largely as a result, clearly, early
25 in decommissioning, a result of delay in granting timely

1 regulatory relief.

2 As a rule of thumb, the difference between
3 operating plant and decommissioning plant costs for
4 emergency planning and security are on the order of a
5 million dollars per year for each.

6 Insurance runs about \$2 1/2 million a year.
7 Significant other costs are associated with operator
8 licensing and training requirements, technical
9 specifications, and the like.

10 We can quantify the level of unnecessary expense
11 using NRC's NUREG-1353

12 The NUREG -- next overhead, please. Oh, I'm
13 sorry, keep it where it is.

14 The NUREG provides a quantitative analysis of the
15 potential radiological impact of releases to the environs
16 from a burning fuel bundle or burning fuel pool, for
17 instance the number of days fuel has been stored.

18 The impact of radioactivity releases decreases
19 from 2,600,000 person-rem to four person-rem over a one-year
20 period. That's 2.6 times 10 to the minus six down for four
21 person-rem.

22 So, at the end of that one-year period, using the
23 traditionally \$2,000 per person-rem averted measure, I'm
24 justified in spending only \$8,000 to completely eliminate
25 the zirc fire risk.

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1 But you note all that is -- that evaluates the
2 exposure, the off-site dose exposure, but we haven't
3 considered risk.

4 CHAIRMAN JACKSON: Let me make sure I understand
5 what you're saying.

6 The 2.6 million in terms of person-rem --

7 MR. MEISNER: Yes.

8 CHAIRMAN JACKSON: -- is calculated, in the case
9 of a zirconium fire, at 30 days. Is that correct?

10 MR. MEISNER: Two point six is immediately after
11 you've off-loaded the fuel, or actually, I think, within 12
12 days.

13 CHAIRMAN JACKSON: Well, whatever, but it really
14 has the fire scenario built into it.

15 MR. MEISNER: That's right.

16 CHAIRMAN JACKSON: Whereas the four is no fire,
17 you know, and after a year. Is that correct?

18 MR. MEISNER: The four really reflects the
19 difference in radio-nuclide mix. Most off-site dose is due
20 to iodine and iodine with a half-life of, if I remember
21 right, seven to eight days, a year after shutdown is
22 virtually gone.

23 It also reflects the somewhat reduced failure mode
24 of the fuel.

25 CHAIRMAN JACKSON: Okay.

1 Well, my understanding is that this figure is not
2 a generic figure, that it actually relates to specific fuel,
3 you know, cylindrical PWR fuel, you know, low-density but
4 not necessarily high-density fuel that's racked that way,
5 and so, one has to be careful, I think, in making these
6 kinds of comparisons -- fire, no fire, fire a short time
7 after shutdown versus no fire as long as a year after
8 shutdown, specific kind of fuel and specific kind of racking
9 density -- and so, I think one has to be careful. I mean
10 one has to compare, you know, apples to apples in order to
11 draw some broad-based conclusions.

12 MR. MEISNER: I agree, and the broad-based
13 conclusion is still coming up. I'm not trying to give you a
14 detailed review.

15 CHAIRMAN JACKSON: No, but this is the kind of
16 chart that ends up -- and I'm not trying to be
17 argumentative, because I think there are some issues we have
18 to deal with in terms of decommissioning, how it gets dealt
19 with by us, you know, costs, etcetera, but to make the case,
20 I think one has to be careful that one is doing apples to
21 apples, same scenarios, that you understand what kinds of
22 reactor fuel you're talking about, that you understand how
23 it's racked, otherwise it's not fair to wave this around. I
24 mean there are many things that we and/or the staff could be
25 criticized on, but if we're going to make the criticism,

1 then we ought to make it on a consistent basis.

2 MR. MEISNER: Okay. I agree.

3 The point I wanted to get to is that -- I've only
4 talked about consequences and not probabilities here, and of
5 course, risk is the product of probability and consequences.

6 So, when we introduce the probability of a zirc
7 fire at two times 10 to the minus 6 per reactor year, then
8 immediately after shutdown -- and this is apples and apples,
9 where we're talking about the full 2,600,000 person-rem and
10 a zirc fire -- immediately after shutdown, when we apply
11 probability to this situation and determine what am I
12 justified in spending to completely eliminate that risk, it
13 comes out, as you see, to \$10,400.

14 That's clearly not a lot of money and surely does
15 not justify keeping in place different programs for up to
16 two years at multi-million dollars per year, and of course,
17 this two times 10 to the minus six, I haven't even reduced
18 to take into effect the current Lawrence Livermore seismic
19 hazard curves either, and it would be on the order of five
20 to 10 times lower than that were we to do that.

21 The only point is that we haven't, up to this
22 point, risk-informed zirc fire. When you add risk into the
23 calculations, you get, I think, a fairly different look at
24 what's going on.

