

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON DECOMMISSIONING PROGRAM

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Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Tuesday
October 1, 2002

The Commission met in open session, pursuant to notice.

Commissioner Richard Meserve, Chairman of the
Commission, presiding.

COMMISSIONERS PRESENT:

- GRETA J. DICUS, Member of the Commission
- NILS J. DIAZ, Member of the Commission
- EDWARD MCGAFFIGAN, JR., Member of the Commission
- JEFFREY MERRIFIELD, Member of the Commission

(The following transcript was produced from
electronic caption media and audio and video media
provided by the Nuclear Regulatory Commission.)

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

Secretary

General counsel

Dr. Ron Bellamy, Chief, Decommissioning &
Laboratory Branch, Division of Nuclear Material Safety,
RI.

Mr. Larry Camper, Chief, Decommissioning
Branch Division of Waste Management, NMSS

Ms. Margaret Federline, Deputy Director, NMSS

Dr. Carl Paperiello, Deputy EDO

Dr. William Travers, EDO

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

CHAIRMAN RICHARD MESERVE: The Commission is meeting this morning to hear from the Office of Nuclear Material Safety and Safeguards on the status of the NRC's Decommissioning Program. This briefing is the annual update provided on this program. We were last briefed on the program, I believe, in September of 2001.

As indicated by the staff paper circulated before this meeting, there have been an abundance of decommissioning related matters that have been undertaken in the past year. We're interested in learning more about the program, so we very much look forward to this morning's briefing.

Dr. Travers, you may proceed.

DR. WILLIAM TRAVERS: Thank you, Chairman Meserve. And good morning to you and the Commission. We are here, as you have indicated, to give you our annual briefing on the status of NRC's decommissioning program.

SECY-02-169 presented what we feel was a comprehensive overview of all of the decommissioning activities which are being carried out in the Offices of NMSS, Research, and NRR.

As you know NRC terminates about 300 materials

licenses per year. And most of these are routine and the sites require little, if any, remediation. However, we are currently overseeing the decommissioning of SDMP and complex sites, fuel cycle sites, nuclear power plant sites, research and test reactor, and uranium recovery facilities as well.

In addition to the oversight of these facilities, the decommissioning program also includes the development of tools to allow the staff and our licenses to successfully decommission sites, as well as guidance on how the NRC expects staff and licensees to complete the clean up of these sites.

Along with providing you a status of the decommissioning activities, we also plan to discuss with you any high priority activities and issues that we expect would be coming before you during the current year. SECY-02-169 describes the progress that we believe we've made in each of the program areas, so we would expect to touch on these.

Before turning the program over to Margaret, let me just very briefly introduce the NRC staff here. Of course, Carl Paperiello joins me. Margaret Federline and Larry Camper, from the Office of Nuclear Material Safety and Safeguards, and Ron Bellamy from Region I are

here to support the discussion today. And with that, let me turn it over to Margaret.

MS. MARGARET FEDERLINE: Thank you Bill, I appreciate it. Chairman, Commissioners, good morning. We appreciate the opportunity to brief you this morning on the status of the decommissioning program and the comprehensive approach that we're pursuing under this program.

The decommissioning program is a multifaceted program that directly involves several NRC Offices. As Bill mentioned, were joined at the table by the regions. Also behind us are a number of the offices that we work very closely with including Sam Collins from NRR and Jack Strosnider with the Office of Research, NSIR. And I want to introduce John Grieves, the Division Director of NMSS for these activities. And all of these individuals will be happy to answer any questions that you have about the program.

Over the past two years, we've provided you with a comprehensive update each year. And this year we've added fuel cycle facilities, uranium milling facilities, and research reactors. So you can see it's truly very diverse, looking across the spectrum of facilities that we regulate.

We have a lot of information to cover today, so I'll limit my remarks. I do, however, want to mention two key strategies that we're using in the decommissioning program today. First, we're focusing on how we can learn from the experience that we've gained from the actual decommissioning of sites. There's a lot of decommissioning going on worldwide, and we want to make sure that we take advantage not only of the technology that comes out of that but also the stakeholder involvement techniques that are being used around the world and domestically.

Secondly, we're looking for innovative approaches that we can use to change our decommissioning program. We want to ensure that we're maintaining safety, but we also want to look for flexibility in our approaches to achieve more cost effective solutions for licensees and more effective solutions for resolving stakeholder concerns.

Larry will describe some of the significant efficiencies that we have gained in our program in pursuing these approaches and how stakeholder involvement has been a key to success in these efforts.

We want to leave you today with an overview of the status of the 90 plus complex sites that are

included in our program. We also want to talk about some of the programmatic accomplishments. And we want to summarize the challenges, where we think the Commission will play a key role in the success of our program. So with that, let me turn it over to Larry.

MR. LARRY CAMPER: Thank you, Margaret. Chairman Meserve, Commissioners, good morning. I am pleased to take the lead in representing the comprehensive program. And I will provide the majority of our briefing. But as Margaret mentioned, my colleagues around the table and immediately behind us will join and add additional information and answer questions along the way.

Because of the nature and number of sites in decommissioning coupled with overall decreasing resources for the arena, we are constantly striving to improve our program from a technical as well as a management perspective. Last year we cited a number of process changes to improve efficiency and effectiveness. During the past year, we continued our efforts in this regard. For example, we consolidated decommissioning sample analyses under one contract, thus discontinuing the process in the four regions.

We initiated a program evaluation to evaluate

eleven on-going or planned changes to the decommissioning program. We're also reviewing, updating, and risk informing over 80 decommissioning guidance documents. When completed, this effort will result in a three volume NUREG focusing on the decommissioning process, technical issues such as site characterization and dose modeling, and finally financial assurance, record keeping, and timeliness.

In addition, we have modified our inspection procedures to focus on high-risk activities during decommissioning. We are continually challenging ourselves to reduce unnecessary conservatism. We use realistic future site use scenarios in estimating potential doses to future site occupants. Removal of site from the SDMP affords an opportunity to communicate with the Commission on reasonable future land use scenarios on a case by case basis.

We continue to devote a great deal of effort to stakeholder issues. For example, we recently held a workshop here at NRC Headquarters in which the U.S. Institute for Environmental Conflict Resolution, under contract of the NRC, presented best practices for effective public interaction. The workshop was well attended and we received many positive comments.

<SLIDE: COMPREHENSIVE DECOMMISSIONING PROGRAM>

Next slide, the Comprehensive Decommissioning Program. The decommissioning program is one of our more cross cutting activities because it involves numerous types of facilities and multiple organizations, both within NRC and other federal and state agencies, thus requiring an integrated and comprehensive approach to management and issue resolution. The Interagency Steering Committee on Radiation Standards, ISCORS, is an example of this type of effort.

We work together with all the cited organizations on the slide. Slide four, we work with all the organizations cited on a case by case basis and routinely coordinate our various programmatic activities to the decommissioning board meetings which are held every two weeks.

The program involved 64 FTE and \$4.3 million in FY 2002 and achieved a positive outcome regarding site remediation and programmatic direction. The overall program actually manages 90 plus complex materials, power and research reactors, fuel cycle and uranium recovery sites undergoing decommissioning, and prepares guidance impacting approximately 200 to 300 routine license terminations annually. Next slide ...

<SLIDE: RES ACTIVITIES>

Within this multi-faceted program, the Office of Research plays a unique and key role by providing analytical and informational tools the staff uses to oversee the management of decommissioning projects. These tools provide hands on resources for the staff to use in evaluating site specific cases.

The slide depicts several examples of research products developed to support the decommissioning program. Particularly noteworthy was the probabilistic version of RESRAD-BUILD because it allows more realistic evaluations.

<SLIDE: PROGRAM SUMMARY>

Next slide, Program Summary. Now I would like to move on to an overview of the on-going implementation of the decommissioning program. The summary covers a broad spectrum of sites and technical arenas and staff actions. As mentioned earlier, the annual decommissioning program status report now includes information on Uranium mills, fuel cycle sites, and research reactors. In the future we will include current status information regarding financial assurance and the ability of licensees or sight owners to pay for successful remediation of those sites.

<SLIDE: MATERIAL DECOMMISSIONING>

Next slide, Material Decommissioning. The materials decommissioning portion of program encompasses a wide range of activities, with some of the more visible depicted on the slide. In summary, it ranges from the oversight of site specific complex sites such as SDMP sites and the West Valley site to the development of programmatic guidance, exploring alternatives to the status quo such as the pilot study for decommissioning, examining means to improve financial assurance and extensive involvement in international activities.

