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 Public Meeting - Evening Session

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UNITED STATES OF AMERICA

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NUCLEAR REGULATORY COMMISSION

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OFFICE OF NUCLEAR REACTOR REGULATION

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SEQUOYAH PUBLIC MEETING

+ + + + +

WEDNESDAY

SEPTEMBER 17, 2014

+ + + + +

SODDY DAISY, TENNESSEE

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The meeting convened at Soddy Daisy City Hall, 9835 Dayton Pike, Soddy Daisy, Tennessee, at 7:00 p.m.

PRESENT:

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P R O C E E D I N G S

(7:00 p.m.)

1
2
3 MR. HAGAR: Good evening to everyone. My
4 name is Bob Hagar, I'm a member of the NRC's meeting
5 facilitation corps and in this meeting my role really
6 has three parts.

7 One is I'm going to try to keep us on track,
8 help this meeting run smoothly. I'm going to ensure that
9 everyone who has something to say in this meeting has
10 an opportunity to say it without interruption and I'll
11 try to keep us on schedule.

12 I'll do my best to make this meeting
13 worthwhile for everyone who's here and I hope you'll
14 help me do this.

15 Before we get started, I want to cover with
16 you a few details about this meeting. First of all you
17 know the Tennessee Valley Authority has applied to renew
18 the Sequoyah operating license. The NRC is reviewing
19 that application and, as part of that review, the review
20 on the environmental impact of license renewal.

21 The NRC has developed some preliminary
22 results of that review and they want to tell you about
23 those results today and they want your comments on those
24 results. That's the primary purpose of this meeting.

25 Now the meeting is going to have

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1 essentially three parts. The first part is going to be
2 the NRC's presentation. They'll talk about the license
3 renewal process, they'll talk about the environmental
4 reviews.

5 Now copies of their presentation were on
6 the table outside, if you didn't pick up a copy on the
7 way in you can certainly pick them up on the way out.

8 And following the NRC's presentation we'll
9 take a few minutes for you to ask questions and for the
10 staff to give you answers about the presentation
11 materials because it's real important that you
12 understand the environmental review process and the
13 results. And so we'll have questions and answers about
14 those materials.

15 And then following that we'll have the
16 third part which is going to be public comments. Now,
17 when you checked in the staff asked you if you wanted
18 to speak and if you did you filled out a little yellow
19 card and I've got several of those now. If, during the
20 presentation you decide you want to speak and you didn't
21 fill out a yellow card, don't worry about it. When we
22 get to that part of the meeting I'll ask if there's
23 anybody else that wants to speak and if so we'll give
24 you a yellow card at that time. But then that's when
25 you'll have an opportunity to provide comments.

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1 Now during that period, the NRC staff will
2 listen to your comments but they generally won't
3 respond. Instead, they'll take your comments and your
4 comments are going to be recorded, they'll take those
5 comments back to headquarters and prepare written
6 responses after the meeting.

7 They'll refer to the appropriate
8 documents, talk to the right people, make sure they get
9 the best answer to your questions and then they'll
10 include their responses in the report of this meeting
11 and that report will be available online.

12 Now the NRC has arranged to have this
13 meeting recorded. That's so the NRC can produce a
14 transcript, that's a record of what was said during the
15 meeting. In order for the transcript to be accurate,
16 we need to establish a few ground rules to ensure the
17 recording is clear and complete.

18 So first of all, when you speak, you need
19 to speak into a microphone and we've only got one
20 microphone for you to use and this is it. So if you have
21 a question I'll call you up to the microphone, ask you
22 to speak your question into the microphone and then I'll
23 ask the NRC staff to come up to the microphone and
24 provide the responses. That way both the question and
25 the response will get recorded.

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1 Now the first time you speak we'd ask you
2 to please identify yourself and, if you represent a
3 group, identify the group you represent and also if your
4 name is relatively uncommon or if it has an unusual
5 spelling it'll help if you spell your name too.

6 Now to ensure that the recording is clear
7 please minimize background noise and don't hold side
8 conversations, especially please silence your
9 personal cell phone and any personal electronics you
10 have with you.

11 Now I recognize you may not be able to
12 completely disconnect yourself from the rest of the
13 world during this meeting and if you do need to stay
14 connected and if you receive a call during the meeting,
15 please step out in the hallway to take that call so that
16 the phone ringing doesn't show up on the recording and
17 your conversation isn't part of the record either.

18 And to ensure that the recording is clear,
19 please don't hold any side conversations because if you
20 hold a side conversation the microphone picks up two
21 people talking and we can't tell what either one of them
22 said. Is everybody okay with these ground rules?
23 Okay. Thanks.

24 Now I mentioned the yellow cards. I think
25 I've got three of them so far. When we get to the third

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1 part of the meeting I'll call up speakers in the order
2 in which I have them on the cards and, like I said, if
3 you decide during the meeting you want to speak, just
4 let me know and I'll have you fill out a card.

5 Also out on the table you may have noticed
6 there are meeting feedback forms; we'd appreciate very
7 much if you would fill out one of those feedback forms
8 and give us your assessment of this meeting. Give your
9 form to any NRC staff member before you leave or if you
10 take it with you, you can drop it in the mail because
11 it's postage free. Your assessment of how tonight's
12 meeting went will help us improve future meetings so
13 please take a minute to let us know what you think.

14 And, finally, the restroom are just outside
15 this door across the hall. Emergency exit is outside
16 this door and to the right, if for some reason we're
17 going to have to exit quickly, out the door and to the
18 right. And security members are located sitting in the
19 back and they'll help us if we have an emergency.

20 Do you have any questions about anything
21 I've talked about? All right. I don't see any hands
22 so I'm going to turn the meeting over to David Drucker.
23 He's the Environmental Project Manager for the NRC's
24 review of the Sequoyah license renewal application and
25 I'll be back when we move to the second part of the

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1 meeting. Thank you for your attention.

2 MR. DRUCKER: Thank you, Bob. And as Bob
3 mentioned I'm David Drucker and I want to thank you all
4 for coming out to the meeting tonight and I'd like to
5 introduce my boss who's Brian Wittick and he's sitting
6 back here in the second row.

7 We're both from NRC headquarters back in
8 Rockville, Maryland and I hope the information we
9 provide with this presentation will help you understand
10 what we've done so far and the role you can play in
11 helping us make sure the final environmental impact
12 statement is accurate and complete.

