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UNITED STATES NUCLEAR REGULATORY COMMISSION  
BRIEFING ON LOW LEVEL WASTE PROGRAM, PART 2

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FRIDAY

April 17, 2009

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The Commission convened at 1:30 p.m., the Honorable Dale E. Klein, Chairman  
presiding.

NUCLEAR REGULATORY COMMISSION

DALE E. KLEIN, CHAIRMAN

PETER B. LYONS, COMMISSIONER

KRISTINE L. SVINICKI, COMMISSIONER

1 PANEL 1: STATE REGULATORS

2 MIKE DUNN, Manager, Radioactive Material Licensing Group, Texas  
3 Department of State Health Services, and Organization of Agreement States

4 DEBBIE GILLEY, Florida Bureau of Radiation Control, Past Chair,  
5 Conference of Radiation Control Program Directors (CRCPD)

6 SUSAN JABLONSKI, P.E., Director, Radioactive Materials Division,  
7 Texas Commission on Environmental Quality

8 TODD LOVINGER, Executive Director, Low-Level Radioactive  
9 Waste Forum, Inc.

10

11 PANEL 2: GENERATORS AND OTHER STAKEHOLDERS

12 MIKE BLEVINS, Chief, Operating Officer, Luminant Power, and  
13 Chair of NEI's Executive Working Group on Radiation Safety, LLW and  
14 Environmental Protection

15 MICHAEL ZITTLE, Assistant Radiation Safety Officer, Oregon State  
16 University

17 ROY W. BROWN, Senior Director, Federal Affairs. Council on  
18 Radionuclides and Radiopharmaceuticals

19 DIANE D'ARRIGO, Director of Radioactive Waste Project, Nuclear  
20 Information and Resource Service

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

2 CHAIRMAN KLEIN: Good afternoon. Obviously, we had a very  
3 busy morning hearing from our staff and from our Federal partners from both the  
4 DOE and NNSA. Now we get to hear from the people really out in the field that  
5 work hard everyday dealing with the state activities, so we get to hear from the  
6 state regulators.

7 I think, Debbie, we should get a name plate for your chair since you come  
8 here often. So, welcome and we look forward to hearing your comments.

9 Any questions before we start? Mike, do you want to begin?

10 MR. DUNN: Good afternoon. My name is Mike Dunn with the Texas  
11 Department of State Health Services. First of all I'd like to thank the Commission  
12 for the opportunity to speak on behalf of the Organization of Agreement States  
13 from the state perspective on low-level waste management issues. I think we  
14 should be on slide 1. You can go ahead and go to slide 2.

15 At this time we believe that there are several factors that could affect the  
16 licensee business decisions pertaining to the possession and use of radioactive  
17 material currently possessed. Current and future economic uncertainty could  
18 make business decisions difficult for licensees. This uncertainty could lead to a  
19 keep and hold strategy which, depending on licensees staffing levels, current  
20 material inventories or facility layout could lead to a safety or security issue.

21 Material licensees were originally issued licenses based on normal daily  
22 use operations with safeguards that are inherently present with adequate staffing.

1 Any substantial licensee operations change to a mainly storage operation could  
2 change and affect safety and security. Slide 3.

3 Some licensee strategies will be based on business decisions to  
4 permanently reduce inventories of sources. Whether this is a result of business  
5 failure, plant damage that could not be repaired, permanent reduction in service or  
6 reduced manufacturing production, the increase in demand for disposal options  
7 could have a negative effect on safety and security.

8 Some licensees are taking the strategy that they should transfer material for  
9 disposal while there are brokers with storage capacities willing to take the sources,  
10 which could strain current waste broker site capacity. Other licensees are willing  
11 to keep sources rather than transfer to a waste broker with no guarantee of proper  
12 and ultimate waste site disposal. Slide 4, please.

13 One of the final factors that could have a definite impact on safety and  
14 security of materials is licensee decision makers not making safety and security  
15 issues a priority. When business resources are not available for adequate staff for  
16 safety and security or maintaining security systems regulators seem to be the last  
17 to know.

18 Unfortunately, it is not uncommon for material to find its way into scrap  
19 metal facilities or even to have company assets including material auctioned or  
20 sold to unlicensed entities. Slide 5.

21 Some of the industries that have historically been heavy users of sealed  
22 sources are included in the downturn in the petrochemical industry. Lower

1 demand for petrochemical products will idle some plants and oil and gas service  
2 equipment.

3       Along with this lower demand there are still some plants that have not  
4 recovered from the impacts of the 2008 hurricane season. The number of active  
5 oil rigs and gas drilling rigs, commonly called rig count, has fallen very significantly  
6 since January of 2009.

7       Most of the major oil and gas well service using radioactive material  
8 currently have sufficient secure storage for most situations. What we do not know  
9 at this time is how smaller companies will be able to react to economic and  
10 business slowdowns.

11       If these smaller service companies fail in significant numbers, there could  
12 be a source accountability problem and safety and security concerns. We do not  
13 always know there are problems with licensees until after the fact.

14       We've seen medical providers and hospital operations halted by  
15 bankruptcies, which seem to happen quickly. States have to respond quickly so  
16 sources are accounted for and are secure. Next slide.

17       Industrial radiography sources are unique in that they have a relatively short  
18 half-life or useful life, but still must be disposed of in the same manner no matter  
19 the activity. The use of these is heavily tied to petrochemical and oil and gas  
20 industries. New construction and any plant refurbishment will create a need to  
21 dispose of these sources.

22       While there are significant numbers of longer half-life sealed sources that in

1 theory could be recycled or reused, the beneficial reuse of sources by  
2 manufacturers would be a logistically difficult undertaking. Source age, amount of  
3 useful life remaining, activity, liability issues and coordination between  
4 manufacturers are just some of the problems associated with this idea.  
5 Manufacturers should be encouraged at the state and Federal level to attempt to  
6 reuse as a way to reduce this waste stream. Slide 7.

7 State regulatory concerns related to not having a commercial sealed source  
8 disposal site option are varied. States have concerns that sources currently  
9 distributed with limited accountability will end up as lost or unaccounted for due to  
10 economic factors.

11 Generally licensed sources that are not registered are a concern. Many of  
12 these sources are held by individuals or small companies that are also involved in  
13 providing service to those industries that are economically distressed. States will  
14 need resources for immediate response to business closings and bankruptcies.  
15 Slide 8.

16 States also have concerns about the high cost and limited access to  
17 approved Type B casks necessary to move certain material to more secure  
18 locations. We have concerns about availability of state staff and travel resources  
19 to respond to and investigate material loss of control incidents, which usually  
20 require immediate attention.

21 Many states are not allowed or do not have facilities or resources to  
22 impound and hold sources secure as necessary in many situations. In addition the

1 high cost associated with any type of disposal are a real hardship for many of the  
2 small licensees. Not being able to find affordable broker disposal or not having a  
3 disposal site option at all will lead to states having to spend resources locating  
4 wayward licensees and the ever-present possibility of a source loss of control  
5 incident.

6 Our final concern is also a plea to expand the scope and/or funding as  
7 necessary of the offsite source recovery project. The project has been extremely  
8 successful providing a disposal option. This effort has been -- and we hope that it  
9 continues to be -- an option in cases where no other option exists.

10 Resolutions to these low-level waste disposal site concerns all seem to be  
11 revolving around the Federal government intervention. To help make a disposal  
12 site available this effort will inevitably require a coordinated effort between the  
13 Commission and the Agreement States. The states look forward to that challenge.

14 CHAIRMAN KLEIN: Thanks. Debbie?

15 MS. GILLEY: Good afternoon and thank you Commissioners and  
16 NRC staff for accepting the challenge to establish a National forum on low-level  
17 waste and inviting participants from Federal and state government, private industry  
18 and the stakeholder community to the table.

19 Thank you also for listening to the state's concerns and comments made at  
20 both the 2007 and 2008 CRCPD/OAS Annual Commission Briefing. Next slide,  
21 please.

22 Licensees and their regulators are facing extraordinary challenges as

1 economic conditions impede the implementation of regulatory requirements. In  
2 addition, safe and secure alternatives for disposal of sources have been lost to  
3 licensees in 36 states.

4         There continues to be isolated incidents where sources have surfaced and  
5 are in the possession of individuals who are not knowledgeable about radiation  
6 and do not have a license to possess such sources.

7         Just recently national attention focused on a barn in Missouri where 69  
8 radium sources stored by retired physicians were discovered.

9         Another situation involved the purchase of the contents of a warehouse and  
10 in the process of performing an inventory a sealed source was found. The packing  
11 information was included with the source and the manufacturer was contacted and  
12 took ownership of the source. The manufacturer indicated that the source was to  
13 have been shipped internationally and assumed that it had been received.

14         Similarly, two americium gauges found in a newly purchased factory were  
15 dealt with by the NRC CRCPD orphan source program. Situations like these are  
16 happening in the United States.

17         Scrap metal dealers receive sources as part of recyclable scrap. Many are  
18 detected prior to smelting, but on occasion one slips by costing the industry  
19 millions of dollars for clean up. The scrap metal industry and municipal waste  
20 firms have installed radiation monitors which now result in the return of many of  
21 these shipments each year.