All of these activities require close coordination, as the Office has identified earlier, with a continuing emphasis of finding better ways to carry out our responsibilities. The regions, of course, have responsibilities for sites undergoing decommissioning, including project management, public outreach, and conducting inspections.

We participate in International Atomic Energy Agency advisory committees and comment on approximately 15 to 30 IAEA guidance documents each year. We also review ICRP documents and participate in meetings of the Nuclear Energy Agency and other

international conferences addressing decommissioning.

Next slide, please.

<SLIDE: COMPLEX SITES>

Currently, there are 25 SDMP or complex sites.

Of those 25, 21 have submitted their decommissioning plans. Of the 21 DP's submitted, 14 have been approved, 7 are under review. Four sites, at this point in time, appear to be headed toward requesting restricted release. In addition to the current SDMP complex sites, there are five formerly licensed sites that the staff is currently evaluating as a result of the formally terminated sites review program. And two fuel cycle sites, CE Windsor and CE Hematite, are also managed under the decommissioning program. So in all, we have a universe on the order of thirty or so complex sites.

Overall, the number of sites in this category has been reduced. The maximum on the SDMP listing was 50 in 1992. The staff is expected to remove at least one site from the SDMP annually. Since last year's briefing, we removed two sites, the Cabot Revere site and the Lake City Army Ammunition Plant. Management of these sites involves numerous iterative actions in addition to just removing it from the SDMP listing; things such as approval of decommissioning plans,

approval of final site surveys, the development of requests for additional information, meetings with licensees, and of course conducting inspections.

We are focusing a great deal of effort on the eight sites in Pennsylvania to realize a return on investment, as both we and the licensees have put a lot of effort into those eight sites over the recent years. Next slide, please.

<SLIDE: COMPLEX SITES>

This slide is a graphic depiction of the complex sites, the SDMP sites and a few other complex sites. It depicts our current projection for removal of those sites in the SDMP. I emphasize projection because it's constantly a moving target, but at least it's a snapshot in time at this moment. Note that we were adding sites from the inception of the program in 1990 until 1995, and then commenced gradually reducing a net total number of sites through remediation or transfer to agreement states or federal entities.

The next few years may result in a large reduction in the number of complex sites. We should accomplish this goal, assuming licensees achieve their current schedule for remediation and interactions with states on environmental assessments are not overly

protracted.

The outlying years, beyond 2010, result from phased decommissioning, NEPA requirements, projected hearings, and a combination of all of these. Program resources are slated for reduction over time to coincide with this pattern. For example in FY 2003, the FTE assigned to the program is scheduled to be reduced by 7 FTE.

<SLIDE: LICENSE TERMINATION FILE REVIEWS>

Next slide, License Termination File Reviews.

The project represented a significant multi-agency effort. We discussed it at some length during last year's decommissioning briefing, so I won't belabor the details here today. However, it is important to note that from a base of 37,000 sites that were evaluated, 1200 were identified for further review and ultimately 40 were identified as requiring additional remediation. Of these 40, 19 have been released after successful remediation, 11 were transferred to agreement states or a federal entity, and 10 are in the process of decommissioning. Two of those were added to the SDMP, Kaiser and AAR.

In September, the staff issued it's final report summarizing the effort. We believe this

represents a success story for the NRC. It should help inspire public confidence, given the large number of cases examined and the resulting small number of sites, less than 1% wanting further attention and or remediation.

<SLIDE: West Valley Oversight>

Next slide, West Valley Oversight. In January of this year, the Commission issued the final policy statement stipulating the decommissioning criteria for the site. The policy statement prescribed the LTR as the decommissioning criteria, but retained flexibility to ensure that public health and safety is protected if the LTR requirements cannot be completely satisfied.

This action was a major milestone in satisfying our responsibilities under the West Valley Demonstration Project Act. I don't need to remind the Commission how hard you worked on that. And I certainly can attribute to how hard the staff worked on that. I think that was a major accomplishment for all of us. To inform the public of the policy statement, the staff participated in three meetings held in April near the site. We participated in the citizen's task force meeting, a key stakeholder's meeting, and a public meeting to explain the policy statement.

Successful decommissioning for the site will be carried out by the Department of Energy and by the New York State Energy Research and Development Authority, NYSERDA. These two organizations have separate roles and are sometimes at odds with each other. Regardless, the staff continues to work separately and collectively with both entities to address the various decommissioning issues of the site.

A key component to implementing the policy statement and fulfilling our remaining responsibilities for the site is our role as a cooperating agency for the development of the environmental impact statement. Our role as a cooperating agency is the most efficient way to ensure that the preferred alternative for decommissioning will meet the license termination rule and final policy statement.

This action will culminate with the staff closely working with the Commission and determining that the preferred alternative, selected by DOE and NYSERDA, satisfies the decommissioning criteria and fulfills all aspects of the final policy statement. Next slide, please.

<SLIDE: Decommissioning Funding Analysis>

Over the past several years, the Commission

has shown an increased interest in better understanding the universe of sites and decommissioning, the cost for remediating those sites, and awareness if licensees or site owners do not have adequate financial assurance or other financial capacity to decommission these facilities. In the final analysis the Commission wants to be postured to take possible corrective action if warranted.

As a result in August, the staff provided an analysis of financial issues to facilitate decommissioning in sites located in nonagreement states which followed similar earlier efforts for sites located in agreement states.

In SECY-02-0079, the staff provided an analysis of the cost of decommissioning for sites under the restricted and unrestricted release approaches, as well as licensee's financial ability to fulfill their decommissioning obligation. The staff categorized all of the sites and identified problematic sites, as well as a course of intervention by EPA in one site in lieu of recommending that the Commission seek an appropriation from Congress to fund remediation. As part of this initiative, discussions were held with the EPA, the U.S. Army Core of Engineers, and states to determine their interest in assuming responsibility to

manage funds for remediation of the problematic sites. All indicate an interest but raise implementation concerns and issues. These findings are currently under consideration by the Commission, and the staff expects to receive direction and an SRM momentarily.

As a result of SECY-00-0180, staff was directed to pursue an MOU with the Department of Energy for long-term stewardship of sites. An agreement in principle was signed with the Department of Energy, but MOU development has been complicated because DOE is considering multiple options for long-term stewardship. As a result, we have not been successful on this front. Staff and management continue interactions with DOE to understand the status of DOE's efforts and to determine if the MOU can be achieved. Although its outcome at the present time is uncertain, we have provided status reports to the Commission on this and will continue to do so. Next slide, please.

<SLIDE: Fuel Cycle Facilities>

The division of Fuel Cycle Safety and Safeguards provides lead licensing oversight and decommissioning project management for fuel cycle facilities with consultation from the division of waste management. Decommissioning for these sites is somewhat

unique in that fuel cycle facilities often decommission while operations continue.

All present complex issues since they all have uranium and thorium subsurface soil contamination, and all but two have ground water contamination. These features result in a contracted schedule for decommissioning for these sites. As depicted during 2002, there were seven fuel cycle sites in some phase of decommissioning.

<Slide: Uranium Mill Tailings Facilities Decommissioning>

Next slide, Uranium Mill Tailings. Again, the division of Fuel Cycle Safety and Safeguards is responsible for this area. The regulatory infrastructure for these sites is found in 10 CFR 40, Appendix A, as opposed to the license termination rule in Part 20, Subpart E. During the past year and currently, there are 26 sites undergoing decommissioning in this arena.

<Slide: Reactor Decommissioning>

Next slide, Reactor Decommissioning. NMSS is currently responsible for two reactors following the 1995 MOU between the two Offices, Fermi 1 and Peach Bottom 1. NMSS provides substantial technical support

to NRR by reviewing license termination plans, radiological surveys and site categorization, preparing safety evaluation reports and licensed termination documentation.

Currently there are three LTP'S under review, Maine Yankee, Connecticut Yankee, and Saxton. Staff anticipates approving them by the beginning of the third quarter of FY 2003. Looking to the future, staff anticipates several LTP's on the horizon, such as Rancho Seco, Dresden, and Yankee Rowe to be submitted.

More immediately, staff has met with Consumers Energy and expects the LTP for Big Rock Point in the first quarter of 2003. The Big Rock Point LTP will capitalize on the lessons learned from previous LTP reviews. Staff has already met twice with the utility staff to develop their LTP.

