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ALLOWABLE EX PARTE PROCEEDING

*REQUESTED JOINTLY BY THE PUBLIC SERVICE COMMISSION OF SOUTH
CAROLINA AND THE US NUCLEAR INFRASTRUCTURE COUNCIL - Hazardous
Waste Transportation in the United States*

**TRANSCRIPT OF
PROCEEDINGS**

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David A. WRIGHT, *VICE CHAIRMAN*; and COMMISSIONERS Elizabeth B.
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Please note: PowerPoint presentation is attached hereto.

P R O C E E D I N G S

1
2 **CHAIRMAN HOWARD:** This ex parte briefing is
3 now called to order. I'll turn it over to Attorney
4 Melchers to give us the notice of the ex parte
5 briefing. Mr. Melchers.

6 **MR. MELCHERS:** Thank you, Mr. Chairman,
7 members of the Commission. The Notice of Request
8 for Allowable Ex Parte Briefing has been filed.
9 The date and time of the proposed briefing is for
10 today, September 8th, at 3 p.m. The request was
11 jointly by this Commission and the US Nuclear
12 Infrastructure Council.

13 The subject matter to be addressed at this
14 briefing is hazardous waste transportation in the
15 United States. Thank you, Mr. Chairman.

16 **CHAIRMAN HOWARD:** Thank you, Mr. Melchers.
17 And we have with us today Mr. David Blee. Mr. Blee
18 is executive director of the United States Nuclear
19 Infrastructure Council. Mr. Blee, your show.

20 **MR. BLEE:** Thank you. Mr. Chairman, Vice
21 Chairman, and members of the Commission, it's a
22 great pleasure to be here and I appreciate the
23 invitation. We particularly appreciate your focus
24 on nuclear issues and your activism on many fronts,
25 including with NARUC and the Nuclear Waste Strategy

1 Coalition where I've been familiar with many of
2 your representatives.

3 When I was coming in this morning, I got some
4 good news for you. I took a taxi here and they
5 said -- I gave them the street address. Didn't
6 want to act like an outsider. And they said -- I
7 said -- "Where is that?" I said, "It's downtown."
8 He said, "I don't think it's downtown." So I said,
9 "Well, I'm not sure where it is, actually."

10 [Laughter]

11 "Why don't you take me over there?" So as we
12 were driving along, he says, "I think this is the
13 Public Service Commission." I said, "How do you
14 know that?" He said, "Because I have a taxi and
15 they regulate me. I just got this thing
16 registered." So I got here and I said, "Well, you
17 got any message for the folks inside?" He says,
18 "You sure you're not the big boss?"

19 [Laughter]

20 I said, "No, I'm not." But he said, "Well,
21 just tell them I haven't got any complaints." So I
22 thought that was -- that came across as pretty good
23 news.

24 **CHAIRMAN HOWARD:** Thank you.

25 **MR. BLEE:** So but, in any event, it is a

1 propitious time to be here. There are a lot of
2 issues swirling. You have Yucca Mountain and the
3 question of where that goes in terms of the
4 national repository, progress there. You've got
5 the Blue Ribbon Commission looking at options to
6 Yucca Mountain. You certainly have the nuclear
7 renaissance. And all of these embrace nuclear
8 materials commerce in one way or another, whether
9 it's fresh fuel, whether it's taking fuel for
10 conversion or enrichment, or at the back end with
11 respect to transuranic waste or with respect to
12 spent fuel. At the moment, not much spent fuel is
13 moving from power plants, certainly.

14 You also have, as you're probably familiar
15 with, the GTRI, the Global Threat Reduction
16 Initiative, which is ongoing, which is very active
17 through Savannah Harbor. You have the potential of
18 MOX transport from Savannah River to TVA, in the
19 future. So I think it is timely to talk to you
20 about transportation of nuclear materials.

21 First -- what I'm going to do is first give
22 you -- let me get this turned on here. There we
23 go.

24 [Reference PowerPoint Slide 1, 2]

25 What I'm going to do is first give you a

1 little bit of a primer on the US Nuclear
2 Infrastructure Council, then I'm going to do a
3 Transportation Track Record 101, and then talk a
4 little bit about the National Academies' report
5 which was published at the end of 2006, which
6 really is the handbook on nuclear materials
7 transportation, and their independent findings, and
8 then talk a little bit about comparative risk.

