

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON PROPOSED REVISIONS TO 10 CFR PART 61 AND
LOW-LEVEL RADIOACTIVE WASTE DISPOSAL

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THURSDAY

JUNE 25, 2015

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ROCKVILLE, MARYLAND

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The briefing convened at the Nuclear Regulatory Commission, One White Flint North, Commissioners' Conference Room, 11555 Rockville Pike, at 9:00 a.m., Stephen Burns, Chairman, presiding.

COMMISSIONERS:

STEPHEN G. BURNS, Chairman

JEFF BARAN, Commissioner

WILLIAM C. OSTENDORFF, Commissioner

KRISTINE L. SVINICKI, Commissioner

EXTERNAL PANEL:

MIKE GARNER, Executive Director, Northwest Interstate

Compact

RALPH ANDERSEN, Senior Director, Radiation Safety and
Environmental Protection, Nuclear Energy
Institute

DAN SHRUM, Senior Vice President of Regulatory
Affairs, EnergySolutions

SCOTT KIRK, Executive Vice President,
Licensing and Regulatory Affairs, Waste Control
Specialists

PERRY ROBINSON, General Counsel, Louisiana Energy
Services (URENCO USA)

MATT PACENZA, HEAL Utah

NRC STAFF AND AGREEMENT STATES PANEL:

MARK SATORIUS, Executive Director for Operations

SCOTT MOORE, Deputy Director, Office of
Nuclear Material Safety and Safeguards (NMSS)

LARRY W. CAMPER, Director, Division of
Decommissioning, Uranium Recovery and Waste
Programs, (NMSS)

RUSTY LUNDBERG, Director, Utah Division of
Radiation Control Organization of Agreement
States

CHARLES MAGUIRE, Director, Radioactive Materials
Division, Texas Commission on Environmental
Quality

9:01 a.m.

CHAIRMAN BURNS: Good morning, everyone and welcome to our external panel, to the Staff, Agreement State – thank you. Again, I want to welcome everyone to today's meeting, our external stakeholders and representatives. Various interests speak to us this morning, the NRC Staff, representatives of the Agreement States, and members of the public who may be here or viewing remotely.

The Commission today will be briefed on the proposed rulemaking on 10 CFR Part 61, and on Low-Level Radioactive Waste Disposal. This meeting provides the Commission an opportunity to hear directly views from external stakeholders and regulatory staff on various topics related to low-level radioactive waste disposal.

First, we're going to have presentations from the panel, which includes the Northwest Interstate Compact, Nuclear Energy Institute, Energy Solutions, Waste Control Specialists, and HEAL Utah.

Presentations will be followed by questions and answers from the Commission, and then we'll have a break since we have a long meeting this morning, and after the break we'll hear from a panel of regulators, including the Staff and Agreement State representatives from the State of Utah, and the State of Texas, again followed by a second round of questions.

Before we begin, would my fellow Commissioners like to say anything? Again, the – let me just briefly introduce the panel of external stakeholders, and then we'll turn it over. We have Mike

1 Garner from the – thank you, Mr. Garner. Executive Director of the
2 Northwest Interstate Compact; Ralph Andersen, Senior Director,
3 Radiation Safety and Environmental Protection, Nuclear Energy
4 Institute; Dan Shrum, Senior Vice President of Regulatory Affairs at
5 Energy Solutions; Scott Kirk, Executive Vice President, Licensing and
6 Regulatory Affairs for Waste Control Specialists; Perry Robinson,
7 General Counsel of Louisiana Energy Services, URENCO USA; and
8 finally, Matt Pacenza, hope I got that right. Matt Pacenza of HEAL
9 Utah. So, welcome again, and we'll start with Mr. Garner.

10 MR. GARNER: And having not done this before, do I
11 need to push a button?

12 CHAIRMAN BURNS: Yes, push the button.

13 MR. GARNER: And slides? Well, good morning,
14 Commissioners. My name is Mike Garner, and I'm here today
15 representing the Northwest Interstate Compact. Next slide, please.

16 To give you a little background, the Low-Level
17 Radioactive Waste Policy Amendments Act of '85, 1985 defines those
18 low-level wastes that are state and interstate compact responsibilities,
19 and those that are a federal government responsibility. The U.S.
20 Enrichment Corporation Privatization Act states low-level waste
21 generated as a result of these operations is not a state or interstate
22 compact liability. It is a Department of Energy responsibility. Next
23 slide, please.

24 New low-level radioactive waste disposal facilities will
25 be needed by approximately 2050. The Richland, Washington site will
26 begin final closure activities in 2056. EnergySolutions, Clive, Utah site

1 has 30 years of license capacity remaining. Additional nuclear utilities
2 will be decommissioned in the next 20 to 40 years, so new disposal
3 capacity will be needed by the country. Next slide, please.

4 The purpose of the proposed rulemaking is to develop
5 regulations addressing the disposal of previously unanticipated waste
6 streams such as large volumes of depleted uranium, or large volumes
7 of other long-lived radionuclides at commercial facilities. Two
8 commercial facilities have expressed interest in providing disposal
9 capacity for large volumes of depleted uranium. Waste Control
10 Specialists in Andrews County, Texas, and I think they have been
11 approved to accept this; and Energy Solutions, Clive, Utah site, they're
12 going through the process of trying to obtain approval. Next slide,
13 please.

14 Site development. In my estimation, future site
15 development depends on the following; technical analysis
16 demonstrating low-level waste is disposed in a manner that is
17 protective of public health and safety. However, just as importantly,
18 public support is needed before these sites can be developed.

19 And then a last item that I think also plays into the
20 gaining public support for site development is the stability in the
21 regulations governing low-level waste disposal. Next slide, please.

22 The unintended impacts of the proposed
23 implementation of the rule at this point in time. It will change the
24 fundamental dynamics outlined within the Low-Level Radioactive
25 Waste Policy Amendment Act of '85. The incorporation of rules
26 governing the disposal of depleted uranium, a federal responsibility at

commercial sites should not harm states or interstate compacts that have no interest in accepting large volumes of depleted uranium.

Commercial sites not accepting large volumes of depleted uranium will be subject to the economic burden of implementing the rules, yet will receive no economic benefit. The incorporation of rules governing the disposal of depleted uranium should not harm currently operating sites that have no intention of accepting large volumes of depleted uranium. The sites located in South Carolina and Washington have provided a valuable service to the country for a combined 94 years.

This, if it's implemented as currently proposed, this will increase the site use permit fees for generators using the Richland, Washington site. And the reason for that is the disposal fees are regulated by the Washington Utilities and Transportation Commission.

Under this regulation setup, the licensee, US Ecology is provided with an annual revenue requirement which allows them to recoup their cost to operate the site, as well as a given profit for operation of the site. A new regulatory requirement would be the UTC, Utilities and Transportation Commission would authorize that expense, and that would be passed on to the generators in the form of higher disposal fees.

Now, that would only be for the one year or two years where those rules are being implemented, but it would potentially increase the site use permit fees. I think it was estimated in the regulatory analysis that compliance period and protective assurance period assessments on average would cost about \$440,000 per

1 Agreement State. This would increase the site use permit fees, and
2 for our in region generators by about 8 percent. Next slide, please.

3 The application of the rule to all commercial sites
4 undermines the stability of regulations governing the disposal of
5 traditional low-level waste streams and exhibits a level of inflexibility on
6 the part of NRC. New states may be hesitant to support future site
7 development as they will recognize the rules can change at any time to
8 allow extremely different waste streams than those contemplated
9 during the original public process.

10 The public may be hesitant to support it because they
11 will be uncertain that what they're being told, it may morph in four or five
12 years to something totally different. There's a little hesitancy there on
13 the part of the public, who it's hard enough to convince to develop a
14 low-level waste disposal site. And it appears the current rules are
15 effective for those sites that have no intention of taking large volumes of
16 depleted uranium.

17 Within the Federal Register Notice on page 16099, it
18 says because of the conservative nature of the assumptions used in the
19 original 10 CFR 61 regulatory basis to develop the low-level waste
20 radioactive waste classification, the low-level radioactive waste
21 classification system is expected to be protective of public health and
22 safety as long as low-level radioactive waste disposal facilities operate
23 within the regulatory basis of the original 10 CFR Part 61 regulations.
24 Next slide, please.

25 In my estimation, it is highly unlikely that a proposed
26 facility meeting all the requirements of the rule could gain the public

1 support necessary for development. Such a commercial site has
2 never been developed in our country, and in all likelihood will be
3 un-siteable. This results from the proposed universal application of
4 the rule to all commercial sites instead of being limited to those sites
5 seeking to dispose of large volumes of depleted uranium or other
6 long-lived radionuclides. Next slide, please.

7 To reduce these unintended consequences, in my
8 estimation the proposed rule should apply to those commercial sites
9 seeking large volumes of long-lived radionuclides, such as depleted
10 uranium for disposal. This could be accomplished through the
11 inclusion of these requirements within a separate section, or subpart of
12 Part 61 that applies only to those commercial sites that choose to seek
13 out large volumes of long-lived radionuclides, such as depleted
14 uranium for disposal.

15 Now, I want to point out, my next point here where it
16 says this approach is supported by all four cited states, this was the
17 information – this information is incorrect. This information was
18 correct when I submitted my slides, but I got a phone call last night, and
19 in talking with Mr. Maguire from Texas this morning, Texas does not
20 support this, but the other three cited states do. And then the next
21 slide, please.

22 The benefit of this alternate implementation, it aligns
23 more closely with the responsibility for low-level waste disposal as
24 outlined in the Low-Level Radioactive Waste Policy Amendments Act of
25 1985. It limits the economic burden to those commercial sites that will
26 benefit economically from the receipt of large volumes of depleted

1 uranium or other long-lived radionuclides. It maintains a higher level of
2 stability for states for rules governing disposal of traditional low-level
3 radioactive waste streams. And it makes future site development
4 more difficult, but much less difficult than if the proposed rule is applied
5 universally to all commercial sites.

6 And just in closing, a similar approach was echoed by
7 ACRS Member Dr. J. Sam Armijo in an attachment to the comment
8 submitted by the Advisory Committee on Reactor Safeguards to
9 Chairman Macfarlane on February 19th, 2014.

10 "Absent a safety concern or benefit, it is not reasonable
11 to impose such uncertainties or burdens on licensees who choose to
12 make no changes in the waste streams they receive in the future. This
13 problem could be corrected by making the new rule applicable only to
14 licensees engaged in the disposal of large quantities of depleted
15 uranium."

16 And I would like to thank you for the opportunity to
17 come before you today to express the Northwest Compact's concerns
18 regarding the currently proposed implementation of the rule. Thank
19 you very much.

20 CHAIRMAN BURNS: Thank you, Mr. Garner. And
21 we'll next hear from Ralph Andersen from the Nuclear Energy Institute.
22 What I ask, I realize we're a little bit crowded at the table given the size
23 of the panel, but if you speak closer to the mic, it helps with the
24 modulation and I think those can – that can hear particularly externally
25 on it. Thanks very much. Go ahead, Mr. Andersen.

26 MR. ANDERSEN: Thank you. Mr. Chairman and

Commissioners, as always it is a privilege and a pleasure to meet with you, in this case to discuss the proposed rulemaking to 10 CFR Part 61.

Before I begin my presentation, I would just like to note that having reviewed the other presentations for this meeting, I uniquely see a remarkable alignment on the concerns and issues that are expressed by many of the people that you will hear from today.

Also, as we all are aware, we will be submitting formal comments on the rule in July. For me, this was a little bit unique to have the briefing at this point in time, so we are working with our member companies to finalize our formal comments, but I believe that the high-level comments that I will offer you today are well vetted by our member companies, and by NEI. First slide, please.

My communications colleagues at NEI have trained me well to begin every presentation with the end in mind, so this is my last slide first. But in this particular case, I think that we could summarize my entire presentation with the following. The limited rulemaking is no longer a limited rulemaking, and that's a problem. Next slide, please.

As confirmed many times in many ways by the Agency, the current Part 61 insures adequate protection of health and safety for low-level waste disposal in the United States. The NRC Staff has carefully delineated the principles that are embedded in the original Part 61, and in my view and from my own previous experience as a contractor to the NRC, I believe they captured well the principles of defense-in-depth, and lack of reliance on long-term controls, and so forth that have endured remarkably well in this regulation. Actually, I

1 think I'll just move to the next slide.

2 In the beginning, the issue of depleted uranium was
3 raised and discussed at some length in public meetings with the Staff
4 first as an issue, and then subsequently as an issue that would be
5 expected to lead to some form of rulemaking for resolution. Since
6 then, the scope of that original issue has expanded as shown here on
7 this list adapted from NRC's list in the Federal Register Notice.

8 At times along the way, we've referred to the
9 rulemaking as a unique waste stream rulemaking, and more recently a
10 rulemaking to address low-level waste streams significantly different
11 from those analyzed in the original regulatory basis for Part 61.

12 Next slide, please.

13 Likewise, we see that the actual scope of the proposed
14 rule itself has grown largely. A number of my colleagues have
15 contacted me after looking at my presentation to point out that I had a
16 typo in the first bullet. In fact, that's not a typo. I left the strikeout in
17 there to indicate how significantly the scope of the original proposed
18 rule has changed. It no longer is limited to address safe disposal of
19 significantly different low-level waste streams.

20 Additionally, as captured in the Federal Register
21 Notice, new intent has made its way into the rule both to identify
22 additional measures that might be employed for continued low-level rad
23 waste disposal, and additionally and specifically to develop site-specific
24 low-level radioactive waste acceptance criteria for the sites.

25 In our view, the proposed rule currently is nothing less
26 than a complete reconstruction of the licensing basis for low-level

radioactive waste disposal sites. Next slide, please.

As you heard previously from Mike and I'm sure will hear from others, our concern leads to the projection and prediction of unnecessary burden and unintended consequences. It's not clear what value both from a regulatory point of view or a safety point of view, or an economic point of view arises from doing the required analysis at a site that has no intention for receiving low-level radioactive waste streams that are significantly different from those previously analyzed.

Additionally, there's a specific requirement for site closure in which this analysis would be repeated. And, again, if there hasn't been any real change to the licensing basis for the site, it's not clear what value would be added.

Additionally, we look at the processes and proceedings that would occur surrounding this work, which frankly isn't abundantly clear to us, or our legal staff at this point. And to what extent opportunities for intervention and litigation might be created by these requirements, particularly in the case where people aren't planning to change their current licensed operation.

Secondly, the emphasis on site-specific waste acceptance criteria would seem to us to essentially subordinate or almost render moot the existing waste classification tables. Said simply, it's not clear how newly created site-specific waste acceptance criteria can coexist with the waste classification tables given that the waste acceptance criteria are based on an analysis that subsumes the entire source term, including what we refer to as the routine or typical waste streams. So, I pose to you that we could actually lose the value

1 that we currently have in the existing waste classification tables.

2 And then finally from a business point of view, we
3 believe that this process, which is essentially untested and unproven in
4 any licensing proceeding on this scale, introduces uncertainties for
5 business planning purposes both for continued operation of an existing
6 site, and certainly as well as making decisions about the substantial
7 investment to try to create a new low-level waste disposal site.

8 Next slide, please.

9 I offer a few of our preliminary comments that I expect
10 will be in our comment letter, and I offer these in the vein of our thinking
11 towards suggested resolution to some of the issues that we raise.
12 Similar to what was proposed in Mike Garner's presentation, we believe
13 that the rule should specifically provide for excluding facilities that are
14 not pursuing disposal of significantly different low-level radioactive
15 waste streams. We really believe it would be very inefficient if this was
16 left to some sort of exemption process, as opposed to being an artifact
17 of the rule itself. Exemption processes, as we've seen in the
18 decommissioning arena, turn out to be a bit of a sticky wicket both
19 politically and in terms of stakeholder acceptance.

20 Further, we think that more thought needs to be put
21 into how to utilize both site-specific waste acceptance criteria in
22 conjunction with continued use of the existing low-level radioactive
23 waste classification requirements that I can't lay out for you a precise
24 prescription for how we think that could work. We just raise it as an
25 issue that we think should be resolved going into an ultimate final rule.

26 There's been much discussion about compatibility

1 level implications that we believe should be more fully explored, and
2 here's what I offer. From our reading of your voting records and voting
3 records of a few of your predecessors, clearly, transboundary issues
4 have risen as one reason for opting towards Compatibility Level B. We
5 would point out that the emphasis of this rule on creating site-specific
6 waste acceptance criteria is going to raise exactly the precise same
7 issues. You might get there by a uniform method, but you still will end
8 up with different criteria for each site.

9 I will tell you that from my own historical experience
10 back in the '70s prior to the creation of the NRC, that was exactly the
11 situation we had. Every low-level waste site had different criteria for
12 accepting waste in terms of quantities and form of material that could be
13 disposed of. That's where I believe this rule will take us.

14 Additionally, I'm not sure we're fully considering that we
15 have in play right now the newly revised Branch Technical Position on
16 Waste Concentration Averaging and Classification. I wanted to
17 mention to you for information that the Electric Power Research
18 Institute, by the way, is putting together industry guidance for the
19 nuclear power reactors and how to best employ this new Branch
20 Technical Position in terms of waste management and waste
21 processing.

22 Also, we have the Regulatory Issue Summary on
23 low-level rad waste manifest reporting for the so called Phantom 4
24 which, in fact, are long-lived radionuclides that greatly affect the
25 performance assessment. And I think we need to put a little more
26 thought into how we're going to overlay these new required

1 performance assessments and take into account what everyone admits
2 now is fantastically conservative over-reporting of these long-lived
3 radionuclides; some possibility for correction factor in those
4 assessments needs to be there.

5 And then, finally, we would suggest to you that I think
6 unintentionally we have once again got on a road of piecemeal
7 rulemaking. It appears that we have taken the issue of potential future
8 updating of the waste classification tables as an example, as well as
9 specifically whether one should classify depleted uranium and kind of
10 toss those down the road and said well, let's do the rulemaking, get that
11 done, then we'll sit down and figure out whether we should do those, or
12 not.

13 I would suggest to you that it would be better to
14 integrate that thinking into this rulemaking to make sure that we don't
15 have to do a redo, a correction in a future rulemaking depending on the
16 decisions we reach on those issues.