During the past year, the staff has evaluated the 1995 MOU to determine if it was working effectively. We found that the current progress was achieving its overall objectives but that there was room for enhancing efficiency and effectiveness.

In summary, the staff felt that the power reactor decommissioning would be more effectively managed and overhead could be reduced by transferring

responsibilities from project management to NMSS earlier in the decommissioning process. Staff developed a set of safety milestones that would be addressed through front end text spec changes, thus allowing transfer from NRR to NMSS. Staff is currently finalizing an informational Commission paper that will explain this change in responsibility which will be provided to the Commission in the near term.

<Slide: Reactor Decommissioning >

Next slide, continuing reactor decommissioning on the NRR side of the house. The Office of Nuclear Reactor Regulation currently provides project management for a large number of power and research reactors undergoing decommissioning, 18 and 12 respectively. The power reactors are either in DECON or SAFSTOR, as defined in the generic environmental impact statement. But in fact some level of decommissioning is occurring at all sites, as allowed by part 50.

As part of this process, a number of sites carried out key functions during the past year to facilitate decommissioning. As indicated, four sites initiated or completed fuel transfer to dry cask storage.

<Slide: Reactor Decommissioning (continuing)>

Next slide, continuing with reactor

decommissioning for NRR. On the rulemaking front, one rulemaking was deferred because of ongoing actions by NSIR. The staff communicated with the Commission regarding this decision in a memorandum in August. The staff is currently awaiting direction from the Commission on the memorandum. The partial site release rulemaking is nearly completed and is scheduled to come to the Commission in November.

The NUREG containing the generic environmental impact statement for power reactors is being updated. The staff has held a number of public meetings as part of this process and have received many comments on the document. It is to be completed in October.

<Slide: Lessons Learned>

Next slide, Lessons Learned. The staff and industry have gained substantial experience in decommissioning reactors and material sites. And we believe it is imperative that we memorialize our experiences in order to make future decommissioning more efficient and effective.

In January of this year, the staff published a regulatory information summary identifying twelve key process findings based upon the review of 4 LTP's in numerous decommissioning plans. We are also working

with NEI and industry to identify generic solutions to decommissioning challenges that could be applied to power reactor sites. Staff worked with the NEI Task group to develop a set of acceptable questions and answers which were published for comment and are being incorporated into Volume II of our guidance consolidation project.

We have modified our review process in order to reduce the number of requests for additional information and focus on key issues such as resolution of financial assurance and institutional control before conducting indepth technical reviews. We have found it is important to be proactive with early and frequent meetings with licensees to clarify expectations and closely manage the decommissioning projects. We also note that use of realistic scenarios is imperative, and adequate decommissioning funding must be insured.

<Slide: Accomplishments>

Next slide, accomplishments. This slide summarizes some of the significant topical program accomplishments since our last briefing with you a year ago. We've touched on most of these accomplishments throughout the Commission Briefing.

First and foremost, we have continued to make progress in overseeing successful remediation of

numerous sites and various phases of decommissioning. During the past year we have taken certain key actions at several sites, including approving decommissioning plans and the partial site release for Maine Yankee.

Guidance development continues to be a key part of successfully implementing the decommissioning program. During the last year we developed 23 draft for final guidance documents. The Office of Research developed a number of practical and useful tools for the staff to utilize in providing project management to the sites and decommissioning.

And last but certainly not least, we have continued to refine the decommissioning program, drawing upon lessons learned, identifying key issues, and working toward a more risk-informed approach. For example, we have capitalized on the lessons learned from the pilot program regarding phased decommissioning.

<Slide: Challenges>

Next slide, Challenges. As Margaret mentioned in her opening comments, we do face a number of challenges. The staff should be able to resolve many of these, however, some will require close coordination with the Commission to resolve key policy issues.

Policy challenges fall under two major areas,

first, making a restricted use a more viable option, and secondly mitigating the potential for future legacy sites by changing financial assurance requirements and or changing requirements for licensed operations in order to preclude such future sites.

There also needs to be clarification of the relationship between the LTR release limit and other release limits. For example, on site disposal under 20.2002 or unimportant quantities under Part 40, 13A. In June the Commission directed the staff to carry out an analysis of the license termination rule. The staff is currently providing to the Commission our initial results of this analysis and a plan for conducting several important evaluations leading to recommendations for addressing these important policy issues.

After completing these evaluations, the staff will report to the Commission in March 2003 its recommendations, including the pros and cons for each of the actions. We look forward to working with the Commission on these challenges and to addressing any questions that you may have at this time. On behalf of the program, I thank you for your attention and your support.

DR. WILLIAM TRAVERS: Mr. Chairman, that

completes the staff's presentation this morning. Thank you.

CHAIRMAN RICHARD MESERVE: Thank you for a lightening tour of your program. There's obviously a huge amount of activity underway. Very helpful. Commissioner Diaz?

COMMISSIONER NILS DIAZ: Thank you, Mr. Chairman. I also want to commend the staff for the lightening tour but actually it is backed up by a comprehensive report. I appreciate it. It's easy to follow your presentation, because it was very well supported by the documents that the staff has submitted.

Let me start with some small issues, and I'll work through some larger ones. In Slide 3, the staff used the term that I'm not familiar with, "risk informed/performance oriented". Could you explain to me what that means?

MR. LARRY CAMPER: Yes, sir. It follows on the direction from the Commission over these last several years, under the strategic plan initiative in DSI 9 in particular. But simply stated what it means is, in the guidance consolidation project, what we've asked the teams to do is you look at the existing guidance, ask yourself: Do we ask for things that we

don't need? Do we provide maximum flexibilities under a performance oriented approach for licensees? Is the level of information and detail that we are seeking in our guidance documents consistent with the risk that is applied? And certainly, above all, make certain that we're not putting anything into guidance for which there's not a clear regulatory basis for announcing that guidance.

And what we have found over time is, as in any program, under an iterative approach you can continuously, over time, tend to face more and more conservate. Sometimes you react on singular events. Sometimes you draw up on lessons learned. It's very worthwhile to go back at some point and look at the guidance and ask yourself the questions that I announced. So simply stated, that's what it means.

COMMISSIONER NILS DIAZ: Well, that's quite a statement. You know, we have been using, sometimes without good justification, the term, performance based. You've decided to change that and say we're going to use the term, performance oriented, because we want to orient our performance or our assessment of performance to a performance based. And what you're saying is that you're doing that by demanding that the staff focus on

all the right issues, consistencies, and so forth?

MR. LARRY CAMPER: We believe that we are. We've put together good teams, consisting of regional headquarter staff, agreement state representatives. And in each case, we've given them that challenge.

We've just published Volume I of the NUREG for final. We've published Volume II for comment. And I think when we look at it closely, we'll find that we have brought to bear much more performance orientation and much more emphasis on risks in terms of the level of activities that are being conducted.

COMMISSIONER NILS DIAZ: And at what point does performance oriented become performance based?

MR. LARRY CAMPER: That's a good question. I think the important thing is, have you built in maximum flexibility, have you made your guidance performance oriented? In some ways it's almost semantics; performance oriented, performance based.

COMMISSIONER NILS DIAZ: It's a big difference.

MR. LARRY CAMPER: I agree, there is. But as a practical matter I think the important thing is, are you asking for activities to be conducted consistent with the risk involved, have you built in flexibility.

Licensees, as well as us, have the same

ultimate goal in mind, successfully decommissioning these sites. And we constantly have dialogue with them about the level of prescriptiveness that is necessary. So I agree with you that technically they are different. I think, in the final analysis, we're trying to get to the same end point though.

COMMISSIONER NILS DIAZ: You're trying to work toward it.

MS. MARGARET FEDERLINE: If I can just add to what Larry said, performance based is really the outcome that we're after. That's where we're going. We're trying to use orientation as a vector to engage staff and move them in that area.

COMMISSIONER NILS DIAZ: I understand.

In fiscal year 2003, the staff will complete the project to consolidate the data for all of these policies and guidance on the decommissioning program. We will get a three volume NUREG series that will address all of these things in clearly, separate -- you know, each of their decommissioning process, the characterization, and the financial assurance. And I think that's a very good way of separating them.

As you're going through this, are there any early issues that have come out that the Commission

should know ahead of time that eventually will be faced by the policy issues? Anything that comes out of the overall review that you have put into this massive effort?