13 I would like to emphasize that the
14 environmental review is not yet complete.

15 I'd like to start off by briefly going over
16 the agenda and the purpose of this presentation. I will
17 discuss the NRC's regulatory role, the preliminary
18 findings of our environmental review which addresses
19 the impacts associated with extending the operating
20 licenses of the Sequoyah Nuclear Plant for an additional
21 20 years, and I will present the current schedule for
22 the remainder of the environmental review and how you
23 can submit comments outside of this meeting.

24 At the end of the presentation there will
25 be time for questions and answers on the contents of my

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1 briefing and, most importantly, time for you to present
2 your comments on the draft supplemental environment
3 impact statement, the acronym for which is SEIS, so
4 you'll hear me refer to this document that we've
5 developed as a SEIS.

6 Next slide please. The NRC was
7 established to regulate civilian use of nuclear
8 materials, including facilities producing electric
9 power. The NRC conducts license renewal reviews for
10 plants whose owners wish to operate them beyond their
11 initial license period.

12 NRC license renewal reviews address safety
13 issues related to managing the effects of aging and
14 environmental issues related to an additional 20 years
15 of operation.

16 In all aspects of the NRC's regulation our
17 mission is threefold: to ensure adequate protection
18 of public health and safety; to promote common defense
19 and security and to protect the environment.

20 Next slide. We're here tonight to discuss
21 the potential site-specific impacts of license renewal
22 for the Sequoyah Nuclear Plant. The generic
23 environmental impact statement, or GEIS, examines the
24 possible environmental impacts that could occur as a
25 result of renewing licenses of individual nuclear power

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1 plants.

2 The GEIS established and bounds the
3 significance of these potential impacts. The analyses
4 in the GEIS pertain to operating power reactors. For
5 each type of environmental impact the GEIS establishes
6 generic findings covering as many plants as possible.

7 For some environmental issues the GEIS
8 found that a generic evaluation was not sufficient and
9 that a plant-specific analysis was required. The
10 site-specific findings for Sequoyah are contained in
11 the draft SEIS published in July 2014 and I have both
12 a hard copy and CD of that draft SEIS on the table just
13 outside this room.

14 This document contains analyses of all
15 applicable site-specific issues as well as a review of
16 the issues covered by the GEIS, the generic
17 environmental impact statement, to determine whether
18 the conclusions in the GEIS are valid for Sequoyah.

19 In this process, the NRC staff also reviews
20 the environmental impacts of potential power generation
21 alternatives to license renewal.

22 Next slide. So for each of the
23 environmental issues that are examined in the draft SEIS
24 an impact level is assigned and the NRC's standard of
25 significance for impacts was established using the

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1 White House Council on Environmental Quality
2 terminology for significance.

3 The NRC established three levels of
4 significance for potential impacts: small, moderate and
5 large as defined on the slide.

6 For a small impact the effects are not
7 detectable or so minor they will neither destabilize nor
8 noticeably alter any important attribute of the
9 resource.

10 For a moderate impact the effects are
11 sufficient to alter noticeably but not to destabilize
12 important attributes of the resource, and for a large
13 impact the effects are clearly noticeable and are
14 sufficient to destabilize important attributes of the
15 resource.

16 While these impact level designations are
17 used for most of the resource areas analyzed in the draft
18 SEIS, there are three areas that have their own impact
19 level designation and these are discussed on the next
20 slide.

21 So for special status species the impact
22 significance determination language comes from the
23 Endangered Species Act and the choices to describe the
24 impacts are: no effect; may affect but not likely to
25 adversely affect and may affect and is likely to

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1 adversely affect.

2 For cultural resources the Natural
3 Historic Preservation Act requires federal agencies to
4 consider the effects of their undertakings on historic
5 properties and for environmental justice, under
6 Executive Order 12898, federal agencies are responsible
7 for identifying and addressing disproportionately high
8 and adverse human health environmental impacts on
9 minority and low income populations.

10 So this slide and the previous one kind of
11 define for you what the impact level designations are
12 going to be. Aand now we're going to take a look at
13 that, both the cumulative impacts first and then the
14 site-specific ones at Sequoyah.

15 Next slide please. So as a part of the
16 environmental review the NRC staff considered
17 cumulative impacts. Cumulative impacts include the
18 effects on the environment from other past, present and
19 reasonably foreseeable future human actions. So "other"
20 is the key word there. Other is other than Sequoyah
21 because we'll look at that in the next slide.

22 These effects not only include the
23 operation of Sequoyah Nuclear Plant but also impacts
24 from activities unrelated to Sequoyah such as future
25 urbanization, other energy producing facilities in the

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1 area and climate change.

2 The analysis considers potential impacts
3 through the end of the current license term, as well as
4 the 20-year renewal license term. The cumulative
5 impacts on all resource areas were found to be small with
6 the following exceptions:

7 First, the cumulative impacts on surface
8 water would be small to moderate primarily due to
9 long-term surface water warming associated with climate
10 change.

11 Second, the cumulative impacts on
12 terrestrial resources would be moderate, primarily due
13 to increasing urbanization.

14 Next, the cumulative impacts on aquatic
15 resources would be large, primarily due to the
16 historical changes to the Tennessee River since the
17 early 1900s. And the cumulative impact on global
18 climate change would be moderate, primarily due to
19 present and future global emissions of greenhouse
20 gasses.

21 Next slide. So we've taken the broad view,
22 we've looked at cumulative impacts, things that go far
23 beyond the Sequoyah Nuclear Plant and now we're going
24 to look at the site-specific impacts at Sequoyah Nuclear
25 Plant of this license renewal.

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1 And that's what this slide lists. It's the
2 issues that the NRC staff reviewed for continued
3 operation of Sequoyah during the proposed license
4 renewal period.

5 And so for each of these areas there are
6 scientific experts, if you will, and for example in the
7 terrestrial resources we have a terrestrial biologist
8 who would look at those resources. And each of those
9 areas is backed up by folks who do those areas for a
10 living.

11 Overall, the impacts for license renewal on
12 these issues were found to be small, which means the
13 effects are not detectable or are so minor that they
14 neither destabilize nor noticeably alter any important
15 attribute of the resource.

16 Next slide. The National Environmental
17 Policy Act mandates that each environmental impact
18 statement consider alternatives to any proposed major
19 federal action.