9 My remarks today are in the perspective of our
10 focus on new nuclear, but we are a successor
11 organization to the US Transport Council, and
12 transportation is not only something we're heavily
13 pedigreed in, it's also a very important thing, as
14 I said, to nuclear commerce, whether at any point
15 -- at the front-end operating side or the back end
16 of the fuel cycle, or with respect to
17 nonproliferation efforts.

18 We are currently involved in policy and
19 consensus and business issues, bridge-building with
20 respect to the launch of the next wave of plants.
21 We are focused on building necessary infrastructure
22 and financing mechanisms, such as encouragement of
23 loan guarantees. We're working at revitalizing the
24 base. What you're really looking at here with the
25 nuclear industry is really restarting the industry.

1 And our members are really the Who's Who of
2 suppliers, sprinkled with a few of the leading
3 first-movers in terms of the utilities, such as
4 Southern Vogtle; TVA, which is currently doing a
5 plant in Tennessee at Watts Bar, and is looking at
6 completing another unit at Bellefonte in 2018.

7 [Reference PowerPoint Slide 4]

8 Okay. In terms of the track record, my
9 physics professor in college, who knew that I
10 didn't want to become an astrophysicist, so he
11 basically would give the class about 80 percent of
12 the questions for every exam. The idea was you had
13 a fighting chance to get at least a C or a B-. So
14 I'm going to really focus on some takeaways here,
15 in terms of -- I'm not going to get into the
16 granularity. Perhaps in questions, you do want to
17 head in that direction, but I'm going to leave you
18 with a few thoughts on the US and nuclear materials
19 transport.

20 And a couple of things to remember. One
21 is: not high volume, and that's either in terms of
22 the velocity of the shipments or with respect to
23 the mass of the waste or spent fuel -- or used
24 fuel, as some people call it. In fact, just in
25 terms of all the spent fuel that has accumulated

1 over the last 40 or 50 years of nuclear power plant
2 operations, you could actually put all of it -- it
3 would fit, actually, onto a football field. It's
4 not recommended, but it actually would go onto the
5 size of a football field. In France, all of their
6 40 years of nuclear power production is actually
7 contained in a high-level waste facility which is
8 the size of a gymnasium.

9 And with respect to shipping campaigns, if you
10 were to -- under the current plans for Yucca
11 Mountain, which required 3,000 metric tons a year
12 -- that's roughly 300 casks -- you would be only
13 shipping one rail shipment a week with six casks on
14 there. So it's not -- a lot of people say, "Well,
15 it'll go by truck"; well, if you're doing 3,000
16 metric tons a year, it will go by rail. The
17 economies of scale will be there. So again, it's
18 not high in volume and mass or velocity of
19 shipment. And I'll talk a bit more about the
20 comparative -- what that means comparatively.

21 It was, of course, heavily ventilated during
22 the Yucca Mountain ratification in 2002. At that
23 time, the Congress was deciding whether or not to
24 ratify Yucca Mountain. And the opponents of the
25 Yucca Mountain ratification tried to seize on

1 transportation as the issue in which to dislodge
2 the ratification, because it was the only issue
3 that really crossed into other states other than
4 Nevada. And that passed the Senate by 60-to-35 and
5 the House by a similar margin.

6 And the reason for that is, there have been
7 approximately 3,000 safe US spent fuel shipments
8 over the past 30 years, over nearly 2 million
9 miles. And this is over a 40-to-50-year period.
10 There have not been large spent fuel shipments, but
11 this is a cumulative number. But day in and day
12 out, there are spent fuel shipments going on.
13 There are transuranic waste shipments going on.
14 There are US Navy shipments going on, with the
15 nuclear Navy. There are shipments related to
16 nonproliferation efforts.

17 And I think the key there is, throughout the
18 50-year history of this, there's been no release of
19 radioactive materials harmful to the public or the
20 environment. So the track record has been
21 extraordinary, but it is a continuous journey in
22 the sense of both safety and security, where
23 enhancements are always ongoing.

24 I mentioned we currently have underway in
25 terms of shipping campaigns -- not "we," but the US

1 -- the US Navy has its own shipping campaign where
2 they're taking their used fuel out to Idaho. The
3 Foreign Research Reactor, Global Threat Reduction
4 Initiative, which is DOE, that is in terms of
5 proliferation and risk reduction, as you know, are
6 coming through Savannah and other US ports.