MR. LARRY CAMPER: Yes, I think so. I mentioned in some of my comments that I think one area that we'll be interacting more and more with the Commission is in the issue of scenario development, dose modeling. As you know, the license termination rule has a period of performance of a thousand years. But the statements of consideration also talk about reasonable foreseeable land use.

There's a natural tendency I think, in the issue of conservatism, in making a safe judgment call, to default to scenarios like the resident farmer or the resident gardener. But increasingly, we ask ourselves, is that really necessary. I mean if you have a site, for example, let's say in Redding, Pennsylvania, that's increasingly surrounded by a development of condominiums or light industrial complexes, isn't it reasonable to assume is dose scenario for light industrial?

And what we plan to do, with particular emphasis on a case by case basis, is communicate with the Commission when we come up and ask to remove SDMP

sites to ask you, does this seem to be a reasonable dose scenario. So I think that site characterization and choice of dose scenarios is probably the one that comes most to mind.

COMMISSIONER NILS DIAZ: That leads me to my next comment. You know, I've been having a special interest on entombment option, and I know you guys have been working on it. Apparently, we received, by December of last year, some comments from 19 parties. And we haven't heard what it was, but is there a delay in getting this to the Commission due to you guys being busy since September 11th? Or is that the comments are so complex and so sophisticated that you need a significant amount of time to resolve it?

MR. LARRY CAMPER: An observation -- and I would ask someone directly responsible for that. My understanding was that there had been a recommendation that had come up to the Commission recently. I may be mistaken on that. But I did look at the comments. The comments, not surprisingly, were very much varied.

There wasn't a ground swell support for pursuing entombment. By the same token, what I thought was noticeably absent was the extent of state comments. Now, some states did comment, but I guess I expected to

see much more state reaction to that particular possibility. But the comments were quite varied though. In trying to categorize those, I think the states found it very difficult to come to some single conclusion.

Now, with regard to where that stands today, I'm not in a position -- do you know where that stands today?

MS. MARGARET FEDERLINE: It's my understanding that it was one of the activities that had experienced a delay because of the add sheds that we've had to go through. But we can confirm that and get back to you.

COMMISSIONER NILS DIAZ: All right. When you look at the overall issue of reliable site characterizations, is that issue a funding issue or a technological issue? Are we coming up with the right models? Are we getting to the state of the art?

MR. LARRY CAMPER: That's a good question. We've scratched our head on that many times.

First, an observation is that site characterization and dose modeling in the design of final survey seems to be a global issue in sites undergoing decommissioning. I think it's for two reasons. Unlike an operating facility, you decommission one time and you're bringing to bear a unique body of

knowledge. Even very sophisticated people, I mean highly trained reputable professionals, you're taking a program, an operating program, from the macroscopic down to the microscopic using DCGL's and a dose standard. That's a difficult challenge. It's heavy lifting for some reason.

The other thing though that is interesting, remember these sites are legacy sites. And the fact of the matter is, in many cases they don't know to the impth degree what's there. They'll make an initial characterization of the site, but as they do further analysis and or commence remediation, they'll come to find that there was stuff there that they didn't know about. The operating records -- remember these sites go back to the 60's, 50's, and the late 40's. Things were done differently then, so the operating records are not as thorough as you would like for them to be. So they find things. And that constantly causes a changing of the site characterization.

MS. MARGARET FEDERLINE: If I can just add to what Larry said, the technological side of what he said is the heterogeneity of the sites and the dealing with and modeling uncertainties. And this is something that Research has been helping us with. We need to improve

our treatment of uncertainties in these models to account for the heterogeneity at the sites.

COMMISSIONER NILS DIAZ: There's probably no place in the world that has using uranium in a more intense fashion than Yucca Mountain. Is there any feedback from site characterization on Yucca Mountain? As far as models, I know they're totally different. But are there any significant improvements in the technology, in the modeling, from all of these enormous amounts of work that's been done in Yucca?

DR. CARL PAPERIELLO: Let me address that because there is a lot of work being done now, not necessarily at Yucca, but the people at the center are tied into the work that we're doing and the work that DOE is doing. And that is, in diffusion of radionuclides through soil or solids. Some of you may know we've had differential equations. The fusion equation that we learned to solve in basic, if you want to call it basic, equations, is a constant. Well, the reality is that that number is not a constant.

I happened to be reading a DOE document over the weekend on dose to BIOTA. And that number ranges, for different radionuclides, from four to six orders of magnitude. So we're talking about a factor of 10,000 to

1,000,000,000, depending upon the types of soil, what else is in the water, and a whole bunch of other things. So that nice constant is not really a constant.

We have a research program going on in which we are contributing a relatively small amount of money, because there's a fairly big program going on in the different parts of the government and overseas to come up with what is the functional relationship.

And that makes a tremendous difference. And if we have to ever deal with dose to BIOTA, it will be a real big issue on how to develop that. That's something that's relative to Yucca mountain for retardation of radionuclide flow. And it's also relative to a lot of the other things that we do. So the program within the agency is relatively small in terms of dollars and FTE, but when you look at it government wide and internationally it is a fairly big program.

MS. MARGARET FEDERLINE: Just to add to what Carl said, one of the benefits from the Yucca Mountain is trying to understand more mechanistic treatment of absorption properties. Absorption is key to decommissioning, you know, retarding the nuclides so they don't move. And a more mechanistic understanding of those absorption properties will be helpful and will

transfer from one program to another.

COMMISSIONER NILS DIAZ: And the center has been doing a lot of those things. So they should have a very good handle on what state of the art it is. So I was wondering whether we're availing our self of the opportunity to learn from those.

MS. MARGARET FEDERLINE: Yes, we are.

COMMISSIONER NILS DIAZ: Any special high priority issue you see in the Commission this year? I know we have the list. I looked through it, but nothing stands out as being a hot potato?

MR. LARRY CAMPER: Well, I think the big one coming up, as I mentioned, will be coming to the Commission. And we're about to provide our initial analysis, the initial results of our analysis on the LTR, following the Commission direction in the SRM.

In that initial analysis, we lay out, of course, preliminary findings and a plan for proceeding. There are a number of evaluations that we need to do. And we plan to come back to in March of next year. But I think the two big categories are going to be this issue of what can we do in policy space to make restricted release a more viable option? It's not working right now for a litany of reasons. And I think

we've got some ideas about how we can make it work better. And we'll definitely need Commission policy, input, and decisions on that.

I think the other one that's very big is in the arena of financial assurance, and frankly, preventing future legacy sites. I mean, we don't want those who follow us thirty years from now to be wrestling with some of the sites that we have today. Now, we've come a long way, in terms of our infrastructure, you know, since 1988 in decommissioning, financial assurance, timeliness, record keeping, and the like. But we think there are other things that can be done operationally and in financial assurance.

COMMISSIONER NILS DIAZ: Well, I think, financial assurance, my fellow Commissioners will probably hack on that, but let me ask one last question addressing the restricted release. You know, this issue of institutional controls has always been looming in the background. And, you know, technology has changed, and what we know has changed. Has the staff made any progress on the consideration of institutional controls?

I know that the issue surfaced with West Valley. But it is certainly something out there that needs to start pointing out to the fact that some sites will

have to have institutional controls.

MR. LARRY CAMPER: Well, I think there are two things that are happening immediately. One, of course, is that we have the direction from the Commission recently regarding the AAR site. Consistent with that direction, we are working to set up -- we've actually had discussions with AAR. They did express an interest in pursuing, or looking at least, at a restricted release option. We've talked about the possibility, for example, of a deed restriction for that site, continuing with it in some sort of brown field scenario. Our OGC is working with their legal counsel to look at Michigan State laws and how they would come to bear over deed restriction types of approaches.

Really what we need to look at, and are looking at actively now is, is there a possibility of a graded approach to institution controls? I think it's fair to say, when you look at the requirements for restricted release today and the license termination rule, we have interpreted them, rightly or wrongly, we have interpreted them as being all inclusive, you've got to have a third-party, you've got to have the financial assurance, you've got to have the constraints in place to manage the dose. And that's okay. But what we haven't

looked at, to the degree that we perhaps could, even in guidance space or interpretation space, is there a room for more flexibility under a graded approach. We're going to explore that in more detail with the Commission. We think it warrants some attention near term.

COMMISSIONER NILS DIAZ: But have we started to look at, for example, the technology and the operational model that would allow the site to use institutional controls?

