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Title: Environmental Scoping Meeting Related

to the Browns Ferry Power Plant License Renewal Application

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1	U.S. NUCLEAR REGULATORY COMMISSION
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3	ENVIRONMENTAL SCOPING MEETING RELATED TO THE BROWNS
4	FERRY POWER PLANT LICENSE RENEWAL APPLICATION
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6	PUBLIC MEETING
7	+ + + +
8	THURSDAY
9	APRIL 11, 2024
10	+ + + +
11	The Public Meeting met via Video-
12	Teleconference, at 1:00 p.m. EDT, Lance Rakovan,
13	NMSS, facilitating.
14	NRC STAFF PRESENT
15	LANCE RAKOVAN, NMSS, Facilitator
16	SCOTT BURNELL, OPA
17	JESSICA HAMMOCK, NRR
18	STEVE KOENICK, NMSS
19	JOHN MOSES, NMSS
20	JESSICA UMANA, NMSS
21	
22	ALSO PRESENT
23	BRIAN PADDOCK
24	DON SAFER
25	

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

1 2 1:00 p.m. 3 MR. RAKOVAN: Let's go ahead and get 4 things started. I have one o'clock Eastern. If we 5 could go to the second slide, please. Thank you, 6 Angela. 7 Good afternoon, everyone. My name Lance Rakovan. It is my pleasure to facilitate today's 8 9 public meeting hosted by the U.S. Nuclear Regulatory Commission, or NRC, involving Browns Ferry Nuclear 10 Plant Units 1, 2, and 3 subsequent license renewal. 11 My colleagues Jessica Hammock and Jessica 12 Umana will be our main presenters. 13 14 Our goals today are to, one, provide you with an overview of the subsequent license renewal 15 process for safety and environmental for Browns Ferry 16 Nuclear Plant review. And, two, to solicit your input 17 on the environmental issues that the NRC should 18 19 address in our environmental review. 20 To avoid any potential confusion, I would like to stress that we are here today to gather 21 22 information to prepare Environmental an 23 Statement to evaluate the environmental impacts for 24 the potential license renewal of the operating license

for Browns Ferry, again Units 1, 2, and 3.

Today we look forward to hearing your scoping comments related to areas covered by our environmental review.

Now a term we are going to hear a lot today is scoping, which simply means determining the scope of the environmental review. Today's meeting is just one way that you can participate in that process. And we will be going more into details about that later.

Slide 3, please. So here is our agenda for today. After some opening remarks and introductions, we will move on to a brief presentation involving re-licensing with a focus on environmental scoping. We will take a short time to see if anyone has any clarifying questions on the presentation.

And then we will move to the final and most important part of this webinar, where we will open up the virtual floor to receive your scoping comments. This is where we hope you will provide your input on what the NRC should consider to be in scope of the NRC's environmental review for Browns Ferry subsequent license renewal.

For those of you on the phone, moving to Slide 4. We have a number of NRC staff with us today, including Jessica Hammock, who is our safety review

lead, Jessica Umana, who is our environmental review lead, John Moses, who is the deputy director of our Division of Rulemaking, Environmental and Financial Support, and Steve Koenick, who is the chief of the Environmental Project Management Branch 1. Again, our main speakers today will be the Jessicas.

Moving on to Slide 5, please? So this is a comment gathering meeting by NRC's definition, which means our primary purpose here is to listen to you, specifically to collect your comments on topics to be included in the Browns Ferry subsequent license renewal and environmental review.

So, again, we appreciate your patience in terms of waiting until we finish our presentation, but we do want to make sure that everyone who is joining us today has at least a basic understanding of the license renewal process and the topics at hand.

Please note that we are recording and transcribing today's meeting so that the NRC staff can be sure to get a full accounting of all the comments that you provide.