17 I thank you very much for your time and attention. I
18 just want to take this opportunity to mention, especially for those of you
19 that I've had the opportunity to interact with over the years, I'm actually
20 retiring next month. I assume this will be my last opportunity to meet
21 with you, but I wanted to say for the record how much I fully commend
22 and compliment the Agency, the Commission, and all of your
23 predecessors over the many years I've had the opportunity to work with
24 you. It's clearly the finest regulatory agency in the world on nuclear
25 safety, and it's been a pleasure to have worked with you these many
26 years. Thank you.

CHAIRMAN BURNS: Well, thank you, Mr. Andersen, and thank you for those kind comments, and we wish you well as we proceed here through this, and we'll keep your thoughts in mind. But thank you. Mr. Shrum.

MR. SHRUM: I would also like to thank not just the Commission today, but also the Staff for the fine job that they've done. A lot of work has gone into the proposed rule. We appreciate that. We've been along for the ride the whole time, and hopefully our comments will be just that, comments to make the rule better.

As you're aware, we operate two disposal facilities. Both are under Part 61, the facility in Barnwell on behalf of the Atlantic Compact, which is owned by the State of South Carolina, and also the Clive facility which we actually own, but is operated in the State of Utah. First slide, please.

Again, I've got seven issues I'd like to discuss today. Next slide. Hopefully, we can get through them all; if not, I'll be done early.

The first issue is the WAC. We're supporters of the WAC. We like the concept, we like the idea. A site-specific WAC is far superior to any changes in the classification tables that could ever come about. With the WAC, we're able to use our site-specific analysis, our site-specific information so that we can insure that human health and the environment are protected. However, I also have to agree with Ralph, it does create an issue where you may end up with two sets of criteria, the old tables, and then the new ICRP Standards, and that is something that will have to be worked out because you'll be

1 basing disposal, you may use a table, or you may use the WAC, so
2 something that needs to be considered.

3 Defense-in-depth. Next slide, please.

4 Defense-in-depth; we like the idea of the safety basis and the emphasis
5 on defense-in-depth. We believe that the proposed rule misapplies
6 the concept of defense-in-depth as is typically incorporated by the
7 NRC. Defense-in-depth usually means redundant systems, and
8 although Dr. Esch has very clearly stated on several occasions, I
9 attended the meetings, the public meetings so far, is that he doesn't – it
10 doesn't mean that you have to have two layers of everything. That's
11 not what it means. But the way the term "defense-in-depth" is usually
12 applied with the NRC, that's what we think may happen as this gets
13 applied throughout the United States. So, we're asking actually the
14 requirement for an analysis be removed because that suggests a
15 quantitative demonstration of the value of the redundant systems.

16 To us, we're not looking at defense-in-depth so much,
17 but we're looking at protective layers that have been installed into a
18 disposal facility, like suitable site geology and the stability of the facility,
19 proper packaging, the proper concentration limits. To us, that is
20 defense-in-depth or a layering approach, as opposed to redundant
21 systems. We just want to make sure that that's very clear when the
22 rule comes out. Next slide, please.

23 We believe that the proposed rule is overly
24 complicated, as Ralph has mentioned also. It began as a limited
25 scope rulemaking. We don't believe as currently proposed it is not just
26 limited, but it is also not easily understandable. The amount of detail in

1 61.7 and 61.13 we believe is excessive for a rule, especially in 61.7,
2 and it is not part of what was – we believe was the limited scope that the
3 Commission set the Staff out to do. And most of the additions in 61.13
4 really belong in guidance. Those are guidance-related issues;
5 although, there's a guidance document. There's plenty of words in the
6 guidance document, but we believe that most of the new things in 61.13
7 belong in the guidance document.

8 These additions don't strengthen the rule or contribute
9 to health and safety which we believe a good rule should just
10 completely focus on, on health and safety of the public. Next slide.

11 We would like to point out just a few complications and
12 inconsistencies that we found. We'll be also providing formal
13 comments. In the NUREG Guidance document it discusses other
14 disruptive processes. This term is not defined in the rule. We
15 appreciate a better understanding of what is specifically meant by
16 disruptive processes.

17 It also talks about "the licensee should examine
18 plausible scenarios for site evolution and characteristics in the site
19 stability analysis." We believe this conflicts with recent – the recent
20 input from the Commission where this should only be done if scientific
21 information is available. So, the – as a licensee, it's very difficult when
22 we're hearing, or the rule will say one thing, the intent was another
23 thing. To us, only if scientific information is available means that you
24 don't have to go above and beyond, and the guidance actually starts
25 talking about plausible scenarios. And we are not sure how we're
26 supposed to implement those.

Also, the defense-in-depth analysis conflicts with a SECY document that states clear statement, "that license decisions are based on defense-in-depth protection." So, we've gone from your recommendation to make sure that there's a clear statement on that licensing decisions include defense-in-depth to an analysis, a full blown complete analysis, and we believe that that's not consistent with the previous direction. Next slide, please.

Stability at 10,000 years, as I've gone through this process, I knew that stability would be an issue. We also knew that a 10,000-year time frame would be an issue, but as we'll just repeat what the ACRS has stated on this; "Demonstrating stability for 10,000 years, demonstrating that engineering controls are in place for 10,000." Demonstrating that material structures are in place for 10,000 years will be a challenge. It will be a challenge for us, and any other licensee that comes down the pipeline. We don't – our studies don't go out and don't project that far.

When the rule – before the rule came out, I thought that we'd have a 10,000 year time frame, but stability would – the firm analysis would stop at 1,000 years, that wouldn't go into the 10,000 year frame. And this is specifically culled out in 61.44 where it states, "A disposal facility must achieve long-term stability of the disposal site for the compliance and protective assurance period." And in the public meetings that we've heard so far, it's very clear that any facility that wants to be licensed under Part 61, whether or not they want to take depleted uranium or any other long-lived isotope will have to meet a 10,000 year stability requirement. And I think – we think that's a step

beyond what was initially intended. We believe your direction was that you had to do a reasonable analysis, not a demonstration for 10,000. Next slide, please.

Again, as I mentioned, we operate two facilities. Our Barnwell facility really has no desire now or in the future. The facility is almost full, but it is still operating, and on behalf of the Atlantic Compact, we don't believe that it's reasonable to apply this rule to a facility that's just nearing its closure. I do believe that it would be necessary to apply it to any facility that would like to take, for example, depleted uranium, but not for a facility that's just about done. So, therefore, we think that the criteria should be there for a purpose.

We do see that there are some calculations that can be done but, again, as is explained so far, Part 61 will require any operating facility to go out to 10,000 years whether or not they want to take depleted uranium or not. And we think that that's a bit over-stretching what the rule is originally intended to do.

So, therefore, we think that there should be some sort of a grandfathering clause, and we suggest, or we'd like you to consider, Utah's developed a rule in the State of Utah rules that it will be based on the volume disposed of. So, if you want – if you have limited amounts of depleted uranium, just things that have been taken in the past are very low volumes, then you do not have to do the additional analysis. It is based off of the things that have already been taken. Next slide, please.

So, my last point is every rule has an unintended consequence. This is just the one that I picked out for discussion.

1 The complexity and cost of the proposed rule will possibly lead to
2 unlicensed disposal of radioactive waste. So, we believe that if the
3 rule is going to require this much more in-depth analysis, much more
4 costly analysis, we're well into the \$4 million range with the analysis
5 we've done for our disposal facility at Clive, that could push people and
6 licensees to go to unlicensed disposal.

7 Following the 2002 provisions, but those provisions
8 aren't adequately regulated, or we don't believe they're adequately
9 regulated because there's no formal guidance, and there are limited
10 regulatory controls on that. So, that's just one of the unintended
11 consequences.

12 I would also repeat what Mr. Garner said.
13 Absolutely, this will – another unintended consequence is we may
14 never see another disposal facility. And I don't think that was ever the
15 intent of this rule, but that could be where this rule takes you. We've
16 only seen one developed since Part 61 happened anyway. We have
17 to make sure that we have adequate disposal for the future.

18 Again, thank you for your time. Appreciate this
19 opportunity.

20 CHAIRMAN BURNS: Thank you. Mr. Kirk.

21 MR. KIRK: Thank you very much. Yes, I'm Scott
22 Kirk, and I'm Vice President of Licensing and Regulatory Affairs for
23 Waste Control Specialists. I'd like to thank you, Mr. Chairman and
24 the Commissioners, as well, for the invitation today. First slide,
25 proposed rulemaking.

26 It's been a long and winding road for this rulemaking.

1 It started about seven years ago, and it's taken many different turns.
2 And we commend the Staff's efforts to develop a proposed rulemaking,
3 and we support the three-tiered approach as provided in the proposed
4 rule.

5 We also support the radiation protection amendment to
6 protect members of the public and the inadvertent intruder, and we
7 recently received authorizations under the TCEQ, the Texas
8 Commission on Environmental Quality regulations in Texas to dispose
9 of large quantities of depleted uranium at our site. It was a very
10 rigorous analysis that we've had to go through.

11 As mentioned, you know, we opened the first new
12 low-level waste disposal facility in over 40 years. And one of the major
13 successes and ingredients to our success has been the state, regional,
14 and local community support that we've had. There's a tremendous
15 amount of nuclear – support for the nuclear industry out in West Texas
16 and Southeastern New Mexico, and we think that was an essential
17 ingredient to opening our facility. They invited us to the facility, or they
18 invited us to their communities to open this facility, and they also
19 wanted to insure that they would support it but only if there was a lot of
20 regulatory oversight over the process. Next slide.

21 Prior to the year 2003, there was a disposal facility that
22 was intended to be licensed by the State of Texas, the Sierra Blanca
23 site. It failed for technical reasons, but also because there was lack of
24 community support. In 2003, the Texas legislature, they enacted
25 legislation. They also had a requirements, sort of a vision for what a
26 new modern disposal facility would look like, and they created a

1 framework for the disposal of commercial Class A, B, and C low-level
2 waste, but also that's owned by the Department of Energy. They
3 mandated very stringent siting requirements. It had to be in a location
4 that was less – that had rainfall less than 20 inches of rain per year,
5 needed to be away from the international borders. They also had very
6 stringent design criteria. Their concept was more of monitor
7 retrievable storage, but they also required waste to be grouted in large
8 concrete canisters. Again, it's supposed to be monitored retrievable
9 storage. All of our Class B and C waste is grouted into large
10 containers. They're stacked I think up to four high in the compact
11 facility, and up to six high in our federal waste disposal facility. We
12 even have a requirement to grout high-dose rate containerized Class A
13 waste, and those are waste streams that have dose rates greater than
14 100 millirem per hour at 30 centimeters. The containers themselves,
15 they also provide a lot more assurance to protect the intruder, so the
16 overall design of the facility was very modern and unique.

17 The other unique aspects is that in Texas for the
18 commercial waste streams, Texas takes title to the waste before it's
19 disposed of. And for our federal waste disposal facility, DOE will take
20 title to it at the time of decommissioning. Next slide.

21 When I speak about monitor and disposable facility,
22 these are sort of the attributes that we had envisioned. Now, it needs
23 to be well sited and well-engineered, and it needs to insure that waste
24 can be isolated for long-lived radionuclides for periods beyond 10,000
25 years. It needs to be sited, at least in our case, in an arid environment
26 in a remote part of the United States. The geology should be

impermeable and far removed from potable water sources.

We do believe in defense-in-depth. We have multiple defense-in-depth concepts and controls applied to our particular site. And one of the things I think that's unique, and that has been captured here today, that the new modern disposable facilities, ours is the first, you know, that's based on its siting criteria. Many of the older facilities were located in proximity to big large federal reservations, not based on their environmental performance. So, we look at our facility and any other new modern disposable facilities as being more than capable of implementing this rule.

Here's some unique site characteristics and engineering design features of our site. It has a 10-meter engineered cover that's not mounded at the surface. If you look on the right-hand side of the slide, it gives you an overview of the design itself. We also have a 7-foot liner system at the bottom, and a one-foot reinforced concrete barrier that surrounds the entire disposal unit. Disposable depth is key. Our facility, we can dispose of waste at depths greater than 30 meters, that's possible. We also use very intruder-resistant disposal canisters.

One of the unique aspects, too, of the site is the geology at the WCS site. The waste disposal facilities are constructed completely within what's called the Dockum Formation. It's a Permian age, it's about – the sediments were created about 260 million years ago. The clay units are about 500 to 800 feet thick. They're impermeable. They have a permeability about the same as concrete, it's one times ten to the minus nine centimeters per second, so once

1 you place waste in the disposal cell, there's really no place for it to go
2 downwards. The water table is about 600 to 1,000 feet also below
3 grade, but that's not truly potable. It's in an arid climate. The rainfall
4 is less than 15 inches per year, and it has the potential for
5 evapotranspiration of about 60 inches of water per year.

6 We also built a detailed hydrus infiltration model. We
7 looked at rainfall events over a 24-hour period since 1954, and the key
8 to this is even though we get low amounts of rainfall per year,
9 sometimes when it rains, it pours. You might get 15 inches over a
10 three-day period, or sometimes it rains very little over a year period of
11 time. But, nonetheless, we looked at 24-hour rainfall events over – or
12 24-hour rainfall events that have occurred since 1954 in order to build
13 our infiltration model.

14 It's also very well characterized. We have over 640
15 borings to help characterize the facility to make sure the geology was
16 ideal, and to build our performance assessment. And we believe it
17 was ideal for isolating long-lived radionuclides from the environment.
18 Next slide.

19 This just gives you an overview for a previous
20 standard, so the slide to the left is the Barnwell disposal facility. The
21 waste is not disposed nearly as deep as if you look at the slide to the
22 – or the picture to the right. The picture to the right is our compact
23 waste disposal facility. You can see it's disposed of very deep.
24 There's concrete barriers around it. Again, it shows a picture of these
25 concrete canisters, and each of those are about 10-feet high.

26 Next slide.

1 Disposal of depleted uranium in Texas. The TCEQ
2 regulations are very unique. They have a period of performance of
3 1,000 years or peak dose, whichever is longer. It can be argued that
4 they're the most stringent Part 61-like regulations in the United States.
5 As part of our major amendment, we analyzed 500,000 cubic meters of
6 depleted uranium, and again it was part of a major amendment request.

7 When we submitted our application, we originally
8 analyzed for a time period of 100,000 years, but during the licensing
9 review process we also looked at with our regulator how well the site
10 would perform for periods beyond 100,000 years. We modeled the
11 entire DOE inventory. I think it was 700,000 gigagrams of depleted
12 uranium in our federal waste disposal facility. We looked at time
13 frames out to 1 million years, and we shown that to performance
14 requirements. Next slide.

15 Conclusions. We think the nuclear industry and
16 disposal capabilities have matured very considerably over the past 40
17 years. Now, we are authorized to dispose of large quantities of
18 depleted uranium, compliant with regulations that are more stringent
19 than what the NRC is proposing in this particular regulation.

20 Now, we believe a modern disposal facility that's well
21 sited with defense-in-depth engineered controls will be suitable for
22 isolating long-lived radionuclides into the environment.

23 One of the key fundamental parts I'm going to circle
24 back to for community support. This has to go to the issue about
25 compatibility categories. We know now that I guess in the last
26 direction, this Compatibility Level B that was associated with many of

1 these requirements, but all the Agreement States that host disposal
2 facilities have different sets of requirements more stringent than what
3 the NRC is looking at.

4 One of the key things that we point to, when we spoke
5 to our local community and to our leaders, I think there was a lot of
6 comfort in knowing that we could site a new disposal facility and use
7 very stringent regulations, some of the most stringent in the United
8 States. And I understand the need that you need a consistent
9 regulatory framework across the board, but I would also ask you, also,
10 to weigh the need for community support. And if you take an action
11 that causes a state to relax their standards to less stringent
12 requirements, is that really a true way that you build community support
13 for licensing new facilities or maintaining support for existing facilities?

14 Those are my comments. Thank you for your time.

15 CHAIRMAN BURNS: Thank you, Mr. Kirk. Mr.
16 Robinson.

17 MR. ROBINSON: Have the first slide, please.

18 Good morning, and I'd like to echo again what all of the
19 other speakers have said. Appreciate the Commission, as well as the
20 Staff inviting us to be on this panel. That's in particular because, as I'll
21 discuss in a few moments, URENCO USA has a significant stake in this
22 proposed rulemaking.

23 URENCO USA is concerned that the proposed rule will
24 impose new requirements that will restrict or make it more difficult for
25 enrichment facilities to dispose of significant quantities of depleted
26 uranium. Let me be clear. URENCO USA is not opposed to the

1 rulemaking, and appreciates the Staff's significant efforts with respect
2 to a complicated subject. However, URENCO USA believes that as a
3 matter of sound regulatory policy, the NRC should evaluate the impacts
4 the rulemaking could have on the overall regulated community,
5 including generators of low-level radioactive waste, not just disposal
6 facilities. URENCO USA also believes that the NRC should clarify
7 certain aspects of the proposed rule, as I will discuss later. Slide 2,
8 please.

9 The proposed rule's statement of considerations, as
10 well as the Agency's draft regulatory analysis both indicate that the only
11 effected segment of the industry are the disposal facilities. In fact,
12 these documents specifically indicate that there is no impact on the Part
13 70 licensees. Respectfully, URENCO USA disagrees.

14 The NRC's Part 61 rulemaking came about in large
15 part as a result of the licensing proceeding for the URENCO USA
16 facility. There the Commission directed the NRC Staff to evaluate the
17 disposal of significant quantities of depleted uranium generated by
18 enrichment facilities. Thus, the present rulemaking uniquely and
19 significantly affects URENCO USA.

20 Furthermore, as the only commercial enrichment
21 facility in the United States, any increase in costs or changes required
22 in operational or other licensed activities as a result of the Part 61
23 rulemaking will have a direct impact on URENCO USA, a waste
24 generator that is fully responsible for the ultimate management and
25 disposal of its waste.