MR. LARRY CAMPER: We are doing that. And as

Carl pointed out, and as I pointed out in some of my comments, we continuously get products from Research that help us do site specific evaluations.

I think you're right also, that West Valley presents probably the most important and eminent challenge in this regard. Our projection is that a portion of that site is going to be licensed in perpetuity, a portion of it is going to be maintained for restricted release, and a very large portion of it will be suitable for release for unrestricted use. But given the nature of the contamination at that site and what DOE is doing, it's an ideal opportunity.

MS. MARGARET FEDERLINE: To add to what Larry said, I think where we can make most improvement is risk informed approaches to institutional controls. Shrink the footprint as much as you can on the site, and look at what the significant risk is and what is the warranted control from that standpoint.

And I think, you know, our work, Research helping us in absorption areas, coupled with a more realistic interpretation of risk at the sites, and graded approach, as Larry said, is where we've got to make progress.

COMMISSIONER NILS DIAZ: But I have heard, of course, the comment that you do that and nobody will know about it a hundred years from now and then you can endanger public health and safety. And I believe that technology now has progressed now to the point that you can maintain the boundaries and controls on a site. And for a long period of time that is no longer the case as it was, so it is feasible to establish institutional controls with really advanced technology that will alert you to shifts in the constitution of the soil, concentrations, radioisotope movement, water contamination, whatever you want to call it, is there.

DR. CARL PAPERIELLO: Again, this is an area

Research has done work indirectly in. There's been an on-going work in corporation with NIST on concrete as an engineered barrier. So frankly until NIST and we were involved, nobody really scientifically had information on how long concrete lasts. There's a lot of anecdotes, and we now have examples of concrete lasting a long time, and I know some examples of concrete not lasting all that long. But chemically, why does concrete last?

And we have computer codes that we have developed with NIST in this area. This work is now expanding in cooperation with other federal agencies to look at other materials as engineered barriers, because there is a lot of interest in engineered barriers, primarily on the chemical side. But obviously, radionuclides are just one type of chemical. So this work is on-going, and it is relevant to institutional control.

COMMISSIONER NILS DIAZ: Thank you,
Mr. Chairman.

CHAIRMAN RICHARD MESERVE: Commissioner
Mr. McGaffigan.

COMMISSIONER EDWARD McGAFFIGAN: Thank you,
Mr. Chairman. I'm going to just run through a few things that I hope will be quick and then maybe get to one long discussion. The transfer from NRR TO NMSS, I

guess we're going to get the details in a moment, but the research reactors are not going to be transferred?

MR. LARRY CAMPER: That's correct. They're not.

COMMISSIONER EDWARD McGAFFIGAN: At what point do decommissioning reactors get transferred under this model? What is the point that they get transferred?

MR. LARRY CAMPER: There are a number of front end text speck changes associated with, for example, security and safeguards, emergency areas, operator licensing. Once those things are done and we have a nuclear safe island, if you will, for transfer from the two offices, that's when it will occur. That's earlier in the process as opposed to now when the spent fuel was permanently removed from the pool.

COMMISSIONER EDWARD McGAFFIGAN: Okay. Slide five mentioned the RESRAD probabilistic code. What happened to D and D? Was that a mistake? Did we spend a lot of money there and not get much value? My sense is that you're using RESRAD most of the time, as I read these detailed charts at the back, and probabilistic RESRAD in some cases.

MS. MARGARET FEDERLINE: D and D was developed as a screening code. It's very useful as a screening code.

You can see we have large numbers of sites which have fairly simple approaches to decommissioning. And it was developed for that purpose. The probabilistic codes have been much more valuable for the small number of complex sites that we have.

COMMISSIONER EDWARD McGAFFIGAN: And RESRAD was going to be too expensive for the simple sites to use?

MS. MARGARET FEDERLINE: There were certain features of that code that didn't adapt themselves well to the screening code that we were trying to work with.

COMMISSIONER EDWARD McGAFFIGAN: So D and D wasn't a mistake? How much money did we spend on D and D?

MS. MARGARET FEDERLINE: I can't tell you off the top of my head.

COMMISSIONER EDWARD McGAFFIGAN: The GEIS that NRR has the lead on, that's going to be finished, according to your charts, in October or November?

MR. LARRY CAMPER: October.

COMMISSIONER EDWARD McGAFFIGAN: I assume that will come, not to us for approval, but we'll be informed of the major policy issues that get discussed with stakeholders and how those are all resolved? That will be in the discussion of the GEIS? That will all come to

us sometime soon? That's just a hint. Send us something next month, if you could.

MR. LARRY CAMPER: The answer is apparently yes.

COMMISSIONER EDWARD McGAFFIGAN: The SDMP goal. You have a goal of, in 2003, one per year. And your chart shows you, at least through the end of this decade, projecting as you said, not tying yourselves down, but getting quite a few more sites per year off of the chart. And this SDMP goal, I think it's reflected in our strategic plan somewhere, is this a goal that we're setting too low? Is this one of these where we should be saying three or four per year as something that --

MR. LARRY CAMPER: I don't think so. You might recall that it used to be three, and it was changed to one. And The reason it was changed to one is that what we found is, you know, as the cliché is going, there is no more low lying fruit. None of these sites were easy, but the ones that were reasonably easy have been cleaned up. All the ones that are left are very very difficult sites. And as we've put a lot of time and energy into it, so have been licensees.

What you're seeing, over the next few years,

is the culmination of all of these activities that have gone on for a while.

COMMISSIONER EDWARD McGAFFIGAN: I think you're going to have an easy time meeting the one, given the number that --

MR. LARRY CAMPER: Well, you know, every year I go through this. At the beginning of the year, I start pulsing our system. Actually, fifteen months in advance, I start pulsing our system as to which site this year and what's it going to take to get it done. Invariably, what I find though is, again, things are found along the way even at the late stage of the game, when you think that you're almost there. So I don't think that one is a goal that's not realistic or too low, I should say. I think going to three or four, you're setting yourself up for failure. Because what I find is dates constantly change. I mean, licensees control --

COMMISSIONER EDWARD McGAFFIGAN: They move to the right, never move to the left.

MR. LARRY CAMPER: Remediation is controlled primarily by the licensee. They have varying degrees of success in their remediation. They have varying degrees of motivation to spend money. It's the end of the life

cycle for the site. There are varying degrees for motivation to spend money for decommissioning.

COMMISSIONER EDWARD McGAFFIGAN: We don't have to have a long discussion here. It's just that your chart that shows the nice curve going down to 2010 that I'm going down, a few lingering would indicate that something like three per year, in some years four, is what your hope is.

And it will probably be not a great success if we only get rid of one per year and we still have eighteen of those sites remaining or twenty in the year 2010.

MR. LARRY CAMPER: We share your concerns.

COMMISSIONER EDWARD McGAFFIGAN: The institutional control issue. You know, we're looking forward to this paper that's going to be coming forward to us eminently. And the issue of funding assurances is eminently tied to the institutional control issues, because institutional controls arise when there's restricted release, not when there's unrestricted release.

In a paper you gave us back earlier this year, I think in January, you mentioned that the current financial assurance rule allows the site to assume

restricted release.

MR. LARRY CAMPER: Correct.

COMMISSIONER EDWARD McGAFFIGAN: And for uranium and thorium contaminated sites, that can often be a factor of ten. So we probably have a lot of -- well, some, you didn't give a number in that paper -- existing sites that will also have to get into restricted release space because they won't have the financial assurance. And it's probably too late to change their practices to achieve unrestricted release. So its again, another reason we have to make institutional controls work.

If you looked at the, in this paper -- I think we asked you to do it -- the DOE unit being the institutional controller which is a voluntary action under Section 150 1-B of the Nuclear Waste Policy Act, DOE can decline and they may decline. Are you looking at the staff being the institutional controller?

You mentioned perpetual license for West Valley. Ohio uses a perpetual license approach, which we found compatible with our license termination rule for restricted release sites. So whether you call it a perpetual license or you call it a staff role in institutional controls, it's probably a matter of

semantics. That options is being looked at?

MR. LARRY CAMPER: One of the evaluations that you will see in the LTR analysis paper that's due to you eminently is what we call new options. There's a number of evaluations that we're going to do. But one of these options is for NRC to function as an institutional control if you will, something along the lines of the model perhaps used by EPA and RECRA/CERLCA space.

COMMISSIONER EDWARD McGAFFIGAN: In Ohio.