25 CHAIRMAN JACKSON: That's what we're stressing

1 with the staff, but I guess I want to repeat that you
2 risk-inform from a common base if you're going to make
3 comparisons.

4 MR. MEISNER: Agreed.

5 CHAIRMAN JACKSON: And that's all I'm really
6 saying.

7 MR. MEISNER: Agreed.

8 COMMISSIONER McGAFFIGAN: Madame Chairman?

9 CHAIRMAN JACKSON: Please.

10 COMMISSIONER McGAFFIGAN: The zirc-clad fire
11 issue, the staff points out in their presentation that there
12 was a '93 SECY paper and a staff requirements memorandum at
13 that time in the context of insurance or financial assurance
14 or whatever, and I raised -- at the time, I told you -- I
15 was going to ask the question of you, when you came up, why
16 did the industry, given you believe this sort of analysis
17 today, why didn't you raise the issue then as an industry
18 that we might be off-track?

19 MR. MEISNER: Let me take the first shot at it. I
20 think the obvious answer is that, as an industry, there was
21 little decommissioning going on at that time. It takes a
22 lot of attention to run these plants, and it's hard to
23 divert that attention 20 years into the future and answer a
24 question that may not come up.

25 COMMISSIONER McGAFFIGAN: Okay.

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1 MS. HENDRICKS: To add on to that, we did comment
2 on the proposed rule that came out on financial protection
3 for permanently shutdown plants, and we commented that if --
4 they failed to talk about probability of the zirc fire in
5 that rule. It was just it happens and here is the
6 consequence. That was one of our comments.

7 COMMISSIONER McGAFFIGAN: This is the rule as it
8 finally came out in '96 --

9 MS. HENDRICKS: Uh-huh.

10 COMMISSIONER McGAFFIGAN: -- as a proposed rule
11 and that is now being reconsidered before it goes to final,
12 but there was a multi-year period there where the staff was
13 -- I guess the '93 plan said okay, here's the rulemaking
14 plan, this is what we plan to do, then the rule -- proposed
15 rule came out, you did comment then, but there is an
16 opportunity, I think, to sort of catch us quicker, before a
17 lot of resources get invested, and I just make the point --
18 I know you all have plenty to say grace over in terms of
19 running these large reactors, but I also think this is not
20 the first time.

21 I mean I think the first time this thing came up
22 was in the case of the weld inspections and whether -- a
23 very fresh rulemaking in 1996, which almost instantaneously
24 the BWR folks said, you know, we can't do, and furthermore,
25 it isn't risk-informed.

1 I remember asking them why did you let the
2 rulemaking go through if, you know, you're instantly going
3 to come in and say it's impossible? So, I hope that people
4 just pay more attention and engage us earlier, because I
5 think it would be more useful.

6 MR. MEISNER: Understood.

7 I'll finish that section by pointing out that, if
8 you at all believe these numbers -- and we tried to use the
9 NRC's numbers, this \$10,400 -- you compare that against what
10 Maine Yankee actually spent, and that was, for this about
11 two-year period of time, roughly \$8 million against the
12 10,000.

13 CHAIRMAN JACKSON: Let me ask you, what role do
14 you think PRA should play in decommissioning regulations, or
15 how would you propose to incorporate risk-informed insights
16 into decommissioning regs?

17 MR. MEISNER: I'm going to talk about it a little
18 later, but I completely agree with John Zwolinski. I think
19 we need to take the information that the industry and the
20 NRC has already developed -- there's really no new
21 information that's necessary -- take a look at what it tells
22 us and use that to go forward and come up with a
23 risk-informed Part 50 for decommissioning.

24 CHAIRMAN JACKSON: How should public concerns be
25 folded in?

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1 MR. MEISNER: I was talking with John just before
2 this session started, and we have a very positive community
3 relationship up in Maine, and we do it through a community
4 advisory panel. One of the persons on our panel is a
5 prominent anti-nuclear activist.

6 I would propose that the Commission -- the NRC not
7 do this in a vacuum for the next two to three months,
8 involve the licensees, the working group here, and I would
9 involve some of these anti-nuclear folks as well as
10 interested community people and working through the process
11 so we all understand it.

12 COMMISSIONER McGAFFIGAN: Madame Chairman, there's
13 one issue that's a little perplexing to me, and we had ComEd
14 in here recently and I just in passing asked how they were
15 doing on decommissioning, and they had not yet submitted
16 many of these relief requests for the Zion plant that's been
17 shutdown for some time and cold longer, and there's some
18 sort of different calculus at Zion, apparently, than at
19 Maine Yankee, and if there are \$8 million of costs to avert,
20 I imagine I'd be trying to do that.

21 I guess what I'm trying to do is question is the
22 \$8 million real for everyone, or is it somehow less in some
23 specific circumstances?