20 A major step in determining whether
21 license renewal is reasonable or not is comparing the
22 likely impacts of continued operation of the nuclear
23 plant with the likely impacts of alternative means of
24 power generation. Alternatives must provide an option
25 that allows for power generation capability beyond the

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1 term of the current nuclear plant operating license to
2 meet future system generating needs.

3 In the draft SEIS, NRC staff initially
4 considered 18 different alternatives, then narrowed
5 those to 4 alternatives and considered those 4
6 alternatives in depth.

7 Additionally, the NRC considered what
8 would happen if no action is taken and Sequoyah shuts
9 down at the end of its current licenses without a
10 specific replacement alternative. This alternative
11 would not provide power generation capacity nor would
12 it meet the needs currently met by Sequoyah.

13 The NRC's preliminary conclusion is that
14 the environmental impacts of renewal of the operating
15 license for Sequoyah would be smaller than those
16 feasible and commercially viable alternatives.
17 Continued operation would have small environmental
18 impacts in all areas. The staff concluded that
19 continued operation of the existing Sequoyah nuclear
20 power plant is the environmentally preferred
21 alternative.

22 Next slide. So based on a review of likely
23 environmental impacts from license renewal, as well as
24 potential environmental impacts of alternatives to
25 license renewal, the NRC staff's preliminary

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1 recommendation in the draft SEIS is that the adverse
2 environmental impacts of license renewal for Sequoyah
3 are not great enough to deny the option of license
4 renewal to energy planning decision makers.

5 Next slide. The draft SEIS does not
6 discuss potential environmental impacts for storing
7 spent fuel for an extended period after the plant shuts
8 down. For the term beyond the 20-year period of
9 extended operation, the NRC addresses the management of
10 spent nuclear fuel in the continued storage final rule.

11 On August 26, 2014 the Commission approved
12 publication of a continued storage final rule and the
13 generic environmental impact statement that supports
14 it.

15 Under the final rule, the environmental
16 impacts of continued storage are generically determined
17 in new Reg 2157 titled "Generic Environmental Impact
18 Statement for Continued Storage of Spent Nuclear Fuel"
19 and codified those findings in NRC's Regulations at 10
20 CFR 51.23. And therefore those impacts do not need to
21 be determined on a site-specific basis and that's why
22 they're not addressed here in this draft SEIS.

23 Next slide. I would like to reemphasize
24 that the environmental review is not yet complete.
25 Your comments today and all written comments received

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1 by the end of the comment period on September 29th, will
2 be considered by the NRC staff as we develop the final
3 SEIS which we currently plan to issue in March 2015.

4 Those comments that are within the scope of
5 the environmental review and provide new and
6 significant information can help change the staff's
7 findings. The final SEIS will contain the staff's
8 final recommendation on the acceptability of license
9 renewal based on the work we've already performed and
10 any new and significant information we receive in the
11 form of comments during the comment period.

12 Next slide. As many of you know, I'm the
13 primary contact for the environmental review. Manny
14 Sayoc is the primary contact for the safety review.
15 Copies of the draft SEIS are available on CD as I
16 mentioned in the entryway, and in addition the three
17 libraries shown on the slide have a hard copy available
18 for review. You can also find electronic copies of the
19 draft SEIS, along with other information about the
20 Sequoyah Nuclear plant license renewal review online at
21 the website shown.

22 And this is I think the second slide I've
23 shown with a website, pretty long and hard to write down
24 from sitting where you are and so also out on the table
25 in the entryway are these slides, copies of these slides

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1 so you can get the website from those slides available
2 to you in the entryway.

3 Next slide. So the NRC staff will address
4 written comments in the same way we address spoken
5 comments received today. You can submit written
6 comments either online or via conventional mail.

7 To submit written comments online visit the
8 website regulations.gov and search for Docket ID No.
9 NRC-2013-0037. And if you have written comments today
10 you may give them to any NRC staff member. If you choose
11 to put your comments in online at regulations.gov when
12 you go onto that website you get to see anyone else's
13 comments that they've made and also there's a copy of
14 the DSEIS there also if you want to see it.

15 This concludes my presentation and I will
16 turn the meeting back over to Bob. Thank you all.

17 MR. BAGAR: All right. Thank you, David.
18 Okay. Here's where we enter Part 2 of the meeting. This
19 is where you ask questions and the NRC staff gives you
20 answers about the presentation materials. So do you have
21 any questions about the presentation materials?

22 If you do, let me call on you and I want you
23 to come up here and state your question and then we'll
24 get the staff to respond.

25 MR. MORGAN: I'm Gary Morgan. I'm with

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1 an environmental group called Blue Ridge Environmental
2 Defense League in our local chapter which is the
3 Belefonte Efficiency and Sustainability Team and
4 Mothers Against Tennessee River Radiation
5 (BEST/MATRR).

6 Just for clarification, I saw on the slide
7 and it was mentioned about nuclear waste. Are you all
8 not going to consider the highly irradiated fuel in this
9 current environmental impact statement? I just want to
10 clarify that if I can do that here.

11 MR. DRUCKER: So what you'll find in the
12 environmental impact statement is that we address spent
13 fuel through the license renewal period, which is 20
14 years, but not beyond the license renewal period. That's
15 what the continued storage rule will address. But the
16 environmental impact statement does talk to waste
17 storage, spent fuel, through the 20-year license
18 renewal period. Does that help?

19 MR. MORGAN: It actually kind of confuses
20 the matter. To my way of thinking it either is
21 considered or it's not going to be considered. So I'm
22 still not sure if this is going to be considered or not
23 or the issue should be addressed from a citizen's
24 standpoint of concern.

25 MR. HAGAR: Let me try to answer. As I

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1 understand your question you're asking is the NRC going
2 to consider the environmental impact of spent fuel
3 storage during license renewal? And the answer is yes,
4 the NRC is going to consider it but not part of this SEIS
5 because it's considered under this, what's the term
6 again--

7 MR. DRUCKER: The best answer is yes.
8 The NRC thoroughly studies spent fuel. The NRC looks at
9 this in many different respects, whether it's spent fuel
10 pools or in the ISFSFs those independent spent fuel
11 storage facilities, thoroughly examine this topic.

12 But the way we divided up in environmental
13 space, actually you can think of it in the National
14 Environmental Policy Act space, in NEPA space, is that
15 in this draft supplemental environmental impact
16 statement we're only looking at spent fuel during the
17 license renewal period because that's what this
18 document, that's what this effort is all about. It's
19 all about the license renewal period.