MR. LARRY CAMPER: And Ohio has a perpetual license. Also take a look at the lessons learned from the uranium millings side and the DOE arrangement, the general license.

There's a number of avenues that we are going to explore. But yes, simply stated, one of those is the possibility of us functioning as an IC in some capacity, following those types of models.

COMMISSIONER EDWARD McGAFFIGAN: The last area I'll get into is the Parks Township site. There's been some recent press interest and letters to the Environment Public Works Committee from stakeholders there. And as I understand the situation, it's summarized in your pages here that Congress has transferred the site to the Corps of Engineers, it's

under the Corps of Engineers FUSRAP program. We have an MOU with the Corps that would probably cover the site; is that correct?

MR. LARRY CAMPER: It will cover the site once the Corps does a number of actions and then asks us -- well, the licensee has to put that in, but the Corps meets a number of milestones for that to happen, yes.

COMMISSIONER EDWARD McGAFFIGAN: And when is that scheduled to happen? When might that happen?

MR. LARRY CAMPER: I'm not sure if there's a definite schedule of when the Corps will complete its performance assessment, issue a record of decision. I can look into that date. I don't know it as we speak.

COMMISSIONER EDWARD McGAFFIGAN: What is the staff's involvement at the Parks Township site at the current time? Is there any active role?

MR. LARRY CAMPER: We've done two things. We've allowed a deferral of the submittal of the decommissioning plan because of the on-going movement of the Corps on the site based upon Congressional appropriation. We continue to monitor the site closely. We continue to interact with the Corps in understanding where they are. They're going through their performance assessment at this point in time. And we have meetings

periodically with them in terms of where they are in the process. So it's deferred on the decommissioning plan and working with the Corps and monitoring the site.

COMMISSIONER EDWARD McGAFFIGAN: It's mentioned in the assumptions part of your Parks Township shallow land disposal area write-up that you're expecting this site will be a licensed termination with restrictions. Do you know what criteria the Corps is going to take in cleaning up this site?

MR. LARRY CAMPER: Yes. In it's memorandum of understanding, the Corps will clean up the site up to the NRC standard in the LTR, The 25 millirem standard.

COMMISSIONER EDWARD McGAFFIGAN: So then you won't need restrictions?

MR. LARRY CAMPER: It may not be. That's right. Those assumptions were older assumptions. But the MOU effects 25 millirem unrestricted release. That's what the MOU requires the Corps to do.

COMMISSIONER EDWARD McGAFFIGAN: And then the funding for that that will come via the appropriations process? And then the government will seek to get whatever the cost is from --

MR. LARRY CAMPER: The normal appropriations process for Corps activities, yes.

COMMISSIONER EDWARD McGAFFIGAN: That gets the initial funds, but then is BNW off the hook for any funding under the FUSRAP approach?

MR. LARRY CAMPER: I don't think that they are off the hook, no. My understanding is that they'll go through the appropriation process and they'll seek recovery through the normal Corps process for FUSRAP sites. So no, they're not off the hook.

COMMISSIONER EDWARD McGAFFIGAN: The only thing that needs to be corrected on this sheet then is the assumption that BWXT will request license termination with restrictions on future land use. And you then need to, next time around obviously, tell us where the Corps stands at the site. There needs to be a little more discussion.

MR. LARRY CAMPER: I'll get to you current information about where they are.

COMMISSIONER EDWARD McGAFFIGAN: Thank you, Mr. Chairman.

CHAIRMAN RICHARD MESERVE: Commissioner Merrifield?

COMMISSIONER JEFFREY MERRIFIELD: Thank you, Mr. Chairman. I've got a couple of questions and then a

couple of comments. The SECY paper that is part of the genesis for our presentation today states on Page 8 that, "In the absence of any anticipated nuclear power plant decommissionings soon, (any new ones,) the staff believes that there is no immediate need for moving forward with the majority of the decommissioning regulatory improvement work currently planned."

Now, I recognize the need to prioritize work.

Obviously, we've got a lot of things on our plate and we need to put what is most important first. An argument, however, could be made that, at a time when we don't have a lot of pressure on our decommissioning program, that this is in fact a very positive time for us to reassess our regulatory infrastructure. At some point we're going to decommissioning all of the plants. It's just a matter of when. So I'm wondering what plan you have in the future for resuming the improvement initiatives that were more active previously.

MR. LARRY CAMPER: Chris?

MR. CHRIS GRIMES: I would like to address that question, because it was NRR's conscious decision in the memorandum from the EDO to the Commission on August 16th that we would terminate the integrated

decommissioning rulemaking and await further development of the safeguards activities, specifically as it related to what the safety needs would be for reactors.

It was our view that the procedures that we were putting in place to establish an appropriate time for the transfer of power reactors provide an efficient and effective way to manage the license. But at this point, we don't really want to proceed to try and fix the rules to make them more efficient and effective until we get some idea about where the safeguards piece will fall out because that was really the genesis for starting an integrated decommissioning rulemaking in the first place.

The other aspects of emergency planning and operator licenses, my personal view is that those rule changes are easier to make in an integrated way. But at this point, in the absence of a compelling benefit to be gained from the rules, I don't really see that trying to do something in the lull is really going to be a smart way to approach it. Does that answer your question?

COMMISSIONER JEFFREY MERRIFIELD: I think that makes sense. My concern is just that we have a plan to pick that back up at some point. I don't think you would quibble with my assertion that, in the absence of

a lot of activity, now is a better time for us to be engaging so we're in a better position to do that later on down the line.

MR. CHRIS GRIMES: Yes, I agree with that.

And as I said, if we had some certainty about what mark we were shooting at in terms of how to fix the rules, I would agree with you. But at this point, we need to understand what the licensing basis needs to be for a decommissioned reactor relative to safeguards. And that can stimulate -- and I believe that in the memo from the EDO to the Commission, we promised to revisit that question at that point in time.

COMMISSIONER JEFFREY MERRIFIELD: Thank you.

In a recent document that the Commission received, the staff had conducted a workshop under the auspices of the U.S. Institute for Environmental Conflict Resolution on September 5th on best practices for effective public involvement in decommissioning with special emphasis on restricted release sites. And I'm just wondering if you can summarize that workshop and any recommendations, preliminarily at least, that you think may be coming out of that.

MR. LARRY CAMPER: Yes, I can. Let me comment, if I may, on the point you were making just a

moment ago. We agree with you fully that the lull, if you will, in the submittal of power reactors going into the decommissioning affords an excellent opportunity for us to take a look at how we're doing things. Two things come out of that, immediate thoughts. One is part of the change we're going to discuss with the Commission very shortly in terms of the responsibility for power reactor decommissioning. It comes out of lessons learned and the very fact that there is that lull. And we have an opportunity where we think we can do this more effectively.

The second thing is that we intend to have several interactions with industries near term. For example, we'll be going to the NEI/EPRI workshop in the springtime and talking about what have been the lessons learned on the four LTP's that we've reviewed. It's going to be a roll our sleeves up, let's talk about this, what worked, what didn't work, what can we do better, and so forth.

So you're absolutely right. We need to capitalize on this particular period of time. With regards to the workshop, what we found was that even though the workshop was designed to identify best practices for restricted release, what we've found many

of the participants saying -- and I observed the same thing -- these public interaction ideas that were contained in that best practices and talked about in the workshop apply to all sites. It's while the restricted release sites have a requirement in the LTR that you go seek this type of public involvement near the site.

Sites that are undergoing restricted release deal with many of the same stakeholder issues. And in some cases there's absolute high levels of concern by local constituencies. So what we heard repeatedly throughout the day was that these tools have application across the board for both arenas, restricted and unrestricted. And they were good take home ideas, good tools that we used.

COMMISSIONER JEFFREY MERRIFIELD: The third question I have is relative to the budget breakdown that's on Page 10 of the SECY. It shows an FTE reduction from FY 2002 to 2003 in NMSS and NRR in the regions but an increase of 2 FTE in the Office of Research. And I'm wondering if you can briefly go through how we are deploying our resources and what might be the reason for more money going toward research.

MR. LARRY CAMPER: I think I would ask Bill

Ott to approach that.

MR. BILL OTT: I'm Bill Ott from the Office of Research. One of the things that happened this year was we shifted resources and clearance out materials into waste. So part of what you're seeing in there is the increase in the waste arena because the clearance FTE's were shifted over. Essentially, we had three FTE's in clearance, and they're now in the waste arena, on the waste side.