24 MR. MEISNER: It's less in some cases. For
25 instance, if you at a multi-unit site, where you've got a

1 couple of reactors operating and one shuts down, you
2 probably need to throw out the emergency planning portion
3 and maybe even the security portion of that.

4 COMMISSIONER McGAFFIGAN: Because you have to
5 retain that anyway.

6 MR. MEISNER: You have to retain that anyway.

7 COMMISSIONER McGAFFIGAN: But Zion is closing down
8 both units.

9 MR. MEISNER: Yes. I can't comment on Zion, but I
10 can point out that Maine Yankee, for instance, is a
11 single-asset utility. That's all we're focused on managing.

12 COMMISSIONER McGAFFIGAN: Right.

13 MR. MEISNER: Whereas at Commonwealth, it's one of
14 10.

15 CHAIRMAN JACKSON: Twelve units, 10 operating.

16 COMMISSIONER MERRIFIELD: There may be some
17 geographical reasons for that, too. Yankees aren't prone to
18 liking to spending any money more than we have to.

19 MR. MEISNER: I think I better go on.

20 COMMISSIONER MERRIFIELD: The cheap Yankee is not
21 a new term. I'll put it that way.

22 MR. MEISNER: Let me briefly shift gears, talk
23 about total solution, decommissioning licensees can't
24 fulfill their responsibilities without total solutions. It
25 may be obvious, but we can't leave a single bundle in the

1 spent fuel pool, just because it's high burn-up or has some
2 other unique characteristic.

3 We need timely support from NMSS to provide all
4 our fuel a home in a dry cask, and we've begun working with
5 NMSS towards that end.

6 Similarly, we can't eliminate our Part 50 license
7 only to find that EPA site clearance standards apply. We
8 recognize that a Congressional solution is necessary and
9 that industry has the lead, and we'd be very much interested
10 in your views on various legislative options as we develop
11 them.

12 Thirdly, we've only got one chance at this.
13 Decommissioning licensees don't go through fuel cycles like
14 operating plants.

15 We only have one opportunity to correctly
16 decommission our facility, and every dollar we waste up
17 front is unavailable for use later either in ALARA or return
18 to our rate-payer later, because after all, it's not the
19 licensees that really pay for this decommissioning; it's the
20 rate-payers ultimately.

21 Next overhead, please.

22 I'd like to pose a question, and that's what's the
23 problem here, and with all this as a backdrop, I believe the
24 answer is twofold.

25 First, in large measure, the regulations did not

1 anticipate or provide for decommissioning. While 10 CFR
2 50.82 was a good step forward, it left a number of holes
3 that still need to be filled. That's why we have exemptions
4 and disputes over exemptions.

5 Secondly, in dealing with these holes, the
6 regulatory staff, up to this point, has not applied the
7 appropriate safety significance to their decisions.

8 In that respect, let me quote from a recent staff
9 report, the Maine Yankee Backfit Review Panel, addressing
10 the zirc fire issue, and the panel noted that "The panel
11 believes that the staff sought to develop an absolute safety
12 finding rather than a risk-informed reasonable assurance
13 finding," unquote, in other words that staff was attempting
14 to make their decisions without considering event
15 probabilities and doing so by regulating to a zero risk
16 standard.

17 That's why Maine Yankee was forced to spend that
18 \$8 million to achieve the zirc fire risk reduction.

19 CHAIRMAN JACKSON: So, what would you say with
20 respect to those two points in light of what the staff
21 presented to us?

22 MR. MEISNER: I would say what my next overhead
23 is, and that's to suggest what the solution is.

24 CHAIRMAN JACKSON: Well, given that you've
25 suggested this is the solution, do you think the path the

1 staff has laid out moves along that line?

2 MR. MEISNER: I do. In fact, I think, today, NRR
3 and the decommissioning working group are quite in
4 lock-step. We're in agreement on what the solution is.

5 You heard what John Zwolinski talked about, about
6 slowing down some of these ongoing actions and trying to
7 integrate all this together, and I think that's what we
8 need.

9 We need to use our combined deterministic and
10 probabilistic knowledge to risk-inform Part 50 for
11 decommissioning. In our mind, this would involve an
12 integrated, holistic resolution across Part 50 using a
13 consistent safety basis.

14 It would address emergency planning, security,
15 insurance, operator licensing and training, and even
16 seemingly trivial issues such as station blackout.

17 I say this because we know there's really no new
18 safety issues in decommissioning. We have enough technical
19 information developed over the years by the NRC and the
20 industry to answer any decommissioning question, and it's
21 only a matter of sufficient resolve to get on with it, and I
22 think today we have that resolve on the part of the industry
23 and on the part of the NRC.

24 The pending organization changes at NRR and the
25 willingness of management to pursue a holistic solution, I

1 think, will benefit the staff and the industry.