20 And when it comes to the time beyond the
21 license renewal period, that's covered by that slide
22 that talked about continued storage. It used to be the
23 waste confidence rule, it's now called the continued
24 storage rule and in August the Commission made that the
25 final rule. It will actually be published later this

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1 month. It will be issued and then 30 days hence the
2 continued storage rule will be effective.

3 And so, yes, this issue is thoroughly
4 studied by the Nuclear Regulatory Commission. It's
5 just kind of -- it's the way we divide it up as far as
6 looking at it in license renewal space, which only goes
7 out 20 years, versus spent fuel which will be around
8 beyond that.

9 MR. MORGAN: I understand what you're
10 saying but still highly irradiated spent fuel in a fuel
11 pool or in dry storage or however it may be stored, has
12 a definitive, may have a definitive impact on human
13 health and the environment. To say you're not going to
14 consider this in the approval of, you know, I don't know.
15 I'm still confused here. I'm still not hearing whether
16 this is to be considered or it's not to be considered.

17 MR. DRUCKER: It is being considered.

18 MR. MORGAN: And so it is appropriate then
19 for a citizen to address this topic.

20 MR. HAGAR: Okay. Very good. Does anyone
21 else have any questions about the material that was
22 presented? Come on.

23 MR. SAFER: I'm Don Safer S-a-f-e-r, like
24 nuclear power plants ought to be, and I'm from
25 Nashville. I'm with the Tennessee Environmental

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1 Council and the state chapter of the Sierra Club.

2 I have a couple of questions. One is that
3 the GSEIS, as you're referring to it, was originally
4 produced in 1996 a number of years ago. It was updated
5 in 2013. My question is how extensive were those
6 updates? 1996 seems like an awful long time ago and
7 I'm wondering, you know, if you just changed a few things
8 or if you basically redid the whole document.

9 MR. DRUCKER: Actually, the document
10 itself can do a much better job than I can of talking
11 to that and there was a copy out in the hall. Gretel,
12 did you grab that copy of the GSEIS? Did you grab that
13 document, that thick one? Because it's got a good
14 summary that'll tell you the changes in great detail
15 between the 1996 -- okay, actually we've got it on CD
16 also Don so you can grab that. And there's an excellent
17 section in there that talks to the changes in just a few
18 short pages between the 1996 and the 2013 document.

19 Trying to do it from memory would be a
20 little tough for me but we had about 90 issues that we
21 used to look at -- 92 issues if memory serves -- and we
22 have through consolidation of some of those issues it's
23 down to 78 and I think if you looked in my document you
24 would say 78 separate issues are looked at on a
25 site-specific basis.

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1 There were some new issues that were
2 brought into the new GSEIS, like radionuclides in water,
3 in groundwater, is the first one that comes to mind is
4 a new issue that was entered into the new GEIS and
5 therefore you'll find it here in my SEIS.

6 So I think it was a very thorough, overall
7 a very thorough update to the document.

8 MR. SAFER: Thanks. In reviewing the
9 alternatives to finishing the plant or renewing the
10 license, extending the license, I notice you talk about
11 the consideration of renewables and how extensive was
12 that consideration and how current was the information
13 in the SEIS; it acknowledges that things are changing
14 so rapidly that it's hard to keep up and I think it's
15 a critical issue.

16 MR. DRUCKER: Great question. On page
17 2-4 of the draft SEIS you'll find a listing of the
18 alternatives that were considered -- the 18 of them --
19 and right at the top there is wind power and solar power,
20 conventional hydroelectric power, geothermal power, so
21 there's a number of them that I think that address that.

22 And I think if you go through there you'll
23 see why those were not studied in great detail and it
24 does I think a very good solid job of explaining why we
25 ended up with the four -- natural gas, super-critical

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1 pulverized coal, new nuclear and a combination of wind
2 and solar -- as our four alternatives that were most
3 seriously considered.

4 MR. SAFER: Thank you. And I realize
5 this part of the discussion is for questions regarding
6 the presentation so I'll have some more statements about
7 the renewables which I think are really a key issue in
8 whether the plant should go another 20 years or not,
9 beyond 2020 and 2021. Thank you.

10 MR. HAGAR: Very good. Thank you, Don.
11 Does anyone else have a question about the presentation
12 materials?

13 MS. JOHNSTON: Hello, my name is Gretel
14 Johnston and I'm with BEST/MATRR and I had a question
15 also about the alternatives, something that I've
16 commented on every time. And again I see that energy
17 efficiency was not included in the list of alternatives.
18 And even one of the commissioners, not commissioners but
19 directors of the TVA, Board of Directors, who is
20 published considerably on energy efficiency has given
21 us information showing how well it can replace the need
22 for more nuclear power in the Southeast.

23 And I've given you numerous references,
24 submitted the documents as well as links to documents,
25 showing how energy efficiency can replace this need for

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1 more nuclear and can replace the need for Sequoyah right
2 now and can in fact provide energy needs for the future.

3 MR. HAGAR: Pardon me, Gretel, did you
4 have a question about the presentation material?

5 MS. JOHNSTON: Yes. My question is why
6 is energy efficiency not included as one of the
7 alternatives to re-licensing Sequoyah for 50 percent
8 beyond its design basis life span?

9 MR. DRUCKER: Thanks Gretel. As you look
10 at the alternatives in Chapter 2 of the DSEIS, you know,
11 energy efficiency and demand site management did make
12 the cut of the 18 but it didn't get into the top 4. And
13 pages 2-20 and 2-21 explains NRC staff reasoning as to
14 why it didn't make it into the top 4. And I think it lays
15 out its case pretty well and rather than read it here,
16 you know, you'll have the document, give it a read
17 through and if you have questions let me know. Thanks.

18 MR. HAGAR: And that prompts me to remind
19 you all that the period for comment isn't closed with
20 this meeting, that until September 29th, you can submit
21 comments in writing, you can certainly provide comments
22 tonight, but if you take the study home and read it and
23 have more comments, provide those either online or in
24 writing before September 29th and the staff will respond
25 to them.

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1 So does anyone else have questions about
2 the presentation material? All right. Then we'll
3 move to Part 3 of the meeting, the third part, and this
4 is where the NRC staff is asking for comments on anything
5 related to what we've talked about tonight. So far only
6 three people have signed up. Does anyone else want to
7 speak that has not filled out a yellow card yet? All
8 right.