7 We are -- at the Waste Isolation Pilot Plant,
8 WIPP, as of today they're approaching 9,000 -- in
9 this case, these are truck shipments of transuranic
10 waste, over 10.6 million miles of safe
11 transportation. And actually -- I checked today --
12 1,119 of those were from Savannah River, over 1.7
13 million miles. This is for the facility in New
14 Mexico where they have the transuranic waste. The
15 volume out there of that, by the way, is 70,000
16 metric tons. So, again, to put that in
17 perspective, not high volume.

18 And these shipments were -- the 9,000
19 shipments were over a ten-year period. These are
20 not -- and these were truck shipments, as opposed
21 to rail, so that was a little higher velocity.

22 [Reference PowerPoint Slide 5]

23 As I mentioned before, it is low-volume, and
24 any major spent fuel shipping campaign, even to
25 take materials from nuclear power generation, over

1 the last 40 years, to a national repository, will
2 be a fraction of the 300-million-plus hazardous
3 shipments annually, which, about 1.2 million
4 shipments today in the US. So to put that in
5 perspective, you've got about 6 million hazardous
6 waste shipments a week in the US, and it would only
7 require one trainload to deal with the systemic
8 draw-down from nuclear waste sites or utility sites
9 to Yucca Mountain or any other national repository.

10 And I think another important fact is that
11 more spent fuel has already been shipped globally
12 than is presently earmarked for the Yucca Mountain
13 facility. 70,000 metric tons has actually been
14 transported, mainly by ocean, and by rail, by the
15 French, the Japanese, the Germans, the Swiss, for
16 reprocessing. So the experience is there, and the
17 know-how, and the safety culture.

18 [Reference PowerPoint Slide 6]

19 Now rather than take my word entirely for
20 this, I thought I would reference the National
21 Academies' report, which really was the handbook
22 for nuclear materials transportation with respect
23 to a national repository. They spent about two and
24 a half years, at the request of Congress and other
25 agencies, looking at the issue of a spent fuel

1 shipping campaign to a national repository, which
2 is Yucca Mountain. And the report was *Going the*
3 *Distance*, and included public hearings, meetings,
4 et cetera, et cetera. And the report was *Going the*
5 *Distance: Safe Transport of Spent Nuclear Fuel in*
6 *the United States*. And their conclusion was there
7 were no fundamental technical barriers to the safe
8 transport of spent fuel and high-level waste in the
9 United States, that transportation packages play a
10 crucial role in transportation safety by providing
11 a robust barrier -- a very important point there --
12 and that the radiological health and safety risks
13 associated with transportation are well understood
14 and are generally low, --

15 [Reference PowerPoint Slide 7]

16 -- and that transportation route selection
17 processes are reasonable, and that the DOE route
18 selection procedures are risk informed and select
19 final routes taking into account security,
20 preferences of state and tribal governments, and
21 information from states and tribes on the local
22 transportation conditions. And they also concluded
23 that the NRC, DOT -- Department of Transportation
24 -- regulatory paradigm is working.

25 In this case you currently have the Nuclear

1 Regulatory Commission's in charge of packaging and
2 security, so safety and security packaging, and
3 also with respect to transportation approval and
4 consultation with the DOT, which then consults with
5 the states. In this case, you have -- obviously,
6 as you know -- you have a haz-mat group here in the
7 State of South Carolina that consults with the DOT
8 on routes when things are coming through South
9 Carolina.

10 So I would commend the National Academies.
11 Although it was about three years ago, nothing
12 really has changed in terms of the transportation
13 corridors, and it really was a blue-ribbon
14 commission. And, again, our feeling on
15 transportation is, the more you know about
16 transportation, the better you're going to feel
17 about nuclear materials being transported, because
18 again, it has been done safely, it is low-volume,
19 it is low-velocity, and there have been independent
20 assessments that have shown that, you know, this is
21 a doable thing.

22 [Reference PowerPoint Slide 8]

23 Now, in terms of, you know, comparative
24 assessments, I mentioned before about the 300
25 million hazardous waste shipments -- so-called

1 hazardous waste shipments, the shipments that are
2 classified as that, and this -- what the Academy
3 did was they worked under the assumption -- well,
4 the assumption was -- or, the finding really was,
5 most transportation risk comes from potential
6 accidents, obviously, and the number of accidents
7 is related to the number of shipments. And this
8 puts it into perspective -- this is from a 2006
9 graphic that they had. That year, 125 billion
10 total miles of hazardous material were shipped; and
11 of that, Class 7 radioactive material, it was less
12 than point -- sorry -- .5 percent was haz-mat Class
13 7 radioactive material.