26 URENCO USA has spoken with several of the facility

1 operators, disposal facility operators across the United States, and at
2 least one has explicitly indicated that increased costs of new
3 requirements resulting from the rulemaking will be passed on to
4 generators like URENCO USA on a dollar for dollar basis. Thus,
5 because the Agency's current analysis shows increased costs to
6 disposal facility licensees, there can be no doubt that the passthrough
7 of such costs will have a direct and substantive impact on generators
8 like URENCO USA. Moreover, the proposed rule could significantly
9 impact our licensed activities.

10 In terms of long-term U.S. energy security, a recent
11 Energy Information Administration report shows that the bulk of
12 enrichment supply is foreign based; suppliers that are typically
13 subsidized by their governments. Discouraging expansion of
14 US-based commercial enrichment services by imposing costs not
15 borne by foreign providers can significantly challenge the availability of
16 long-term domestic enrichment services to US-based utilities. As a
17 consequence, URENCO USA believes that the NRC should perform an
18 adequate regulatory analysis of the impacts created by its enhanced
19 rulemaking. Slide 3, please.

20 Our analysis of the proposed rule indicates that the
21 Agency appears to have introduced a dose minimization standard that
22 could apply through the life cycle of a disposal facility. Specifically, 10
23 CFR Sections 61.41 and 61.42, and perhaps other sections would now
24 require disposal facilities to constantly insure that doses are minimized,
25 and that doses above 500 millirem be subject to "technical and
26 economic considerations."

1 Based on our review of the proposed rule, the draft
2 guidance, the Staff feedback from several public meetings NRC has
3 recently held, we understand this new standard is conceptually based
4 on the as low as reasonably achievable or ALARA standard. The
5 record for the rulemaking does not, however, provide a clear regulatory
6 or technical basis for the standard, or a cost benefit justification.

7 Furthermore, a comparison of the new standard to the
8 existing ALARA standard shows the latter to contain much greater
9 objectivity. Without such objectivity, the implementation of the new
10 standard can create considerable uncertainty for the regulated
11 community. URENCO USA urges the NRC to clarify the language of
12 the proposed new minimization analysis requirements by adding
13 objective criteria similar to those used in the well-established ALARA
14 principle. Slide 4, please.

15 URENCO USA is concerned that the current proposed
16 rulemaking is not being integrated with the potential future rulemaking
17 regarding waste classification. Two important aspects of Part 61
18 influence the commercial disposal path for depleted uranium. One,
19 performance objectives; and, two, the Part 60 waste classification
20 scheme. The present rule deals only with the former.

21 Because the two aspects are closely related, a
22 subsequent rulemaking on waste classification could undermine or at
23 least substantively change how the rulemaking is to be implemented.
24 The record for the current rulemaking does not, however, provide a
25 basis for this bifurcated approach. As a general precept, courts have
26 discouraged agencies from approaching the regulatory process one

1 step at a time. URENCO USA encourages the Commission to either
2 reconsider an integrated rulemaking approach, or determine that the
3 waste classification issue no longer needs consideration. Slide 5,
4 please.

5 The statement of considerations for the proposed rule
6 simply states that the Backfit Rule does not apply to this rulemaking
7 because it does not involve changes to the provisions that affect Part 70
8 licensees. Respectfully, URENCO USA disagrees, and believes that
9 not only does the rulemaking constitute a backfit, but in any event, as a
10 matter of sound regulatory policy, the NRC should explain why it
11 doesn't believe the rulemaking would impact Part 70 licensees. On its
12 face, the proposed rulemaking clearly indicates that it is aimed at
13 addressing the disposal of large quantities of depleted uranium from
14 enrichment facilities.

15 Under 10 CFR 70.76, backfitting is defined to include
16 the procedures or organization required to operate a facility, which may
17 result from a new or amended provision in the Commission rules. The
18 definition is broadly worded to include all new or modified requirements
19 that may be applicable to Part 70 licensees, and is it not limited just to
20 rulemakings that amend Part 70 itself.

21 During the URENCO USA licensing proceeding,
22 issues that were heavily litigated included the cost of depleted uranium
23 disposal, and on-site storage of depleted uranium. In fact, URENCO
24 USA – the URENCO USA license includes a specific condition setting
25 depleted uranium cylinder storage limits both in terms of amount and
26 duration.

1 The new requirements of the proposed rule can have a
2 domino impact on tails management and disposal procedures, and
3 operational activities at waste generators like URENCO USA. For
4 example, there can be impacts with regard to material and depleted
5 uranium storage limits, or transportation, and packaging of depleted
6 uranium, and even financial assurance for decommissioning.

7 These potential implications are squarely of the type
8 contemplated under the Backfit Rule. The Commission has
9 recognized that a broad rulemaking can have such impacts, changes in
10 or new staff positions related to other parts of the NRC regulations that
11 affect Part 70 licensees can also be covered by the Backfit Rule. For
12 example, in connection with a recent rulemaking involving a new Part
13 71 Quality Assurance requirements for transportation, the NRC
14 articulated the standard for determining whether a change under one
15 part of the regulation, such as Part 71, is a backfit for facilities licensed
16 under another part, such as Part 50 or Part 70, stating that the Backfit
17 Rule will apply "where the activity regulated under other parts without
18 backfitting or issue finality protections is an inextricable part of the
19 regulated activity subject to backfitting or issue finality."

20 Furthermore, and consistent with good regulatory
21 practice, the NRC has previously provided a logical and specific
22 explanation to justify why a proposed change does not constitute a
23 backfit. For example, in the NRC's proposed revisions to site
24 characteristics and site parameters issued in 2015, the NRC explicitly
25 explains why proposed revisions to review standards for site
26 characteristics did not represent a backfit for applicants, or future

1 applicants. Thus, as a matter of sound regulatory policy, the NRC
2 should consider the real costs and benefits of new or amended
3 regulations on the overall regulated community, or at least sufficiently
4 explain why the action will not have such impacts. As I indicated, the
5 NRC's regulatory analysis did not do this.

6 In addition, URENCO USA believes that the current
7 regulatory analysis is overly qualitative, and is inconsistent with the
8 Agency's policy to reduce cumulative effects of regulation because it
9 does not fully consider impacts on all affected segments of the industry.

10 Consequently, URENCO USA strongly recommends
11 that the Commission perform a thorough backfit analysis of the Part 61
12 rulemaking as related to the affected waste generators. And if
13 provisions like the dose minimization standard previously discussed
14 continue into the final rule, the Commission should also consider
15 including a Part 61 backfit provision. Slide 6, please.

16 URENCO USA believes that are still substantive
17 matters to be considered and/or reconsidered prior to finalizing the Part
18 61 rulemaking. Notwithstanding, URENCO USA commends the
19 Commission and the Staff for their efforts to date, and particularly for
20 allowing substantive engagement by industry as you have today. This
21 concludes my remarks. Thank you.

22 CHAIRMAN BURNS: Thank you. Mr. Pacenza.

23 MR. PACENZA: Great. Like the others, I really
24 appreciate the chance to be here today. I will go ahead and go to my
25 first slide, please.

26 I thought – I believe several of you have probably

1 interacted with folks from here before, perhaps my predecessors,
2 Christopher or Vanessa, but for at least a few of you maybe we're new,
3 so I thought I'd take a moment and just tell you a little bit about HEAL.
4 That would be the next slide.

5 We're a nonprofit advocacy organization based in Salt
6 Lake City. We have roughly 12,000 supporters or so. The vast
7 majority of those are in the State of Utah, and for about 10 or 12 years,
8 I think we've been a pretty significant stakeholder in the development of
9 nuclear waste policy in the State of Utah. A few campaigns that we've
10 been significantly involved in, one of those helping to pass the ban that
11 Utah has on Class B and C wastes. That ban kind of overwhelmingly
12 passed our state legislature, actually unanimously in our senate, and
13 was signed by then Governor Huntsman. We were instrumental in
14 preventing the importation of foreign nuclear waste to Utah, at various
15 times have sought to limit the size, the footprint of the site in Clive,
16 EnergySolutions site, and then have sought to keep certain waste
17 streams out of the State of Utah. That would include depleted uranium
18 which, of course, I'm going to talk more about, but another example
19 totally unrelated to Energy Solutions would be a proposal to bring
20 high-level nuclear waste to the Goshute Reservations that I'm sure you
21 folks have some familiarity with.

22 When you look at that list, I just wanted to point out one
23 thing, that HEAL as an organization has not I believe at any time sort of
24 sought to keep all waste out of Utah, or sought to argue that, that
25 EnergySolutions doesn't do a good job of running that site, or that
26 nothing can go there. We, in fact, believe that it's possible to have a

1 well run site with certain materials placed there, but we also think there
2 are reasonable limits. And when we look at the characteristics of that
3 site, you know, a shallow trench in the desert, an area which is in a
4 known flood plain over geological time, we do think that public policy
5 can and should put reasonable limits on the material that can come
6 there. And that's been our work over the years. And then we get
7 involved in other environmental issues, as well. Next slide, please.

8 Talking about our comments on these Part 61 rules, I
9 just wanted to start out with something positive, which is that as we read
10 the rules, we believe that they will allow Utah to maintain its ban on B
11 and C waste, and something that has strong bipartisan support from the
12 public, as well, so it's important that Utah is able to keep that.

13 There is – the piece of the rules which discusses this,
14 I'll admit a little bit of confusion reading, so I just wanted to highlight that,
15 and we'll bring it up in our comments, as well. We spoke about this at
16 the hearing that was held in Salt Lake City a few weeks ago, and the
17 way that the hybrid waste acceptance approach part is written, it sort of
18 allows the licensee to choose to go in the direction of the site suitability
19 analysis, or the classification system. And that led to some confusion
20 to me, and concern that perhaps then the licensee could sort of choose
21 to bypass the classification system. NRC Staff at that hearing assured
22 us that that wasn't the case, and wasn't the intention, but perhaps that
23 needs to be clarified. Next slide, please.

24 Another area that we wanted to identify that we were
25 concerned is there's two significant parts of these rules that changed
26 dramatically since Staff first proposed preliminary language back in

2011, and I'll just highlight a couple of those. One of them is this compliance period. So, the original proposal from Staff based in science, based in looking at a wide range of other documents and approaches was for a 10,000-year compliance period. And then early last year, that was reduced sharply to 1,000 years. That's a significant change, and one we certainly don't think is a step in the right direction.

Secondly, we had the issue of intruder assessments. And at first the Staff again after looking at all the literature decided that you needed to assume a wide range of scenarios, including the people actually physically lived at the site. And then that was again greatly reduced and winnowed when the Commissioners came in in early last year and said that they needed to be scenarios that were consistent with activities happening at the time of closure. So that to us is a significant change and one we, frankly, think is less protective. Next slide, please.

And what I would point out, I think an unintended consequence of this is that when we look at those original Staff proposals, and then we look at our licensee in Utah, which certainly lobbied the Commissioners hard to sort of have some of those parameters changed. And I share with you here exact language EnergySolutions sought, and in comments to the NRC that, you know, the things they requested were granted. And I'm afraid that that does serve to sort of limit some of our confidence; that we don't think that the science about compliance periods our intruder changed dramatically from 2011 to 2014. And we wonder why Staff's sort of carefully thought out decisions were dramatically changed in that period. Next

1 slide, please.

2 We have some overall concerns with the site suitability
3 analysis approach that I wanted to share. And I think what's
4 interesting about Utah's experience and whether you hear from Mr.
5 Shrum or myself, or Mr. Lundberg, is that we're the ones going
6 through it. Effectively, Utah is the test case for these analyses. You
7 know, we're in the midst of a many year, as Mr. Shrum pointed out, an
8 expensive, a complicated review of whether a particular waste stream
9 is suitable for a particular location. And the thing about these
10 performance assessments is how extraordinarily massive, and dense,
11 and technical, and complicated they are.

12 You know at HEAL Utah we're a staff of five, we're
13 reasonably intelligent people, but we have sort of a – you know, a sort
14 of social sciences kind of, you know, public policy kind of background,
15 and trying to interpret and understand, and dive into these things is
16 extremely complicated. Built into the models that are at the heart of
17 them, are literally thousands of assumptions, if not tens of thousands,
18 and it's everything from future weather, to what humans might do, to
19 literally the pathways of burrowing ants. This is the kind of stuff that
20 ends up at the heart of these, and I think that one of the big
21 disadvantages of that approach is that it makes it much harder for the
22 public to engage. And it makes it much harder for elected officials to
23 engage.

24 The classification tables, I think we could all
25 acknowledge have limits, as well. It's kind of a crude tool. But the
26 advantage of that crude tool is it gives people that want to engage and

1 have an opinion sort of a shorthand for having a conversation, a
2 conversation about, you know, how comfortable are we with waste that
3 poses a hazard for a certain number of years? And that's a very
4 different conversation than the sort of, you know, vector, pathways of
5 these extremely complicated issues.

6 The last thing I'd point out is that, you know, these
7 studies are done by consultants. There are relatively few consultants
8 in this field, and I do think there's a danger that you end up with science
9 paid for by industry that's sort of impenetrable which, you know, the
10 public sort of has to try to engage with. And I think that creates some
11 potential conflict of interest.

12 The last point would be is, obviously, Texas went
13 through this, as well, and we a matter of maybe six months ago or so we
14 sought to get copies of Texas' performance assessment. We wanted
15 to look at it, compare it to Utah, see what was in there, and it wasn't
16 available on any website. We requested documents and we were told
17 that we had to pay for those, so we have to use sort of Texas Freedom
18 of Information Law to try to access those.

19 Now, I give Mr. Lundberg and the State of Utah a
20 tremendous amount of credit. In Utah, those are posted freely on line,
21 and you can check them out if you want to read, you know, 5,000 pages
22 about this material. But I do think with these massive technical
23 documents and certainly with Texas' example, it does serve to shield
24 – to make it harder for the public to get involved. Next slide, please.

25 We've been told this is an opportunity to comment on
26 the issue of classifying depleted uranium, and we certainly do think the

1 NRC should prioritize classifying it. This entire process was driven by
2 one most significant waste stream. And that is, of course, depleted
3 uranium; yet, the rulemaking won't conclude before at least one, if not
4 both of the big decisions in Texas and Utah have already been made.

5 However, there is a thing that you have a chance to
6 influence, and I would urge you to think carefully about that. And you
7 can see on here words from our governor who has spoken out about
8 depleted uranium recently, as the performance assessment's been
9 news, and the evaluation of it's been released. And as you can see
10 here, Governor Herbert is very much wanting the NRC to classify that,
11 and really believes that has to happen before Utah can make its
12 decision. Next slide, please.

13 And we certainly believe not only that you should
14 classify DU, but that you certainly need to classify it as some material
15 greater than Class A. And I would point out that the classification
16 tables not only we believe has come to embrace the current radiological
17 hazardous material, but the duration of that hazard. And if you look at
18 some of the quotes here from the very Federal Registry document
19 proposing Part 61 revisions, there's this shorthand we use. Well,
20 Class C, roughly 500-year hazard; Class B, a roughly 300-year hazard.
21 And this is sort of built into our understanding of it; yet, because of sort
22 of historical, what happened over a number of decades, and because of
23 what we would characterize as a loophole, we are currently treating this
24 material which doesn't reach its peak hazard for several million years,
25 the same way we would treat material which loses the vast majority of
26 its hazard in less than 200. So, we can't see the logic of that. We

1 really would urge you to reclassify DU. And, frankly, we would urge
2 you to classify it as a material much more hazardous than Class A.

3 And my last slide is simply a graph that actually the
4 NRC created showing the difference. So, thank you very much.

5 CHAIRMAN BURNS: Thank you, Mr. Pacenza.
6 Thank you all for your presentations, and we'll open the questioning this
7 morning with Commissioner Ostendorff.

8 COMMISSIONER OSTENDORFF: Thank you,
9 Chairman. Thank you all for your presentations. Ralph, I wish you
10 well.

11 This is a very complex issue, and I hear a lot of
12 different messages from the six different folks here before us today, and
13 I'm not sure there is – I didn't expect there to be alignment, and I don't
14 think there really is in some cases, and that's fine. I'll highlight the
15 importance of you and your organization submitting your public
16 comments to the NRC Staff during the comment period which is still
17 open.

18 I'll note that following your panel participation, our Staff
19 will be up here and I do not expect our Staff to be in a position
20 necessarily to comment on anything you have said, because the
21 comment period is still open, so I wanted to make sure that
22 expectations characterized up front that we'll hear a presentation from
23 the NRC Staff that will not necessarily address your concerns. It would
24 be premature to do so. But that said, we really do need you to have
25 your – the clarity of your positions, and I do note some significant
26 differences amongst the people at the table, and that's fine. That's

1 why we have public meetings.

2 I'm going to start off with Mr. Garner. And I want to
3 make sure that I'm understanding some positions here, and I'll ask you
4 a question, and I'll give a chance for others to comment on it.
5 Basically, I think your organization believes that the depleted uranium
6 should be treated as a separate subset applicable only to – the Part 61
7 changes that should apply really to DU sites. Is that a fair statement?

8 MR. GARNER: Yes, because – I mean, DU is a DOE
9 responsibility. We have no issue with commercial facilities seeking
10 disposal of DU. However, we think those regulations should be
11 separate and apply only to those facilities that pursue the disposal of
12 large volumes of DU.

13 COMMISSIONER OSTENDORFF: I'm going to go
14 back to – Mr. Kirk, as a perspective recipient of DU, do you agree with
15 that?

16 MR. KIRK: Well, WCS' point, no, we have two
17 disposal facilities, a compact waste disposal facility and a federal waste
18 disposal facility. And we're authorized to take large quantities of
19 depleted uranium both commercially generated and those by the
20 Department of Energy. My belief is that we're a new facility. We
21 evaluated things based on new standards, and that was not
22 problematic for us. But I could see how older facilities like the Barnwell
23 facility could have some problems with that. I understand that.

24 The challenge I have with rectifying that is how you
25 ignore a large source term that has been disposed here without
26 analyzing the hazards? And maybe there's a compromise between

1 those two principles.

2 COMMISSIONER OSTENDORFF: So, with respect to
3 Waste Control Specialists and your acceptance of depleted uranium,
4 do I understand from your presentation that overall, you have some
5 agreement with the proposed Part 61 rule?