9 Then in the order in which I have the cards,
10 Gretel you're first and then Don you're next and I'd ask
11 you to please limit your comment to five minutes until
12 we cycle through all three of you and then if we need
13 more you can go a second time. All right?

14 MS. JOHNSTON: Hello, I'm Gretel Johnston
15 with Bellefonte Efficiency and Sustainability team,
16 Mothers Against Tennessee River Radiation and that's
17 BEST/MATRR and we are a local chapter in the Tennessee
18 Valley of the Blue Ridge Environmental Defense League.
19 BREDL.

20 I got a little irritated this morning and
21 it's because I was having such a hard time over a
22 three-day period that I had kind of blocked out time for
23 myself to focus on this report because I'm a working
24 person and it's difficult to find the time to review
25 these long, long documents.

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1 And I was kind of familiar with the earlier
2 ones because I've been reviewing them but I kept asking
3 people do you know how to find the new one? And people
4 said oh what new one? And I was like there's got to be
5 a new one because they're calling it the DSEIS instead
6 of the SEIS.

7 And so I spent hours online and I am
8 internet savvy but something that is a recurring problem
9 with the NRC website is the Adam search engine and anyone
10 who does research and has used the Adam search engine
11 knows that it appears to be designed to divert you from
12 the subject you are trying to research.

13 You rarely find the document that you are
14 searching in the list of results for your search; even
15 if you put the exact title and the exact ML number, it
16 gives you everything else before that. So that you can
17 go through maybe ten pages of the list trying to find
18 the document and you may or may not find it. Who has
19 time to do that?

20 Well, it's irritating and it appears to be
21 deliberate because it is ongoing for year after year
22 after year. And we've got good search engines in this
23 world now and I just cannot see an excuse for it. So I
24 ask you to please address that issue and take that to
25 the Commissioners and reconsider the IT people that are

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1 doing your search engine and the work with the Nuclear
2 Regulatory Commission website.

3 Okay. That said, it was difficult. I
4 finally found it this morning but I do not have enough
5 time to address the issues in it. I do not have enough
6 time to study it, to give it the effort it deserves
7 because a considerable amount of effort went into
8 creating it and I'd like to give it the time.

9 So I detail in my written comments in detail
10 why it was frustrating and what went wrong and all of
11 that.

12 But I think it's something that you should
13 be proud of, that the NRC and the EPA and TVA should all
14 be saying we're reconsidering all this, we're looking
15 at this, we're going deeply into this. We want to keep
16 you safe. And I'm not getting that.

17 It's a detailed report, it's a long report
18 but there are a lot of issues that are not being
19 addressed. And so I'm going to try and address some of
20 them in the short amount of time I've had to prepare
21 this. Okay?

22 I want to say formally I want to request,
23 because of the difficulty in finding this article even
24 by someone who is used to searching online regularly,
25 that I want to request that there be an extension for

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1 the public comment period.

2 I want to make a formal request for that and
3 I want to request that there be no further meetings of
4 the petition review board or any other entity
5 responsible for reviewing the appropriateness of
6 extending the Sequoyah Nuclear Plant operating licenses
7 for another 20 years, which is 50 percent beyond the two
8 reactors design basis life span.

9 That said, I will proceed to some new issues
10 as well as reiterating the issues previously submitted
11 for which we have received no response. But I was happy
12 to hear when I got here that David in fact responded to
13 them in this document which I have not been able to study
14 yet. Okay.

15 An irregular occurrence, something new
16 that's happened this year, was that the Sequoyah annual
17 effluents emission reports that usually come out in
18 April and May every year for every nuclear power plant,
19 the ones this year were not posted on the NRC website
20 until September 11th. So needless to say I had very
21 little time to work on those as well and I wrote the NRC
22 about it.

23 So it made me wonder why on earth would that
24 be the case? There were 1571 curies of liquid releases
25 this year and there were 145 batch releases on 145 days

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1 in our environment and that was of the liquid, and 142
2 of gas.

3 But what I found, and I do need to take just
4 a minute to say what I found with this, is that for seven
5 months we had beyond-the-limit releases of tritium in
6 our water, liquid releases were beyond the extremely
7 high picocuries per liter limit that is the law. So
8 those were kind of buried down at the bottom of the page.
9 They were not in sequence, those should have been at the
10 top up here and they were down here.

11 I'm just saying it's looking suspicious and
12 these are the figures. You can read them yourself and
13 see what it says and that is beyond the design basis.
14 So that is a concern and it concerns me. Is somebody
15 burying information? What's going on at NRC? Are you
16 all really protecting us? No matter what somebody
17 tells you to do at the NRC you all are working for the
18 entire United States citizens to keep us healthy and
19 safe. Okay. Thank you.

20 MR. HAGAR: Don Safer, you're next.

21 MR. SAFER: Again, Don Safer and I think
22 you have my information. Would you like me to repeat?

23 Thanks for this opportunity. It feels
24 frustrating because we did this about a year ago and,
25 yes, I saw my name in the comments being addressed but

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1 the issues don't really ever seem to be addressed to my
2 satisfaction.

3 Just to put this in perspective, the
4 Fukushima accident is going to take 30 to 40 years to
5 clean up. Somewhere around 150,000 people were forced
6 to evacuate from their homes, some of them will never
7 -- most of them in fact will never be able to return.

8 Just recently a lot of health issues with
9 the children in Japan have been showing up. Certainly
10 a lot of thyroid issues, which was the case at Chernobyl,
11 but this is serious business and the fact is that a lot
12 of the repercussions and realities around Fukushima are
13 the subject of a pervasive cover up and even scientists
14 who study this.

15 I just saw a web-based press release of a
16 man and I don't have his name but it was sent out today,
17 a scientist who is saying that the effects of that
18 Fukushima accident and all of that radiation that was
19 released and is continuing to be released are much,
20 much, greater than the news media and the governments
21 are letting us know.

22 And I wish I could say that I had more
23 confidence in our government about nuclear issues but
24 the fact is that the U.S. government is just as secretive
25 and is keeping just as much from us about the dangers

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1 of nuclear technologies, whether it's depleted uranium
2 in weapons and the problems with soldiers coming back
3 or the problems with radioactive waste, whether it's low
4 level waste that is being created by these power plants
5 on a daily basis, and some 50 million pounds of comes
6 to Tennessee processors and is being incinerated and
7 melted and all shredded just for volume reduction and
8 a lot of worker exposure and a certain amount of public
9 exposure is happening. And then this high level waste.