Participants will be in listen-only mode until we get to the comment section or, again, once we open the floor to see if there are any clarifying questions following our presentation. And I would

like to stress that no regulatory decisions will be 1 made during today's meeting. 2 3 I would like to turn things over to John 4 who I believe is going to provide 5 additional opening remarks. And then we will go ahead and turn things over to the Jessicas. 6 7 So, John, are you with us? 8 MR. MOSES: I am. Thank you, Lance. Good 9 afternoon, everyone. My name is John Moses, as Lance And I am deputy director of the Rulemaking, 10 said. Environmental and Financial Services Division at the 11 U.S. Nuclear Regulatory Commission. 12 I would like to welcome you to our first 13 14 environmental scoping meeting for the Browns Ferry 15 Nuclear subsequent Power Plant license renewal 16 application. But before we begin today's presentation, 17 would like to take a few moments to briefly 18 19 introduce you to the NRC and its mission. As the slide indicates, the NRC regulates 20 commercial nuclear power plants, research, test and 21 training reactors, nuclear fuel cycle facilities and 22 the use of radioactive materials in medical, academic 23 24 and industrial settings.

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1 Reorganization Act of 1974, which separated the former Atomic Energy Commission into a regulatory body, the 2 body, which became 3 and a promotional 4 Department of Energy. You can scan the OR code on the slide to 5 see the NRC's current strategic plan. 6 If you have 7 some free time, I encourage you to take a look. The plan's three strategic goals are key 8 9 to the Agency successfully fulfilling its mission. 10 The Agency's goals are broken down into strategic objectives and the strategies to meet those objectives 11 and goals. 12 Specifically, the goals are one, to ensure 13 14 the safe and secure us of radioactive materials. Two, continue to foster a healthy organization. And three, 15 to inspire stakeholder confidence in the NRC. 16 third 17 For the qoal, stakeholder confidence, we use meetings like this one to include 18 19 NRC activities effectively you in the as transparently as possible. 20 learned during the pandemic 21 webinars, or virtual meetings, make our work more 22 accessible to a broader audience. Also we've learned 23 that holding meetings during working hours may limit 24

attendance.

So to increase public access and participation, we scheduled two virtual meetings for Browns Ferry. And the first meeting, today's meeting, will be held during work hours, while the second meeting, next week, will be held during after work hours. And we would appreciate any of your feedback and how we are doing with that approach.

I am looking forward to hearing your insights and feedback on significant environmental issues that you feel are important for the staff to consider on their detailed analysis of issues to be included in our review of the applicant's environmental report.

We realize that local communities provide a unique perspective and knowledge of the area. Your comments are an integral part of the environmental process, which builds off of public participation and transparency.

Public participation, openness and all NRC's transparency are key to \circ f t.he responsibilities, including the licensing of nuclear Therefore, our goal is to hear from as facilities. many of you as possible and collect any comments you may have so that we may fully consider them during our environmental review.

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1 Thank you in advance for your participation today. And with that, I will turn it 2 back to Lance to facilitate the rest of our meeting 3 4 and then also to the Jessicas. Thank you. 5 MR. RAKOVAN: Thanks, John. I will turn things over to Jessica Umana, who is going to kick 6 7 things off with Slide Number 7. 8 MS. UMANA: Thanks, Lance. And thank you, 9 John for that introduction as well. I'm Jessica 10 Umana. I'm the lead environmental project manager for the Browns Ferry subsequent license renewal. 11 Here we can see -- here's a slide that 12 provides some background information for Browns Ferry. 13 Browns Ferry has three units. The first one was 14 licensed in December 1973, the second one in June 15 16 1974, and the third one in July 1976. The renewed licenses for all three units 17 were issued in May 2006. 18 19 The current licenses are set to expire December 2033 for Unit 1, June 2034 for Unit 2 and 20 July 2036 for Unit 3. 21 If a renewal is granted to Browns Ferry, 22 all of these licenses will be extended for 23 24 additional 20 years on the date of each expiration. Next slide, please. Here, we are going to 25