6 MR. KIRK: Yes. What I would say is that the
7 proposed rule is less stringent than the existing requirements in Texas.
8 We met the requirements and the rules of Texas, and we would meet
9 the requirements under the three-tier process. My bigger issue,
10 though, is the compatibility, and do you require Compatibility Level B
11 that requires states to adopt Part 61, as proposed, or do you force them
12 to impose less stringent standards? And my thought is, is that those
13 issues should be carefully weighed, and perhaps allowing Agreement
14 States that host a disposable facility to determine the need to have
15 standards more stringent than what the NRC is proposing; especially in
16 those communities that are willing to host a disposal facility, especially
17 in a state that has legislation that helped envision the creation of a new
18 disposal facility.

19 COMMISSIONER OSTENDORFF: Well, is it a
20 problem, though, in the State of Texas for you as a licensee to live
21 under a state regulatory approach that perhaps has standards that are
22 greater than the NRC's?

23 MR. KIRK: No, sir.

24 COMMISSIONER OSTENDORFF: Okay. Let me go
25 to Mr. Shrum and your comments on Barnwell. I appreciated your, I
26 think pragmatic transactional approach, which you have to be from

1 where you sit in your business.

2 You highlighted the challenges of doing a 10,000-year
3 study at Barnwell. I believe you have some concerns on that. Is that
4 correct?

5 MR. SHRUM: Not just Barnwell, any facility for
6 10,000 years for stability.

7 COMMISSIONER OSTENDORFF: Okay.

8 MR. SHRUM: We can run the analysis, but for
9 stability specifically, we're concerned on how that is done, and how you
10 demonstrate.

11 COMMISSIONER OSTENDORFF: Are you familiar
12 with – but you've done that in Texas. Correct? For your sites from the
13 stability standpoint?

14 MR. KIRK: Yes, we demonstrated long-term stability,
15 yes.

16 COMMISSIONER OSTENDORFF: Okay. Is there
17 something unique to the Barnwell site that would – I'm just trying to
18 understand the difference between South Carolina and Texas in this
19 respect. I hear a very different story in Texas, so I'm just trying to
20 better understand what challenges exist with this 10,000-year study.

21 MR. SHRUM: Again, I'll be generic, because I think
22 we'll all have the same problem –

23 COMMISSIONER OSTENDORFF: I'm asking just for
24 South Carolina.

25 MR. SHRUM: Just specifically from South Carolina –
26 (Simultaneous speech)

1 MR. SHRUM: Is they've done the analysis, they've
2 already done their performance assessment. They've submitted that
3 to the State, it's been approved. But to take it to the next step, they will
4 – they potentially will have an issue. It's easy to do the analysis. It's
5 very difficult to provide the technical basis that materials last for 10,000
6 years, so that's why I think the Barnwell facility will be challenged for the
7 10,000-year stability requirement.

8 COMMISSIONER OSTENDORFF: Okay. Does
9 anybody else here on the panel want to comment on the 10,000 year
10 piece here while we're on that topic? Ralph?

11 MR. ANDERSEN: If I may, my slant on the issue is
12 this; that, clearly, even among the sites that we currently have on some
13 set of criteria one could say that Site A is a better site than Site B. But
14 it seems to me the Agency's issue is, is it an adequate site? Our view is
15 that all four sites are adequate, it's just some are better than others;
16 and, therefore, some might more readily deal because of their site
17 conditions, and their reliance on the site environment over engineered
18 barriers and controls that are put in place. Therefore, the obvious
19 example would be Texas versus South Carolina. Some sites lend
20 themselves better to what is proposed with less uncertainty than other
21 sites, and I think that's where the issue arises, is the uncertainties are
22 much greater for an acceptable site in an environment as at Barnwell
23 than it is for a site that has been sited in Texas. But that doesn't mean
24 either one of them is unacceptable; it's just the challenge and effort that
25 will be involved to demonstrate 10,000 years will be much more difficult.

26 COMMISSIONER OSTENDORFF: Okay, thank you.

1 Let me go back for a minute to Mr. Kirk's comment on compatibility
2 and the situation in Texas. I want to give others on the panel if you
3 want to a chance to comment on your views on the compatibility level
4 that NRC might impose in this proposed rule. Does anybody have any
5 comments on that?

6 MR. ANDERSEN: I just want to make the comment
7 that we will, of course, address this in our comments, but we intend to
8 be very deferential to the view of the states themselves, since they're
9 the ones that are going to have to deal with it. But we – I would just
10 refer back to – in trying to understand the preference stated by the
11 Commission in its previous Staff Requirements Memorandum, it
12 seemed to revolve around this transboundary issue. And I'm not sure
13 that the selection of Compatibility Level B rather than C will solve the
14 transboundary issue. That was the point that we were trying to make.
15 And if not, then I'm not sure that warrants removing the additional
16 flexibility for the states that would be afforded through Compatibility
17 Level C. Kind of the example there being Texas, the ability to maintain
18 more stringent standards.

19 COMMISSIONER OSTENDORFF: Okay. I want to
20 give Mr. Pacenza a chance to comment, if you wanted to, on the
21 compatibility from the standpoint of the State of Utah.

22 MR. PACENZA: I think our principal concerns
23 actually come most directly from Governor Herbert, and from Mr.
24 Lundberg, which is that to insure that Utah was able to maintain its ban.
25 And I think that there's a little bit of perhaps ambiguity now about that,
26 but we do seem to understand that that is allowed. So, I think as long

1 as the way the rules are written sort of allow, you know, the state
2 legislature to continue its policy, you know, that's been our main
3 concern.

4 COMMISSIONER OSTENDORFF: Okay. Let me go
5 to Mr. Shrum just for a minute. One of the slides you commented on,
6 I think you used the phrase, that the rule is not readily understandable
7 in one or more aspects. I think you had that comment.

8 MR. SHRUM: Yes.

9 COMMISSIONER OSTENDORFF: Do you care to
10 comment, to provide specific examples on that, because that's certainly
11 – one of our principles of good regulation is clarity, and if we're putting
12 something out that can't be understood, that's a big problem. I'm sure
13 you'll comment on this formally in the public comment section, but I
14 want to give you a chance if you wanted to highlight a specific example
15 there.

16 MR. SHRUM: What we envisioned was a very simple
17 rule, a rule that would ask any licensee that would like to dispose of
18 depleted uranium to do a performance assessment. That's what we
19 thought the rule would entail. We've done a performance assessment
20 at both of our facilities. We've already all done that, so I was expecting
21 just a very simple rule. Instead, we got a very – to me, a very
22 complicated rule with go here to do this, and we actually mapped it out
23 already to try to figure out how we're supposed to comply with what's
24 expected. So, it went from a very simple do this, which we've already
25 done, to a very complex, what criteria do we follow? What pathway do
26 we follow? And, again, they've done – the Staff has done a good job of

1 trying to explain that, but it's just much more complicated than I thought
2 it needed to be.

3 COMMISSIONER OSTENDORFF: Okay. Thank you
4 all for your presentations. Thank you, Chairman.

5 CHAIRMAN BURNS: Thank you. Commissioner
6 Baran.

7 COMMISSIONER BARAN: Thank you. I just wanted
8 to follow-up on – well, I want to start by following up on a couple of the
9 points that – or a couple of questions that Commissioner Ostendorff
10 had, the depleted uranium piece and compatibility which I agree kind of
11 popped out for me, as well, as key issues here.

12 Mr. Garner, you made the argument that – it wasn't
13 just you that made the argument that the new requirements of Part 61
14 should be applicable only to those facilities that would decide to take
15 depleted uranium or some of these other unique waste streams. And
16 we've had the focus be pretty much on depleted uranium for this
17 conversation. From your point of view, are there other what we're
18 calling unique waste streams? I'm thinking maybe blended waste that
19 would pose an issue there? Do you envision sites would decide not to
20 take depleted uranium, but maybe take other waste streams that hadn't
21 previously been fully analyzed?

22 MR. GARNER: Being a policy person more than a
23 technical person, I'm probably not a real good one to ask that question.

24 COMMISSIONER BARAN: Okay.

25 MR. GARNER: But no, because it was an
26 unanticipated waste stream, and I think it was an unanticipated waste

1 stream because it was a DOE responsibility. And, again, no issue with
2 it coming to commercial sites, but the regulations governing the
3 disposal of large volumes of long-lived radionuclides shouldn't be
4 applied universally. It should be applied to those facilities that are
5 going to economically benefit by accepting those materials. So, I know
6 I didn't answer your question. That's the best I can do as a policy
7 person.

8 COMMISSIONER BARAN: That's good. Does
9 anyone else want to chime in on that question? We focused among the
10 unique waste streams on depleted uranium. Do any of these other
11 waste streams, blended waste or others pose challenges for this
12 approach of, you know, the new requirements only applying to those
13 facilities that take those waste streams?

14 MR. GARNER: I will add one thing. This is the first
15 unanticipated waste stream since the classification system came about
16 back in the early '80s that I'm aware of. So, you know, I don't think
17 these things just drop out of the sky, you know, on a monthly basis.

18 COMMISSIONER BARAN: Okay, that's a relief.

19 PARTICIPANT: For us, too.

20 MR. ANDERSEN: If I may, Commissioner, the – one
21 comment I would make is the Branch Technical Position revision itself
22 is specifically focused, among other things, on the subject of blended
23 waste. And it makes provisions for addressing a more adequate and
24 proper classification of waste that has been blended. And in large
25 – so, that would be my first comment, is we haven't fully realized what it
26 means because we're still in the implementation process, the states

1 likewise. It may make that whole issue vanish.

2 Secondly, in the discussions that preceded the
3 invention of the phrase "unique waste streams," there was repeated
4 reference to the idea of large volumes of blended waste. In fact, large
5 volumes looms in many conversations, including depleted uranium, but
6 it's never been defined. But as it has been depicted, at least within the
7 power reactor community where, you know, blending does provide an
8 opportunity, we were continually puzzled by what this expectation was.
9 We've never anticipated, nor is it even economic to produce large
10 volumes of blended waste. There isn't enough high activity resin to
11 mix with the low activity resin to make large volumes of blended waste
12 as were envisioned when we transitioned into this unique waste stream.
13 And that was a point we were trying to make about this expansion of the
14 issue. It just seemed like once that phrase was coined, then
15 everything started coming in, waste incidental to preprocessing, new
16 technologies, and I just think we lost focus at that point.

17 COMMISSIONER BARAN: Yes?

18 MR. KIRK: Yes, I would weigh in. WCS' position
19 early on, especially with blended waste, it was what we saw as being
20 akin to depleted uranium. There were unique waste streams. They
21 were unique waste streams because large volumes of depleted
22 uranium was not expected to be generated in the commercial sector as
23 analyzed in Part 61, so it was automatically classified as Class A waste.

24 When the revelation came that commercial producers
25 could generate large quantities of depleted uranium in the commercial
26 sector, the thought was well, it needed to be more further analyzed to

1 make sure it was in the bounds of the Class A or the classification
2 system.

3 Now, we noted the same thing, that there is a parallel
4 when it came to blended waste, the waste at the time for most of the
5 resins, or the classification tables, it was evaluated based on the typical
6 types of waste that was expected to be generated back in 1981. And
7 that large scale blending wasn't envisioned back in 1981, that was
8 contemplated. And so we looked at the hazards of blended waste. If
9 you took it right up to the Class A-B threshold, and we believed that it
10 could cause some unacceptably high doses if proper disposal practices
11 were not implemented.

12 I think your Staff reviewed the same sort of issues, and
13 came to the conclusions that blended waste could be disposed of
14 safely, but it definitely needed to be analyzed to make sure that the
15 controls were in place, the licensing requirements were also in place.
16 And that was sort of our viewpoint.

17 COMMISSIONER BARAN: Okay, thank you. Turning
18 to compatibility for a minute, Mr. Garner, do you have a view on the
19 compatibility? You didn't chime in on that discussion. I'm putting you
20 on the spot now.

21 MR. GARNER: Well, that would fall more to the
22 Department of Health in the State of Washington who regulates the
23 activities at the site. But I would say, you know, the more flexibility,
24 you know, the better. And I tried to kind of look at it seeing if this – the
25 compatibility level change, could we avoid having to do some of these
26 new requirements. And, quite honestly, I didn't get to a decision point

1 that I was comfortable one way or the other.

2 COMMISSIONER BARAN: Okay. Mr. Kirk, we're
3 going to have Texas TCEQ on the next panel, and we can ask them this
4 question. But I thought – you were very polite in the way you
5 approached this compatibility issue. Should I take your comments to
6 mean that WCS view is that Texas should be allowed to maintain its
7 standards that would be more stringent than the standards established
8 by NRC in this proposed rule?

9 MR. KIRK: The simple answer is yes.

10 COMMISSIONER BARAN: Let's just broaden it to the
11 rest of the panel. Does anyone on the panel think that a state should
12 not be able to keep more stringent standards than those proposed by
13 NRC?

14 MR. SHRUM: The State of Utah has a requirement
15 on any environmental rule that it's just built into the system that if they
16 choose, if somebody chooses to have something more stringent, they
17 can go through an analysis to demonstrate where there's a health and
18 safety issue. So, it's accounted for already in the State of Utah.
19 Other than that, I don't see any reason why any state would have to be
20 more stringent unless there's a specific example, or a demonstration
21 where there's a hazard.

22 COMMISSIONER BARAN: Anyone else have views
23 on this question, compatibility? Well, I'll just stop there, and thank you.

24 CHAIRMAN BURNS: Thank you. Keep pushing the
25 button. I'm still getting used to this. Well, thanks again, everyone, for
26 your presentations. You've given a lot of food for thought as we – as

1 was noted, we're in the process of the public comment period, but this
2 certainly helps informs us, and hopefully sparks further comment from
3 not only you, but others who may be listening, and who may have the
4 opportunity to look at the transcript, or watch the proceedings this
5 morning.

6 A few questions I had, and I think to some extent some
7 of you have addressed, but one of the – well, if I may make perhaps a
8 poor analogy, is that somehow this rulemaking has become sort of like
9 a Christmas tree that has attracted a number of ornaments. In other
10 words, it began as an attempt to identify a gap, and I think a gap or a
11 concern that the Commission identified in the LES decision about 10
12 years ago, so – and has proceeded to perhaps a broader consideration
13 of issues in the low-level waste area in our regulatory scheme. So, if I
14 put aside – my understanding – what I think I'm hearing is that there is
15 – there might be general agreement that there is an appropriate – there
16 may be appropriate action on our part with respect to dealing with the
17 depleted uranium issue. Would you generally agree with that?

18 So, if I look at some of the other issues, what is – are
19 there gaps? Are there issues in the general regulation of low-level
20 waste, and putting aside the depleted uranium part, that you see a
21 benefit for us clarifying? Are there issues that we are not addressing, or
22 need updating, or is that something – part of what I'm hearing is that we
23 should leave that aside. I mean, quite frankly, the impression I've had
24 is that we should leave things other than the DU aside.

25 MR. GARNER: I guess the one thing I would say is
26 you need two Christmas trees, one to put traditional low-level waste

1 ornaments on, and the other to put unanticipated large volume waste
2 stream ornaments on.

3 CHAIRMAN BURNS: Okay.

4 MR. ANDERSEN: The partial answer – my partial
5 response to your question would be to look to the strategic assessment
6 that's being performed by the Staff for the Low-Level Radioactive
7 Waste Regulatory Program. I find that to be very innovative, very
8 creative, and perhaps serve as a model for some other programs. But
9 that look ahead, and that attempt to prioritize precisely the question that
10 you asked, I think will lend a lot of insight and answer, no. Having said
11 that, I would just offer two quick things for future discussion.

12 One is the potential updating the waste classification
13 tables to represent the advances in the science of radiation safety.
14 That's a generic issue across the Agency of how to deal with that issue
15 in regulation. It just happens to appear in the waste classification
16 tables, as well. So, that's – I wouldn't call that so much a gap, as an
17 opportunity, as well as a challenge in updating regulations.

18 The other one that has been with us since the first day
19 that I worked in this industry revolves around very low activity
20 radioactive waste, both as it plays out in routine waste generation, and
21 potentially might play out in the event of a terrorist event, or a nuclear
22 accident. So, I would contend that there's still an opportunity in
23 regulation to address that issue in a more robust fashion, as well. But
24 those would be the two that would occur to me.

25 CHAIRMAN BURNS: Thanks. Mr. Pacenza.

26 MR. PACENZA: Yes. I just wanted to raise one

1 issue that I'm not sure I agree that the rules for depleted uranium are
2 overall the right approach, and I would just say that we're not convinced
3 that near surface disposal is, in fact, the right path to go down. And so,
4 in so far as this whole body of rulemaking sort of affirms the notion that
5 storing waste of such long-lived hazard and near surface disposal is
6 appropriate, then we wouldn't agree with that.

7 I'd just point that I've been reading a little bit about
8 Germany's approach, and I think Germany is in the process of
9 developing a site which stores at, I believe, several thousand feet below
10 ground. And, you know, we continue – the word "uncertainty" comes
11 up all the time, and I'd be the first to admit that I at HEAL Utah have no
12 idea what will be happening in Clive in a 1,000, 10,000, 100,000, a
13 million years, but I also think no one else can really say with any
14 certainty that they do, either. And for that reason, we would certainly
15 argue that the right kind of site for this needs to be sort of deeply locked
16 away from future civilizations, not three meters below ground which is
17 the – I believe, the EnergySolutions proposal.

18 CHAIRMAN BURNS: All right. I appreciate that. I
19 wanted to ask you a particular question related to your comments
20 regarding transparency. And, particularly, that, you know – as you
21 say, one of the concerns that – well, the – both I think the availability,
22 but the complexity of some documents. Is there something particular
23 – I'm trying to understand, is there something particular you might think
24 of today that might improve that in terms of, as we proceed through, you
25 know, consideration of a rulemaking, how we address some of those
26 transparency issues that you touched upon?