10 We need to remember at the heart of this
11 process is the fissioning of uranium and plutonium and
12 that fissioning process creates isotopes that were
13 unknown really to the planet until we started doing it.

14 And the cesium 137 that is a great majority
15 of the radiation in these fuel rods, it'll be
16 radioactive for 300 years and it gets into our food, it
17 gets into our bodies, it wreaks havoc in our bodies.
18 And it's always being measured by the authorities as an
19 external source, but once it gets into your body it's
20 a different situation.

21 So forgive me for going off topic in terms
22 of the scoping but I just feel passionately that this
23 is such a mistake to continue creating this radioactive
24 waste.

25 And to that I think the biggest issue is

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1 renewable energy and the growth of renewable energy.
2 When these reactors were first approved and designed,
3 basically designed in the 1960s and, by the way, it's
4 a design called the ice condenser design, 3 million
5 pounds of chipped ice is hanging around the reactor core
6 and so the containment is thinner.

7 So there are a lot of studies, including
8 this book "Tritium on Ice" that you can get, that
9 indicate, and these were done by the U.S. government New
10 Reg what was it 1150 or something, that indicate these
11 ice condenser designs are the most likely to rupture in
12 the event of a loss of coolant accident.

13 So these things are not robust. Not near as
14 robust as what Three Mile Island is, that design that
15 did hold in the event of bad accident.

16 But speaking to this draft supplemental
17 environmental impact statement and the renewables, and
18 I know in your document you say in what, Section 2.0,
19 that it's not your job necessarily to deny an
20 application but you have to consider the potential
21 alternatives and determine whether the environmental
22 impacts of license renewal are so great that preserving
23 the option of license renewal would be unreasonable.

24 And that just brings up the convoluted
25 logic that is going on in the whole ball of wax. I mean

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1 all of the NRC's machinations to present the illusion
2 of safety of this technology in the thick document,
3 there are so many exclusions and well we can't consider
4 this and we can't consider the original design, so just
5 to -- and you can tell me when my five minutes is up,
6 we don't have a clock here.

7 Okay. Well, I'd like to come back.

8 MR. HAGAR: Well, let's give Gary Morgan
9 a chance to speak and then if we need to, Gretel and Don
10 we'll give you a second chance.

11 MR. MORGAN: I almost feel like I'm up
12 here in the dark. I am Gary Morgan, I am the director
13 of the Community Radiation Monitoring Project for
14 BEST/MATRR and I want to talk a little bit about this
15 generic environmental impact statement for licenses.

16 The two subjects which I'm going to discuss
17 is about radionuclide release to groundwater and also
18 waste management pollution prevention which is
19 highlighted in 3.13 and also 3.11 the human health
20 aspects of that.

21 I want to talk about the radionuclides
22 release to groundwater. My colleague, Ms. Johnston,
23 previously mentioned that. In 4-20 in this statement
24 it states: Groundwater contaminated as tritium is not
25 close to the site boundary and has been detected and has

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1 not been detected off-site. SQN. Neither the soil
2 structural fill nor the underlying [inaudible] group is
3 considered to be an aquifer or a source of water.

4 However, as Ms. Johnston mentioned, in the
5 wells, and I believe those wells are located south and
6 southwest of the nuclear power bloc, there was tritium
7 exceeding 20,000 picacuries per liter in those wells.

8 Now whether those wells are in close
9 proximity to an aquifer of course is not outlined
10 specifically in this environmental impact statement and
11 brings into question exactly the specific location of
12 those wells and how close they are to all underground
13 aquifers including the Tennessee River and any
14 tributaries of the Tennessee River.

15 This is a problem. Even though it is
16 on-site and the wells are off-site, you're not saying
17 anywhere in the data that I have reviewed and seen, that
18 it is not possible for that tritium to leak into a
19 groundwater supply which citizens may utilize. That's
20 that.

21 So I believe that is a deficiency of this
22 impact statement.

23 The second area concerns waste, the waste
24 that is stored at Sequoyah, the period it's going to be
25 stored which is for our purposes in here for all of us

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1 basically infinity, we'll be long gone, the waste will
2 still be there.

3 So what are we going to do with this new
4 ruling that has been released, what are we going to do
5 with all the waste that's over there and for that matter
6 all the waste? But we're interested in Sequoyah.

7 There is an answer for that. We believe
8 there's an answer, the environmental community believes
9 there's an answer and there's a lot of learned people
10 that believe there's an answer to that and I actually
11 even believe the NRC and maybe even the TVA believe
12 there's an answer to this waste storage problem.

13 And that'll be HOSS. And I'm not talking
14 about Hoss Cartwright, I'm talking about Hardened
15 On-Site Storage.

16 Now how you store your waste is going to
17 affect the human environment as well as the biota, the
18 flora and fauna. Lord forbid there'll be a nuclear
19 accident where a fuel pool catches on fire that is
20 over-filled with waste, then we have a real problem
21 because, as you know, with a fuel pool fire you're going
22 to have a lot of waste, a lot of radioactivity released
23 into the environment and that can be partially prevented
24 by moving the waste into hardened storage canisters and
25 then you must secure that waste in the hardened secure

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1 storage canisters properly.

2 And I don't see where that's addressed in
3 here.

4 Now I realize you've got a waste confidence
5 ruling and hopefully that will be addressed in the
6 future but we need to be thinking about this future right
7 here and now because this is going to affect us, our
8 children and our grandchildren.

9 And we don't want to have an accident, a
10 tornado to come through, of course and though the
11 hardened canisters are good to go for the tornados, even
12 the hardened canisters at Fukishama are storing the
13 waste. They didn't get moved by the tidal wave.

14 Hopefully if a dam breaks upstream, a
15 canister sitting out on the [inaudible] at Sequoyah will
16 not be moved by that. But to ensure security and safety
17 they need to be moved into a hardened site, a bunker-type
18 facility, either a vertical placement of the canisters
19 in or a horizontal placement of the canisters in a berm
20 covered so that it cannot be attacked by outside sources
21 or be threatened by inclement weather.

22 And basically I have outlined all these
23 concerns in the document and I'll give this to the court
24 reporter now if that's appropriate. Thank you very
25 much. Appreciate it.