1 some of the contents of the application. cover 2 Tennessee Valley Authority submitted an application to 3 the NRC for subsequent license renewal for Browns 4 Ferry on January 19, 2024. 5 A license renewal is an application --A license renewal application is required 6 pardon me. 7 to contain general information such as the applicant's 8 name and address, business and administrative 9 information and technical information which pertains 10 to agent management. This information is the focus of the safety review. 11 application 12 The also includes an 13 environmental report, which is the applicant's 14 assessment of the environmental impacts of continued 15 This information serves as the starting operation. 16 point for the staff to review the environmental 17 aspects of subsequent license renewal for Browns Ferry. 18 19 I am now going to turn it over to counterpart, Jessica Hammock to cover the safety 20 review for Browns Ferry. 21 Next slide, please. 22 Thank you, Jessica. 23 MS. HAMMOCK:

again, my name is Jessica Hammock. And I am the

safety project manager for the Browns Ferry subsequent

24

license renewal review. I will now walk us through the NRC's subsequent license renewal review process as shown on this slide.

Starting from the left, the process begins once a subsequent license renewal license application, or SLRA, has been accepted for review. Then the process breaks out into two parallel reviews, the safety review, which you see on the top, and the environmental review in the middle. These two reviews evaluate separate aspects of the license renewal application.

On the safety side of the review, following the staff's review of the application, the Advisory Committee on Reactor Safeguards, or ACRS, completes an independent review of the application to make a recommendation to the Commission.

At the bottom of the flowchart, the dotted lines lead to hearings. The dotted lines represent the opportunity for a hearing in accordance with the Atomic Energy Act, which establishes a process for members of the public to request involvement in hearings on a variety of civilian nuclear matters, including subsequent license renewal.

The Commission considers the outcome of the hearing process in its decision on whether or not

to issue a renewed operating license.

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Finally, with the inputs from the environmental review, the ACRS' recommendation on the safety review, as well as the staff's finding from the safety review, a final decision is made by the NRC.

Next slide, please. If you are following along with me, we are moving on to Slide Number 10.

The Atomic Energy Act authorizes the NRC to issue licenses for the commercial power reactor stop rate for up to 40 years. These licenses can then be renewed for an additional 20 years at a time.

following This period the initial licensing term is known as the period of extended operation. Now subsequent license renewals would allow plants to operate beyond the 60 years of that called initial license renewal first Subsequent license renewals would also be for an additional 20 years.

The purpose of the safety review is to identify aging effects that would impair the ability of systems, structures and components, or SSEs, within the scope of license renewal to perform their intended functions and to demonstrate these aging effects will be adequately managed during the period of extended operation.

1 This scope has not changed from initial 2 license renewal to subsequent license renewal. As previously mentioned, on January 19, 3 4 TVA submitted a subsequent license renewal 5 application for Browns Ferry. After receiving the application, the NRC 6 7 conducted an acceptance review, which is the first step of our review. The NRC determined that Tennessee 8 9 Valley Authority's application was sufficient and 10 acceptable for docketing on February 8, 2024. Then we moved into our technical review, 11 which includes an aging management audit. 12 The aging management audit consists of three parts, the in-13 14 office technical review audit, the onsite audit and the breakout audit. 15 During all phases of the audit, the NRC 16 documents 17 staff reviews the application, and references in greater detail. As part of the safety 18 19 the staff also reviews the applicant's review, operating experience for information applicable to 20 aging management. 21 Following the audit, an audit report is 22 issued. At the very end, the staff will document its 23 24 review in a safety evaluation, or SE as we call it.