22         The recession has also had its impact on the financial viability of

1 businesses especially in medical institutions and construction industry. Medical  
2 facilities, small portable gauge users, and industrial radiography companies are  
3 and have filed for bankruptcy and in some cases left sources in vacant buildings.

4 State regulatory personnel often are not aware of these cases until the  
5 licensee fails to pay their annual fee or an inspection is conducted. One state  
6 reported an abandoned medical facility where a high dose remote after loader was  
7 stored until the legal proceedings were completed to include disposition of the  
8 corporation's assets.

9 As Mike Dunn discussed in his earlier presentation there are limited or no  
10 provisions for manufacturers to take back sources. With no disposal options most  
11 manufacturers have stopped taking back sources. States where manufacturers  
12 who do exchange sources are located have additional responsibilities to ensure  
13 that sources are stored safe and secure and that the manufacturer has sufficient  
14 financial resources to sustain the safety and security of returned sources.

15 Because of technological changes there are small brachytherapy sources  
16 that are no longer use and stored in medical institutions throughout the United  
17 States. Most do not have the financial resources to dispose of these sources even  
18 if there were an outlet available.

19 Currently, some states and the NRC have no regulatory authority to issue a  
20 license solely for storage. Those who wish to terminate a license cannot because  
21 they do not have a disposal pathway. Some states have neither the authority nor  
22 a location to store abandoned sources.

1           Without a disposal pathway states are faced with uncertainty in  
2           establishing a bond for long-term storage or disposal of sources. Next slide,  
3           please.

4           Now that you've heard our concerns I want to share with you some of the  
5           things we're doing. One shining star is the CRCPD Orphan Source Program.  
6           With the financial assistance of the Nuclear Regulatory Commission and in the  
7           past Environmental Protection Agency and the Department of Energy the CRCPD  
8           established an Orphan Source Program in 1998.

9           This program arranges adoptions of sources or manufacturers acceptance  
10          of sources, maintains a directory of waste brokers, decontamination firms and  
11          outlets for radioactive material and when necessary provides for disposition of  
12          orphaned sources.

13          One successful adoption was a cesium 137 gamma beta that was no longer  
14          in use that was transferred to a survey meter calibration company. Fourteen  
15          states have signed agreements to participate in the Orphan Source program.  
16          Orphan sources have been dispositioned by CRCPD in 19 states and Puerto Rico.  
17          Both states with agreements and those without have been assisted.

18          I know Abbie spoke a little bit about the offsite source recovery program,  
19          but I want to talk a little bit about another unique program with DOE and that's the  
20          SCATR program. This was a CRCPD DOE initiative to take care of the disused,  
21          unwanted sources stored throughout our nation.

22          We look at radium less than 100 milligrams and other small sources less

1 than 10 curies that are currently assigned SCATR activities. The larger sources  
2 are identified and sent to DOE as offsite source recovery program.

3 The Department of Energy has provided financial resources and CRCPD  
4 and state partners have worked to round up these small sources. CRCPD  
5 continues the orphan source and SCATR program and are continuing to assist  
6 states with disposal pathways and unwanted sources.

7 SCATR funds may be used in cost sharing projects with the licensees if not  
8 through a state agreement. Some states are actually performing the roundup or  
9 they are coordinating with waste brokers to perform the roundup. CRCPD staff  
10 worked to identify economical roundups and contract with the brokers or state to  
11 perform these activities.

12 For some isotopes such as radium tritium lights and small numbers of nickel  
13 63 we still have outlets and we are grateful. Outlets for hundreds of strontium 90-I  
14 applicators and thousands of cesium 137 brachytherapy needles are sorely  
15 needed. Next slide, please.

16 These are a few of our recommendations. We need to assure that we  
17 continue to discuss these options with all interested partners and would encourage  
18 NRC to champion future meetings to discuss alternatives for disposal of sealed  
19 sources.

20 The successes demonstrated by the Orphans Source Program speak for  
21 itself. I would encourage NRC to continue funding this activity for all states and  
22 note that it is essential to assuring the safe and secure storage or disposal of

1 orphaned sources. Without your funds we would not have been able to take  
2 care of orphan sources in 16 states and Puerto Rico.

3 In the SCATR pilot project in Florida there were 1,100 sources registered  
4 with the Department of Energy offsite source recovery program, but when  
5 licensees had the opportunity to dispose of sources over 2,500 sources were  
6 collected.

7 With a solution to disposal licensees will step up through cost sharing to  
8 dispose of these sources. We really don't know how many unwanted devices and  
9 sources we have in the United States, but we do know that campaigns to round  
10 them up were successful.

11 I hope that NRC and the Department of Energy and others feel that this is  
12 beneficial and will continue to support these activities. We are encouraged with  
13 the potential opportunity to dispose of waste at the Waste Control Specialist site in  
14 Texas and would encourage compact members to accept out of compact waste,  
15 especially sealed sources.

16 Not a novel approach, but something we can share with our nuclear power  
17 partners, until such time that we have a National disposal we should consider a  
18 National long-term storage plan or regional long-term storage plan. This might be  
19 a viable alternative for waste brokers, other Federal facilities, or communities  
20 looking for economic stimulus activities. Just as we have a disposal pathway for  
21 radium sources inquiries should be made to existing compacts to see if a  
22 consideration could be given to accepting a finite number of sources or isotopes

1 from out of compact licensees.

2 For example, if we could take care of the cesium 137 and the strontium 90  
3 sources no longer used in medicine we could reduce significant numbers of these  
4 sources that are stored in facilities throughout the Nation. Next slide.

5 Above all we need to find short-term and long-term solutions that continue  
6 to allow us to benefit from the safe and secure use of radioactive material. This is  
7 no easy task and the Conference of Radiation Control Program Directors look  
8 forward to assisting and identifying these solutions. Thank you.

9 CHAIRMAN KLEIN: Thanks, Debbie. Welcome, Susan.

10 MS. JABLONSKI: Thank you, Chairman, Commissioners. I'm  
11 Susan Jablonski with the Texas Commission on Environmental Quality. Texas  
12 has been actively seeking low-level waste management and disposal options  
13 since 1981.

14 Following the passages of Low-Level Waste Policy Acts and the  
15 amendments we began a process of seeking a publicly constructed and operated  
16 disposal facility within our borders.

17 Early in that process Texas decided to go it alone. The decision was made  
18 by our governor and legislature as we started moving forward with the site that we  
19 should seek the protection of an interstate compact that would allow us the  
20 exclusionary authority.

21 At that time Texas went out to look for states that might want to join and  
22 found partners in the States in Maine and Vermont, which were small generating

1 states with a limited amount of waste that would come to the state. Next slide,  
2 please.

3 After the state moved out of the public-run/public-operated thought of  
4 operating a disposal facility, in early 2000 the state looked at a public policy of  
5 privatizing disposal since we had been unsuccessful in having a  
6 state-run/state-operated facility.

7 At that time the legislature envisioned a competitive proposal process  
8 where individual companies could come in a competitive nature and bring their  
9 bids and the best operator and best site would move forward through the process.  
10 It also included limited criteria for site selection and additional criteria that the state  
11 of Texas thought was warranted for low-level waste disposal, including additional  
12 over packs and more limitations on higher activity waste.

13 One of the other components of that legislation was the ability to condemn  
14 private mineral rights. And that included the idea that if that were the problem with  
15 a private company seeking all the mineral rights that they could come before the  
16 state and the state could pursue those mineral rights.

17 Another component of the legislation was the ability to have a separate and  
18 adjacent Federal facility that could accept mixed waste having both a hazardous  
19 component and a radioactive component. And that the compact facility could be  
20 the first licensed facility and allow for this adjacent separate facility. Next slide,  
21 please.

22 That legislation was successful in passing and in 2004 the State put out a

1 competitive bid to take applications from those that came. One application was  
2 filed with the Commission and we began the review process in 2004.

3 Moving through that process we have a pending action which includes  
4 some steps to issuance of the license that has been made reference to today.  
5 There is a pending license that has both a compact facility and a Federal facility  
6 envisioned.

7 The compact facility would take waste from the States of Texas and  
8 Vermont since the State of Maine has withdrawn from the Texas compact, and the  
9 Federal facility would take Federal facility waste under the definition of Federal  
10 facility waste under the Policy Acts.

11 There are limitations to what cubic footage as well as the volume as well as  
12 the radioactivity that's contemplated in that pending license. In order for us to  
13 move forward a licensing order was drafted by our Commissioners to allow denial  
14 of the hearing request, but allow the process to move forward by directing the staff  
15 to move forward with the condemnation and have the pending license as an  
16 approved document pending the issuance, signage and granting when fee-simple  
17 ownership could be demonstrated by the applicant.

18 We are currently pursuing the condemnation proceeding. It will be filed by  
19 the State of Texas pursuing the remaining mineral rights under this site. That  
20 process -- the exact time frame is unknown at this time. We have five remaining  
21 mineral rights owners and we will be engaging in that process with our Attorney  
22 General. Next slide, please.