2 And what can we achieve? I talked a bit about
3 this at the regulatory information conference.

4 I think we can have regulations and staff
5 decisions that accurately reflect decommissioning safety
6 risk, and licensees can receive automatic regulatory relief
7 during the transition to decommissioning through
8 comprehensive rulemaking.

9 And how long will this take? I think not long at
10 all.

11 You have before you, for instance, a staff
12 proposal on decommissioning security rulemaking, SECY
13 99-008. In there, the staff is budgeting 2.4 FTE over a
14 two-year period to complete just the security rulemaking.

15 I'm confident -- and I'll echo what the staff said
16 earlier -- that if NRR would commit the right staff at a
17 level of just about one FTE over a two-month period, that
18 together we can provide an integrated solution across Part
19 50.

20 CHAIRMAN JACKSON: So, you think risk-informing
21 Part 50 can be one FTE over two months.

22 MR. MEISNER: I do.

23 CHAIRMAN JACKSON: In the decommissioning area.

24 MR. MEISNER: I do. And I think it's because
25 decommissioning is simple, and I might suggest, too, that

1 maybe that would provide a road-map or a template for doing
2 the harder part, and that's the operating plants in the
3 future.

4 CHAIRMAN JACKSON: Are you speaking for all
5 nuclear power reactor licensees in wanting to risk-inform
6 Part 50?

7 MR. MEISNER: I'm speaking for the decommissioning
8 working group, and based on who I work for, I can speak for
9 some of the other operating plants but not all of them.

10 I'm sure, though, that the operating facilities,
11 if this were put forward to them, wouldn't have any
12 objection.

13 Ralph, why do you think?

14 MR. BEEDLE: I think the risk-informing is an
15 option that we need to certainly look at, and I think you're
16 looking at the body of decommissioning experience right here
17 in this working group.

18 So, to try and translate to the operating reactors
19 where they aren't currently looking at decommissioning, you
20 have the same problem we have with the 1993 rule-making that
21 posed a problem in decommissioning that was never really
22 uncovered or considered because we weren't really looking at
23 the decommissioning.

24 CHAIRMAN JACKSON: And that's why I raised the
25 issue about what does quickly mean and one FTE over two

1 months.

2 The process has to be one that engages all of the
3 stakeholders, including other reactor licensees, so that, in
4 the end, wherever we move, you know, we're sure that we have
5 a good sense of where the consensus is and that we've
6 involved the public, as well.

7 MR. BEEDLE: Well, I would add that I think that's
8 one of the reasons that we probably see a different
9 situation today than we did in '83. I think there is more
10 engagement between the industry and the NRC in dealing with
11 these issues; indeed, more engagement with the stakeholders
12 in general. I think it will get us better results in the
13 long run.

14 CHAIRMAN JACKSON: Thank you. Commissioner
15 Merrifield.

16 COMMISSIONER MERRIFIELD: Madam Chairman, I don't
17 know whether there's -- I don't know what the truthfulness
18 is or accuracy of one FTE for Part 50. I didn't know
19 whether the Staff wanted to take a crack at responding to
20 that or not.

21 CHAIRMAN JACKSON: I don't know that I -- well,
22 you can answer it, but I'm trying not to put you on the spot
23 on that.

24 COMMISSIONER MERRIFIELD: Well, perhaps it will be
25 inappropriate --

1 CHAIRMAN JACKSON: Right.

2 COMMISSIONER MERRIFIELD: -- but I didn't know -- I
3 saw a lot of whispering in the back. I didn't know whether
4 they --

5 [Laughter.]

6 MR. COLLINS: On the contrary, that would be an
7 efficient and effective approach.

8 [Laughter.]

9 MR. COLLINS: So that would certainly be met. But
10 we are committed essentially at this point to do what it
11 takes. We have to evaluate the effort. Certainly working
12 with the industry, whether it's with the post-rulemaking
13 body industry or working through the efforts in conjunction
14 with the guidelines from OGC, my general feeling would be it
15 would be a bit more than that, but I'm not prepared to say
16 now.

17 COMMISSIONER MERRIFIELD: Okay.

18 COMMISSIONER DIAZ: Twice?

19 CHAIRMAN JACKSON: No, no, no, we are not --
20 that's it.

21 MR. MEISNER: Of course, I do want to include OGC
22 in that.

23 [Laughter.]

24 MS. CYR: Hey, we've got a good track record this
25 year. I got a license transfer out in three months on the

1 final rule.

2 MR. MEISNER: My comment was predicated on the
3 notion that we know everything we need to know today. It's
4 just a matter of pulling it together.

5 COMMISSIONER MERRIFIELD: The reason I interjected
6 is I didn't want to leave the audience the impression that
7 we necessarily agreed with the one FTE, and that was really
8 the primary purpose.