14 So, you know, it puts in perspective, again,
15 to run all our nuclear power plants -- which is 20
16 percent of electrical generation, as you know, in
17 the United States -- this is the commerce that is
18 going on related to that, and potentially other
19 industries, obviously, with medical isotopes, with
20 research, with other industries that might be
21 dependent on some form of nuclear medicine or
22 research.

23 [Reference PowerPoint Slide 9]

24 Then another -- and they also looked at if --
25 okay, if we had Yucca Mountain, or a national

1 repository, what would that do to shipments? And
2 again, it shows that the spent nuclear fuel would
3 be, again, less than 5 percent of the overall
4 radioactive contents. You see that one sliver up
5 there; that's the 5 percent of the entire 100
6 percent, and then you're taking -- only 5 percent
7 of that would be spent fuel. So again, very low
8 volume, very low velocity. But, certainly, again,
9 it is material that needs to be packaged, needs to
10 be transported safely and in a secure manner.
11 There's no question about that. This is not
12 intended to minimize it; it's an attempt to put it,
13 really, in perspective.

14 [Reference PowerPoint Slide 10]

15 And again, this is -- sometimes I'm not wild
16 about these comparative risk diagrams, because they
17 try to extrapolate, you know, the fatalities. But
18 the key thing here is really -- what you have on
19 the top line is you have chlorine. These are
20 comparative risks, so the graph on the left at the
21 bottom is just that the spent fuel, compared to
22 these other sectors, is much lower in terms of
23 risk. Again, this is from the National Academies.
24 And I think the key there, noted on the bottom, is
25 that in over 40 years of spent nuclear shipments,

1 there hasn't been a release of contents that have
2 been harmful to the public or the environment.

3 [Reference PowerPoint Slide 11]

4 So, in sum, I would say that the US and global
5 spent fuel and nuclear materials transportation
6 track record provides confidence for the future.
7 It certainly is an important barometer of whether
8 we can, currently, and continue to ship campaigns
9 and needs for things like the national repository.
10 But then again, safety and security are a
11 continuous journey and not a destination, as I
12 learned when I took my QA training at my former
13 company from our quality assurance manager.

14 And it is a -- it is -- we are concerned, of
15 course, with shipments all over the world, because
16 if there is an incident in another country, that's
17 going to have an impact here. Fortunately, through
18 the International Atomic Agency, there is good
19 exchange of data. Many of the countries are -- or,
20 companies are very multinational, and they ship
21 internationally through IAEA-approved containers,
22 so there's a lot of uniformity there.

23 In fact, my former company, NAC International,
24 which is in Atlanta, Georgia, built the two
25 transport casks the Chinese are now currently using

1 to move fuel to a central storage site in China.
2 So there is -- while obviously the US has world-
3 class standards, I think that the International
4 Atomic Energy Agency has done much to promote
5 uniformity of standards of quality and safety and
6 security. So...

7 **CHAIRMAN HOWARD:** Commissioners, questions?

8 **COMMISSIONER HAMILTON:** Mr. Chairman.

9 **CHAIRMAN HOWARD:** Commissioner Hamilton.

10 **COMMISSIONER HAMILTON:** Mr. Blee, happy to
11 have you with us. It's been a very informative
12 presentation. We appreciate it. One question.
13 How is the Nuclear Infrastructure Council formed?
14 Are you a body of DOE?

15 **MR. BLEE:** Well, we occasionally have fact-
16 finding missions and -- the answer is no, we are
17 not a body of DOE.

18 **COMMISSIONER HAMILTON:** Who are -- are you a
19 stand-alone body?

20 **MR. BLEE:** We are actually -- it's a not-for-
21 profit corporation. We're a non-lobbying entity.
22 We were started by the companies back in 2002 that
23 had a common interest. So we're no different than
24 a fraternal organization. I know when I was in
25 Switzerland a couple of years ago on a fact-finding

1 mission to look at their facilities there, the head
2 of the nuclear management organization there turned
3 to me and said, "So, Mr. Blee, are you appointed by
4 the President or the Senate?" I said, "Neither."
5 We actually -- we are an advisory agency to the DOE
6 and formally through the transportation external
7 coordination working group, but we are a non-
8 lobbying think tank, based in Washington, which is
9 really a confederacy of those companies which you
10 saw listed.