1           Once mineral rights can be secured and a license can be issued before  
2 construction there are several things that must occur as well. There's a transfer of  
3 land that needs to occur to the state for the compact waste facility. Contemplated  
4 in this license the Federal waste facility would stay under the ownership of the  
5 company, Waste Control Specialist, with a transfer contemplated to the Federal  
6 government at decommissioning.

7           There is also a section of pre-licensing conditions or pre-construction  
8 licensing conditions that require some additional information to verify and  
9 characterize things that were in the application that had some additional  
10 uncertainties associated with it prior to the state approving construction at the site.  
11 Next slide, please.

12           Once construction and those other pre-licensing -- pre-construction  
13 licensing conditions can occur before disposing waste there's some requirements  
14 for performance assessment and I know today there's been several mentions of  
15 how this performance assessment might be changed and looked to in the future  
16 looking at a new model or codes that are capable of addressing some of the  
17 complexities of this site and the waste that is currently characterized to go to the  
18 site.

19           Additionally, prior to taking Federal facility waste there would need to be an  
20 agreement signed by the Secretary of Energy to accept right, title and interest to  
21 the Federal facility waste at the adjacent facility.

22           Under the state legislation the state cannot receive any liability associated

1 with opening the Federal facility. So, this requirement would allow the state to  
2 maintain what it had put in state law in order to move forward.

3 There are also financial assurance requirements and operating procedure  
4 reviews that would need to occur before disposal of waste.

5 In closing, Texas is on the path to move forward through the process of  
6 something we have been pursuing for several decades towards waste disposal  
7 with a private company which was not first envisioned in the state. And that  
8 process now has some additional hurdles, but we are on a path to move forward  
9 with issuance of the license construction of the site and beginning disposal.

10 CHAIRMAN KLEIN: Thank you very much. Todd?

11 MR. LOVINGER: Thank you. My name is Todd Lovinger and I'm the  
12 Executive Director of the Low-Level Waste Forum. Leonard Slosky, who is our  
13 Chair-Elect was supposed to be here today, but he had a family emergency and  
14 he sends his apologies and regrets.

15 On behalf of the Forum, I'd like to express our appreciation for this  
16 opportunity to participate in this important meeting. I'd like to start out today by  
17 offering a few general observations after which I'll provide some more detailed  
18 information on the sited States of South Carolina, Utah and Washington as  
19 requested by the Commission.

20 First and foremost, I would note that although the compact system may not  
21 have produced as many new sites as anticipated in 1985 it is important for  
22 everyone to recognize that it is the compact system that allows the existing

1 disposal facilities to remain operating and which has allowed Texas and WCS  
2 to reach the threshold of the construction of a new facility.

3 The compact system was developed in the late 1970's when the three sited  
4 States of South Carolina, Washington and Nevada said that they would no longer  
5 shoulder the burden of disposing of the Nation's low-level wastes.

6 While many aspects of low-level waste have changed since then one has  
7 remained constant. States are unwilling to host low-level waste disposal facilities  
8 unless they have the ability through the compacts to control the waste received at  
9 these disposal sites. Thus, the greatest threats to the low-level waste disposal  
10 system are those that jeopardize the ability of states and compacts to control the  
11 wastes that are received by these disposal facilities.

12 Officials from the Northwest Compact and the Rocky Mountain Compact as  
13 well as the States of Washington and Utah have also asked me to convey their  
14 belief that the most eminent of these threats is the current lawsuit by  
15 EnergySolutions which challenges the authority of the Northwest Compact to deny  
16 foreign waste access to the Clive, Utah facility.

17 These officials believe that if EnergySolutions is successful on Counts  
18 2 and 3 of the lawsuit that all of the compacts could lose their exclusionary  
19 authority, which would have a devastating effect on the availability of low-level  
20 waste disposal access in this country.

21 In addition, other forum members have asked me to caution you that as the  
22 NRC and others take actions to solve particular waste disposal problems the

1 cumulative impact on the potential for new disposal facilities must be carefully  
2 considered. Only when the demand for low-level waste disposal is sufficient will  
3 new facilities be developed.

4 Among the comments that we received officials for both the Northwest and  
5 Atlantic Compacts as well as Washington and South Carolina have indicated that  
6 any changes that will require access to the Barnwell or Richland sites for  
7 non-regional waste including foreign origin waste would most likely result in the  
8 complete closure of both of these facilities.

9 These officials have also asked me to express to you concern over  
10 activities that may circumvent the ban on non-regional waste at the Barnwell and  
11 Richland facilities. By obscuring the identification of the original generator of the  
12 waste including recent policy changes in Tennessee and practices by waste  
13 processors that attribute waste only to the waste processing facility and not to the  
14 original generator, as well as possible attempts to transport radioactive material  
15 into sited compact regions and re-manifest it as compact waste.

16 Now turning to comments from the three sited States of South Carolina,  
17 Utah and Washington. Officials from the Atlantic Compact and South Carolina  
18 have asked me to convey the following.

19 South Carolina joined the Atlantic Compact to conserve the remaining  
20 space at the Barnwell disposal site so that disposal capacity would be available  
21 when the states nuclear plants decommission.

22 A plan has been developed to ensure the economic viability of the Barnwell

1 site through mid century. It is very unlikely that South Carolina would expand  
2 access to the Barnwell site even for waste types such as sealed sources.

3 Atlantic Compact generators view regional disposal at Barnwell only as the  
4 current preferred option and will continue to monitor the development of other  
5 options across the country.

6 Barnwell site characteristics have proven less than ideal with relatively fast  
7 groundwater travel times that have resulted in high tritium levels some distance  
8 from the waste disposal cells.

9 Now turning to the State of Utah. Officials from the state have asked me to  
10 convey the following. Foreign waste receipt continues to be an issue of concern  
11 for Governor Huntsman who remains opposed to all efforts by EnergySolutions to  
12 receive foreign waste.

13 During the 2009 general legislative session the governor opposed a  
14 proposal by EnergySolutions to provide hundreds of millions of dollars to the state  
15 of Utah in exchange for the state's approval to accept foreign waste. This  
16 proposal did not advance to a formal piece of legislation during the 2009 general  
17 session.

18 Five facilities only authorized to take Class A waste as a matter of state  
19 statute and policies. The following issues that might allow Class B and C waste to  
20 be reclassified are of utmost concern to the State of Utah. Concentration  
21 averaging, blending of waste that could allow waste classification to change from  
22 Class B or C to Class A and current changes to the waste classification system,

1 such as redefining Class A, B and C wastes.

2 Now turning to the Northwest Compact. Officials from the Northwest  
3 Compact in the State of Washington have asked me to convey the following. In  
4 addition to concern about down blending waste the Northwest compact is very  
5 concerned with the potential for waste blending being implemented in a manner  
6 that obscures the original generator.

7 Officials from the state and Northwest Compact feel that NRC's foreign  
8 waste import license applications could be improved. Import license applications  
9 need to clearly provide complete information identifying all disposition pathways  
10 for the imported waste, including whether any waste will be attributed to the waste  
11 processor.

12 NRC should then determine if the states and compacts of the proposed  
13 disposition facilities have agreed to accept that waste. As an example under  
14 import license IW017 waste was imported from Canada and processed in  
15 Tennessee. A portion of this waste after being processed was subsequently  
16 manifested as Tennessee waste and disposed of at the Clive facility in violation of  
17 the Northwest Compact's requirements.

18 NRC did not consult with the State of Utah or the Northwest Compact prior  
19 to granting the waste import license as NRC may have been unaware of the  
20 ultimate disposition pathway.

21 There are two additional emerging issues in which states and compacts are  
22 just beginning to become engaged. Waste resulting from the release of

1 radiological dispersal devices as well as the disposal of sealed sources that  
2 present a national security risk.

3 Further dialogue is needed between Federal agencies, the states and  
4 compacts on these important issues. Thank you.

5 CHAIRMAN KLEIN: Thank all of you for your informative  
6 presentations and we will begin our questioning with Commissioner Lyons.

7 COMMISSIONER LYONS: I appreciate all of your presentations as I  
8 did the morning sessions as well. Especially want to thank the states for making  
9 the special effort to be here.

10 I started the morning questions asking about your views on a possible  
11 relook at the Low-Level Radwaste Act. I'd be curious in any comments that any of  
12 you would like to make along those lines. Todd sort of indicated some of his  
13 thoughts already, but would some of you like to comment on if you see a need to  
14 relook at that in the near future?

15 MS. GILLEY: At this time, the CRCPD has not addressed that issue  
16 so it would be inappropriate for me to speak on the Waste Forum Low-Level  
17 Waste Act. We really addressed our comments simply to the sealed source  
18 issues.

19 COMMISSIONER LYONS: Mike or Susan would you want to  
20 comment? Texas, of course, is moving ahead in a different way within the Act.

21 MS. JABLONSKI: Within the Act. I think for us we're at a critical  
22 juncture and moving through part of this process. We stay watching what the NRC

1 is doing and how that might impact us getting through the end of this process.