9 CHAIRMAN JACKSON: Right.

10 COMMISSIONER MCGAFFIGAN: And I don't, either, but
11 I think Mr. Meisner is making a good point, that if a single
12 rulemaking is budgeted at 2.3 FTEs, there may well be a real
13 synergy in the holistic approach the Staff talked about
14 earlier. 2.3 times 5 or 6, whatever number of rulemakings
15 we finally have under way is a lot, and we hopefully can do
16 better than 15, you know, so we'll see.

17 CHAIRMAN JACKSON: Okay.

18 MR. MEISNER: My last overhead, please.

19 Finally, a few words on the backfit rule. I hope
20 you know that all industry desires are regulations and Staff
21 decisions that do accurately reflect safety significance,
22 and there's really no benefit to spending a million dollar
23 per person-rem averted; in fact, it sends a very
24 counterproductive message to the public, and that message is
25 that zero risk is valuable and achievable. But we all know

1 that is not the case. They are not achievable. So what do
2 we put in their place? Well, simply put, we need a test
3 that balances safety benefit with cost impact on ensuring
4 that immediate safety issues are addressed, and that's all
5 the backfit rule does.

6 I think the industry, Staff, and Commission should
7 embrace the rule as the preferred means to ensure regulatory
8 balance for operating and decommissioning plants.

9 CHAIRMAN JACKSON: I think we have done that.

10 MR. MEISNER: And I believe that's the case with
11 the Commission, but I believe that the Staff has gotten into
12 the habit of avoiding its application, and this leads to a
13 very cynical outlook on the backfit by industry people. if
14 you take a look at SECY 99-008, decommissioning security,
15 and read through what the Staff discusses on backfit, I
16 think you will start to get a feel for what I mean. It's a
17 very good example of avoiding the application of the backfit
18 rule.

19 CHAIRMAN JACKSON: What are your views on the
20 results, without putting you on the spot, of the backfit
21 appeal panel with respect to, you know, your issues at Maine
22 Yankee?

23 MR. MEISNER: Very frankly, if you read the report
24 carefully, the panel backed up Maine Yankee on every single
25 issue. Clearly indicated that the Staff did not risk-inform

1 this decision, they should have; that they were going for
2 zero risk rather than reasonable assurance.

3 CHAIRMAN JACKSON: You know that the Commission
4 has in fact embraced the concept of using the backfit rule
5 for decommissioning plants, and in fact has given the Staff
6 guidance to use it as much as possible and as is legal,
7 informally, today, in specific cases.

8 MR. MEISNER: I do.

9 CHAIRMAN JACKSON: Okay.

10 MR. MEISNER: My only point is to -- maybe to the
11 Staff, to make it the preferred mode.

12 CHAIRMAN JACKSON: Well, I think we have given
13 them that guidance, and I would not like to see this
14 particular discussion on what are preferred approaches we
15 should take become an adversarial thing of, you know, versus
16 the Staff.

17 MR. MEISNER: I agree.

18 CHAIRMAN JACKSON: Or Commission versus the Staff.
19 That's not going to help us.

20 MR. MEISNER: Okay. I guess I am trying to come
21 to a common sense view that if someone had evaluated the
22 imposition of the zirc fire event a year and a half ago, and
23 brought probabilistic notions into it -- in other words, did
24 a backfit evaluation -- I firmly believe that your Staff and
25 my staff would have saved thousands of manhours over the

1 last year and a half, and much of it management time, and
2 set the stage for a rigorous decommissioning safety basis
3 today.

4 I sometimes think it's something -- we don't
5 recognize what a valuable tool these safety cost-benefit
6 evaluations are and tend to shy away from them.

7 COMMISSIONER McGAFFIGAN: Could I ask a question
8 with regard to the backfit analysis in the SECY paper you
9 just referenced? I happen to have it with me here. The
10 thrust of it is is there's an exception that applies, and
11 that seems to be what you are taking objection to. Does
12 that -- the heart of this paper, as I said to the Staff
13 earlier, is whether we require a vehicle barrier system in
14 the post-shutdown state, although albeit presumably a
15 different one from what was there for the plant itself, or
16 whether we don't. Option 1 is require everything we have
17 today; option 2 is go forward without a vehicle barrier
18 system; option 3, the preferred option of the Staff, is
19 including one.

20 Are you suggesting that if we subjected that to
21 not an exception approach but to backfit analysis, we would
22 end up with option 2 rather than option 3, or -- I'm just
23 trying to understand what you are saying in terms of its
24 implications for the options before us.