11 **COMMISSIONER HAMILTON:** Does DOE call on you
12 for studies and such?

13 **MR. BLEE:** We have -- we just testified before
14 the Blue Ribbon Commission. Actually, Vice
15 Chairman Wright was there. And so we have engaged
16 through -- at their request, a number of things.
17 As I mentioned, we were very active in their
18 transportation external coordination working group.
19 We have testified recently through the BRC. So
20 it's more of an ad hoc basis; there's no formal
21 relationship there, and that has sustained over
22 time.

23 **COMMISSIONER HAMILTON:** So you're just an
24 advocacy group.

25 **MR. BLEE:** We don't like to use that word.

1 It --

2 [Laughter]

3 **COMMISSIONER HAMILTON:** You don't use
4 lobbying, either, do you?

5 **MR. BLEE:** No.

6 **VICE CHAIRMAN WRIGHT:** It's more education.

7 **MR. BLEE:** We're a thinker and a doer. How's
8 that?

9 **COMMISSIONER HAMILTON:** Thinker and a doer.

10 **MR. BLEE:** Thinker and a doer. Yeah.

11 **COMMISSIONER HAMILTON:** Well, you sound
12 almost, the way you're set up, like the National
13 Petroleum Council, but -- you are part of an
14 advisory --

15 **MR. BLEE:** There are some similarities there.
16 We used "US" because -- not to connote that we were
17 a Federal agency, which has its pluses and minuses;
18 it was really -- our interest is seeing the US
19 nuclear renaissance move forward. So we're looking
20 at all the building blocks: one of them
21 transportation, but also, of course, work force,
22 the manufacturing, the licensing, and certainly the
23 financial end of things.

24 **COMMISSIONER HAMILTON:** And NARUC is not a
25 member of your advisory --

1 **MR. BLEE:** NARUC? No. What we have -- we
2 communicate with NARUC primarily through the
3 Nuclear Waste Strategy Coalition, and -- that's the
4 mechanism. We're active -- we have a sustainable
5 fuel cycle working group, which has a weekly call
6 with them, and good interactivity there.

7 **COMMISSIONER HAMILTON:** Thank you, sir. I
8 appreciate the information you've given us today.

9 **MR. BLEE:** Sure. I don't want to leave you
10 with the impression I'm with the Federal
11 Government.

12 **COMMISSIONER HAMILTON:** No, I got that pretty
13 clear.

14 [Laughter]

15 **MR. BLEE:** You might be discounting some of
16 what I said.

17 **COMMISSIONER HAMILTON:** No, no. I think you
18 stand well.

19 **CHAIRMAN HOWARD:** Any other questions?

20 **COMMISSIONER MITCHELL:** I have one.

21 **CHAIRMAN HOWARD:** Commissioner Mitchell.

22 **COMMISSIONER MITCHELL:** Glad to have you with
23 us today.

24 **MR. BLEE:** Thank you.

25 **COMMISSIONER MITCHELL:** I'm looking at the

1 chart, and when it speaks about 125 million tons of
2 hazardous waste were shipped in the United States,
3 and you say in there only 5 percent was haz-mat
4 Class 7 radioactive material, which is a very small
5 amount, is -- that's being stored on-site, I
6 assume? Or, and the second part of the question,
7 if Yucca Mountain is opened, will that increase
8 vastly, or not?

9 MR. BLEE: Well, yeah, I think those are good
10 questions. It is actually -- I might have
11 misstated this myself, but it's half of one
12 percent.

13 COMMISSIONER MITCHELL: .5 percent.

14 MR. BLEE: Yeah, .5 is haz-mat.

15 COMMISSIONER MITCHELL: Yeah.

16 MR. BLEE: And most of that material -- well,
17 what does fall in there, probably the biggest one
18 is I mentioned the transuranic waste where the DOE
19 has made a concerted effort to consolidate the
20 transuranic materials, but it might just be, you
21 know, isotopes. It's not spent fuel. Actually,
22 probably the largest spent fuel campaign -- and I'm
23 not sure -- it's winding down -- was at one point
24 Progress Energy used to consolidate their fuel in
25 one pool. You probably were aware of that in the

1 census, so they had trans-plants shipments. But
2 that is -- there is not much spent fuel moving in
3 the United States at all. In fact, Carolina was
4 possibly -- there's a foreign research return which
5 could be classified as spent fuel. What's in the
6 "other" category is low-level waste, transuranic
7 waste, mixed waste. It's more in the "other"
8 category.