2 So, for us we're working within the system and we found a path forward that  
3 works for both our state and the community and the regulated community. And so,  
4 a change mid-course might have a negative impact on Texas at this point.

5 COMMISSIONER LYONS: Mike, does OAS have a view on that?

6 MR. DUNN: Not to my knowledge. I really can't comment on it.

7 COMMISSIONER LYONS: Todd, I think you were recently clear that  
8 that's not high on your list.

9 MR. LOVINGER: The Forum hasn't taken a formal position. We  
10 have put out a position statement in 2006 which was subsequently amended and  
11 modified which basically doesn't take a position on this, but does highlight some of  
12 the obstacles to some of the other proposals, there are some important  
13 considerations which would need to be taken into consideration to avoid  
14 unintended consequences. And some of the concerns about some of the other  
15 proposals that have been put forward and some of the hurdles that would be  
16 encountered.

17 For instance, the use of DOE sites. Those sites are located in states and  
18 would likely encounter much of the same opposition as states and compacts are  
19 encountering with regard to free market.

20 If you look at the Texas example they did open a free market system in  
21 terms of asking for different proposals and so forth and only received one  
22 applicant. So, these are all outlined in our position statement as potential things

1 that need to be considered when looking at alternative options.

2 COMMISSIONER LYONS: Susan, I appreciated the opportunity to  
3 spend a day with you at the Andrews site and I was certainly very impressed with  
4 what had been done there both by the state and the private company.

5 Are there any lessons that you would be ready to share with other states  
6 that might be interested in moving down the path that Texas has? If you could  
7 comment, I would be curious if you've been contacted by any other compacts that  
8 might have similar interests?

9 MS. JABLONSKI: Commissioner, we always welcome you in Texas  
10 to come back as well. I've been asked this question a lot and have had some time  
11 to reflect on lessons learned and I think there are many.

12 Texas is at the place in this process because of our history and really  
13 building a relationship with our policy makers, the community and having some  
14 confidence in the regulatory structure that the state maintains.

15 And I think that was a big part that allowed this to move forward even  
16 looking at economic viability and allowing for a Federal facility that was able to be  
17 on the table in a policy-making setting because the state felt like they could have  
18 some control over that type of arrangement where the state would not gain any  
19 liability it would increase the viability of the site. But there wouldn't be liability  
20 associated with taking on that additional waste.

21 And I would say we couldn't have jumped to step 25 or whatever we are at  
22 without having the previous steps in front of us because it definitely was a process.

1 And we had many players both on the policy side, on the regulation side, on the  
2 regulated community side that have been with us since the beginning of that  
3 process, including the Chairman.

4 And it's been a very important part of kind of developing relationships and  
5 understanding of, yes, we want to solve this problem. It's a problem we should  
6 solve and we can make a solution that works for the state and the community that  
7 we live in which was a very important part of getting to where we are.

8 COMMISSIONER LYONS: I appreciate those comments and I  
9 appreciated the outline you went through of the steps that have been taken. And  
10 certainly when I had the opportunity to visit there recently it was very evident that  
11 the steps had been very successful. So, thank you.

12 MS. JABLONSKI: Thank you, Commissioner.

13 CHAIRMAN KLEIN: Commissioner Svinicki?

14 COMMISSIONER SVINICKI: Thank you. I also want to thank you  
15 all for your presentations. Susan, I was going to explore the same concept of  
16 lessons learned, so I really appreciate. It sounds like it's very much a stepwise  
17 process and there's no short cuts and there's no missteps. So, I appreciate you  
18 just sharing with us a lot of the realism of the fact that it's not an easy process to  
19 go through, but you've done it in a very deliberate manner.

20 I was just going to return to the sealed sources for a moment. Debbie, in  
21 your presentation you talk about encouraging manufacturers to take back used  
22 sources for reuse or recycle and I think Mike might have mentioned that as well.

1 We heard a little bit about that this morning. But encouragement is -- I think  
2 most people can agree that reuse and recycle of sources is intuitively a good thing  
3 to do.

4 But in terms of either state regulatory or Federal regulatory actions that  
5 might provide that encouragement are you aware of any specific suggestions or  
6 things that could be done to encourage that?

7 MS. GILLEY: Actually, some acceptance of Federal liability in the  
8 case of a disposal site is not opened up for them would be advantageous to them  
9 to taking stuff back. Right now, they have no guarantee that a disposal option will  
10 be available to them, so they're hesitant to take that without some type of  
11 underwriting by somebody that when a disposal site is available that somebody  
12 will take care of them.

13 COMMISSIONER SVINICKI: Thank you. Thank you, Mr. Chairman.

14 CHAIRMAN KLEIN: I guess this is probably a question for both Mike  
15 and Debbie. In terms of the potential for abandoned sources in light of the  
16 economic downturn that we're currently going through have either of your  
17 organizations seen any evidence of that to date? We all know it's a potential, but  
18 have you seen any activities?

19 MR. DUNN: I can speak about Texas. We seem to have had a  
20 flurry of hospital bankruptcies -- half a dozen in a matter of months. We really had  
21 to act quick on that stuff.

22 I made a lot of calls and talked to a lot people before I came up here and I

1 was pretty upbeat before I started, but the more people I talk to in the industry  
2 they have stories to tell about things were not that good out there business-wise.  
3 Some people had already started to bring things in and park equipment and stuff  
4 like that.

5 After talking to some of the manufacturers they have space and activity  
6 limits on their license enough to handle normal situations. If we have something  
7 that is out of the norm they're going to be stretched pretty thin. Most of the  
8 brokers that I inquired about are usually not taking anything because they think it's  
9 a role of the dice with not having a place to send it.

10 They can quote a price. They can say we'll take it for this and then they're  
11 kind of a little nervous that they might have to sit on it or lose money when they do  
12 transfer it to a disposal site.

13 MS. GILLEY: We're seeing some of the same issues. We recently  
14 sent out some annual renewal fee letters and some of our portable gaged  
15 licensees haven't had a lot of activity because of the depressed construction  
16 industry in Florida.

17 But we're trying to work with them to allow them to pay in quarterly  
18 installments just their annual fees and maintain. Again, we believe that the  
19 portable gauge manufacturers would be willing to take them back if they are  
20 insolvent. But at this time there are a lot of those little activities going on that are  
21 not maybe significant in numbers, but may be the beginning or the tell tale or the  
22 early signs of some bigger issues to come.

1                   CHAIRMAN KLEIN: Thanks. Todd, you had commented about  
2 the reclassification of the origin of the waste. We heard this morning from some  
3 presentation that Studsvik had a case where they were processing waste in  
4 Tennessee and then it becomes Tennessee waste. Could you explain a little bit  
5 why the compacts are concerned about the origin as opposed to the technical  
6 characteristics of the material?

7                   MR. LOVINGER: I think it goes back to an issue that Commissioner  
8 Jaczko has been talking about a lot throughout the year, which is community  
9 involvement and the agreements that the states and local government have with  
10 these communities when these sites are developed.

11                   These sites are carefully planned out in order to take specific waste and  
12 when they're developed the agreement is that they're going to be taking waste  
13 from that region.

14                   Another example is the Clive facility which the local community has been  
15 very supportive of the facility as a Class A facility, but when the facility wanted to  
16 get the Class B/C license there was a lot of public opposition to that. So, a lot of it  
17 goes back to the community involvement, community participation and the support  
18 of the local community that goes to that facility and what that community is willing  
19 to shoulder as the burden for themselves or what the state is willing to take on as  
20 the burden.

21                   CHAIRMAN KLEIN: Thanks. George?

22                   MR. PANGBURN: George Pangburn, FSME. If I could go back for a

1 moment to your previous question about abandoned sources, I had a  
2 conversation with Mike and Debbie yesterday a little bit and kind of drawing on  
3 some of my previous regional experience. I think one thing we might want to do  
4 as I mentioned this morning one of the concerns is reminding licensees in advance  
5 of dire economic circumstances of their regulatory responsibility.

6 I think this is an area where perhaps we could work together with CRCPD  
7 and OAS to identify these particular examples as illustrative and use them as a  
8 basis for an information notice, both to NRC licensees and to provide to the  
9 Agreement States so that people get that message early on.

10 I don't think we can do this too often, frankly. So, just the thought that  
11 we've had as we've talked about this over the last day or so.

12 CHAIRMAN KLEIN: Thanks. Susan, we also heard this morning  
13 that WCS is storing apparently Class B and C waste from Studsvik. Is there  
14 expectation that they will ultimately dispose of it, even the non-compact material?

15 MS. JABLONSKI: Chairman, they're not actually storing that  
16 material. It's an issue we're looking at right now and there are regulatory and  
17 some technical issues, financial assurance issues, and the importation that you  
18 mentioned that are still something that we're considering. And so, although that's  
19 part of their plan that's not actually happening on the site yet.

20 CHAIRMAN KLEIN: So, its work in progress, not work in action?

21 MS. JABLONSKI: Yes, sir.

22 CHAIRMAN KLEIN: Thanks. Questions?

1                   COMMISSIONER LYONS: No more, but I appreciate the  
2 discussion.

3                   CHAIRMAN KLEIN: Well, thank you very much for a very  
4 informative presentations and we thank what you all do in consultation with the  
5 NRC because clearly if we didn't have the state's participation we would have to  
6 have several more buildings here for all the work that you all do. So, thank you for  
7 your work.