25 MR. MEISNER: I'm saying a couple things.

1 First of all, the initial reason the Staff gave
2 for backfit and applicability, if I remember right, and I
3 don't have it in front of me, was that licensees can
4 continue to operate under the current regulations. Is that
5 right? Or am I --

6 COMMISSIONER McGAFFIGAN: Well, I don't want to
7 hold them --

8 MR. MEISNER: But that's the first step.

9 COMMISSIONER McGAFFIGAN: Right.

10 MR. MEISNER: And I would point out that there are
11 -- the fallacy in that argument is that there are holes in
12 the regulations. 50.82 didn't cover everything. That's
13 what the Staff told us on emergency planning for Maine
14 Yankee. You cannot decommission and still have on offsite
15 emergency planning program. You cannot decommission and
16 still have a full-blown security program. Eventually that's
17 got to go away, and for the Staff to say that licensees can
18 just continue to follow the regulations, I think is not
19 appropriate.

20 MS. HENDRICKS: I think for clarification, the way
21 it was stated that was so disconcerting is that the first
22 exemption was it's a relaxation, therefore, backfit doesn't
23 apply, and if that is applied carte blanche, then anything
24 in decommissioning inherently will be some relaxation, and
25 so backfit would never apply.

1 Now if you applied backfit between the options,
2 you may have a basis for doing --

3 CHAIRMAN JACKSON: I think what you really want to
4 say is you want to have some kind of safety benefit, I mean
5 cost-benefit or --

6 MS. HENDRICKS: Right.

7 CHAIRMAN JACKSON: -- analysis done. I think when
8 you -- everybody locks themselves into backfit language,
9 backfit does have a very specific, or has heretofore had a
10 very specific meaning relative to, you know, increased
11 requirements, as opposed to reduced requirements. And I
12 think what you are really trying to make the argument for is
13 that there needs to be a risk-informed cost-benefit
14 approach.

15 MR. MEISNER: Also going from operating to
16 decommissioning, we don't evaluate what the level of burden
17 is for an operating plant to a decommissioning plant, but
18 evaluate the requirement against the current condition of
19 the plant and see if the requirement is excessive with
20 respect to that condition.

21 But let me just finish with one more sentence.

22 COMMISSIONER MCGAFFIGAN: If I can just add, I
23 think that points out the wisdom in that, yes, we apply
24 backfit, but I think what -- we also recognize that there is
25 a need for --

1 CHAIRMAN JACKSON: Absolutely.

2 COMMISSIONER McGAFFIGAN: -- rule language that
3 would have better applied to the decommission state, because
4 the current language lends itself to sort of this legalistic
5 analysis that I think these folks are pointing out, and so
6 we can apply it to backfit and then it doesn't apply.

7 MS. HENDRICKS: Never applies.

8 COMMISSIONER McGAFFIGAN: Right.

9 MR. MEISNER: So we wholeheartedly agree with the
10 Staff that now is the time to take an integrated approach to
11 risk, and to risk-informing Part 50 for decommissioning, and
12 we hope that it will be done by developing in short a
13 rulemaking package with a safety and backfit analysis as its
14 basis.

15 Thank you.

16 CHAIRMAN JACKSON: Thank you.

17 I am going to go in inverse order. Commissioner
18 Merrifield.

19 COMMISSIONER MERRIFIELD: Although I recognize
20 this is not as significant a problem at all for
21 decommissioned plants, given the public interest I feel
22 somewhat obligated to ask what is the current status of the
23 decommissioning plants as it relates to Y2K readiness?

24 MR. MEISNER: Well, Ralph, I am sure, can answer
25 in detail, but one of the things you will see when you come

1 out to visit is that, like I said, everything is passively a
2 virtual computer system you have got to even perform a
3 function in the plant. I can tell you from Maine Yankee's
4 point of view, we have got -- the only thing we are
5 concerned about is our general ledger, and that will be
6 fixed by the summertime.

7 COMMISSIONER MERRIFIELD: Well, I recognized that
8 that would be the answer. I just wanted to make sure it was
9 on the public record.

10 Ralph, do you have anything about any of this?

11 MR. BEEDLE: We are confident there are no issues
12 associated with safe shutdown at Maine Yankee.

13 [Laughter.]

14 CHAIRMAN JACKSON: Commissioner McGaffigan.

15 COMMISSIONER MCGAFFIGAN: No further questions.

16 CHAIRMAN JACKSON: Commissioner Diaz?

17 COMMISSIONER DIAS: No further questions.

18 CHAIRMAN JACKSON: Commissioner Dicus?

19 COMMISSIONER DICUS: Well, I have to ask my
20 question that I asked about public involvement in the
21 decommissioning decision, if you have any thoughts on that.
22 Any of you.

23 MR. MEISNER: I do. I think a regulatory body can
24 only go so far in dealing with public health and safety. I
25 think there is a responsibility of the industry that picks

1 up at that point that gets out and involves its
2 stakeholders, involves the community, to ensure that they
3 have a stake or have input into decisions that really are
4 not part of the regulatory oversight purview. I think
5 that's very important.