1 MR. PACENZA: Yes, I think it's a good question. I
2 mean, part of what I would suggest is that I do think the classification
3 tables provide a sort of easier way for people to engage in a debate
4 about what's appropriate in their location, rather than, you know, the
5 site suitability analysis which is just so much more complex. But I think
6 a second piece of that would be that it was alarming to find out that we
7 would have to pay the State of Texas in order to even see their
8 performance assessment. So, you know, I understand they probably
9 have some state rules about the size of documents and that kind of
10 thing, but I would hope – I don't know if the NRC is allowed to tread into
11 that, that kind of turf. But, you know, I think Utah has done a great job
12 of making this process as dense and complicated as our assessment is,
13 at least it's easy to find, and easy to download, and easy to begin to,
14 you know, browse hundreds of pages about burrowing ant pathways.
15 So, you know, I commend Utah for that, and I would like to think that we
16 could obligate other states to be as good about that kind of stuff.

17 CHAIRMAN BURNS: Okay, thank you. Mr.
18 Robinson, you haven't had a chance yet, so I'm going to ask you a
19 question. Could you elaborate in terms of some of the concerns you
20 have with respect to the backfit analysis, particularly its reliance
21 perhaps on more qualitative factors or qualitative evaluation than you
22 think is necessary, or that's within – I suppose within Commission
23 guidance?

24 MR. ROBINSON: Well, in the backfit piece of it, I
25 would say that it's been hard for us to provide specific scenarios of
26 exactly how we feel that the domino effect would occur, because you've

1 got – so the rulemaking is ongoing, you've got waste acceptance
2 criteria that are going to be developed that we'll then have to live to.
3 So, honestly, you know, it's sort of the site-specific backfit approach to
4 it. We are projecting what kinds of impacts might be, but the ones that
5 we feel that could clearly affect us would be, for example, if there was
6 such a cost impact on our business that caused us, for example, to
7 have to seriously consider from our financial model to now store longer,
8 for example, that could lead to impacts on our operational activities.
9 We might have to expand our storage, we'd have to get a license
10 amendment, you know, potentially for that. We'd have to redo our
11 decommissioning funding analysis. I mean, there could be real
12 impacts under the current Commission's regulations that apply
13 specifically to us.

14 I think the broader issue for us is more on a policy level,
15 a bigger policy level, like what the Commission has been doing in the
16 cumulative effects of regulation area, which I applaud. I think what
17 we're asking for here is for a voice, a seat at the table. We're being
18 impacted. Don't just say that it only impacts disposal facilities. Look
19 broader like you have, we believe, in other rulemakings and other
20 contexts and give us some input as to how you think we're really being
21 impacted.

22 You mentioned the qualitative aspects, Mr.
23 Chairman. That's actually in your rulemaking, it's in your draft
24 regulatory analysis, if I recall correctly just looking at it before I took my
25 seat. In the draft regulatory analysis, I think there's like a chart that
26 uses the word "qualitative, qualitative, qualitative," so it's just on the

1 very face of what we've seen, you know, on the rulemaking and the
2 draft regulatory analysis that it look like there's areas that haven't been
3 thoroughly vetted or discussed. Does that answer your question?

4 CHAIRMAN BURNS: Yes. Again, thank you for your
5 presentations. Commissioner Svinicki.

6 COMMISSIONER SVINICKI: Well, thank you. On this
7 topic, it's good to be batting cleanup for this panel. Out of all the things
8 I'm thinking, I'm trying to decide as I watch the time of others wind down
9 of what to say, I'll begin by thanking for your presentations. We – I look
10 forward to the formal comments that all of you will submit. I know you'll
11 have time to lay out your concerns and comments with greater
12 particularity in writing. But today is very useful, nonetheless, because I
13 think for those of us who have this impending, we'll have to tease our
14 way through these issues. It's useful. I know I shouldn't speak for my
15 colleagues, you know, begins to kind of lubricate the gears and get you
16 thinking.

17 I am clearly guilty of being involved in every stage of
18 this since the LES proceeding. Unbeknownst maybe to some of you,
19 in preparation for these meetings we do receive from the NRC Staff
20 quite a comprehensive compilation of the history of, you know, how the
21 heck did we get here? Every single what we call Staff Requirements
22 Memoranda, it's our set of instructions to the Staff after we deliberate
23 something. My name was on every one of them, and it did begin – it
24 began with something so simple. I appreciate that Mr. Pacenza had
25 this, began with this, because in that licensing proceeding was
26 acknowledged that perhaps we had not adequately addressed the

1 disposal of large quantities of depleted uranium. And the Staff is
2 absolved of all responsibility for the items hung on the Christmas tree
3 because then – so, they came back in 2008 and said here's how we will
4 address this. It was narrow, it was crisp. It addressed what the
5 Commission asked for in 2010. I won't invoke the names of colleagues
6 who have come and gone and served with me on this Commission, but
7 some joined the Commission and felt, you know, well, there's clearly
8 other issues to be addressed in Part 61.

9 And I disagree with, I think, Commissioner Ostendorff
10 made a comment, that there is no view shared amongst all of the
11 panelists. There is a view shared, I think maybe not explicitly
12 expressed. Is the view that is shared is that Part 61 is not perfect? It is
13 ugly to each of you in different ways and, therefore, you would correct it
14 and rehabilitate it in different ways.

15 The Staff has had to deal with that. You know, they
16 have to go out and get the broad diversity of views, and the
17 Commission wasn't helping because every two years, and I kid you not.
18 I don't know if that was magical or that just happened, that every two
19 years approximately we issued revised instructions to the Staff on this
20 rulemaking, and asked for things. I didn't support, you know, candidly,
21 and this is fine. There's no ill will, it's a collegial Commission. I didn't
22 really support widening the aperture because it was here in '08 when
23 we said it was it was a DU thing that needed to be looked at. But then
24 we lay alongside – we sometimes hear from Congress, not very often,
25 but sometimes about the Low-Level Waste Policy Act. You know,
26 they're afraid of it in the same way that we're afraid as decision makers

1 of Part 61 because we all agree that it's imperfect. We agree that what
2 the nation, if you go out and look at how the nation is dealing with
3 low-level waste disposal. It's – what grew up is not at all what was
4 envisioned. You get these weird marriages. We've got Texas and
5 Vermont in a compact. What member of Congress would ever have
6 thought that that would happen? You know, to this – at some point in
7 my retirement I'm going to try to study how that happened, because that
8 amuses me so much, and they're not even geographically close.
9 Those are supposed to be regional compacts, so it's so odd. And then
10 on the regulatory side, I think Part 61 may be the case study of, you
11 know, accretion, this got tacked on, that got tacked on, and we used the
12 science we had at the time. We came up with a classification scheme,
13 but we know as a result maybe things aren't addressed the way you
14 would in a contemporary sense if you sat down with a clean sheet of
15 paper.

16 And I'm not criticizing Congress or the Commission for
17 having this nuclear safety equivalent of the Hippocratic Oath, which is
18 please let's do no harm. We have some states, and communities, and
19 facilities that now address and provide for low-level waste disposal. In
20 general, the view is we probably don't have as many of those as we
21 might have thought we would have, and so any country that has
22 medical and industrial uses of the atom is going to need low-level waste
23 disposal. And so there are important public and health benefits to the
24 use of medical – of nuclear materials in medical and other applications,
25 and so this disposal must be provided for. And I think as legislators at
26 the state and federal level, and as safety regulators here and in the

1 states, we don't want to do things that will make states unwilling to host
2 facilities, that will make communities distrustful of having continuing or
3 maybe new facilities in their communities.

4 All that being said, you sit as a decision maker, at least
5 I do, and you listen. Every single one of you have as an extremely
6 well-reasoned foundation for the concerns, corrections that you offer,
7 but I'm left with this view of oh, my goodness, NRC, you know, don't
8 breathe on this, and don't even look at it, because whatever you do,
9 you're going to have some kind of consequence that will perhaps be the
10 one that you don't desire. And that's, you know, not workable, so we
11 need to begin to say that, you know, we know aspects of this are not
12 likely adequate, at least the DU piece. And the Chairman talked about
13 this, and that's where the Commission began, so maybe there was
14 some purity of purpose there at the beginning.

15 But I believe that if that's true, it's likely that there are
16 other aspects. You go a couple of decades beyond the development
17 of something, it's likely that other aspects of it are also imperfect. And
18 so I think we have to have the fortitude to be willing to at least look at a
19 set of changes, to talk about the impacts we think they have.

20 And then, you know, the other comment that comes to
21 mind is that I appreciate that Mr. Pacenza was so honest about
22 performance assessment. This was an early learning to me when I
23 began to look at a number of waste issues in my career.

24 The term – I took to using because I thought that this
25 was the least injurious to it, is performance assessments are highly
26 stylized calculations. Some Ph.D. told me that at some point, and I

1 thought what an elegant way of saying that they are only as good as the
2 inputs of what we know. I think you referenced that there are
3 hundreds. I would say for high-level waste maybe thousands of
4 stylized aspects that need to be baked in at levels that I sometimes
5 wonder – I know that reviewers at the state and federal level do all they
6 can to peer deep into the various models and computational tools that
7 are used, but the end of the day, I think that there are probably things
8 embedded in those assumptions and analyses that only the originator,
9 the analyst probably is aware of. And so I think often they have to take
10 different data sets and then bridge between data sets. It's not just
11 assumptions, it's the way that things are modeled, it's the way that it
12 moves forward. So, really out of that ideology grows maybe a point of
13 difference that I'd have with some at the table.

14 I think that – I think it's honest to say I want to do a
15 better job in looking at 1,000 years and not create a lot of decimal points
16 about 10,000 years, or 20,000 years, or a million years, that really, you
17 know, what am I saying to the public about my true understanding of
18 some of those things? And I know we address that sometimes by
19 having a compliance period and an analytical look that goes longer.

20 I think, actually, that's a very fulsome way to get to
21 some of the inherent uncertainties over long periods of time, but that
22 can be sometimes forming my view, you know, for good or ill, the
23 ideology of saying, you know, let's take a deep look at 1,000, and then
24 maybe let's do some screening analysis at longer time periods. But
25 I'm not going to sit in front of communities and state that if we model to
26 20,000 or 1 million years, that that has the same level of knowledge of

1 some of the shorter time periods.

2 So I think, you know, this notion of, you know, don't
3 look at it, don't breathe on it too heavy, I would hope that some of you
4 would say that it is reasonable for a regulator at the state or federal level
5 to be able to say I need to be able occasionally to look at my framework
6 and make adjustments to it. Some are going to be impacted in ways
7 unfavorable and, you know, some it may – on balance we should be
8 trying to do more good than harm. And we should try to do no harm,
9 but in some cases I think things that were allowed to persist might have
10 to be altered. And so what is essential in that process is hearing all the
11 perspectives that we heard today for our Staff to spend a lot of time with
12 the detailed comments that all of you are likely to submit, and to do our
13 best to do no harm, and to inform that comment record.

14 I will just close in talking about this thing of tables that
15 people have developed a lot of comfort with, our waste classification
16 schemes versus having acceptance criteria and doing site-specific
17 analysis where we use our best knowledge. And if regulators at the
18 state or federal level accept a safety case to their confidence and
19 adequate demonstration of safety, my concern is that you cannot let
20 people's comfort with tables override a true knowledge-based decision.
21 And I do like the transparency of tables. I think if we could have
22 exquisitely informed tables, that will be wonderful, but yet these are
23 site-specific analyses. That's why you do a performance assessment.

24 So, that was just a lot of commentary, but I hope it
25 indicated to all of you that I was listening very carefully to what you said,
26 and thinking about it, it is all very thought provoking. And now we will

1 hear from the Staff after our break who will say it's so great that
2 Commissioner Svinicki admitted that it's all the Commission's fault.
3 That's very good. Thank you, Chairman, appreciate that.

4 CHAIRMAN BURNS: And on that happy note we'll take
5 about – why don't we take a break? We'll resume about 5 of 11. Thank
6 you all.

7 (Whereupon, the above-entitled matter went off the
8 record at 10:49 a.m. and resumed at 10:58 a.m.)

9 CHAIRMAN BURNS: Okay. Well, thanks,
10 everyone. And we'll start with our – again, we have a regulator's
11 panel for our second panel, including the NRC staff and also
12 representatives from two of our agreement states. And I lost my
13 notes here.

14 So I think we'll start with the staff; and, Mark, I'll turn it
15 over to you and you can introduce the other staff members and proceed
16 from there.

17 MR. SATORIUS: Thank you, Chairman Burns, and
18 good morning, Commissioners. Low-level waste disposal is a very
19 active part of the national waste program, which contains a number of
20 key policy issues. While some of these issues will be highlighted
21 during this briefing, the focus of today's meeting is centered on the
22 staff's current rulemaking efforts to revise Part 61, our low-level waste
23 disposal regulations.

24 Low-level waste disposal regulations in 10 CFR Part
25 61 have been in existence since the early 1980s. The current
26 rulemaking effort is the first major revision of this regulation, and it has

1 generated a great deal of interest from industry, agreement states, and
2 members of the public, as you heard from the first panel. And also as
3 you heard from the first panel, this rulemaking initially began as a result
4 of Commission direction during the 2005 Louisiana Energy Services
5 hearing regarding the need to ensure that our regulations addressed
6 the disposal of large quantities of depleted uranium, especially from
7 enrichment activities.

8 The low-level waste program is a very busy
9 comprehensive program with many active policy and operational
10 issues. At a glance, we are working to address a number of important
11 topics, as depicted on this and the next slide.

12 We are working to ensure the safe disposal of large
13 quantities of depleted uranium, addressing waste streams that weren't
14 analyzed in 1982 when Part 61 was first created. Updating guidance
15 to address the issue of concentration averaging for waste disposal;
16 developing guidance in support of waste manifest reporting – next slide,
17 please – revising and updating the low-level waste strategic
18 assessment from 2007; working to address byproduct material financial
19 assurance, as directed by the Commission; and also resolving
20 regulatory issues regarding the disposal of greater than C Class
21 low-level waste. You'll hear more about these topics today and in
22 upcoming Commission meetings.

23 In a moment, you'll hear from Scott Moore, the Deputy
24 Director of the Office of Nuclear Materials and Safeguards. But
25 before Scott begins his presentation, I want to acknowledge our two
26 agreement state colleagues who are with me at the table today. To

1 my far right, Rusty Lundberg is the Director of Utah's Division of
2 Radiation Control and Charles Maguire is the Director of the
3 Radioactive Materials Division at the Texas Commission on
4 Environmental Quality. Welcome to you both.

5 With that, I'll turn the presentation over to Scott Moore.
6 Scott?

7 MR. MOORE: Thanks, Mark. Good morning,
8 Chairman, Commissioners. The first half of this fiscal year has been
9 active for the Office of Nuclear Material Safety and Safeguards but
10 specifically for the low-level waste program where we've had several
11 ongoing efforts that may be of interest to you, the Commission, and to
12 our external stakeholders. Mark shared information about the revised
13 branch technical position on concentration averaging and
14 encapsulation, which was issued this past February. The revised
15 position is now more risk informed and performance based. Staff is
16 conducting training sessions to assist various stakeholders in
17 implementing the revised branch technical position.

18 Staff also issued the Phantom 4 regulatory issue
19 summary which provides guidance to low-level waste disposers on
20 strategies to manifest those hard to detect or Phantom 4 radionuclides
21 at licensed low-level waste land disposal facilities, as required in
22 Appendix G of the Uniform Waste Manifest to 10 CFR Part 20.
23 Specifically, it clarifies use of indirect methods to report tritium,
24 carbon-14, technetium-99, and iodine-129.

25 Finally, we have in the near term an assessment of the
26 low-level waste program in which staff revisited the 2007 assessment of

1 the Agency's regulatory program for low-level waste. We recognize
2 the need to prioritize significant new and emerging low-level waste
3 disposal issues, as well as stakeholder concerns related to the nation's
4 management of commercial low-level waste.

5 After considering stakeholder input and factoring in our
6 own experience, the staff developed a list of proposed activities that
7 support the strategic objective developed as part of the 2007
8 assessment and are responsive to the identified programmatic needs.
9 The list of proposed activities was issued for public comment this past
10 March, and the comment period ended in April. The staff has
11 considered the comments and is finalizing the list of proposed activities.

12 Could I have the next slide, please? As Mark stated,
13 the purpose of this meeting is to discuss the low-level waste program
14 with a primary focus on the proposed revisions to 10 CFR Part 61 rule.
15 During today's briefing, we'll share a high-level overview of the various
16 topics in the low-level waste arena, which will be discussed in more
17 detail during future interactions with the Commission.

18 We'll also present proposed changes to the Part 61
19 rule; recap the questions that were posed to members of the public in
20 the Federal Register notice, as directed by the Commission; summarize
21 the comments that we've heard to date; and share a little bit about the
22 next steps for this rulemaking, given the Commission direction. But
23 first I want to share a little bit about why we're doing this rulemaking.
24 Could I have the next slide, please?

25 The reason that we're proposing revisions to 10 CFR
26 Part 61 is to require low-level waste disposal licensees or licensed

1 applicants to ensure the safe disposal of any low-level waste streams
2 that are significantly different from the low-level waste streams
3 considered in developing the current Part 61 regulations.

4 Next slide. The proposed rule would affect both
5 existing and future low-level waste disposal facilities that are regulated
6 by the NRC or an agreement state. Existing low-level waste facilities
7 that are regulated by the agreement states are shown on this map. A
8 key difference between this proposed revision to the rulemaking and
9 the existing 10 CFR Part 61 rule is that the current part or Section 61.1,
10 the section that discusses the purpose and scope of Part 61, provides
11 for a case-by-case application of Part 61. The proposed rule would
12 apply to all facilities because it pertains to waste streams which were
13 not analyzed for the development of the current Part 61, and you heard
14 about that some on the first panel.

15 Could I have the next slide, please? The NRC
16 identified the need to address disposal of low-level waste streams that
17 were not envisioned in the development of the existing Part 61 rule.
18 These waste streams include depleted uranium, especially from
19 enrichment facilities; low-level waste from DOE operations. We didn't
20 forecast that DOE would dispose of large quantities of depleted
21 uranium or other defense-related low-level waste in commercial sites.
22 Blending of different classes of low-level waste that could result in
23 waste streams, as well as waste forms and volumes, outside of the 26
24 waste streams evaluated when Part 61 was developed. And, finally,
25 new technologies intended to improve the efficiency of waste
26 management may also generate unexpected low-level waste streams.