8                   Our next group will be from industry, academia and the public interest  
9 groups. So, we'll change out name tags. ]

10                  And I assume that Mike is all ready for the answer to the question that  
11 Commissioner Lyons asked.

12                  MR. BLEVINS: I appreciate the advance notice.

13

14

## PANEL 2

15

16                  CHAIRMAN KLEIN: Thank you all for coming and we look forward to  
17 your comments. We'll begin with Mike.

18                  MR. BLEVINS: Thank you. My name is Mike Blevins and I'm today  
19 representing the Nuclear Energy Institute's Working Group on Radiation Safety,  
20 Low-Level Waste and Environmental Protection. We are representing the nuclear  
21 energy industry, which includes commercial nuclear plant operators, fuel cycle and  
22 test and research reactors. If I could have slide 2, please.

1           The industry developed a white paper to outline a common approach to  
2 low-level radioactive waste management last year and provided that to our  
3 constituents as well as to the NRC. Recognizing that low-level radwaste would  
4 need to be stored for extended periods of time considering the change in  
5 circumstances with Barnwell for most facilities the NEI working group developed a  
6 white paper to provide guidance to proactively manage low-level radioactive  
7 waste.

8           Nuclear Energy Institute, the Electric Power Research Institute and the  
9 Institute of Nuclear Power Operations participated in the development of that  
10 process. We want to treat this as a living document and to be reviewed and  
11 updated as needed. In fact, the next update is being worked on now. Next slide,  
12 please.

13           Industry recognizes that safety and security are the paramount  
14 considerations for low-level radioactive waste storage. Beyond that, we're working  
15 to identify reliable disposable options with predictable costs. Next slide.

16           Principles that we are following in that work, again, safety is paramount,  
17 disposal is preferred over storage, regulations that support the safe low-level  
18 waste management options, such as disposal in lieu of storage. We believe the  
19 states and low-level radwaste compacts are key to this process and to the extent  
20 practicable the market should be permitted to support innovative, cost-effective  
21 solutions. Next slide.

22           Go on to the next one, please. Thank you.

1           In the near term as described by the NRC staff interim storage  
2 discussion is warranted of B and C low-level radwaste is being done safely and  
3 securely. We're continuing to identify and implement operational measures to  
4 optimize low-level radwaste generation considering the current environment. As  
5 regulatory guidance is updated and revised we want to promote enhanced  
6 flexibility within the bounds of safety. Next slide.

7           In the longer-term we're supportive of developing an integrated National  
8 strategy for low-level radwaste management. We are collaborating with the NRC  
9 staff, the industry and other stakeholders to identify enhancements to current  
10 regulations. And even though we haven't identified any legislative action yet we  
11 recognize that that is a possibility. Next slide.

12           Under the venue of enhancing the regulatory framework EPRI working with  
13 the nuclear energy industry provided recommendations for revision to the branch  
14 technical position late last year.

15           Two key recommendations included in the document address blending of  
16 similar waste forms and concentration averaging as has been discussed by many  
17 speakers so far today.

18           We also encourage the NRC to consider alternative classification criteria  
19 within the existing regulatory framework discussed also today. And then after the  
20 near term issues have been addressed we support rulemaking to update 10 CFR  
21 Part 61.

22           In summary, we would like to submit that we support the shipping rather

1 than storage as I said earlier. We agree also with the discussion on risk  
2 informing the regulations that's been also mentioned by many speakers.

3 We appreciate the collaboration that we've had with the NRC and other  
4 industry stakeholders at this point and we'd like to see that continue. We also  
5 recognize that transparency is an important element of the work that we're doing  
6 going forward and we hope that leads to updated standards that are considered  
7 operating experience and current technologies that are available.

8 That concludes my comments.

9 CHAIRMAN KLEIN: Thanks. Mike?

10 MR. ZITTLE: Hello. My name is Mike Zittle and I came here today  
11 to represent the academic community with regards to disposal of sealed sources.  
12 Next slide, please.

13 I am here to represent Oregon State University, the Campus Radiation  
14 Safety Officers and the Academic and Medical Radiation Safety Officers, as well  
15 as a host of unaffiliated colleges and hospitals.

16 The main point that I would like to impress upon the Commission is the  
17 need for additional disposal options for the academic community. Next slide,  
18 please.

19 This slide illustrates the three existing commercial low-level radwaste  
20 disposal facilities in Washington, Utah and Barnwell, South Carolina. Next slide,  
21 please.

22 This slide illustrates the compacts as created by the Act. I would like to

1 emphasize the groups of states that are circled: the Northwest Compact, the  
2 Rocky Mountain Compact and the Atlantic Compact. Next slide, please.

3 The states in the circles are members of the fortunate 14 who have access  
4 for Class A, B and C disposal at Richland, for the Northwest and Rocky Mountain  
5 compacts, and Barnwell for the Atlantic Compact.

6 Oregon State University enjoys disposal access to the Richland,  
7 Washington facility on Hanford Reservation; however, as a steward of the State of  
8 Oregon and a taxpaying citizen I find it hard to justify the cost for disposal at  
9 Richland especially when other processing and disposal options are available for  
10 less than half the cost of Richland, but from which OSU is precluded from utilizing  
11 because of compact restrictions.

12 So, what other options are available to academia at this time? Some of  
13 these have already been mentioned previously. We can recycle our sealed  
14 sources back to the vendor. Although not always feasible, this option is less  
15 expensive than disposing of sources as waste at Richland or Barnwell.

16 Another option is to recycle the sources to another licensee, another  
17 attractive option, but with certain limitations and license amendment requirements.

18 The least desirable option is to store the sources until future disposal  
19 capacity becomes available. The bottom line is that the academic community  
20 would like to have more options to increase efficiency and cost effectiveness.

21 Next slide, please.

22 One of the two government sponsored programs to assist licensees with

1 sealed source disposal is SCATR. SCATR is a cost sharing program for  
2 disposal of small sealed sources whereby the licensee picks up one-third of the  
3 cost and CRCPD picks up the remaining two-thirds. Next slide, please.

4 The second government sponsored program is OSRP, which is responsible  
5 for larger sources and all transuranics. Next slide, please.

6 I would like to emphasize a few of the concerns of the academic generators  
7 of low-level radioactive waste and sealed sources. One, 36 states have no  
8 disposal access for Class B and C waste even though plenty of capacity remains  
9 in the existing facilities.

10 Two, prohibitively high disposal costs.

11 Three, lack of free market competition creates high disposal costs.

12 Four, on-site storage challenges for generators. Next slide, please.

13 Academic generators have expressed concerns and confusion of  
14 responsibilities with regards to SCATR. Which comes first: the chicken or the  
15 egg? Do the states need to initiate the SCATR process or does CRCPD? Is  
16 funding still available for this program? What is the status of this program?

17 OSU was contacted a few years ago by the State of Oregon inquiring about  
18 designating OSU as a host institution for the program, but we haven't heard  
19 anything for the past few years about this program from the state.

20 Given the State of Oregon's biannual budget it is questionable if the state  
21 can provide any resources or funding even if the program was initiated. These are  
22 some of the questions academic generators have. Next slide, please.

1           According to a CRCPD representative who contacted me this past  
2 Tuesday the program is functional and funded; however, this individual indicated  
3 that the states need to do a few things first.

4           One, create a funding agreement with CRCPD. This is a big challenge for  
5 the State of Oregon.

6           Two, establish disposal outlets. This is easy. We can send our sources to  
7 Richland.

8           Three, coordinate with brokers and generators. This is a big challenge.  
9 What about the thousands of sources from outside of the Northwest and Rocky  
10 Mountain Compacts with no disposal outlets? Next slide, please.

11           Academic generators have concerns with regard to OSRP as well. The  
12 registration process is clunky. The lag time from registration to inventory  
13 confirmation is at least one year with perhaps two to five years before sources are  
14 collected. The confirmation process is often inaccurate.

15           I would like to give an example with regards to Oregon State University. In  
16 2007, I registered 29 sources via the Offsite Source Recovery Program  
17 registration. One year later I received a confirmation that they got my registration  
18 and they sent me a list of five sources that I had registered.

19           And I contacted them back and they said, "Well, we must have made a  
20 mistake" and they sent me a spreadsheet with all 29 sources and about 150  
21 columns of information that I had no idea what it meant at all. So, we're  
22 concerned about this Offsite Source Recovery Program and whether or not we are

1 a priority for them. Next slide, please.

2 My major talking points deal with future disposal options. Generators would  
3 like to see the Act amended to adapt to the changing framework of the low-level  
4 radioactive waste disposal. Within the past 20 years processors have begun to  
5 offer services, such as volume reduction through incineration with no disposal  
6 volume attributed to the generator.

7 The Act and compacts often preclude generators from utilizing these  
8 services. We encourage the compacts to grant variances to individual generators  
9 to decrease cost with no increase in risk.