COMMISSIONER JEFFREY MERRIFIELD: So it was more of an accounting function rather than new resources being deployed?

MR. BILL OTT: Right. The same people are involved in the program now that were involved a year ago.

COMMISSIONER JEFFREY MERRIFIELD: Thank you. Last question. I note that as of June 30, 2002, seven agreement states had either not adopted the license termination rule or some other legally binding requirement. This is on Page 4 of the SECY. Has that caused any difficulty or delay in the decommissioning activities in those states?

MR. LARRY CAMPER: Not for our licensees, no, it has not. And we will be going shortly to the

Organization of Agreement States meeting, but that is a topic on the agenda at that meeting. And we're going to further explore what those seven states think they'll do about this.

Twenty five, on the other hand of course, have moved into the LTR space. So a lot of progress has been made. What we want to find out, in particular, and the essence of your question is, in those states that have not, what problems are they encountering? But for us, it has not been, no.

COMMISSIONER JEFFREY MERRIFIELD: I think that raises my final comments that I would like to briefly make and then pass it off to others. I do want to recognize that I appreciate many of the comments you made earlier, Mr. Camper, in terms of recognizing the need for a greater understanding of the future uses and how that plays in the decisions that we make in keeping the Commission informed in that regard. I couldn't agree with those more.

Similarly, some of the comments made about using other tools at our behest, to manage those down the road so that it doesn't necessitate us going and cleaning up to a greenfield standard, institutional controls is what I am referring to. And I think this is

also positive, and I think is reflective, of where many of the Commissioners have come out in their recorded votes.

I do want to say that, in relationship to where the states are, you know, part of what the chart that you showed is reflective of is that some of those sites are passed off to the states. At the end of the day, we have a collective responsibility to the people who live near those sites to get the sites cleaned up. And while, as an accounting function, they may be off our list, simply to say that we've passed the ball to someone else, I think, is not reflective of where the public is expecting results to take place. So I think we need to be mindful of that.

At the end of the day, the sites need to be put in a condition that is safe for the public. They don't really care whether the responsibility for that lies with our agency or the state agency. So I do want to leave that caution.

The final thing I wanted to mention, I know in previous meetings we've had, on the documents, -- and I'm referring to the SECY -- I do want to recognize that I think the staff has made an improvement. Carl, you and I have spoken about this in the past. You have made

an improvement to the document that is provided to the Commission. I think it does, with the additions made this year, further encompass and get our hands around the sites that we have under our responsibility.

So I do want to recognize, I think, a lot of work being made there. Now, I'll put a little caveat to that, and that is, I think next year when you're putting together the document, I think you may want to look at how it is layed out. There still remains some inconsistency in terms of the way the materials are presented within the SECY itself. And offline I can give you more specific comments. I think having it in a clearer sharper focus will make it a better document for the Commission and for the stakeholders that we serve.

CHAIRMAN RICHARD MESERVE: Thank you, Commissioner Merrifield.

One issue you haven't raised -- and then I'll inquire as to whether this is an emerging problem -- is that all of us are aware of the fact that there is declining availability of low level waste disposal sites in the United States. And we're confronting the eventual closure of Barnwell. You haven't raised that as an issue that is an impediment or even a future impediment to accomplishment of your decommissioning

goals. Is that a problem? How do you see that, the unavailability of low level waste disposal sites as creating difficulties?

MR. LARRY CAMPER: We have not heard from our licensees undergoing decommissioning that the current level of availability for low level waste disposal is a problem for them. Obviously, it's on all of our scopes, continuing cost increases are important. But I think how it does play out though is depicted by the recent action by Big Rock Point, in which it came in under a 20.2002 request and segregated its waste. It put in place a very methodical process of carefully segregating its waste, some to go off to low level waste disposal, some to ultimately end up in a landfill. And they put in place a screening technical criteria to accomplish that. So I think what happens is that licensees are continuing to look for ways to reduce the volume driven by cost and availability.

But we've not heard a ground swell of concern that there isn't adequate levels of available waste disposal capacity.

MS. MARGARET FEDERLINE: I would just add that I think that's largely related to the extension of licenses that are going on. I think the planning

horizon has increased with the number of reactors projected.

CHAIRMAN RICHARD MESERVE: It's postponed the problem.

MR. LARRY CAMPER: And I would echo that if I may, picking up on Commissioner Merrifield's comment and Margaret's comment, three or four years ago we were looking at one or two reactors moving into decommissioning a year. Had that happened, it would have posed a tremendous problem on several fronts, including the waste disposal front.

CHAIRMAN RICHARD MESERVE: I noted upon looking at Attachment 8 that you have your charts of the SDMP sites. It looks like it took about an average of three years from the submission of a decommissioning plan until it was approved, which sounds like a long time. Has this been a problem with the quality of submissions and you needed to go back? Or is it staff resources in terms of being able to act quickly? What's the source of the difficulty?

MR. LARRY CAMPER: I think there are two or three things that come to mind. One is, in all candor, the quality of submissions has not been as good as it could have been. It's for that reason that we changed

our acceptance review process last year and went from a 30 day administrative review to a 90 day limited technical review. What we found, once we got deeper into the review of the DP and now the meter is running on our time, was that the quality of submission is not as good as it could have been, and it was generating multiple rounds of deficiencies questions. So we felt that changing the acceptance review process was a prudent thing to do. And we have rejected a couple DP's since that change was made.

The second thing is that, again, licensees are not always as timely in responding as they would like to be. Another reason is that because we have multiple sites staging of resources, be it health physics support, be it performance assessment support, be it modeling support, we stage these things constantly. And if licensees or site owners don't respond consistent with the plan, we've got to juggle, we've got to go real live. That sometimes causes us to lose time, so it's a multitude of reasons.

CHAIRMAN RICHARD MESERVE: One of the things that I think NRR has done very well with regard to license renewal is ensuring that everyone learns from the first applications. And a lot of effort has been

placed on the successful applications as a vehicle for making their job easier in the longer term and having the quality of the submissions go up.

My impression has been that NMSS has not followed that path. And maybe that reflects the fact that the sites are so dissimilar from each other that it's harder to use their application as a model. Maybe I have a missed perception, but I wonder if we've been forcing the licensees and learning ourselves from successful decommissioning plans as a vehicle for driving the process for others.

MR. LARRY CAMPER: Fair question. We have made a number of progress changes over the last three or four year is particular. I mean, the acceptance review is an example. Moving to placing an emphasis upon financial assurance institutional control for embarking on the development of an EIS is another. We have continued to make a lot of process changes. There is uniqueness in the sites, although they predominantly have uranium and thorium contamination, ground water contamination, subsurface soil contamination, they also are very unique. And so that does drive the problem. It makes it worst.

But let me just assure you that we have made a lot of process changes. We continue to make process

changes. The guidance consolidation is another example where we're trying to modernize it, make it risk informed. So it's a never ending vigil. We constantly look for lessons learned. You're right, the reactor side of the house has done that very well. We look to that for lessons learned.

MS. MARGARET FEDERLINE: If I could just add one thing we have done, similar to what they did in license renewal, the Q & A effort with NEI has been particularly fruitful where, you know, we've sat down with industry and they'll have a series of questions which they feel would be useful to those coming after them in how to submit the application. And we've worked with them in documenting successful resolution of those issues so that future people who come can just take those answers. It's very similar to what was done license renewal.

MR. LARRY CAMPER: Yes, we developed eight generic questions and answers applying to power reactors. Those have been published for comment, and will be included in the appendices of within the Volume II of the guidance of the NUREG. But I would emphasize, again, it's a constant, never-ending effort to try to make process improvements, draw upon lessons learned.

You know, I emphasized lessons learned in my comments.

We'll continue to look for ways to do it better.

DR. CARL PAPERIELLO: I'll point out that roughly four years ago NMSS forced the approval of dry cask and transportation casks into a very rigorous pattern, and we had the same problem. This thing went on for some years in getting approvals.

And that has been very successful in getting approvals done on a short period of time. But there is a question of, frankly, motivation, and the question of whether you want a business for which you can make a profit or whether or not it's a question of spending a fair amount of money cleaning. I'm not trying to denigrate anybody. The outcomes are somewhat different and --

CHAIRMAN RICHARD MESERVE: No. I appreciate that. That's why I asked the question about the three years. There was obviously money that you're not spending now that's saved temporarily. That's the point of the interest for the licensees.