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1 MR. HAGAR: Thank you, Gary. We've heard
2 from three people. Does anyone else want to make a
3 comment so we can add you to the rotation? And if not
4 then I'll ask these three speakers do you want a second
5 chance? So Gretel, please.

6 MS. JOHNSTON: I don't know about a second
7 chance but I would like to continue my questions and
8 point out some problems that I see and some issues that
9 I see.

10 One overriding consideration that I have
11 not seen in the previous environmental impact
12 statements, or in this draft supplemental environmental
13 impact statement, is the environmental impact of the
14 accumulation of radionuclides in the environment, in
15 the biosphere.

16 That is something that I do not see
17 addressed and it's such an important factor because
18 these don't go away. These radionuclides do not just go
19 away. They may transform, they radiate out energy
20 trying to stabilize and tritium which is the overriding
21 effluent, liquid effluent from this type of reactor that
22 Sequoyah is, is particularly insidious.

23 The reason that it is is because it actually
24 bonds with oxygen and transforms freshwater, H₂O into
25 radioactive water H₃O. And it cannot be filtered, it

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1 cannot be destroyed because it becomes the water and
2 that water gets into our food chain. It's into the
3 grass, it's into the soil, it's into the river, it's into
4 the drinking water, it's into our bodies.

5 And in our bodies, no matter how long it's
6 there, it is flushed relatively quickly, a lot of it is,
7 not necessarily all of it is flushed relatively quickly
8 but it's still emitting the entire time it's inside of
9 our bodies. And it damages cells. We know that
10 radiation damages cellular structure and it damages DNA
11 and the lower doses are known to damage DNA and it can
12 break the structure of the DNA itself so that you get
13 long-term reproductive and hereditary damage.

14 So we're leaving this legacy to future
15 generations and it seems like such an unfair debt to the
16 future for us to leave that.

17 Another thing that I think needs to be
18 pointed out is that this radioactive water is already,
19 as I said, we had 1571 curies of it released into the
20 water, liquid releases, this last year. And the DOE is
21 proposing right now, in cooperation with the TVA,
22 adding from 6800 to 50,000 curies of radioactive tritium
23 into the river every year upstream of Chattanooga. And
24 that is a very large amount of tritium.

25 Curies, something we forget about curies,

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1 is that curies are releasing radioactivity. They're
2 emitting at the rate of 37 billion disintegrations or
3 radiation emissions per second, 37 billion per second
4 is a curie.

5 It's hard for us to even fathom that but
6 when it gets in our bodies and it's in the water that
7 surrounds our DNA, because water cushions our DNA in our
8 biological systems, it can really do damage. And it may
9 not show up right away but once you start damaging DNA,
10 it's hard to repair.

11 Some people are better at repairing
12 cellular structure than others. Some people are
13 stronger that way. It's hard to know who's going to be
14 affected and who isn't. But radioactivity doesn't
15 respect boundaries.

16 So if we're seeing the tritium in the water
17 in the wells and we had over the limit, the EPA limit
18 during seven months that were reported last year, for
19 seven months, I don't know if this is an ongoing problem
20 now because they did not report in November and December
21 I noticed, but this is a problem.

22 It will not stay at the boundary of the
23 plant. Water tends to travel. It finds a way. It seeps,
24 as anyone who's ever had a leak anywhere in their house
25 knows, water finds a way. So it would be very difficult

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1 to keep it out of the river and a stream of Chattanooga
2 and Chattanooga gets its drinking water from the river.

3 So I think this is a major concern and the
4 accumulation, the cumulative effect I ask that you
5 please consider that. It is difficult. I know it's
6 not an easy subject to tackle but I think that an
7 environmental impact statement can't really be accurate
8 without considering the cumulative effect of
9 radioactivity. Thank you very much.

10 MR. HAGAR: Thank you, Gretel. Don?

11 MR. SAFER: Thanks. Once again, Don
12 Safer. I have a couple of questions. The whole question
13 of hydrology, all the dams, the 18 upstream dams from
14 Sequoyah or 18 upstream from Watts Bar, the whole
15 question of hydrology is holding back the licensing of
16 Watts Bar Unit 2, and I know that you don't answer
17 questions here but I want to raise the question as to
18 whether those same hydrological issues and questions
19 are being considered in the re-licensing? I haven't
20 been able to read all 481 pages so I don't have the answer
21 to that.

22 And then there's a whole issue of beyond
23 design basis accidents which are basically these large
24 catastrophic accidents and basically the NRC has always
25 used the -- I think -- faulty logic that because they

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1 think the chances of a serious accident are so slim, they
2 don't have to consider the environmental impacts of an
3 accident of that nature.

4 The problem with that logic is they say it's
5 one in however many hundred reactor years or one in
6 however many thousand or whatever, but the simple fact
7 is that in the number of years that we've had nuclear
8 power operating in the world, we've had five major
9 meltdowns or explosions. Three Mile Island, Chernobyl
10 and the three reactors at Fukushima.

11 So that's five reactors out of the 400 or
12 so and if you do the math, and I don't have that number
13 right with me, the real world experience does not
14 confirm the hypothetical assessment and that brings
15 forth -- it's another brick in the wall that says the
16 NRC always assumes the best for the industry and
17 compromises public safety to keep the nuclear industry
18 going.

19 That was a historical problem that caused
20 the Nuclear Regulatory Commission to be split off of the
21 old Atomic Energy Commission and it's not a problem that
22 has gone away magically with the creation of this new
23 agency, new back in the '80s.

24 And I mean you're good people that work
25 there and I know there's a lot of sincerity but from an

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1 observer -- and I try to be an unbiased observer -- it
2 just seems like the reason the room's not filled is that
3 everybody knows that this is going to be approved.

4 We asked last time, a year ago, how many
5 have not been approved and it was zero.

6 So getting back to what I wanted to say
7 about renewables. In 1972 when these reactors were
8 started or being built, it was a different world for
9 renewable energy. Today, the U.S. has 15 gigawatts
10 of solar, cumulative solar capacity. In the second
11 quarter of 2014, over 1000 megawatts was installed. That
12 is Sequoyah basically in one quarter in the United
13 States.

14 53 percent of all new electric capacity
15 came from solar in the first half of 2014. Wind energy
16 from 2001 to 2012, capacity went from 4000 megawatts to
17 over 60,000 megawatts in those 11 years. And that's
18 just a fraction of what we could have.