10 Two, an unlikely future disposal option would be to repeal the Act to create  
11 competition, increase efficiency and cost effectiveness.

12 Three, authorize DOE facilities to accept sealed sources from generators  
13 with no disposal outlets. Next slide, please.

14 Perhaps the best and easiest solution is to modify DOE's disposal for  
15 Greater Than Class C waste to include B and C as previously mentioned this  
16 morning. Next slide, please.

17 In conclusion, options are the key. Hopefully more disposal options will  
18 become available soon, perhaps as a result of this meeting. We need to focus on  
19 the mission, be creative, and think outside the box for alternative solutions. We  
20 need cooperation from all of the players and stakeholders to utilize existing  
21 facilities and develop more disposal options for the academic community.

22 I would like to thank the Commission for inviting me to speak today and a

1 special thanks to the Campus Radiation Safety Officers and Oregon State  
2 University Nuclear Engineering and Radiation Health Physics Program for funding  
3 my trip to this meeting. Thank you.

4 CHAIRMAN KLEIN: Thanks, Mike. Roy?

5 MR. BROWN: Thank you. My name is Roy Brown. I'm Senior  
6 Director of Federal Affairs for the Council on Radionuclides and  
7 Radiopharmaceuticals. We appreciate the invitation this afternoon to come talk to  
8 you about low-level waste issues and some security issues we have associated  
9 with low-level waste. Can I have slide number 2 first?

10 First of all, let me give you a little bit of background on the Council on  
11 Radionuclides and Radiopharmaceuticals. We are a North American Trade  
12 Association for the manufacturers of nuclear medicine products, both diagnostic  
13 and therapeutic, as well as radionuclides used in biomedical research. We also  
14 have member companies that produce industrial sources of a variety of different  
15 radionuclides. I've included on slide 2 a list of our member companies. Slide  
16 number 3, please.

17 First of all, I have some general comments on low-level waste. In order for  
18 our manufacturers to produce radiopharmaceuticals for both diagnostic and  
19 therapeutic use as well as these biomedical radionuclides we need cost effective  
20 disposal of low-level waste.

21 We've had several issues in the past. We have one manufacturer that in  
22 the past used to manufacture both tritium and C14 labeled compounds. They've

1 dropped several of those compounds from their list of available products  
2 because they had trouble getting rid of the waste.

3 A lot of these products produced mixed waste and they had no way to get  
4 rid of the mixed waste. It was very, very expensive and they finally gave up. So,  
5 these products have been dropped. Unfortunately, they were biomedical  
6 researchers that were using these products -- counting on these products and  
7 they're no longer available.

8 As Mike just mentioned the Barnwell site is closed to 36 states making  
9 disposal of B/C and Greater Than Class C waste very, very difficult, if not  
10 impossible. That makes it very difficult for some of our manufacturers to deal with  
11 cobalt 60, cesium 137 and strontium 90. The majority of our member companies  
12 do currently dispose of their Class A waste at the EnergySolutions site. Slide  
13 number 4, please.

14 I have a list of several low-level waste practices that the NRC is currently  
15 engaged in and other agencies as well that we are very supportive of and we feel  
16 should continue.

17 First of all, the NRC and Agreement States should continue to regulate the  
18 disposal of low-level waste at all disposal sites. We feel the NRC and the  
19 Agreement States have been very, very effective in this in both their policy and  
20 practices. We feel it's a very robust program that should continue.

21 Second of all, the NRC and Agreement State regs and licensing provide a  
22 safe and secure low-level waste storage, transfer, disposal and disposal

1 monitoring. We feel this once again is a very effective program that should  
2 continue.

3 We also feel that criteria for low-level waste disposal should remain at 25  
4 millirem per year and you should continue to use the ALARA principle. Those  
5 provisions in 10 CFR 61. We feel this has been very effective. Once again, it  
6 should continue. Slide number 5.

7 The NRC Regulatory Information Summary 2008-12 that was the one  
8 dealing with temporary storage on-site for fuel cycle materials facility. This was an  
9 update of an earlier regulatory guidance in 1990. We feel this was a very timely  
10 RIS that came out. It was very effective and many of our member companies are  
11 using the provisions provided for in this RIS.

12 Also, several member companies are members of the Northwest Compact  
13 and the Rocky Mountain Compact and are very effectively using the Richland site  
14 as well as accelerator waste going to the Richland site. We feel very strongly this  
15 should continue.

16 Also, we've had very good success with the Offsite Source Recovery  
17 Program. We feel it's been very effective so far unlike the experience of the  
18 campus RSOs. We feel this program should continue. We would encourage NRC  
19 to continue supporting this program. Slide number 6.

20 We would like to see the NRC continue to promote the management of  
21 disused sources for the recycle and reuse in order to minimize waste and enhance  
22 security.

1 I also want to make you aware of a focus group that has recently been  
2 formed by the Government Coordinating Council and the Sector Coordinating  
3 Council under the Department of Homeland Security on recovery and disposition  
4 options for disused sealed sources. Although this focus group is in its infancy  
5 we're very encouraged by the work they've done so far and we are participating  
6 with that group. Slide number seven, please.

7 Let me move to some low-level waste security concerns and security  
8 concerns. As Mike just mentioned since 36 states don't have access to disposal  
9 of Class B/C and Greater Than Class C waste it's become an economic hardship  
10 on those companies. And the disposal of Class A waste at the facilities that we  
11 can dispose of since there is no free market competition we're facing very, very  
12 high fees and very high surcharges.

13 Also, on-site storage of low-level waste is costly. It requires regular routine  
14 maintenance. It requires routine management and in some cases it leads to  
15 additional radiation exposure. In some cases possible license amendments and  
16 very costly enhanced security for on-site storage.

17 We're also concerned because on-site storage of B/C and Greater Than  
18 Class C waste is considered an attractive target for malevolent use. Slide number  
19 8, please.

20 We have some suggestions to NRC. First of all, we would like to have  
21 access to two or three sites for disposal of radwaste. Right now we have one  
22 option, maybe two options in some cases. As I said before this leads to very, very

1 high cost for disposal and very high surcharges.

2 We would also like to see NRC work with DOE to have DOE accept  
3 commercial waste -- commercial low-level waste at some of their burial facilities.  
4 As we heard about this morning we feel there is sufficient capacity, but there's not  
5 sufficient access to sites across the country.

6 We would also like to see NRC continue to work with DOE to provide  
7 treatment and disposal options until cost-effective commercial sites are  
8 established. We're very encouraged with what's going on in Texas, but we would  
9 like to see NRC and DOE work together for treatment and disposal options until  
10 we have some additional sites.

11 Also, we'd like to encourage NRC to work with EPA to provide low-level  
12 waste disposal access to RCRA sites and what we're looking for here is  
13 developing guidance -- looking at developing guidance on a site specific basis, not  
14 on a general basis. This would be for very low-level waste -- very low-level mixed  
15 waste. Slide 9, please.

16 We would like the NRC to reconsider promulgation of the one millirem per  
17 year clearance rule. We know NRC spent quite a bit of time on this several years  
18 ago. We felt NRC went a long way and then was never promulgated into  
19 regulations. We feel this has some very good potential for reducing waste  
20 volumes and a very good access to getting rid of very, very low-level waste.

21 Next, NRC should consider revising the low-level waste classification  
22 system and base it on form rather than origin. And what we mean by this is we

1 have several products that can be produced either in a reactor and is  
2 considered byproduct material or accelerated produced material. And in some  
3 cases products like cobalt 57 and zinc 65 our manufacturers actually have to tell  
4 when they sell it whether it was made on an accelerator, made on a reactor  
5 because it has waste disposal implications. So, we would like to see NRC  
6 consider revising the waste classification system.

7 That concludes my presentation. Once again, I'd like to thank the  
8 Commission for this opportunity to come talk to you this afternoon.

9 CHAIRMAN KLEIN: Thanks, Roy. Diane?

10 MS. D'ARRIGO: I'm Diane D'Arrigo with Nuclear Information and  
11 Resource Service. The goals for low-level radioactive waste management and  
12 disposal, we believe, should be to isolate the radiation, the radioactivity from the  
13 public and the environment, that the goal should be preventing exposures and  
14 doses and that minimizing production, transport and handling of waste is the ideal.

15 We have concerns about 10 CFR 61 now that it's not protective enough that  
16 waste that is hazardous -- radioactively hazardous longer than the institutional  
17 control period can be buried in 10 CFR 61 disposal sites and that it is legal and  
18 allowable for the radioactivity to leak out.

19 Proposed changes being considered could be even less protective,  
20 however. I think that what Commissioner Svinicki said earlier about risk informing  
21 giving an impression to the public that there is really less control over what is --  
22 over the facilities and over the waste and how they are managed and classified

1 that this is a concern that the public sees that its not as clearly enforceable.

2 The definition of so-called low-level radioactive waste in the U.S. as  
3 everyone knows is designated into Class A, B, C and Greater Than C. That was  
4 largely based on reactor radionuclide concentrations. Anything not listed is  
5 automatically Class A, which can include very long-lasting radionuclides.