Next slide, please. We should be on Slide

1 11 for everyone following along from home. The NRC 2 ensures the adequate protection of public health and 3 safety in the environment through the regulatory 4 process, which is shown on this slide. 5 The regulatory process consists of five major components. We develop regulations and guidance 6 for applicants and licensees. We license and certify 7 8 applicants to either use nuclear materials, operate nuclear facilities or decommission. 9 10 We oversee licensee operations and facilities to ensure that licensees comply with safety 11 12 requirements, evaluate operational experience license facilities or involve license activities. And 13 14 in support of our regulatory decisions, we conduct research. We hold hearings to address the concerns of 15 16 parties affected by the agency decisions, and we 17 obtain independent reviews. With license renewal, the regulatory process now considers aging management as 18 19 represented with the red block and arrow. No I am going to turn it back over to 20 Jessica Umana, who will discuss the environmental 21 review. 22 Next slide, please. 23 24 MS. UMANA: Thanks, Jessica. We

Now we are going to cover

are on Slide 12.

2 The National Environmental Policy Act
3 obligates federal agencies to consider environmental
4 impacts and federal actions. The NRC's specific
5 environmental regulations are contained in Title 10 of

the Code of Federal Regulations, Part 51.

The objective of our environmental review is to determine if the environmental impacts of subsequent license renewal are so great that renewal would not be a reasonable option. Put simply, we are assessing if the renewal is acceptable from an environmental standpoint.

Slide 13, please. Our environmental review considers the impacts of continuing to operate the plant for an additional 20 years and any proposed mitigation of those impacts as warranted.

We also consider the impacts of reasonable alternatives to the proposed action of subsequent license renewal, including the impacts of not issuing a subsequent renewed license.

The staff documents its environmental review in an Environmental Impact Statement.

The staff has developed a generic Environmental Impact Statement that addresses several issues common to all nuclear power plants. We call

1 this the LR GEIS. It's a great resource to get familiar with the areas we are looking at as part of 2 our environmental review. 3 4 The NRC is currently gathering 5 information necessary to prepare a site specific Impact Statement in which we will 6 Environmental 7 address issues that are specific to Browns Ferry. 8 site specific EIS will evaluate the environmental 9 impacts of subsequent license renewal for Browns Ferry and reasonable alternatives thereto. 10 Slide 14, please. 11 For a subsequent license renewal review, the NRC looks at a wide range 12 of environmental impacts as part of preparing their 13 14 environmental impact statement. 15 If you take a look at the slide, these are 16 the areas that we are seeking comments as part of the 17 scoping process. Next slide, please. This slide here 18 19 provides a good illustration of the different areas the staff reviews and considers as part of preparing 20 the Environmental Impact Statement. 21 Next slide. The environmental review 22 begins with the scoping process, which is why we are 23 24 here today. The purpose of the scoping process is to identify significant issues that should be considered 25

in the environmental review.

We are now gathering information that we will use to prepare the Environmental Impact Statement for the subsequent license renewal.

As part of that process, today we would like to collect your comments on the scope of the environmental review, that is the environmental impacts that the staff should consider in the areas illustrated in the previous diagram.

The scoping period started on April 3, 2024 when a notice of intent to prepare an EIS and conduct scoping was published in the Federal Register. The NRC will be accepting comments on the scope of the environmental review until May 3, 2024.

In general, we are looking for information about environmental impacts from the continued operations of Browns Ferry Units 1, 2 and 3 during the period of extended operation.

You can assist us in that process by telling us, for example, what aspects of your local community we should focus on, what local, environmental, social and economic issues the NRC staff should examine during the environmental review and what reasonable alternatives are most appropriate for your local region.

1 These are just some examples of the input 2 that we are looking for, and they represent the kinds seeking 3 of information we through are 4 environmental scoping period. Your comments today 5 would be helpful in providing insight of this nature for the environmental analysis. 6 7 Let's move on to Slide 17, please. In conducting our environmental review, we coordinate and 8 consult with various local, state and tribal officials 9 and gather pertinent information from these sources to 10 ensure it is considered in our analysis. 11 As illustrated on this slide, some of the 12 agencies that we consult with include U.S. Fish and 13 14 Wildlife Service, the Environmental Protection Agency and the State Historic Preservation Office. 15 16 As part of the environmental review, the 17 staff may hold public meetings to receive comments on the draft Environmental Impact Statement. 18 19 will now discuss the environmental scoping process in more detail. 20 Slide 18, please. Here are some important 21 milestones that the environmental review process will 22 If you have environmental scoping comments 23 follow. 24 you would like to submit outside of today's meeting,

you have until May 3, 2024 to do so. There will be an

additional webinar opportunity next week in the evening if you would like to hear this presentation again. That is scheduled for April 18 at 6:00 p.m. Eastern time.