6 In fact, I am surprised I am talking so vehemently
7 about this, because I am not sure I would have said that two
8 years ago, but it is clearly the case in decommissioning
9 Maine Yankee. We have had a lot of benefit from involving
10 the public, and we -- for instance, you have SAFSTOR versus
11 decon, that initial decision. We had our community panel
12 and a lot of attendees. We had about three or four meetings
13 over a period of four months where we talked that decision
14 in detail, and wanted to know what their feeling was on
15 that. It's a real valuable thing to do. I don't think it's
16 your responsibility, though, so much as ours.

17 COMMISSIONER DICUS: Okay. Let me just follow up
18 on that. I have no compelling reason to change our policy.
19 I am comfortable with where we are, and I think it's the
20 licensee's decision. I just simply was a little taken aback
21 by what I heard, and then apparently it's a problem at SONGS
22 as well, or an issue at SONGS. So I think as a
23 decommissioning working group, just to raise your awareness,
24 if the public is getting in some areas concerned about this,
25 you should be aware of it.

1 MR. MEISNER: Thank you.

2 COMMISSIONER MERRIFIELD: And you may want to
3 share your experiences with other members of the industry so
4 that perhaps this can be avoided at other plants that have
5 to go through this in the future.

6 MR. BEEDLE: We will do that.

7 CHAIRMAN JACKSON: I think Commissioner Diaz had
8 an additional question.

9 COMMISSIONER DIAZ: I just wanted to say that we
10 seem to be compiling a list of elimination of zero factors,
11 zero risk, and I think the Staff talked about elimination of
12 zero heat transfer, and that's a very good one.

13 MR. MEISNER: I agree, very much so.

14 CHAIRMAN JACKSON: Well, I would like to thank the
15 NRC Staff and NEI for an informative briefing on Part 50
16 decommissioning issues, and I commend the NEI
17 decommissioning working group for its proactive efforts to
18 assist in highlighting areas for improvement. And as I
19 mentioned in my opening comments, there have been some
20 successes in the NRC's decommissioning program, and there
21 are obviously areas requiring additional attention, and
22 today's discussion helps to provide valuable insight into
23 areas where we should concentrate our future work effort.
24 And I am going to speak to the Staff because we are a
25 learning organization, and I believe that you have come a

1 long way down the line.

2 As I say, you know, I commend you for, you know,
3 where you are going. We await the outcomes, but I think we
4 are all part and party to the migration of a 40 year old
5 regulatory framework and all of the thinking that goes along
6 with that. And so I just want to encourage you along the
7 path that you have already started.

8 Thank you very much.

9 [Whereupon, at 3:43 p.m., the briefing was
10 concluded.]

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CERTIFICATE

This is to certify that the attached description of a meeting of the U.S. Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING ON PART 50
 DECOMMISSIONING ISSUES
 PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Wednesday, March 17, 1999

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

Transcriber: Natalie Renner

Reporter: Mark Mahoney



REACTOR DECOMMISSIONING PROGRAM STATUS

March 17, 1999

**John Zwolinski, NRR
Stuart Richards, NRR
John Greeves, NMSS**

PRESENTATION OVERVIEW

- **New management team**
- **Safety and risk issue changes**
- **Recent licensing and rulemaking**
- **Future actions**