6 We have concerns with the recent decision to include depleted uranium as  
7 Class A. Also have disagreements over whether the assumptions that NRC  
8 makes that A, B and C are only hazardous for 100, 300, and 500 years  
9 respectively are really true. And especially, and perhaps most importantly, oppose  
10 the creation of a new very low-level waste or below Class A. It sounds like that's  
11 now being called LAW; low activity waste, or other miscategorization.

12 U.S. citizens have said "no" to this over and over again to the NRC, the  
13 EPA and many states. And now it appears that the International Atomic Energy  
14 Agency clearance levels have been adopted in lieu of developing our own.

15 Regarding the Texas waste site a few hurdles were mentioned earlier and  
16 I'll just mention a couple more. That it's my understanding the Texas legislators  
17 have requested investigations be done into the TCEQs handling of concerns that  
18 caused several TCEQ technical staff reviewing the license application to quit.

19 Also, investigations into TCEQ Commissioners' decision to deny the  
20 requested contested case hearing. Also, locally the Andrews County citizens are  
21 being asked to pay a \$75 million bond. The local public has concerns regarding  
22 WCS paying for an upcoming election on the \$75 million bond to pay for the site

1 which is owned by a billionaire.

2 And finally, maybe there is clarity here, but thus far there's been a lack of  
3 clarity on the authorized time allowed for radioactive waste storage at the WCS  
4 site and this would have bearing on the Studsvik contracts or arrangements and  
5 any others.

6 Regarding import and export I understand the policy is in the process of  
7 being reviewed and changed right now, but public disclosure is very difficult. It's  
8 inadequate to be able to see what is being considered.

9 The public opposes the import of foreign radioactive waste for processing  
10 and/or disposal and/or recycling and there's strong Federal support for the Federal  
11 legislation that would keep foreign radioactive waste out of the country.

12 Organizations in Tennessee, South Carolina, Louisiana, southeast regional  
13 and National organizations have requested public adjudicatory hearings in middle  
14 Tennessee on the Energy Solutions proposed import of Italy's waste. Of course,  
15 NRC hasn't decided on that as it awaits the outcome of the court cases in which  
16 Utah and the Northwest Compact are opposing the Italy import.

17 There are serious concerns rising in Tennessee regarding private  
18 processors taking title to nuclear waste. Tennesseans are just learning about the  
19 changes that were made by the Tennessee Department of Environment and  
20 Conservation that allow private processors to take title and liability to nuclear  
21 waste from across the country and potentially around the world.

22 Contracts to bring B and C waste -- reactor waste from existing reactors

1 and from proposed new reactors to Tennessee where Studsvik takes title to it  
2 and then it becomes -- and Studsvik becomes the generator are specific concerns.  
3 This came up in December and is continuing to be there.

4 And then experiments diluting or down blending the higher concentration  
5 waste so that it can meet the acceptance limits at EnergySolutions in Utah is a  
6 questionable practice.

7 Regarding on-site storage as with import/export it's actually even more so  
8 with on-site storage, we have not been able to get public records about the  
9 amount of low-level waste generated or stored on-site at nuclear power reactor  
10 sites. Minimal public input has been sought or taken into site specific or National  
11 policy decisions on on-site low-level waste storage.

12 Waste generators are driving the discussion, providing the white papers,  
13 and the public can come to occasional meetings, but the real work is being done  
14 without public input or knowledge.

15 In the absence of licensed disposal sites of reactors and processors that  
16 take title to the waste could become de facto permanent nuclear waste sites. This  
17 must be considered in license extension and new license decisions.

18 Finally, there's also some concern that emergency access provisions for  
19 nuclear power plant waste could possibly be used to force the waste -- this doesn't  
20 really fit on this page, but was something I asked to raise -- that under 10 CFR 62  
21 that the emergency access provisions could force nuclear power plant waste to  
22 existing sites.

1           Last page is that deregulating nuclear waste is unacceptable.  
2    Reclassifying nuclear waste that's not radioactive, very low-level, BSFR and other  
3    acronyms, other terms is a set up to let it out of regulatory control. We're  
4    especially concerned about nuclear power and weapons waste.

5           Solid and hazardous waste sites are not designed to isolate the waste.  
6    Liners have a 30 year design life. It's unacceptable to send long-lasting waste  
7    even if dubbed very low-level to sites that are not regulated or controlled for  
8    man-made radioactivity.

9           There's been no real incorporation of the risks from synergistic health  
10   effects when radionuclides are combined with other stressors, hazardous wastes  
11   or otherwise; thus, the risk models are not necessarily true risk models. Neither  
12   restricted nor unrestricted release of radioactive waste for recycling is protective  
13   enough for the public recycling workers or the environment.

14          And finally, I need to express a concern that the DOT and NRC  
15   transportation regs -- I believe I've seen indications -- are being used to exempt  
16   radioactive materials from regulatory control even though they are not supposed to  
17   be doing that.

18          I'd like to thank you for including our perspective in today's briefing. I  
19   appreciate that.

20                   CHAIRMAN KLEIN: Thank you. We'll begin our questioning with  
21   Commissioner Lyons.

22                   COMMISSIONER LYONS: Well, first, thank you all for your

1 comments. I promised this morning Mike Blevins that I would ask the question  
2 and I referred this morning to the slide that was shown showing the very sharp  
3 decrease in exposures at PWRs, certainly which looks very impressive. But I think  
4 from our perspective and I've even heard public comments along the line of the  
5 doses are lower, but does that mean the maintenance isn't being done?

6 So, I wanted to raise the question with you on how we can assure the public  
7 that along with the very impressive decrease in dose, which is very positive, are  
8 we maintaining safety?

9 MR. BLEVINS: I would say the short answer to that is "yes", but  
10 there's many reasons for it. One, we have made a lot of improvements in our  
11 maintenance practices and in material controls. For instance, we don't take  
12 packaging inside our radiation controlled areas today. We've learned over  
13 experience that we can minimize what goes into a radiation controlled area; that it  
14 also reduces the radioactive waste at the end of the process.

15 And so, there have been many, many maintenance practices, operating  
16 practices, operating techniques that have been changed over the years that have  
17 improved the amount of radioactive waste that's left at the end.

18 I'd also say that there's actually probably been an improvement in safety for  
19 a whole myriad of reasons. One of them the economics of producing radioactive  
20 waste. We modified operating procedures, the way we handle filters, the  
21 chemistry in our systems, source term protections through changing in metals,  
22 other things which make material contaminated or radioactive which probably has

1 helped the safety of the plant, along with reliability improvements since there's  
2 no minimal piece to that as well.

3 So, I'm confident that we are doing things safely and appropriately and that  
4 one of the results of that is the reduction in amount of materials that we're putting  
5 out. It was also one of the inputs as well.

6 COMMISSIONER LYONS: Thank you, Mike. Mike Zittle, in your  
7 comments I did not realize until you stated it -- did I understand correctly that when  
8 you're within a compact you must use that compact site? Okay. That was news to  
9 me.

10 MR. ZITTLE: Yes, that's correct. If your compact has access to a  
11 disposal facility the only one that you are allowed to use is the one within your  
12 compact.

13 COMMISSIONER LYONS: Independent of cost?

14 MR. ZITTLE: Absolutely. And the Richland facility is a rate  
15 regulated scheme and it's very high compared to some of the other options that  
16 we may have. If I could give an example. This isn't with regard to sealed sources,  
17 but it is a very costly problem for us at the university.

18 We have certain waste streams which burying them in the ground is not  
19 really the way to go anymore. An example of that would be animal carcasses. In  
20 the old days animal carcasses were buried in the ground and now most often  
21 they're incinerated because the risk is significantly decreased by incinerating  
22 volume reducing -- reducing that volume and creating ash, which is a more stable

1 form to put in the ground.

2 I have a large collection of animal carcasses that instead of burying them in  
3 the ground and paying exorbitant fees at Richland I would like to send those  
4 carcasses to EnergySolutions in Tennessee to have them incinerated where they  
5 would take possession of that ash attributable to them as the generator and send it  
6 to the Clive facility in Utah with NDV or No Disposal Volume attributed to Oregon  
7 State University.

8 This is a common practice for 36 states who enjoy access to the Clive, Utah  
9 facility for Class A waste. Unfortunately, our compact has precluded us from  
10 performing that activity, so right now we're forced to store these wastes on site  
11 instead of utilizing a new process that has come aboard within the last 20 years  
12 since the Act was created.

13 COMMISSIONER LYONS: That's a good point. Roy, you made the  
14 comment that production of tritium and carbon 14 label compounds in some cases  
15 has simply stopped. And I asked the question this morning whether there were  
16 examples where important medical research has been literally stopped due to  
17 concerns regarding waste disposal issues.

18 The answer I got this morning from our folks perspective was they weren't  
19 aware of it, but I've certainly been contacted or been in touch with folks in different  
20 hospitals who would say quite the opposite.

21 And I guess I found myself wondering between Mike Zittle and Roy Brown, I  
22 would think both your organizations would have a strong interest in trying to, if you

1 will, build some sort of a catalog of the types of research that is being limited or  
2 precluded by these issues.