9 As you know, the Government is -- right now,
10 there's an impasse over whether to proceed on Yucca
11 Mountain, with the President seeking to terminate.
12 Now, would that change things? As I said, even if
13 you were doing Yucca Mountain and doing 3,000 --
14 sorry -- 50 shipments a year, 3,000 metric tons, it
15 would still only be 5 percent of the volume that's
16 currently out there. But, the -- so even if the
17 logjam is broken on Yucca Mountain, you're probably
18 going to see it's 10 to 15 years before the actual
19 shipments would begin. I think the most -- the
20 biggest likelihood of spent fuel shipments is
21 probably, if some kind of resolution is advanced to
22 allow shut-down plants, which really have nowhere
23 to go, to put their waste at a central storage
24 site. And then the other issue is what they can do
25 to address the issue of defense waste, because as

1 you know down here at Savannah River, there is
2 substantial defense waste, which was supposed to go
3 to Yucca Mountain, as well. And that's about 7,000
4 metric tons.

5 So those are actually -- shut-down plants and
6 defense waste sites are really -- that fuel is not
7 -- well, it really has nowhere to go at this point.
8 You can say that spent fuel that's currently at
9 nuclear power plants can be recycled. It's capable
10 of being recycled. So if we go to a closed fuel
11 cycle, that would be sent to a central -- it would
12 be shipped to a central receiving site, recycled,
13 and then sent out to be re-enriched and sent to the
14 power plants.

15 So again, to answer your question, a long-
16 winded answer is, very little of that right now is
17 spent fuel, and really that's what's going on in
18 Washington right now, is addressing that. There's
19 60,000 metric tons of spent fuel at, you know,
20 better than 60 locations in the US now, but
21 actually -- I'm sorry -- 120 locations now in the
22 US, 60,000 metric tons that is sitting there that
23 was supposed to be picked up in 1998 by the
24 aforementioned Federal Government.

25 **COMMISSIONER MITCHELL:** Thank you. Thank you,

1 sir. Thank you, Mr. Chairman.

2 **CHAIRMAN HOWARD:** Any other questions?

3 [No response]

4 **CHAIRMAN HOWARD:** Mr. Blee, it just seems to
5 me that -- and I'll use your number, 2002. I
6 remember a segment on *60 Minutes*, I want to say, on
7 dangers of transportation of nuclear fuel. And I
8 guess it was in relationship to the Yucca Mountain
9 ratification. What is your organization doing to
10 be proactive? I believe they had mayors from small
11 towns around the route, the various routes. What
12 is your organization's attitude in being proactive
13 in handling these complaints or concerns?

14 **MR. BLEE:** Well, again, first thing is, we
15 think the more people know, the less likely they'll
16 be concerned by, really, knee-jerk reactions to it
17 or misinformation. And you're right, there are a
18 number -- that's what really spurred our
19 organization to get organized in 2002, was the
20 reports, and there was something on *West Wing* where
21 they had an accident that could never have
22 happened, going through a tunnel. And you just
23 don't go through tunnels with this material.

24 But they had a -- what we're doing -- really,
25 the first thing is to get the facts out. The other

1 thing is also, you don't want those advocates in
2 Washington necessarily going out and giving the
3 facts; what you really want is, you'd rather have a
4 fire chief or a local official to talk about how
5 they have been prepared for any hazardous
6 materials. And as the -- I remember when I was
7 talking to someone in 2002, there was a reporter
8 from, I think, Idaho calling up and saying, you
9 know, "We're concerned about are there going to be
10 spent fuel shipments as a result of Yucca
11 Mountain?" And the Chamber of Commerce put me in
12 touch with one of their members who was a local
13 sheriff or something along those lines, and he
14 says, "Oh, be happy to take that reporter." Says,
15 "All I'm going to tell you is, the amount of fuel
16 that is going to come through for nuclear waste is
17 the least of my worries. There are so many other
18 shipments that I worry about a heck of a lot more,"
19 for the reasons you saw in these graphics here. So
20 they understand that, again, the velocity and
21 volume here is going to be very low.

22 So the best thing we can do right now and what
23 we're working to do is, one, continue this
24 education. I mean, we'll -- it's great to have
25 this dialogue here, and we'll come back in a few

1 years. Over the next ten years, it's really
2 continuous education. The second is really to
3 reach out to the grassroots and to tap into those
4 constituencies.