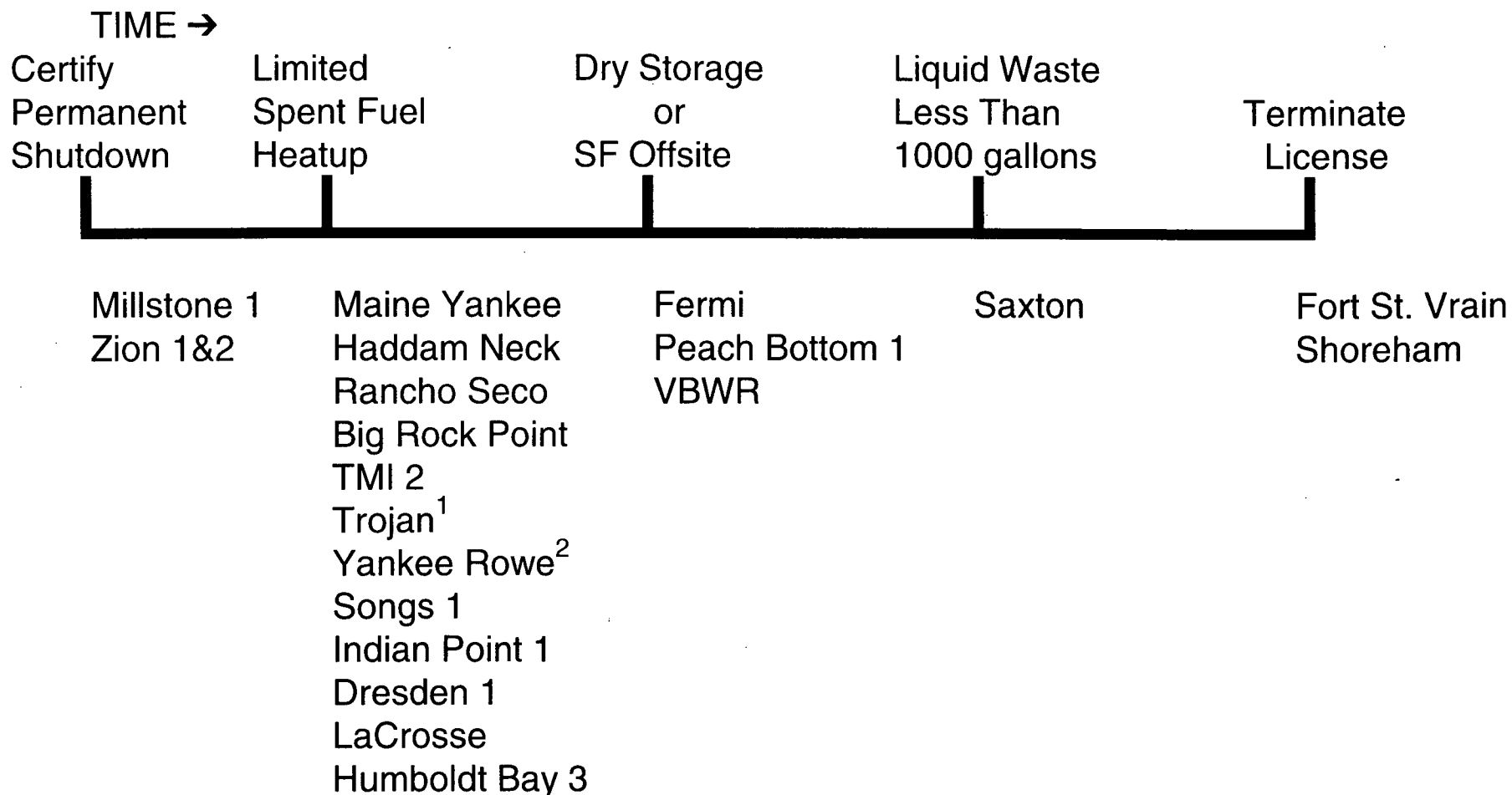
REGULATORY ISSUES FOR DECOMMISSIONING

- **Operation risk reduced**
- **Risk decreases with decay and removal of material**
- **Significant risk reduction when dose consequences within EPA Protective Action Guides (PAG)**

REGULATORY ISSUES FOR DECOMMISSIONING (cont.)

- **Change in operating risk justifies TS changes in**
Staffing reductions
Scope of quality assurance
Maintenance programs
- **Risk associated with fuel storage justifies changes in**
Emergency planning
Onsite and offsite insurance
Safeguards

DOSE CONSEQUENCE REDUCTIONS DURING DECOMMISSIONING



Notes: 1. Primary dismantled, dry storage & reactor vessel disposal in 2000
2. Primary dismantled, reactor vessel disposed

“PAST” REGULATORY PRACTICE

- **Basis for approving exemptions has varied for
Emergency preparedness
Safeguards
Insurance**
- **Thus, no identical exemptions**
- **SRM on SECY-93-127, offsite financial protection**
- **SECY-93-127, zircaloy fire “reasonably credible”**
- **Preclusion of zircaloy fire evolved into acceptance
criteria for licensing actions and rulemaking**

CURRENT VIEW

- **Zircaloy fire analyses are complicated and time-consuming**
- **Regulatory predictability questioned**

GOING FORWARD

- **New integrated approach will address concerns**
- **Integrated reevaluation of rulemakings to be initiated**
- **Risk-informed approach considered**
- **Time dependent risk factors considered**
- **NRC Working Group (two months)**
- **Output is plan and schedule**

RULEMAKING STATUS

- **Financial Protection (Insurance)**
- **Emergency Planning**
- **Physical Security/Safeguards**
- **Shift Staffing**
- **Financial Assurance (Site-Specific Cost Estimates)**

OTHER DECOMMISSIONING ISSUES

- **Implementation of the license termination rule**
- **Spent fuel storage and transportation**
- **Low-level waste disposal**
- **Greater-than-Class C waste storage**
- **Free release of contaminated materials**
- **Entombment (time period for completion)**
- **Decommissioning financial assurance**

Summary

- **Valuable insights gained from rulemakings**
- **Reassess issues**
- **Ensure integrated approach**
- **Ensure stakeholder input**
- **Reduce unnecessary regulatory burden**

DISCLAIMER

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