DR. CARL PAPERIELLO: The point is NMSS knows how to do it, but there are a number of variables involved.

CHAIRMAN RICHARD MESERVE: I may be out of

date on some issues but I know that for the complicated sites that, having worked with licensees in this issue, there are a whole series of technical problems that were unresolved in NRC space in any formal sense, simple things that turned out not to be so simple; characterizing the volumetric contamination was always a problem, MARSSIM designed as a surface contamination, protocol with balancing the Type I and Type II errors and so forth.

So just the start of the process, evaluating the site where you have a complicated site, ends up being one where you don't have the benefit of a guidance document that is comprehensive and is modern as the MARSSIM process is.

Has that changed? Has MARSSIM been expanded to deal with volumetric contamination?

MR. LARRY CAMPER: No. MARSSIM has become very accepted by licenses. It's not been expanded, as we speak, for volumetric contamination. What we do though is, we closely coordinate with the steering group on clearing individual sites that are proposing a particular disposal methodology.

As you know, these sites that are decommissioning are clearing materials all the time. And it's imperative that they'll be able to do that,

otherwise you'll stop decommissioning. For example, we just recently conferred with the steering group on clearance for a particular site that is following phased decommissioning, the CE Windsor site up in Connecticut. And we made sure that what we were doing was acceptable in terms of the licensees proposed practices that might relate to volumetric material. The steering group has, in fact, put together some guidance. So we're continuing to coordinate closely with the steering group, use case specific examples, and follow the guidance that is available.

It's working so far. It would be ideal if there were a uniform standardized approach to it. I think we all share that concern to varying degrees. But I think it's working well under the circumstances.

CHAIRMAN RICHARD MESERVE: Are we trying to develop a standardized approach? Is that effort continuing?

MR. BILL OTT: We are specifically addressing volumetric contamination in the research program right now. And it is designed, in the long run, to expand MARSSIM and provide a more robust treatment for site characterization.

CHAIRMAN RICHARD MESERVE: I know from

personal experience that having something that sort of lays it all out in a way that's acceptable to staff and understandable to the licensees and saves a huge amount of time for everyone, but is not trivial --

MR. LARRY CAMPER: No, it's not. MARSSIM itself has become a very effective tool. Licensees are using it, and are using it well, we think.

CHAIRMAN RICHARD MESERVE: But once you've learned the three dimensional disposition of contamination, you then have a whole range of policy issues of what do you do with what's there, what's acceptable at what depth. And then into the scenario development of how could stuff be exposed; if it's excavation to build a foundation, what kind of mixing is likely to occur, and so forth. So it's only the starting point for a need for a lot of work.

Thank you very much. Commissioner Dicus?

COMMISSIONER GRETA DICUS: Thank you, Mr. Chairman. Two, three, or four questions, I think. And hopefully we'll get short answers here, because I know we're approaching 11:00.

West Valley, is that going okay? Problems there between us and with DOE and New York?

MR. LARRY CAMPER: It's going okay. The

relationship between NYSERDA and DOE remains complicated. They're continuing their negotiations in October.

COMMISSIONER GRETA DICUS: Does it remain complicated with us?

MR. LARRY CAMPER: No. I don't think so. I think it's going well from our standpoint.

COMMISSIONER GRETA DICUS: Did you want to add to that?

DR. RON BELLAMY: Commissioner, I would agree. We continue to do our monitoring visits up there, and they are welcomed visits, and they seem to help. The process is working fine.

MR. LARRY CAMPER: The big issue is going to be to get the environmental impact statement on their schedule.

COMMISSIONER GRETA DICUS: Now, I want to go to Slide 8. You might have mentioned this, but you have to understand, I appreciate your lightening presentation because you had a lot to cover, Mr. Camper, but you know Southerners speak somewhat slowly. We also listen somewhat slowly. Now, you might have covered this and I didn't catch it, but newly identified sites, did you cover that?

MR. LARRY CAMPER: I did. I mentioned there were five formerly licensed sites that are currently being evaluated that have not been added to the SDMP listing yet because the evaluation is ongoing.

COMMISSIONER GRETA DICUS: Are they complicated sites?

MR. LARRY CAMPER: They may be. I don't know yet just because they came into the game recently.

COMMISSIONER GRETA DICUS: Are we gaining ground or losing ground? Are we getting more sites rather than the sites we're getting rid of? What's the score?

MR. LARRY CAMPER: That's a good question. The graph that I showed you is a net score.

COMMISSIONER GRETA DICUS: Well, were these five put in it?

MR. LARRY CAMPER: No. The five that were identified recently, during the review, we have not finished the evaluation of them yet. If I look at the slide right now, as we speak, we're gaining ground. Might there be other SDMP sites coming along? Yes.

COMMISSIONER GRETA DICUS: I think you made a -- I think it was in response to one of the questions, and we're trying to make sure that we don't have very

many more of these showing up in the future in our licensing and our capabilities and so forth.

MR. LARRY CAMPER: It's crucial that we do that.

COMMISSIONER GRETA DICUS: And I think this follows up on one of the chairman's questions, one of the comments that we've been discussing. Does the lack on this Commission's, the lack of the Commission having a clearance rule or policy, is this a problem with decommissioning? I mean, you mentioned we are clearing materials.

MR. LARRY CAMPER: We are, on a case by case basis. They are either submitted within a particular decommissioning plan that is reviewed and approved, we review these and coordinate them with the steering group.

COMMISSIONER GRETA DICUS: Are we consistent?

MR. LARRY CAMPER: We think we're consistent. I mean, it would be a lot more pro forma and user friendly if there were a standard and there was supporting guidance. It would eliminate some of the administrative steps that we go through right now to coordinate with the steering group, but it's not stalled. It's working. It just requires some additional effort.

COMMISSIONER GRETA DICUS: How is the grant program working with the states, with agreement states?

MR. LARRY CAMPER: My understanding is that it's working well. I think there are two or three states, as I understand it, that have actually sought grants. And we have provided some technical assistance to the Office of State and Tribal Programs recently for a site in California. My sense is that it's working well, and some states are taking advantage of it.

COMMISSIONER GRETA DICUS: Carl, you look like you wanted to add something.

DR. CARL PAPERIELLO: No. I really don't. I almost nod in the exception. In other words, I have not heard any complaints. On the other hand, I'll be out at OAS tomorrow, so I'll ask.

COMMISSIONER GRETA DICUS: In 2003, the Office of Research is anticipated to devote approximately 25% of FTE and over 50% contract dollars for decommissioning activities. And I see that much has already been accomplished in the NMSS area with the support of Research.

Now, what are some of the major efforts that Research will be pursuing in this fiscal year that we're talking about? Bill you want to address that,

decommissioning?

MR. BILL LONG: The research program is based around the concept of the complex sites, the ones that are the most difficult problems. The approach that's used is similar to the one that was developed for low level waste performance assessment in terms of probabilistic analysis, evaluating source terms, looking at engineered barriers, looking at the processes in soils that may either mobilize or immobilize radionuclides and putting that all together in a flexible framework that allows us to address a wide range of sites.

One simple model won't work. RESRAD, or the RESRAD family of codes, you know, work for fairly simplistic sites. They're not appropriate for more complex sites. So what we're trying to do is develop a body of tools that can be combined to assess any site. We're continuing to look at absorption processes, continuing to look at things like conceptual model and parameter certainty.

We're working with several other federal agencies to develop a common framework for interchanging modules and databases between the federal agencies. We're moving forward on a number of fronts, and I think making really a lot of good progress.

COMMISSIONER GRETA DICUS: Thank you. Did anyone want to add to that?

MS. MARGARET FEDERLINE: Yes, if I could just add, I think one of the real important contributions that Research is making is, as Bill said, with the other seven federal agencies we're developing this analytical framework which will be useful across all the agencies. Now, our responsibility in NMSS -- Research is working with the research offices of those agencies. And we at NMSS need to bring some inroads with the implementation side of the agencies just to make sure that the information doesn't get put on the shelf and is in fact used. So That's where the partnership works between the new offices.

COMMISSIONER GRETA DICUS: Thank you. Mr. Chairman, that's it.

CHAIRMAN RICHARD MESERVE: I would like to thank you for a very helpful briefing. It's obvious that there is a huge range of activities that you have underway. This is an important activity to the agency and to the public, and we very much appreciate your efforts. With that, we're adjourned.

<11:15>