19 And there's a proposal to TVA right now for
20 wind power to be brought from Oklahoma direct current
21 to Memphis, be distributed, and TVA is dragging its feet
22 on this when it should be making every effort to get that
23 done.

24 There are countries in the world and there
25 are states that are way beyond us. Even Georgia is going

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1 to have seven times the amount of solar by 2016 than
2 Tennessee will have. North Carolina is going to have
3 three times the amount.

4 We're falling behind and we're falling
5 behind from a lot of other countries and the simple fact
6 is the reality is that these technologies work today,
7 they get electrons to run through wires to provide our
8 lights and our cooling and everything else and they
9 don't need a billion dollar agency, the NRC, with 3,800
10 employees to create this illusion of safety and this
11 illusion of due consideration to the processes.

12 Every step of the way that I've followed,
13 they're weakening and it is at the behest of industry
14 and the industry is affecting the Congress and we all
15 know how things don't work in Washington. Well, this
16 is another thing that's not working in Washington and
17 I can tell you that California's getting 33 percent of
18 its power from renewables by 2020.

19 Denmark got 57 percent of its electricity
20 from wind in December 2013. Scotland got 40 percent of
21 its total electricity in 2012 from renewables. This is
22 happening here on the planet, it's happening now.
23 There's no reason it can't happen at TVA.

24 I know this is not necessarily an NRC issue
25 but I think there are grounds to start phasing out these

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1 reactors with respect to the fact that there is no
2 solution to the waste. It's something that's been
3 worked on by some very smart people for many, many years
4 -- over 50 years -- and we still don't have any place
5 to put it. And we're not the only country that's in that
6 situation.

7 So thank you. I realize I may have run over
8 but I appreciate it.

9 MR. HAGAR: All right. Gary, would you
10 like to have a second shot? Come on up.

11 MR. MORGAN: Thank you, I appreciate the
12 time. And you know even though we may speak in
13 opposition to certain issues, one thing that makes our
14 nation so great is the ability to come forward and speak
15 to our government in such a fashion as we are doing.

16 It doesn't matter whether we may oppose an
17 issue or support an issue. The importance of this is
18 to address our government bodies in our system of
19 redress that we have. This is very important. I've seen
20 a lot of nations in the world, I'm an old retired
21 military guy, traveled the world over, you don't see
22 this in Russia. You don't see this in China. Evidently
23 in Japan you didn't see that very much either over there,
24 some of what we consider progressive type nations.

25 But there is one other thing. As I

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1 mentioned before, I'm the director of the Community
2 Radiation Monitoring Project and there are some
3 concerns within the community up and down the river
4 here. We monitor radiation from Knoxville basically
5 over to the Mississippi-Alabama line Browns Ferry,
6 Sequoyah, Watts Bar and also we're concerned about
7 radiation coming off the Oak Ridge reservation. And
8 what's been dumped in the environs surrounding her from
9 Oak Ridge particularly.

10 But one point I do want to convey to you.
11 There is a problem in the Tennessee River Valley. I've
12 discussed this with some public relations people, I've
13 discussed this with the TVA. I have not discussed it in
14 depth with the NRC but I have discussed the problem with
15 cancer incident rates and mortality rates with many
16 learned people, to include college professors and
17 people in the field -- epidemiologists.

18 And there is a problem here. We are seeing
19 increased cancer rates, particularly here in East
20 Tennessee, not Hamilton County but the county north, Ray
21 County. It has the dubious distinction of being No. 1
22 in the state of Tennessee for cancer incidence rates and
23 No. 17 of all the counties in the United States for
24 cancer incidence rates.

25 We see strange cancers such as brain

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1 cancer. We have a problem in Jackson County, which is
2 my home, where male brain cancers is extremely high.
3 Here in Hamilton County breast cancer is high. And we
4 do not know if radiation is a causative factor, if that
5 is the ideology of these cancers.

6 We suspect there are many different causes
7 but we asked the communities, we asked the NRC, the TVA,
8 we asked the public health departments of the various
9 states which are in the Tennessee Valley Region: help
10 us identify what is the degradation of the health in our
11 communities?

12 This is important. This is important to us
13 as people. This is important to our children and
14 grandchildren.

15 So I just want to leave at that word. We do
16 care. We appreciate the NRC. We appreciate the TVA in
17 keeping the power on and thank you very much, we
18 appreciate this opportunity.

19 MR. HAGAR: Well, thank you, Gary. All
20 right. We've heard from three speakers -- twice.
21 Does anyone else have any comments they want to provide
22 tonight?

23 Then let me remind all of you, at least one
24 of the speakers said she hadn't had time to review the
25 report before tonight's meeting, remind all of you that

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1 the comment period is not closed tonight. You have at
2 least until September 29th to provide comments online
3 or by email or in writing and you can get the addresses
4 to do that in the copies of the presentation out on the
5 table.

6 I'd ask you again please fill out a meeting
7 feedback form and give it to a member of the staff or
8 mail it in.

9 Brian, do you want to make a few closing
10 comments?

11 MR. WITTICK: Well good evening. My name
12 is Brian Whittick. I'm the chief of the Environmental
13 Projects Branch in license renewal.

14 I'd like to thank everybody for taking the
15 time out on this Wednesday evening. I'm sure everybody
16 has busy lives and, as Gary said, it's very important
17 we at the NRC view it as one of our core values to be
18 open and transparent and to involve the public. We
19 value all of your comments and look forward to reviewing
20 them and providing insights into the finalizing of the
21 Environmental Impact Statement.

22 I'd like to thank David for your multiple
23 presentations today and Bob for facilitating the
24 meeting.

25 As Bob and David pointed out, there's still

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1 12 days until the end of the public comment period of
2 course pending review of Gretel's request for
3 extension. Any other comments, we welcome all comments
4 that anyone may have.

5 Following this meeting we have a number of
6 folks from the Nuclear Regulatory Commission that are
7 available for follow-on discussions. We welcome further
8 dialogue and we shall be around for some time as we pack
9 up and get ready to call it an evening. So with that I'll
10 turn it over to Bob to close the meeting. Thank you.

11 MR. HAGAR: All right. With a final
12 request for meeting feedback forms and to remind you
13 that the NRC staff will stay available for one-on-one
14 discussions, thank you all very much for your time and
15 this meeting is concluded.

16 (Whereupon, the Sequoyah Public Hearing
17 having been concluded, went off the record at 8:15 p.m.)
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