3 Because as you, Roy, point to a number of possible changes you'd like to  
4 see, almost all of which are going to require legislation in one form or another, I  
5 think it would be extremely useful to be able to show legislators what the impact is.

6 And it's one thing to talk about the cost of the disposal. That's certainly a  
7 valid point, too, and that's come up repeatedly today, but I think it may be quite  
8 another if it's possible, as I think it is, to show that there is truly important research  
9 that is being simply not conducted today because of that.

10 It just struck me that your two organizations might have quite an interest in  
11 making such a compilation and trying to make it available to legislature -- the  
12 legislators who might be interested in this. Just a thought.

13 MR. BROWN: We would be glad to work with the NRC staff to come  
14 up with anecdotal examples of products that have been taken off the market and  
15 research has been stifled by lack of --

16 COMMISSIONER LYONS: The products and the impact. I think the  
17 impact is what will be important.

18 MR. BROWN: The type of research being done and what that  
19 research is being done for. Exactly. We'd be glad to work with staff on that.

20 COMMISSIONER LYONS: I would think, Mike, from your  
21 perspective with Campus Radiation Safety Officers there must be examples. I'm  
22 aware of some examples, but I would assume you would have access to far more

1 examples where these types of concerns do limit research that could be very  
2 important.

3 MR. ZITTLE: Yes, that's true, Commissioner. I can give an example  
4 right now. Some very important research that I was aware of that stopped not only  
5 at Oregon State University where I currently work, but at UCLA where I spent  
6 seven years before moving to Oregon.

7 We had some researchers -- environmental scientists doing tracer studies,  
8 dioxin tracer studies, using a compound called TCDD trichloral p-benzo dioxin --  
9 there might be a few other words in that. Dioxin.

10 COMMISSIONER LYONS: I'll be sure I won't correct you.

11 MR. ZITTLE: TCDD is mixed with radioactive material such as  
12 tritium or carbon 14. There is nowhere in the world that we can get rid of this stuff.  
13 It doesn't matter if we have all the money to pay for it, there's no place in the world  
14 that we can get rid of this TCDD and radioactivity.

15 Another compound is called PCP, which is not the drug form of PCP, it's a  
16 poly-chloral fennel, I believe, and it's a wood preservatives and wood treating. So,  
17 these activities have stopped -- the research activities have stopped at both of  
18 these institutions because there's no disposal outlets for these wastes that are  
19 created.

20 And I think it's very important -- it's kind of ironic because the reason that  
21 there's no place to get rid of the radioactive dioxin is because it is really nasty stuff  
22 and it's a bio accumulator. But the interesting thing about it is the scientists that

1 were generating this waste were studying the effects of dioxin in the  
2 environment.

3 So, they're trying to find out how bad this stuff is and what we can do to  
4 make it better and they can't do it anymore because we can't get rid of it.

5 So, those are two examples of kind of our mixed waste problems that we  
6 have, but I would be happy to work with Roy and NRC staff to accumulate a list.  
7 We can easily contact all of our members and solicit their opinion and come up  
8 with a list in some time.

9 COMMISSIONER LYONS: At least just from my own perspective I  
10 think such a list could be very, very useful in trying to frame debates like this.  
11 Thank you, sir.

12 CHAIRMAN KLEIN: Commissioner Svinicki?

13 COMMISSIONER SVINICKI: Thank you. I want to thank all of you  
14 for participating today. The questions I had were answered in the course of your  
15 presentations with the exception of one.

16 Mike Blevins, on your slide 6 you talk about proposing changes to NRC  
17 regulation. Is that a reference to the changes that you talk about on slide 7 and  
18 enhancing the regulatory framework? Or do you have other proposals that are  
19 under development?

20 And related to that the following bullet talks about possible legislative  
21 action. Are those proposals under development?

22 MR. BLEVINS: I think the answer to your first question is "yes".

1 Those are the same ones that I'm referring to there, and "no" to the second  
2 part. We don't have anything currently that we're aware of that we think is  
3 appropriate for legislative action. We just think the possibility may exist in the  
4 future. Everything that we have been working with to this point is, I think, within  
5 the purview of the NRC.

6 COMMISSIONER SVINICKI: Okay. Thank you very much. Thank  
7 you, Mr. Chairman.

8 CHAIRMAN KLEIN: Mike, you had made the comment that you  
9 prefer disposal to storage on site. It seems like a lot of the reactors are storing  
10 stuff on site from steam generators to other activities. And I know the universities  
11 and hospitals and others don't have the space that normally the power plants  
12 have.

13 So, when you look at risk you all are probably in a better position because  
14 you have a lot of land and buildings and so forth.

15 I guess the question is is there anything the NRC needs to do to encourage  
16 the disposal because I think the Commission has expressed concern about that in  
17 the past. I think all of us have said we would rather see this material moved off the  
18 sites rather than store it. Is there anything specifically you think we can do to  
19 encourage that?

20 MR. BLEVINS: I agree with the conclusion and I think  
21 encouragement through some of the regulatory framework that we proposed here  
22 to make it easier to classify materials so they can be shipped and continue to work

1 with the states and compacts to get facilities available and operational so that  
2 we can dispose of B and C.

3 Because even though minimal, while we're storing those items on site there  
4 is some radiation exposure associated with the monitoring and security and  
5 auditing and those kinds of things. I can only presume that whatever is left the  
6 total exposure would be less if it were in its final disposition rather than sitting at  
7 multiple sites as well as probably a more secure location.

8 Now, as you mentioned for us security is a pretty normal part of the  
9 business these days. I'm not aware of any facility that's having difficulty with  
10 space or facilities to do the storage, but we would hope that it's not a lifetime  
11 endeavor.

12 CHAIRMAN KLEIN: Thanks. Mike, you talked a lot about sealed  
13 sources, but obviously you have other radioactive sources that universities have.  
14 Are you aware of universities that have difficulty storing that material where they  
15 have no path forward?

16 MR. ZITTLE: Yes. At Oregon State University we are fortunate. We  
17 have space and we have secure and safe facilities. All of our large sealed sources  
18 that are on the Offsite Source Recovery list and the SCATR list they're stored in  
19 our radiation center, which also contains our trigger research reactor.

20 So, it's secure and we have plenty of space in there and obviously good  
21 shielding. So, we don't have a problem storing our sources, but there are other  
22 universities that do not have the luxury of having a reactor and a very secure

1 facility on site to basically just put our sources in there.

2 And that is why the SCATR program initially contacted Oregon State  
3 University several years ago to inquire about designating us as the host institution  
4 to receive all the shipments and store the sources before packaging them up for a  
5 bulk shipment to Richland.

6 But there are many colleges and -- it's the hospitals and smaller colleges  
7 and universities that have the problem. The larger universities generally don't  
8 have problems because we have large facilities and space.

9 CHAIRMAN KLEIN: Thanks. Roy, I noticed you commented that  
10 DHS has a Coordinating Council. I assume that DOE and NNSA is a member of  
11 that? Is that correct.

12 MR. BROWN: Yes, they are.

13 CHAIRMAN KLEIN: Since they've obviously been collecting a lot of  
14 those sources make sure that the founder certainly is attending those meetings.  
15 Thanks.

16 Diane, you had commented that the perception that risk informed means  
17 less regulation. Do we need to do a better consumer education program from the  
18 NRC?

19 Because what risk informed lets us do is concentrate on those regulations  
20 that have more of an impact and therefore more of a concern. So, I was curious  
21 about the negative perception of risk informed.

22 MS. D'ARRIGO: From the perspective that the lower concentration

1 or the lower level materials that are being either released or declared low  
2 activity waste are going to unregulated destinations; that concern, obviously, the  
3 NRC doesn't have as much concern over the very low level waste.

4 Our concern is that we want to minimize and prevent even small amounts of  
5 unnecessary exposures. So, we moved to risk informing and it means that just the  
6 higher level materials have the concern, then it could open the door to the lower  
7 level materials being released.

8 CHAIRMAN KLEIN: Of course, we use risk informed in other ways.  
9 It doesn't mean that we just don't pay attention to them. Risk informed is pretty  
10 broad and I was just curious if the public understands the more broad perspective  
11 of risk informed?

12 MS. D'ARRIGO: Part of the understanding is some observation and  
13 it's more from my colleagues that are on the reactor watchdog side. I'm more on  
14 the waste side of the equation. But the way that risk informing is left to the  
15 generators to make the decisions on the reactor side of the equation, that's a  
16 concern that we would not want to see repeated on the waste side.

17 CHAIRMAN KLEIN: Thanks. Any further questions?

18 COMMISSIONER LYONS: No, thank you.

19 CHAIRMAN KLEIN: Well, thank all of you for your presentations and  
20 I'd like to thank all of our presenters today for a very informative discussion.  
21 Obviously, low-level waste is, as Commissioner Svinicki had indicated earlier, it  
22 seems like it may be more complicated sometimes than the high-level waste, but I

1 think we can certainly work through that to solve problems for the American  
2 people.

3 Thank all of you for coming.

4 (Whereupon, meeting was adjourned.)

5

6