5 What we have found is that Yucca Mountain was
6 providing a lot of impetus for those local groups
7 to be involved, and now we've got to replace that
8 in a more hard-earned way, so we're really focusing
9 that. We are trying to educate the Blue Ribbon
10 Commission because we certainly want the Blue
11 Ribbon Commission to look at the National
12 Academies' report, look at the information we give
13 you, and conclude that transportation simply is not
14 a factor. Whether they want to store it on-site,
15 whether they want to store it in a national
16 repository, whether they want to move to the moon
17 -- well, that might involve a new level of
18 transportation. But in terms of anything
19 earthbound, it's not a factor.

20 So, I'd say we need to seize the window of
21 opportunity to continue this education,
22 particularly reaching out to those people who are
23 in authority at the local level. Of course, as you
24 know, sheriffs and fire chiefs do turn over, so,
25 again, it's continuous education, continuous focus

1 on safety and security. But good question.

2 **CHAIRMAN HOWARD:** Any other questions?

3 **COMMISSIONER FLEMING:** Yes, Mr. Chairman.

4 **CHAIRMAN HOWARD:** Commissioner Fleming.

5 **COMMISSIONER FLEMING:** Yes, Mr. Chairman. You
6 said that -- you mentioned small modular reactors.
7 Could you talk a little bit about that? Because
8 that's becoming much more talked about, and the
9 commercialization of that being spread out to
10 individual owners. And how does that play into
11 this picture, the transportation and storage?

12 **MR. BLEE:** In terms of transportation? Well,
13 first, on the -- we're very bullish on small
14 reactors not because we see them as, you know, an
15 alternative to big reactors, but we see this as
16 another option -- the more tools you have. And
17 there are -- I was at a conference recently where I
18 ran into one person from northern Canada and the
19 people from Hawaii. And in Hawaii, they're paying
20 20 cents per kilowatt-hour for their power. They'd
21 love to have -- well, not everyone, but this
22 proponent would love to have a small -- it was a
23 state senator there -- to have a small modular
24 reactor.

25 So it's not an either/or situation with big

1 reactors, but it is an exciting development in the
2 sense that it will make it available to areas that
3 maybe weren't conducive to big base-load. It's
4 certainly competing a little more effectively
5 against natural gas, because you don't have as much
6 of a capital requirement. If you're looking at
7 smaller megawatt or coal or gas units, what these
8 are are about 300 megawatt units, but they're --
9 they might start out being like 60 or 70 megawatts,
10 five units pulled together to make 350 megawatts.

11 But with respect to transportation, the front-
12 runners in that category are really adaptations of
13 light-water reactors, so it has, again, smaller
14 volume than big plants, but it's similar in a way
15 in terms of the fuel eventually will have to be
16 shipped. But again, they will be comparatively
17 one-third of, you know, a big plant. So similar
18 issues, but we see that this option hopefully will
19 be coming into licensing play around 2021, when --
20 and we hopefully will see more. We know that,
21 again, there are several utilities that are
22 interested in this option, not in lieu of big
23 reactors but as a potential to use for either
24 peakers or replacement power.

25 Because the financing issue is a huge issue

1 right now for nuclear, because on a sustainable
2 cost basis, we can beat almost any power source;
3 it's just the upfront capital that's required, and
4 time and effort and licensing effort to do new
5 nuclear. So these small reactors take away a
6 little bit of that risk from the financing part.
7 And when you've got a company like Exelon which is
8 capx of about \$50 billion now, so they decide to
9 build, you know, two nuclear units, it's going to
10 be quite a bit of their -- you know, over 20
11 percent of their net worth. So it is -- and that's
12 because we are facing the economic issues we're
13 facing now.

14 **COMMISSIONER FLEMING:** Will they have the same
15 security and guidelines, though, as the larger
16 nuclear reactors?

17 **MR. BLEE:** It will -- well, that is one
18 hurdle, in the sense that -- for example, control
19 rooms. The question is, if you have five modular
20 70-watt units and they're all hooked, do you need a
21 different operator for each reactor. You'd like to
22 have one operator, but those issues of security
23 operation are still things that are going to have
24 to be addressed with the US NRC. Those are really
25 on the bubble right now, and -- but I think so far

1 we've seen no showstoppers there.

2 So they're going to start with the big plant
3 playbook and they're going to have to convince the
4 NRC to make adjustments to correspond to their
5 technology.