1 Addressing these areas in the site-specific analysis
2 approach in the proposed revision to Part 61 will make the rule more
3 comprehensive. At this point, I want to turn the presentation over to
4 Larry Camper, Director of NMSS's Division of Decommissioning,
5 Uranium Recovery, and Waste Programs to provide more specifics.
6 Larry?

7 MR. CAMPER: Thank you, Scott. Thank you.
8 Good morning, Chairman Burns, Commissioners. It's a pleasure to
9 present to you today and to build upon the remarks that have been
10 made by Mark and Scott. We will focus first on the Part 61
11 rulemaking, which is the first major revisions since Part 61 went into
12 effect in 1982. For the then operating sites, the existing Part 61 was
13 implemented by all the agreement states by 1988. The only other
14 limited change in 1988 - 1989 pertaining to the possibility of disposal or
15 greater than Class C waste under this part, Part 61, that is near-service
16 disposal versus geologic disposal.

17 The process for revising the rule has been extensive
18 with much stakeholder outreach and substantial Commission direction.
19 Next slide, please.

20 As the Commission approved, the primary purpose of
21 this proposed rulemaking is to emphasize the use of a site-specific
22 performance assessment, and I will focus on the major changes,
23 recognizing that the Commission has not yet reached a decision on the
24 contents of the final rule. Currently, there is no compliance period in
25 the current Part 61. However, this rulemaking will impose a
26 1,000-year period of compliance.

1 There is currently a performance objective to protect
2 the inadvertent intruder, but there is no analysis required to do this
3 under the existing Part 61. Rather, the intruder is protected primarily
4 by the waste concentration specified in the waste classification tables,
5 along with disposal requirements for each class of low-level radioactive
6 waste. The changes also include an explicit dose limit of 500 millirem
7 per year, rather than an implied dose limit, to protect the inadvertent
8 intruder.

9 Protective assurance analysis and the analysis for the
10 performance period are both new concepts, which are being added to
11 address depleted uranium and certain quantities of long-lived
12 radioisotopes. The proposed rule requires use of realistic scenarios
13 for inadvertent intruder assessments based on activities on or around
14 the site at the expected time of closure. Next slide, please.

15 Following Commission direction, emphasis is placed
16 on the role of the safety case and defense in depth. The safety case
17 is defined as a performance assessment, plus defense in depth. The
18 proposed rule identifies the attributes of the safety case.

19 While a closure plan is required under the existing Part
20 61, the proposed rule would require an updated technical analysis as
21 part of the closure plan specifically to address these unanalyzed waste
22 streams. The Commission directed that there be an "or" pathway
23 relying on the use of waste acceptance criteria, as well as the continued
24 use of the waste classification tables for waste disposal. The
25 proposed rule includes this option, as well as a requirement to develop
26 waste acceptance criteria. The proposed rule also identifies the

parameters to be set forth in the waste acceptance criteria.

The proposed rule requires publication with a compatibility category B, which requires an agreement state to adopt program elements essentially identical to those of the NRC, and is applied to the most significant provisions of the revised rule, including the compliance period, the protective assurance period, its analytical threshold, the performance period, and the waste acceptance criteria. There are several other changes in compatibility assignment, as well.

Next slide, please. The Commission directed the staff to include a three-tiered period of analysis, and the graphic shows this in a snapshot, if you will. Tier one is a compliance period of 1,000 years with 25 millirem per year dose limit for protection of the public and 500 millirem per year dose limit for protection of the inadvertent intruder. Tier two, the protective assurance period, is from 1,000 years to 10,000 years with 500 millirem per year analytical threshold as a goal for protecting members of the public, as well as the inadvertent intruder. Tier three identified as the performance period is greater than 10,000 years. It is a qualitative analysis for long-lived waste as defined in the proposed rule. And each of these time frames are, of course, post-closure of the site.

Tier two assumptions are the same as those for the compliance period, unless compelling scientific evidence requires change. The performance objective for protection of the occupational worker was not changed in this rule, but the performance objective for site stability was modified to align with new compliance and analysis periods.

1 Next slide, please. As part of the question set forth in
2 the Federal Register notice and during our public meetings, the staff
3 solicited input on several things: use of the three-tiered approach and
4 the dose limits, as well as the construct of the analysis for the protective
5 assurance period and the analytical threshold of 500 millirem per year
6 in the second tier.

7 Next slide, please. The staff solicited comments via
8 a Federal Register notice and in the five public meetings held, including
9 in states where sites are located. We asked questions along the lines
10 of should there be dose limits for the performance period? That is the
11 third tier. Should there be a quantitative goal? The compatibility
12 category B was assigned the most significant provisions of the revised
13 rule: the compliance period, the protective assurance period, the
14 performance period, and the waste acceptance criteria. And we
15 explored that extensively in these meetings.

16 Next slide, please. So what do we hear during the
17 seven public meetings that we held, including ones at headquarters and
18 on webinar? Compatibility B is not generally viewed as favorable
19 because the period of compliance is less than the existing threshold
20 used by the agreement states with operating facilities, and they desire
21 flexibility.

22 The three-tiered approach was cited in several cases
23 by stakeholders as being overly complex, especially given that the
24 previous Part 61, the current Part 61, has no period of compliance
25 specified and relies on an integrated system approach which has
26 worked well. Certain changes proposed for the performance

objectives, particularly 61.41 for protection of the public and 61.42 for protection of the inadvertent intruder, are also seen as a challenge. A commenter questioned what such a change might mean for our work in the arena of waste incidental to reprocessing since the 2005 National Defense Authorization Act cites the performance objectives as written in the current Part 61 for evaluating waste determination and carrying out our monitoring responsibilities under that act.

Next slide, please. Another issue was whether or not a supplemental environmental impact statement is needed was expressed by certain stakeholders. At the outset of this rulemaking, the staff determined that a supplemental or a new environmental impact statement was not required but, rather, to support the rulemaking, an environmental assessment would suffice.

Advanced consultations with Native American tribes, which certain stakeholders expressed as being more susceptible to radiation than others, was an important issue. I would note that the staff has initiated an outreach with Native American tribes that are near the low-level waste sites, making them aware of the FRN and the opportunity to provide comments. And that letter went to the tribes on June 19th.

Awareness and understanding of data supporting a performance assessment is another comment expressed. In other words, the public desires an understanding of the assumptions that go into the performance assessment.

Next slide. Continuing with stakeholder feedback, operating site applicability is an issue for agreement states. The

1 application of this proposed rule to agreement states with operating
2 facilities is different than was set forth in the initial Part 61, which Scott
3 mentioned in his comments.

4 To ensure adequate protection of health and safety
5 and because we are assessing waste streams not analyzed in the
6 development of Part 61, the proposed rule revisions apply to all
7 currently operating facilities, as well as future facilities. In particular,
8 South Carolina has expressed strong opposition to site applicability.
9 South Carolina has historically accepted depleted uranium but does not
10 continue to do so and has closed all the affected cells at the Barnwell
11 site containing depleted uranium. However, should the proposed
12 changes to the rule be approved by the Commission, South Carolina
13 will have to account for this buried waste in their closure analysis.

14 The three-tiered approach introduces subjectivity as a
15 fallout product of the utilization of a performance-based approach.
16 This results in more work for the applicant, the licensee, and the
17 regulator, as opposed to a prescriptive approach.

18 Next slide, please. So what's our path forward? At
19 this point, the public outreach meetings are complete. The staff is
20 analyzing comments and developing comment responses, as
21 appropriate. We will continue to have interactions with the impact to
22 agreement states that regulate the four operating low-level waste
23 disposal facilities as we continue to finalize the rule. As directed, the
24 staff has and continues to interact with the Advisory Committee on
25 Reactor Safeguards on efforts pertaining to revisions of Part 61.

26 In addition to the proposed rule, the Commission also

1 placed emphasis on the guidance being reviewed by various
2 stakeholders, including the Advisory Committee on Reactor
3 Safeguards. In an effort to obtain external stakeholder feedback,
4 staff cited the publication of the associated guidance document
5 identified as NUREG-2175 during the public outreach meetings and
6 conducted a webinar focused upon the associated guidance document.
7 Staff plans to provide the final rule to the Commission next year.

8 Next slide, please. While we have focused today's
9 discussion primarily upon the proposed changes and revisions to 10
10 CFR Part 61, that's one portion of the overall low-level waste program.
11 For the past several years, the low-level waste program has been and
12 remains very busy addressing several key policy issues. The key
13 program policy issues are depicted upon this slide, and they are,
14 indeed, very complex.

15 We know that the Commission is considering business
16 line briefings and, thus, the staff will be prepared to provide more
17 information on the low-level waste program during a decommissioning
18 and low-level waste business line briefing.

19 Regarding greater than Class C low-level waste, staff
20 will be providing you with a Commission paper on this important
21 national topic later this year. The Department of Energy is also
22 expected to complete its final environmental impact statement on the
23 disposal of greater than Class C waste later this year.

24 I want to thank you again for the opportunity to brief
25 you today. And at this time, I will turn the presentation over to Rusty
26 Lundberg, our colleague from the state of Utah.

1 CHAIRMAN BURNS: Thank you, Mr. Lundberg
2 and, again, welcome.

3 MR. LUNDBERG: Okay. Thank you, thank you
4 Chairman Burns and Commissioners. For me especially to be on the
5 panel is reflective of the collegial and the ongoing partnerships that
6 exist between the NRC and the agreement states. So to be a part of
7 this panel, I think, says a lot, and I do appreciate this chance and
8 opportunity to offer some insight and perspective from the state of Utah.
9 So first slide, please.

10 I want to again cover some of the aspects of this
11 rulemaking that to us, as a state, have been particularly of importance
12 as a regulatory agency, one that has the need to gain public confidence
13 and scrutiny I think is important. The other is we do have some
14 underlying priorities as an agency, as does the NRC and anything that
15 they do as far as rulemaking. I do want to highlight some of the
16 rulemaking and regulatory and actually statutory activities that the state
17 has undertaken to address some of the important low-level options and
18 issues in the state and then, lastly, to look at compatibility and, again, to
19 highlight just briefly about the potential for the secondary or
20 supplemental rulemaking regarding the classification or looking at
21 waste classification.

22 So next slide, please. I do want to start out by again
23 echoing what others have said throughout this process. The level of
24 stakeholder engagement I think has been commendable and
25 exemplary as far as the opportunity to participate, especially the
26 Commission's direction to engage the stakeholders throughout that

1 process I think has been very important to make sure and underscores
2 the value of having this kind of input and especially this kind of a panel
3 where the earlier one bringing a broad spectrum of views, as well as
4 this one representing a regulatory view.

5 Second to that, the participation from the stakeholders
6 I think is reflective of the importance of this rulemaking. The fact that
7 you have seen some varied comments and interest in this just simply
8 reflects the importance of it, as well.

9 And then, lastly, for us as a sited state, it was very
10 commendable again for the NRC to host these public meetings in the
11 sited states themselves. It allowed our public to have a little more
12 one-to-one relationship in this important issue, and we commend,
13 again, the staff for making the effort to go to all the sited states for those
14 public meetings.

15 Next slide, please. I just want to quickly highlight
16 because as an undercurrent and actually what dovetails into all that we
17 do and was somewhat reflected by Mr. Pacenza in his statements and
18 comments is that we value the role that we have as far as the public
19 confidence and our regulatory community. So blending that together
20 and putting that on balance is sometimes difficult, but we also know
21 that, as last the bullet indicates, is that providing the kind of access and
22 availability I think at least engages and offers an opportunity for the
23 public to be more informed or other interested stakeholders. So as
24 that information is out there, as they gain more information, as they're
25 more informed, it certainly just enhances the level and quality of what
26 happens throughout that whole process, and we certainly recognize

1 that, as well.

2 Next slide, please. The next few slides I do want to
3 highlight some of the actions that we have done in Utah. These are
4 regulatory actions. I do want to note that we do have a separate
5 rulemaking body or authority in the state. As an agency, we have no
6 rulemaking authority. That's vested in the Radiation Control Board.
7 However, under a recent change enacted by the state legislature earlier
8 this year, there will be a consolidation of our agency with our sister
9 agency that does the RCRA program that will also consolidate the
10 boards that were looking at these programs separately, too. I don't
11 anticipate that that will, in any way, diminish the value or the attention
12 that we have been giving these issues on radiation control within the
13 state. I just want to note that we value that opportunity that we have
14 and the relationship that we have with our rulemaking body within the
15 state.

16 So first of all, about our specific rule that relates to
17 depleted uranium, that was adopted in April of 2010. It does have
18 some very important points to it, one that I think is reflective of
19 somewhat of the thinking of this three-tiered approach that is out there
20 for public comment right now. First of all, it does specifically identify
21 that we are looking specifically at concentrated DU. That means that
22 it's concentrations greater than five percent by weight, so that does
23 have somewhat of a threshold of something under that.

24 Land disposal of significant quantities needs to be
25 looked at. We've identified that to mean anything greater than a
26 single metric ton in total accumulation. And then, lastly, the

1 performance assessment may need to be revised. Any dynamic
2 document like this should have inherently built into it that it's not a
3 one-size-fits-all or one point in time and done and complete. So we
4 certainly recognize and the rule envisions the fact that this may need
5 further adjustments as things happen at the federal level.

6 Next slide, please. The other two components that
7 are important to this is that we've looked at this from a qualitative and
8 somewhat quantitative demarcation as far as the rule. The
9 performance assessment we've defined as a compliance period of at
10 least a minimum of 10,000 years. Again, this is specific to depleted
11 uranium. And that anything beyond that can be done in a qualitative
12 manner out to where peak dose occurs.

13 The other part to the rule is that this requires that
14 before acceptance of large quantities of depleted uranium that meets
15 the other definitional requirements of the rule, that it does require this
16 performance assessment to be done and then approval to be granted,
17 as well.

18 Next slide, please. The last part of this rule is that –
19 and this is probably no surprise – that we need to be in concert and
20 follow the need for protecting health and safety and that is needing to
21 meet the performance standards and our analog for that. But I just
22 want to note that, as we've looked at this rule, I think as we've engaged
23 the licensee, EnergySolutions, in our process to evaluate this particular
24 performance assessment and, as it has been characterized, it is a very
25 complex, very detailed, and very voluminous type set of documents that
26 we've worked through, I think that it has proven its value both to the

1 public and to us, as a regulatory agency, to follow at least the intent of
2 this rule so that we do underscore and reaffirm both the confidence,
3 again, of the regulated community, our licensee, as well as the public.

4 So next slide, please. The next rule we also
5 recognized, as does the current rule, is that we probably needed to be
6 somewhat comprehensive. And so the Radiation Control Board
7 adopted in February of 2011 another rule that simply identifies four
8 areas that would trigger performance assessment. So in a way, it's to
9 be viewed, as I indicated here, the first slide was if it was something that
10 was not analyzed in the draft EIS for the establishment of the original
11 regulations under Part 61, and then the second, one of the other
12 threshold criteria is that it has to, if the waste stream may come in, it
13 may result in a greater than 10 percent of the dose limits during the time
14 period of which peak dose would occur.

15 Next slide, please. The other two components of this
16 rule simply reflect, again, some issues that I think have been raised
17 throughout the discussions of the proposal and development of Part 61
18 changes, and that is is that any waste that would result in a greater than
19 10 percent of the total site source term over the operational life of the
20 facility. So I think, in a way, this engenders what is being looked at by
21 your site-wide concentration averaging that's being proposed.

22 And then secondly to that is that, again, in fact, if
23 anything, it's not been analyzed previously with our analog or
24 counterpart corresponding rule to the waste classification.

25 So let me move on. Next slide is all about waste
26 classification. I just want to quickly note that about a decade ago the

1 state legislature enacted a bill that simply prohibited the receipt,
2 management, and disposal of anything greater than Class A for
3 low-level radioactive waste. And in the development of that, I will
4 note that that was a policy decision based upon, as previously
5 mentioned, it's an easy discussion to have with policymakers and those
6 that have value in setting standards for the public, in this case for the
7 citizens of the state of Utah, that is an easy discussion to have if you
8 have a simple framework to work from. I will note that.

9 Next slide, please. And in giving that, throughout this
10 process, Governor Herbert has offered some quick comments and a
11 preliminary proposal on this just to underscore, again, the value of
12 waste classification has and the merit that it has to the state of Utah.

13 Next slide, please. So with that, I do want to note
14 that, from our standpoint as a regulatory agency, that there are some
15 resource issues that accompany being the sited or host state for a
16 commercial disposal facility. And that is, again, as you look at
17 incoming waste shipments, whether that needing to be evaluating the
18 integrity of those shipments or for our purposes of meeting Class A
19 limits or below, that you simply still have to continue the level of
20 resources that gains that public confidence that you're doing the job
21 you're being paid to do.

22 And so with that, as you look at opening this up to
23 waste acceptance criteria, it does open up something that we're less
24 comfortable with, less familiar with, obviously, as a state but would
25 need to be worked out as far as a little more detail because, as
26 mentioned, the structure of waste classification in the tables has been

1 very well structured.

2 And so it will require, as the last bullet notes, that
3 greater coordination with disposal facilities and particular waste
4 generators. We find that we spend a good portion of our time as we
5 monitor incoming shipments coordinating with those generators to
6 make sure that any corrections that we feel are appropriate are made
7 and that future shipments can follow and be adequate for disposal at
8 the site.

9 Last couple of areas just quickly, and that is
10 compatibility. Next slide. We do see that, as we look at our two
11 rules, even though there are some similarities, we do feel that perhaps
12 looking at simply the category of compatibility B may impact where we
13 have already been. Hopefully, it won't impact past decisions
14 because, as you know, we're in that process right now for evaluating the
15 performance assessment for depleted uranium. But, again, we
16 certainly recognize all the things that you are balancing and trying to
17 address, as well as working on the compatibility.

18 And then, lastly, on our secondary – next slide, please
19 – is the supplemental or potential rulemaking regarding waste
20 classification, particularly on depleted uranium. I'm just going to note
21 that I think it will be important as you ask for comments on this that you'll
22 see that there's a little bit of a sense of integration and if not even an
23 importance of making that decision almost concurrently, rather than
24 sequentially behind this, because of the significance that it has with
25 current decisions that are out there.

26 And, again, as mentioned before, the last bullet here, I

1 think public confidence and acceptance is very important in this. It's
2 sometimes hard to describe that we're trying to make a decision now as
3 far as its current classification being a Class A for depleted uranium
4 specifically and then have that door re-opened and say that it may have
5 changed because of that.

6 So with that, just next slide, I just wanted to capture
7 that, as we've gone through this evaluation, we've put together some
8 fact sheets because it is difficult to capture all this information for the
9 public. And one of the components of this that I've quickly highlighted
10 is, again, this need to address this particular area.

11 So, lastly, I just want to – the next slide – just simply
12 again express appreciation for this opportunity to engage you, as this
13 important issue has been on the front burner for us in the state of Utah
14 for a while. Thank you.

15 CHAIRMAN BURNS: Thank you. And, Mr.
16 Maguire, welcome again and pleased to hear your presentation.

17 MR. MAGUIRE: Thank you very much. I'm
18 Charles Maguire. I'm the Director of the Radioactive Materials
19 Division at the Texas Commission on Environmental Quality. It's a
20 real honor for me to be here with you this morning and to provide
21 comments. Thank you for asking me.

22 If I could, just for moment, hitchhike on something you
23 said about us being unanimous in that this is ugly. I just want to say
24 we feel differently about it in Texas. We're hoping you bring us to the
25 prom.

26 So we have watched, we have watched this –

1 COMMISSION SVINICKI: I thought you were
2 bringing Vermont to the prom.

3 MR. MAGUIRE: On some days. And that would
4 be an interesting study. I'm curious about it myself. We are moving
5 forward in Texas with the rules and regulations on the site that we
6 regulate that is operated by WCS that really in body and concept, at
7 least, some of what we've seen developing with the Part 61 rules.

8 And so I think where I decided I want to focused my
9 presentation – next slide, please – is just looking at some of the things
10 that you've proposed and telling more specifically what Texas is already
11 doing.

12 And so there's a proposal in the rule that there be a
13 regulatory compliance period of 1,000 years. We support that.
14 Now, you've already heard several times this morning that we have a
15 period of analysis that is a minimum of 1,000 years or peak dose,
16 whichever is longer. Now, I would just say to you we purposely chose
17 not to call that a compliance period. I mean, we know there will be a
18 day when there will be some reconciliation between what Part 61 finally
19 says and what our Texas administrative code says. And so we chose
20 to use the term of art so that we could move forward without being in
21 just a direct conflict.

22 And so we use a period of analysis, as opposed to a
23 compliance period. But I think the concept is identical.

24 Because the final rule will determine some major rough
25 compatibility, that is something that we would like to talk to you about in
26 our comments today. Next slide, please.

1 We also support the 25 millirem per year dose to the
2 public limit. That is a requirement that Texas has used since the
3 WCS site, and we've used that for not just a thousand years but also the
4 peak dose as the limit at that site. And when we originally did the
5 WCS license, we did a performance analysis out 50,000 years just
6 because of the carbon-14. I think a lot of what you've heard today is
7 very tightly focused on depleted uranium but also it seems like
8 carbon-14 has the ability to create a peak dose in the inventory in a
9 performance assessment model well out past 1,000 years.

10 I always, when I get to talk about our performance
11 assessment approach and the peak dose and I start talking about 1,000
12 years and 10,000 years and 50,000 years and 1,000,000 years, you
13 know, people can't help but smile. I mean, they're going, yes, right,
14 you know. And I would just say there were many days sitting around
15 my conference table where there were a bunch of geologists,
16 engineers, and health physicists, including myself, saying, gosh, we
17 should be screenwriters for the next Star Wars movie. You know, is it
18 a red sun or a yellow sun that the Earth will be orbiting? I don't know.
19 And, you know, I recognize that when I look at the performance
20 assessment model.

21 But the thing we do know and the thing that gets to be
22 abundantly important in evaluating protection of the environment and
23 human health is we know about the level of radioactivity in that
24 inventory. And the science is there for that.

25 And so what we looked at when, particularly, we saw
26 the depleted uranium being proposed to be part of that inventory is

1 starting to see at what point some of the end growth occurred. And so
2 it's been important to us to be able to look at a period out past 1,000
3 years in terms of what we would want in the way of protection. Next
4 slide, please.

5 And so, again, with what you call a protective
6 assurance analysis for the period between 1,000 and 10,000, we
7 support that. We support the 500 millirem per year intruder dose limit,
8 and we have also used that in the WCS site analysis.

9 The proposed rule also has a qualitative analysis, and,
10 for reasons I've already mentioned, we think that's an important
11 consideration. If you don't have long-lived radionuclide, maybe not so
12 important. But if you do, we would suggest you should at least look.
13 And so this seems to create a framework, a regulatory framework, a
14 paradigm where the science could take a look to see what sort of dose
15 might be occurring, albeit by virtue of a model.

16 You also talk in the proposed rules about defense in
17 depth. And as we've talked about this over and over in terms of our
18 regulation of the WCS site, I'm not sure what comes first. I'm not sure
19 where the license conditions for all the engineered barriers comes first
20 and then you do a performance assessment and then you come back
21 and you look at the natural conditions that the site sits in. To me, it's
22 circular and particularly as we look at license amendments that propose
23 new waste streams and waste streams that are particularly long-lived
24 radionuclide. I like the idea of defense in depth being able to make
25 the safety case, to come back and say, yes, I'm looking at your
26 performance assessment, but if I need to tweak engineering barriers in

1 order to improve the performance, in order to make the safety case, I've
2 got that ability if I'm looking at all of those factors.

3 And so, for me, it's not performance assessment and
4 defense in depth. To me, it's both "and" sort of all at the same time,
5 looking at that sort of collectively. When we did the defense in depth
6 work at WCS, I mean, we considered lots of things, all the way into the
7 branch technical position of concentration averaging. I mean, we
8 tried to look at every single factor affecting what we might want in terms
9 of engineered barriers, what we might be receiving in the performance
10 assessment in terms of the dose to the public.

11 Relative to compatibility and sort of the last thing that I
12 want to discuss, as you've heard, we are saying 1,000 years or peak
13 dose, whichever is longest. We would like to be able to maintain that
14 as we move forward to be compatible with this rule once it's finally
15 finished. And the importance of that, I think, is some of us have to
16 face the public as the keepers of the public trust. I think the public
17 expects us to do the very best we can, to use the best science, the best
18 tools. I don't know how we stand down on that to say, well, you know,
19 we're just going to cut it off at 1,000 years, even though, scientifically,
20 we know there could be higher doses occurring at a later date.

21 So I think, for us, it's really about ensuring our public.
22 Because at Blue Ribbon Commission, I guess, we talk lots nowadays
23 about consent-based siting, and I want to say, well, that's the first day.
24 It's maintaining consent that really gets to be the burden, I think, for the
25 regulators. And so we don't want to have a day where we have to
26 face the accusation that we're not using the best science possible, the

1 best model possible, the best tools available to protect the environment
2 and human health.

3 And so we do understand the charge to staff to, you
4 know, to ensure some standards across the nation. Those are
5 important, too. We would be hopeful that a C compatibility would just
6 allow the states that need to be more stringent the ability to be more
7 stringent.

8 So the last slide, I really liked the first time I saw it
9 staff's three-tiered approach with the boxes vertical and horizontal.
10 And so I challenged my staff to give me a picture like Larry has, and so,
11 I think, to explain in a nutshell, we sort of got just two big, long, tall
12 boxes that go all the way out to peak dose. And so I can't even color
13 code mine. That's why mine is in black and white. It should all be
14 one color.

15 But I would call to attention that we do say period of
16 analysis, as opposed to compliance period. And so that, I think that is
17 important for you to understand, in terms of looking at what our
18 comments would be.

19 Thank you very much for asking me.

20 CHAIRMAN BURNS: You're welcome. And thank
21 you, again, for your presentations. And with that, we'll start questions
22 with Commissioner Ostendorff.

23 COMMISSIONER OSTENDORFF: Thank you,
24 Chairman. Thank you all for your presentations. I appreciate very
25 much having our state partners here. Charles, I appreciated your
26 hosting me down in Austin back in February this year at the

1 Commission. I found that very helpful and informative. I was
2 impressed with the engagement by you and your team and these
3 issues. I'm sure that the same situations exist in Utah, except I
4 haven't had a chance to visit there. But it's good to see you again.

5 Let me start out here with some comments from people
6 that are dealing with this real time in Utah and Texas because I think
7 that's so helpful for a meeting like this to, you know, to hear from our
8 regulatory partners who are facing these issues today. And maybe
9 I'm going to start out with where Charles left off, Rusty, if I can.

10 On the compatibility piece, Charles was making the
11 strong case on the public confidence aspect of having the ability in the
12 state of Texas to perhaps retain the ability that had maybe more
13 stringent regulatory requirements than the NRC might require. Would
14 you care to comment on that?

15 MR. LUNDBERG: Yes. Thank you,
16 Commissioner. I think that that does have some value in maintaining
17 the public trust. If you have state-specific type of issues or that are
18 more unique to a given state, whether that be based on public
19 perception or being an informed public, regardless of that perspective, I
20 think that that, the ability to have something like a category C for
21 compatibility still allows those important aspects of rule to be adopted
22 by the state but allows a little more flexibility, in this case to be more
23 stringent.

24 And that's I think why we had to step out as a state. It
25 was just facing us so prominently that, without some kind of regulatory
26 structure to that whole analysis and the fact that the public really asked

1 for that kind of structure because, originally, they asked for a
2 moratorium on any actions that we were going to take relating to this.
3 Whether it be a license amendment to accommodate disposal of the
4 depleted uranium or just making the decision without the need for a
5 license amendment, it still engendered that idea to the public they
6 needed to see some kind of structure. And that's why their control
7 board acted to at least provide that kind of structure.

8 I recognize that, again, the difficulties of the technical
9 nature of this, the complexities of this, certainly may restrict a lot
10 broader participation. But at the same time, to the extent that you can
11 at least offer that information out there and be available for further
12 discussions on helps.

13 But the short answer is that, to me, again, like others
14 have said, when you have the ability to look at site-specific conditions
15 and analyze something at that level, I'm not sure that a category B for
16 transboundary type of issues really adds to that or gives that added
17 benefit.

18 COMMISSIONER OSTENDORFF: Charles, do you
19 want to add anything to what Rusty said there?

20 MR. MAGUIRE: Rusty always says it so much
21 better than I do. He's just happy today because he got to go in front of
22 me. I'm in Texas, and it's usually in front of Utah. So he's flying
23 high.

24 But, yes, it is an important thing. And I think – but we
25 do, I do understand why you gave direction to staff about the
26 compatibility B. We wouldn't want to do anything to undermine their

1 ability to build consensus, but, certainly, if it could be considered to give
2 states flexibility, to be a little tougher – I can't believe I just said that.
3 It's career-limiting for a state regulator to be tougher than the feds, but
4 we felt like it was necessary and I think you heard our regulated entity
5 today say that they agree that that's necessary. So I think that's
6 where we are.

7 COMMISSIONER OSTENDORFF: I think we're all
8 glad on this side of the table to see that a sense of humor is alive and
9 well west of the Mississippi River.

10 Let me stay with the state comments a bit. In the first
11 panel, we had, the theme of a couple of the presenters was that the
12 proposed Part 61 was overly complex and perhaps too complicated.
13 And I think I wrote down – Rusty, I think you used the phrase it was very
14 complex. I think you were thoughtful in how you said that. I think
15 you wanted to put the correct adverb there.

16 Is it needlessly complex? I'm going to ask both of you
17 all the chance to respond to this.

18 MR. LUNDBERG: If you'll allow me to be Utah
19 before Texas, no, I don't – I think the complexity comes in the fact that,
20 as you look at these three-tiered approach, it's a little less clear when
21 you're talking about the compliance period itself. When you look at
22 the 1,000 years, what kind of impact that actually has if you're a site like
23 ours interested in commercial disposal of large quantities of depleted
24 uranium, what value that determination has for that shorter time frame
25 because, as we all know, the ingrowth of progeny for depleted uranium
26 is really the key issue here.

1 And so, to the public, we are shortchanging that view
2 somewhat if we just say the compliance period is 1,000 years. But
3 what we were trying to say is that that's just one step of the view of this
4 and that this three-tiered approach allows us to go beyond that with the
5 performance evaluation of that 10,000 year beyond, which is what
6 we've adopted, as well.

7 MR. MAGUIRE: Well, if you look at my boxes
8 versus staff's, we avoided some of the complexity there with the three
9 tiers by just having one tier. But I would quickly say I think some of
10 what you've heard from folks, in the first panel particularly, about the
11 complications this rule, in and of itself, would create for some of the
12 older sites, for instance. I think it's a good attempt on staff's part to
13 produce some flexibility for those sites in terms of what they would look
14 at. Even so, it does add that layer of complexity to it.

15 And so I think the complexities are probably necessary.
16 The rule with the guidance document, and it's voluminous, but I think if
17 you wade into it that there's a pathway there that's fairly clear and some
18 fairly clear things that you would choose to do if you were going to make
19 an analysis that extended out for some sort of compliance of 1,000
20 years and then some other considerations as you move from 1,000 to
21 10,000 and then 10,000 and beyond.

22 COMMISSIONER OSTENDORFF: I just would tell
23 both Texas and Utah, I'll get back to alphabetical hierarchy here, that
24 there's a difference between complexity and understandability, and it
25 can be complex but also understandable. We heard from some
26 commenters in the first panel that perhaps there were parts of the rule

1 that were not really understandable.

2 So if you have any suggestions in the public comment
3 period that would enhance understandability, we certainly would
4 appreciate hearing those.

5 MR. MAGUIRE: Yes, we can do that.

6 COMMISSIONER OSTENDORFF: Larry, you're
7 disappointed I didn't ask you a question, so I'm going to head down to
8 you at this stage. And I realize that, you know, the awkwardness for
9 the staff at this stage is the ability to comment or not comment on the
10 public comments because those have not been dispositioned yet. So
11 I'll ask you, in a general area, to tell me if you can perhaps address the
12 comments on your slide 20 about the state of South Carolina and the
13 Barnwell site and the fact they've already come close to closing out
14 many of their areas. You and I have discussed in the past the general
15 concept philosophically of grandfathering a site. Can you say
16 anything about the grandfather motion? We heard some discussion
17 from the first panel about excluding those sites or not handling new DU.

18 MR. CAMPER: Well, Commissioner, thank you for
19 the question. I think the concept of grandfathering is sort of a
20 misused term. What I mean by that is this: if one goes back and looks
21 at Part 61 when it went into effect, there is some language in there that
22 says for operating sites in effect on the effective date of this rule, they'll
23 be examined on a case-by-case basis and there will be commission
24 orders and modifications of the license and so forth.

25 Now, commission in that context is commission, our
26 commission, and commission, the state, are synonymous, as they often

1 are, when they implement the regulations. Now, at the time, the three
2 states implemented Part 61 essentially in whole cloth, as well as
3 modifications to the existing license at the time through license
4 conditions or perhaps orders.

5 And so they did a case by case at the time because,
6 based upon public comments that we got, it was well understood that
7 these were operating sites. And many of the provisions that were
8 being set forth in the then Part 61 under development had already been
9 depressed: site stability, all the siting criteria, and so forth and so on.
10 And so there was a desire to provide flexibility.

11 What we have wrestled with as a staff this time around
12 – and I do understand South Carolina sensitivity. I really do. The
13 issue that we're challenged with, though, is these are unanalyzed waste
14 streams that emerged over time. Depleted uranium has been talked
15 about at great length. DOE waste has been mentioned. Long-lived
16 isotopes have been mentioned. All of those radioactive waste
17 materials have been disposed of in the state of Washington, the state of
18 South Carolina, and in the state of Utah.

19 And so the challenge for us is how do we ensure that
20 we're addressing these unanalyzed waste streams while yet also
21 providing the state with some flexibility?

22 We did talk with South Carolina early on about
23 grandfathering, and we explained that we could not do that and we
24 reiterated what took place actually in Part 61. And an issue that
25 emerged during the course of those discussions is that the state, if it
26 chose to do so, could grant exemptions. If it believed that an

1 appropriate safety analysis had been done, no more depleted uranium
2 is going to be disposed of, for example, because all the cells are closed
3 at Barnwell, I mean, the state could take under consideration the
4 granting of an exemption if they chose to do so.

5 COMMISSIONER OSTENDORFF: Thank you.
6 Thank you, Chairman.

7 CHAIRMAN BURNS: Thank you. Commissioner
8 Baran?

9 COMMISSIONER BARAN: Thanks. I want to start
10 by just joining Commissioner Ostendorff in thanking you both for being
11 here. We really appreciate having our agreement state colleagues
12 joining us and the NRC staff.

13 It seems pretty clear from the first panel and from your
14 comments that Texas has more stringent requirements than are
15 proposed in the NRC rule, and it sounds like you'd like to keep those
16 requirements if you could. And it sounds like Utah would also like the
17 flexibility to keep the requirements that's established.

18 I know, Larry, this is a tough question because we're
19 still in a public comment period, and also the staff got pretty-detailed
20 Commission direction on this issue in one of those SRMs that
21 Commissioner Svinicki referred to that preceded us today. But I
22 would like to get your point of view on this compatibility question. You
23 know, we have states who sited facilities in the past with an
24 understanding of what waste streams were going to go there and under
25 what stringency of regulation, and that's important to the state's
26 willingness to take those wastes. And now I think one could make an

1 argument we're coming in and proposing that, well, actually, you're
2 going to have weaker standards for health and safety than you had in
3 place.

4 In your personal opinion, is there a reason that a host
5 state should not be able to have more stringent standards than
6 established by NRC?

7 MR. CAMPER: Well, Commissioner, thank you.
8 That is a challenging question. I knew this compatibility issue would
9 be front and center today, so I actually went back and took a long look
10 at what the Commission itself has said about this topic.

11 Now, I think there are three points that I would make.
12 As a staff, we provided a propose rule with compatibility C. The
13 reason we did that, in going back and looking at Commission SRMs,
14 there was a desire by the Commission to, on one hand, ensure that
15 there was an alignment between federal and state safety standards,
16 while also providing flexibility for the agreement states as to how they
17 went about implementing those standards.