6 **COMMISSIONER FLEMING:** And it sounds like
7 you're talking about just being used by electric
8 utilities, but I thought they were going to be more
9 commercialized than that -- or that was the intent.

10 **MR. BLEE:** Well, they would be -- I mean,
11 independent power producers could certainly use it.
12 I mean, to make it more -- because the financial
13 upfront capital isn't as intensive, it would have
14 more applicability to independent power producers
15 rather than, say, regulated utilities. I mean, it
16 could potentially open that market up. It would be
17 conducive to just a stand-alone group putting
18 together a plan for a 350 megawatt replacement
19 power unit somewhere, whereas now you'll see --
20 there are some merchant plants right now. I mean,
21 Constellation Calvert Cliffs is a merchant facility
22 in the sense that it's not done through rate base;
23 hasn't crossed the finish line yet, in terms of
24 getting a loan guarantee. The South Texas project
25 is another one that is considered a merchant plant.

1 But I would say the majority of the new nuclear
2 units that are on the horizon right now would be
3 more rate-base oriented than merchant plants, so
4 this would certainly expand the opportunities in
5 that area.

6 **COMMISSIONER FLEMING:** But you're bullish on
7 it for purely financial reasons?

8 **MR. BLEE:** Well, I think the more tools you
9 have in your campaign chest, the better. And I
10 think there is a market for it. And one market I
11 failed to mention, and -- is the -- actually
12 Secretary Chu, Secretary of Energy, pointed it out
13 in the *Wall Street Journal* -- is the international
14 market, because if we can get a technological edge
15 in small reactors, we have the potential to export
16 these internationally, whereas in the big reactor
17 market, we face very serious competition from the
18 Japanese, the Koreans, the Russians. And right
19 now, there's a race on to see who's going to be
20 number one in terms of getting the small reactors
21 out. And it's attractive to countries that do not
22 have the capital or the experience to put bigger
23 plants in operation.

24 So it is -- I'm bullish in the sense that it
25 is another tool in the campaign chest for the

1 nuclear renaissance. And it has -- and another
2 important element of it is that it would be
3 manufactured locally, and I think that's a big
4 asset. A lot of the heavy forging right now is
5 brought in from international suppliers. The
6 beauty of a small modular reactor is that you can
7 rely on local manufacturers, like Electric Boat up
8 in Connecticut, or Northrop Grumman, who are still
9 substantial or more medium-sized manufacturers.

10 Again, the Navy has been very good at
11 manufacturing nuclear reactors, so you've got a lot
12 of people who were trained in that area through
13 that experience, as well. So, really, it would
14 jumpstart a lot of medium-sized manufacturers who
15 would get a new piece of the renaissance.

16 **COMMISSIONER FLEMING:** Thank you.

17 **CHAIRMAN HOWARD:** Any other questions?

18 [No response]

19 **CHAIRMAN HOWARD:** Mr. Blee, on behalf of the
20 Commission, I'd like to thank you for your
21 informative and timely presentation. I have a
22 certain reluctance, as to trying to be a good host.
23 If we adjourn now, you're going to be with
24 Commissioner Wright for 20 minutes. Don't bring up
25 the word "football," or it will be the longest 20

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minutes of your life.

[Laughter]

CHAIRMAN HOWARD: With this, the briefing is adjourned. Thank you, very much.

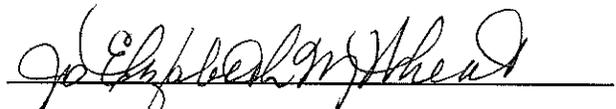
MR. BLEE: Thank you.

[WHEREUPON, at 3:40 p.m., the ex parte proceedings in the above-entitled matter were adjourned.]

C E R T I F I C A T E

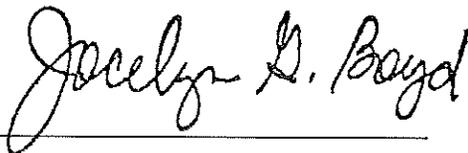
I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of all the proceedings had in an ex parte proceeding held in the above-captioned matter before THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA in Columbia, South Carolina, on September 8, 2010, according to my Stenomask report of same.

Given under my hand this 13th day of September, 2010.


Jo Elizabeth M. Wheat, CVR-CM-GNSC

Court Reporter

Attest:



Jocelyn G. Boyd,
Chief Clerk/Administrator