18 The second point I would make is, in reviewing the
19 SRM for the proposed rule, as well as the Commission voting sheets,
20 the impression that we have as a staff is the Commission gravitated
21 toward compatibility B because of an interest in consistency across the
22 board for all operating sites throughout the United States, as well as
23 ensuring that issues regarding transboundary were addressed.

24 Now, what we've heard from the agreement states is
25 what you've heard today: a desire for flexibility. And from our view, as
26 a staff, we certainly think that that should be given considerable weight

1 because they are out there on the operating forefront. But when I
2 hear this dialogue, I think this is precisely what the Commission had in
3 mind. It directed the staff to specifically, in fact the words, I don't have
4 it in front of me, but the essence of the words were, while compatibility B
5 has been assigned, the staff is to explore this issue with some degree of
6 complexity and thoroughness.

7 So I think that what's happening with regards to the
8 commentary on compatibility is precisely what the Commission had in
9 mind.

10 COMMISSIONER BARAN: That was really
11 diplomatic. Let's just talk for a second about these transboundary
12 issues. I mean, can you walk us through that? What would be the
13 transboundary issue that would require each site to be subject to –

14 MR. CAMPER: Well, I'll give you a simple operation
15 response, but I might turn to Brad for more detail from a legal
16 standpoint. But, basically, the issue is that you are, in fact,
17 transporting radioactive waste materials across many states,
18 transboundary, to get to the ultimate disposal facility. And so a
19 number of transportation issues come to bear, a number of completion
20 of waste manifest come to bear. So it's those types of things, the
21 transportation from point A to point B for ultimate disposal.

22 COMMISSIONER BARAN: Okay. And right now
23 the sites have different standards, as I understand it. Has that, is that
24 causing problems right now?

25 MR. CAMPER: When you say different standards,
26 you mean in terms of periods of compliance and so forth?

1 COMMISSIONER BARAN: Yes. I mean, Texas –

2 MR. CAMPER: They do have, they do have
3 different periods of compliance, but we're not aware of any operational
4 difficulties because of that. And, you know, periods of compliance is
5 a policy matter. There is no perfect period of compliance, and they
6 evolve over time for a number of different reasons. Some of them are
7 technical, some of them are political, some of them are events that
8 happen that drive toward a particular choice of approach. But, no,
9 we've not seen any problems with the current approach.

10 COMMISSIONER BARAN: Okay. And I want to
11 follow up on a conversation you were having with Commissioner
12 Ostendorff. Yours was focused particularly, his question was focused
13 on Barnwell. I want to broaden that out a little bit. You know, we
14 heard a lot in the first panel this idea that if a particular site isn't going to
15 take depleted uranium or some of these other unanalyzed waste
16 streams, there was a view that these Part 61 new requirements that are
17 being contemplated shouldn't apply to them. And, again, I know
18 we're still in a comment period and the staff hasn't reached any
19 decisions about this, but can you talk a little bit about what, you know,
20 considerations would be applicable to that kind of concept?

21 MR. CAMPER: Yes, sir. I think the way to answer
22 that question is in two parts. I think it's very important to go back and
23 look at the analysis that the staff undertook when we completed
24 SECY-080147. We looked at this problem broadly, recognizing that,
25 in the United States, there was approximately 1.4 million metric tons of
26 depleted uranium that may be disposed. That includes the 700,000

metric tons of DOE at Portsmouth and Paducah, as well as that which we produce over a 30-year life cycle for operating enrichment facilities. Some 1.4 million metric tons, 300,000 cubic meters of waste. We undertook an analysis, and the analysis was driven to determine whether or not this type of material was suitable for near-surface disposal.

So my point in saying that and starting there is one needs to keep in perspective the aggregate picture as compared to how much depleted uranium might be in a particular waste disposal facility. For example, the state of Washington, there's 7,000 metric tons of depleted uranium in the ground. In the state of Utah, there's 50,000 metric tons of depleted uranium in the ground. In the state of South Carolina, there's 7,000 metric tons of depleted uranium in the ground.

Those three sites also have Department of Energy waste. They have the long-lived isotopes that weren't analyzed at the time Part 61 went into effect.

So those sites have material that is the subject of this rulemaking, i.e. unanalyzed waste stream.

Now, what you have to think about, though, is how much and what does it mean in terms of a performance assessment or any implication for that site as a result of this rule? It's a very complex topic, but I think you need to look at it holistically.

COMMISSIONER BARAN: And the first panel, it seemed like there were a lot of questions about the relationship between the classification tables and site-specific waste acceptance criteria. Do you want to talk a minute about that in terms of how, from

1 your point of view at least, the proposed rule addressed that
2 relationship?

3 MR. CAMPER: I will. Thank you for that question
4 because I think it's an extremely important question and it's a complex
5 question.

6 As you know, for the last 30-plus years, we have relied
7 upon the waste classification in Part 61. Those tables were built
8 around protecting an inadvertent intruder in a 500-millirem per year
9 dose. And if you dispose of waste in these sites, following those
10 waste tables, you are assumed to protect the inadvertent intruder.
11 There's some other things that also come to bear, but that's primarily it.

12 The desire of the Commission in this rulemaking was to
13 provide an "or" pathway. You may dispose of at that site based upon
14 those classification tables or you may create a waste acceptance
15 criteria and dispose following that waste acceptance criteria.

16 Now, the hard reality of the matter, though, in my view,
17 is to what degree will the waste acceptance criteria be used remains a
18 big question mark because, let's take the state of Utah as an example
19 and let's take the comment that you heard from the representative from
20 HEAL Utah, the state of Utah has limited disposal at that site to Class A
21 waste. Remember that that site, once upon a time, was approved for
22 Class A, B, and C waste disposal. But a decision was made and
23 Rusty cited it in his slide they'll only accept Class A waste there.
24 Does that lead one to believe that if you undertook an analysis and
25 created a waste acceptance criteria you could dispose of waste in
26 access of Class A at that site? Sure. Of course you could. But

1 what is the reality that that will actually take place, given the situation
2 that exists in Utah today around state laws limiting it to Class A waste?

3 So, you know, sites already have waste acceptance
4 criteria. That's not something new. What is new is disposal by the
5 "or" pathway. How much it will become an operational reality I think
6 remains to be seen.

7 COMMISSIONER BARAN: In the proposed rule, who
8 makes the decision about that "or?" Is that the agreement state
9 regulator or is –

10 MR. CAMPER: The regulator, the regulator. The
11 applicant may send in an application or a renewal and want to use the
12 waste acceptance criteria or the waste classification tables, but the
13 regulator will make that decision. And if you go look at the licenses
14 today for these sites, you'll find that in their possession limits or in their
15 specification as to what they may receive it identifies Class A, Class B,
16 Class C waste and so forth.

17 COMMISSIONER BARAN: Thank you.

18 CHAIRMAN BURNS: Thank you. I'm going to
19 address a few questions. Again, as I think some of my colleagues
20 have noted, we're in still the consideration period, obviously, for this
21 rule. We expect to, we have about another month during which
22 comments will come in. So, obviously, when I asked the staff to
23 respond to some of my questions, that's by necessity and I expect the
24 answers in terms of preliminary thoughts and all that that that will be
25 well fleshed out through the rulemaking and the rulemaking process.

26 But a few questions I might have today, at least to

1 perhaps to address at a high level some of the concerns that have been
2 raised and probably more, at this point, I'll ask perhaps that came up
3 during the first panel. I think we've had a good discussion in terms of
4 the compatibility issues between the questions and my colleagues so
5 far.

6 But a couple of them I would ask the staff is, one, what
7 I heard, the first one would be that I heard on the first panel that the
8 current proposal, not so much for the proposal itself but by what it does
9 not do and, by looking behind the curtain or looking down the road, what
10 might be coming creates an ambiguity and uncertainty that makes this,
11 it puts those who are regulated or who may have to regulate in an
12 awkward or an uncertain position. And I'd appreciate any response
13 that staff might have to that at this point, at least initial reflections on
14 that.

15 MR. CAMPER: Two thoughts come to mind.
16 While I would agree with the panelists this morning that the approach
17 that's on the table under consideration is arguably more complex than
18 the one we have right now. Things have changed since Part 61 went
19 into effect. We know more. We have more operating experience,
20 and we know that certain waste streams have emerged that simply
21 weren't envisioned at that time, not the least of which is depleted
22 uranium.

23 So from the staff's standpoint, we would suggest that addressing those
24 issues should, in fact, enhance public confidence, not diminish it.

25 Is it more challenging? Any time you move toward a
26 more performance-based approach, it is more challenging for the

1 applicant or the licensee or the regulator. But that's what you do
2 when you try to bring good science to bear and current awareness and
3 knowledge. But I think it would inspire public confidence, not diminish
4 it.

5 And one of the things that we did in this rule when we
6 were preparing it, beyond depleted uranium, beyond blended waste,
7 beyond the unanalyzed waste streams that we're talking about, what
8 we tried to do was craft language that would accommodate any new
9 waste streams that might emerge so we don't have to do this again two
10 years from now or three years from now. Whether that's waste
11 processing, whether that's reprocessing, whether it's creation of
12 molybdenum for medical purposes from some new technologies,
13 whatever it is, we wanted to try to get ahead of that. And so I think the
14 rule would do that in a good way.

15 CHAIRMAN BURNS: One of the comments, I forget,
16 it may have been Mr. Shrum, but one of the earlier comments
17 basically, it was directed as a question or foreseeing the potential that,
18 absent provisions for the disposable low-activity waste streams, more
19 waste can be expected to go to disposal under 20.2002. And, in
20 effect, they characterize it as an, quote, "unlicensed disposal." Do you
21 care to comment on?

22 MR. CAMPER: Thank you again. Great question.
23 Low-activity waste has been talked about for a long time. In fact,
24 going back to the year 2003, the EPA actually put out an advanced
25 notice of proposed rulemaking around this topic of low-activity waste.
26 Presumably, when you ask people, "what do you mean by low-activity

1 waste," you'll get different answers. But it's not uncommon to think of
2 the lowest ten percent of Class A, for example, is a good place to hold a
3 discussion.

4 We have used the 20.2002 process, which is a
5 mechanism to seek authorization for disposal by some means other
6 than authorized in the regulations. It does include an exemption as a
7 component of that, but it's not an exemption, per se, by definition.
8 We've used it successfully, and so have the agreement states, for very
9 low amounts of radioactivity and being disposed at a dose along the
10 order of a few millirem. It's made its way to RCRA cells, and it's made
11 its way, in some cases, to even landfills.

12 Now, with all due respect to EnergySolutions, if you're
13 operating a commercial low-level waste disposal facility, you're going to
14 be concerned about that because that's waste that's not making its way
15 to your commercial disposal facility. That's a legitimate business
16 concern.

17 And I talked to Dan before the meeting, and I said, you
18 know, I wouldn't agree with the idea that there's no regulatory oversight.
19 Each and every one of these is reviewed on a case-by-case basis. I
20 would agree with him that the guidance is not public yet. We're going
21 to make it public next year. We're sharing it with the agreement
22 states very shortly for comment.

23 But I think it's been used successfully. And from a
24 policy standpoint, if there was ever a way to create a category of
25 low-activity waste that could be regulated differently, that's probably a
26 worthwhile thing. But at the moment, I think we're far away from that.

1 So that's what I would say.

2 CHAIRMAN BURNS: All right. Thank you.
3 Commissioner Svinicki?

4 COMMISSION SVINICKI: Well, I add my thanks
5 again to the staff for all its hard work for the presentations here today
6 and for our partner regulators from the state. Thank you for being
7 here, as well.

8 The issues have been well explored by my colleagues,
9 and I think many of us are past our lunchtime. So I do want to make a
10 couple of comments. It's a little bit lovely for me that the staff really
11 can't comment because they have this kind of period of time where,
12 under the APA, they've got to be preparing the agency response to
13 comment and not even all the comment is in.

14 But we have heard some feedback in the first panel on
15 some aspects of the proposed rule, preliminary comments. The staff
16 knows this well, but I will state it verbally here that, in terms of the
17 defense in depth analysis, I made my views on that known when the
18 proposed rule came briefly back before the Commission, not for vote
19 but for just an opportunity to look at it prior to its publication in that
20 Federal Register notice. It was an unprecedented event in my
21 service on this Commission that, between the Commission's vote on
22 the draft proposed rule and its preparation for publication in the Federal
23 Register notice, that an entirely new regulatory requirement appeared
24 in the document that, in my view – and I failed to persuade anyone but I
25 don't take that personally – in my view, did not arise from the
26 Commission's direction, the defense in depth analysis.

1 Speaking of things falling from the sky, in my view, it
2 fell from the sky. I can only state that I know the member of the
3 Commission that originated the discussion of defense in depth. It
4 was his strong view that that language be in the SRM. I had
5 extensive discussions with him. He would have been mystified to see
6 that it took the form of a new regulatory requirement.

7 But I've made my views on that known, and, again, I
8 failed to persuade. But now we have the second question of the staff
9 will analyze any comment received on this new defense in depth
10 analysis. I personally don't feel that it adds anything, separate and
11 aside from the fact that it was not an outgrowth of the Commission's
12 SRM and was inserted into the rule at an odd time under APA. But be
13 that as it may, we'll have a chance to disposition that going forward.

14 On the topic of facilities where disposal cells that
15 contain some quantity of DU have been closed, I often remind people
16 who work in the analysis of long time frames on waste that those are
17 hypothetical possible exposures to populations in the future about
18 whom we have some uncertainty about what kind of dose they might
19 receive. Occupational workers who go to dig up waste now, I can
20 travel to where they live, I can look them in the fact, and that is a dose
21 that they will receive. Now, I'm not suggesting that the occupational
22 limits are inappropriate. But there's real dose versus calculated dose,
23 and I do think that there is a public health balance that needs to be
24 struck between giving workers dose and our certainty or uncertainty
25 about populations tens of thousands of years in the future that may or
26 may not receive any dose at all.

1 So I ask that we step back and balance occupational
2 doses, which will be real, versus hypothetical doses that we calculate.
3 I think there's a public health imperative there for regulators to consider.

4 And then on the issue of transboundary and
5 compatibility, the longer you serve here you realize that there is no
6 perfect designation of B or C. The easiest one is in reactor space.
7 It's compatibility category NRC, which is the easy one. Interesting
8 though that, even with that, there's dynamic tension between the
9 federal and state decision makers over whether or not it ought to be
10 possible for states and communities to do something more stringent.
11 I mean, this is nothing less than, writ large, the whole issue – I think we
12 fought a war in this country over who has what right to do what at the
13 state and federal level. So this is no recent issue, and this is not
14 unique to the transboundary implications here.

15 I will say that, even on this issue, though, while there
16 may or may not be the manifestation of a transboundary implication, it's
17 curious to me, I draw from some of what we heard here this morning a
18 reason why this is complicated, and it is the example of hearing that the
19 states would like flexibility to continue to have measures that they have,
20 which I think you could make an argument some of them are different
21 than what we do, some of them are definitely more stringent than what
22 we do, and those are two different categories. Sometimes, they just
23 want to have different terminology and approach the safety case a little
24 bit differently.

25 But then we also hear that there's a strong desire for
26 NRC to categorize DU because I take those statements to be because

1 of the overall benefit of the authority that we have as a federal regulator
2 to enhance the public's view of why doesn't the federal government
3 know what category to put this in. And I heard, I hope clearly, from
4 state and state interests that having that resolved at a national level is
5 authoritative and it increases the public sense that, yes, people know
6 how dangerous this is. Is it dangerous, or is it not, and why can't you
7 know that nationally? If I move across a state line, does it really
8 change? It doesn't, so tell me what the answer is. You're experts
9 and you should know.

10 So that's the conflict when you allow flexibility, and this
11 is broad, not just for this issue. But when we answer a question of, at
12 the national level, with our authorities, we determine that something is
13 adequately protective or adequately safe, I'm sorry, but we can't just
14 have, you know, unlimited levels of safety. We also have authorities
15 under law. State regulators have different defined authorities. For
16 us, we're supposed to have reasonable assurance of adequate
17 protection. You know, we don't get to say I know of a more perfect
18 state of safety and I can require it. There's limits to authority, and for
19 good reasons. As a citizen, I'm happy about that.

20 But it's interesting even in power reactor space to meet
21 with elected officials, as I have done, and they've said, well, but my
22 citizens, you know, they want more, and why can't we just have more?
23 And in, again, the power reactor area, the court's language is we
24 occupy the field. At the federal level, we occupy all of it, and we don't
25 share that with state regulators.

26 These issues are different, but that dynamic tension is

1 perennial. And that's why there's never a perfect, you know, one
2 conclusive answer out to decimal points on that.

3 So it's interesting that states would like authority, but,
4 in cases where it's murky or complex, they want to be able to say the
5 federal government resolved this for the nation and the answer was X.
6 So, you know, in some ways, that's always going to be a tension
7 because you kind of can't have both.

8 So with that, I look forward to the staff bringing the
9 product forward. I really appreciate everyone's input, this panel and
10 the last panel. And I know that this is a difficult area. So I think
11 you've all been very thoughtful.

12 Again, as I said to the first panel, everyone has got a
13 really good basis for why they put forward what they put forward. It's
14 just that there's a lot of things to be balanced here. So thank you, Mr.
15 Chairman.

16 CHAIRMAN BURNS: Thank you, Commissioner.
17 Do my fellow commissioners have any other comments? Well, again,
18 thank you all for the presentations this morning, both this panel, our
19 colleagues from the two agreement states, Texas and Utah, and also
20 our first panel who joined this morning.

21 As we've noted a couple of times during the
22 presentations and during our discussions, the Commission has
23 published a proposed rule for comment in the Federal Register. Just
24 for those of you who may be interested, the comment period is open
25 through July 24th, 2015. I think you can find, those of you who are
26 looking for the proposed rule can link to it through the NRC website.

1 And those of you who would like to go to the Federal Register, it was
2 published in Volume 80 of the Federal Register at number 58 at page
3 16082 on March 26th, 2015. And there you will see the proposed rule
4 and the contents and the invitation to comment.

5 So with that, we are adjourned and, again, thank you.

6 (Whereupon, the above-referred to matter went off the
7 record at 12:18 p.m.)