Based on our current schedule, we plan to issue a draft Supplemental Environmental Impact Statement for the public comment by April 2025. This is another way you can stay involved in the process. Members of the public will have an opportunity to provide comments on the draft Supplemental Environmental Impact Statement.

While this slide lists milestones for the Environmental Review and opportunities for public involvement, the safety review will be performed accordingly with a separate schedule.

Slide 19, please. This slide provides the primary points of contact within the NRC for the license renewal of Browns Ferry. The other individual you see there listed at the bottom of the slide is Kimberly Green. And she is the current project manager for the operation at Browns Ferry.

Next slide, please. The Athens-Limestone
County Public Library located at 603 South Jefferson
Street in Athens, Alabama has agreed to make the
license renewal application available for public

The draft Supplemental Environmental 1 inspection. Impact Statement will also be available at 2 3 library when it is published for comment. In 4 addition, these documents are also available on the 5 NRC website. Next slide, please. 6 The most important 7 piece of today's meeting is to receive any comments 8 you may have regarding the scope of 9 environmental review. 10 Here are the various ways you can submit your comments for our consideration. You can provide 11 written comments by mail to the NRC at the address 12 13 here or you can send your 14 electronically by going to regulations.gov or via email as indicated on the slide. Please remember that 15 16 your comments should be submitted by May 3, 2024. 17 Last slide. Again to recap, the comment period ends on May 3, 2024. Comments will be 18 19 considered in the scoping summary report, which scoping participants will receive a copy of sometime 20 in June 2024. 21 I am now going to turn it back over to 22 23 Lance. 24 MR. RAKOVAN: Thanks, Jessica.

wanted to take a moment just to pause to see if anyone

1	had any clarifying questions about our presentation.
2	Again, we want to make sure that you all fully
3	understood the information that we covered.
4	So if you have a clarifying question, go
5	ahead and raise your hand, and I will activate your
6	audio so that you can ask your question. We will move
7	on to commenting and providing scoping comments
8	momentarily. But we just wanted to pause briefly to
9	see if anyone had any clarifying questions. I will
LO	pause for a sec.
L1	All right. I see we have a hand. Don
L2	Safer, you should be able to unmute and ask your
L3	question at this time. Your audio has been activated.
L4	Mr. Safer, are you with us?
L5	MR. SAFER: Yes. Can you hear me now?
L6	MR. RAKOVAN: Yes. You are a bit faint,
L7	but yes we can hear you.
L8	MR. SAFER: Yeah. I had to unmute it on
L9	my iPad as well. So I was wondering where the aging
20	management audit is that on the website at the
21	where the I am looking at the TVA, some of the TVA
22	submissions. Is that in there as well? I'm
23	MS. HAMMOCK: Hey, Don?
24	MR. SAFER: Yes.
25	MS. HAMMOCK: I can take that for you. So
	I and the second

when we are talking about the aging management audit, there are three distinct portions of it. There is the 2 in-office portion that is conducted by our technical staff. And then there is an onsite audit portion where we fly out to Browns Ferry and conduct an audit Is that what you're referring to? 6 onsite. MR. SAFER: Yes. 8 MS. HAMMOCK: Okay. So right now we are 9 in the middle of that audit process. And then as soon as we wrap that up, we gather all the inputs from technical staff and then formulate the audit report, 11 which is public. And we will update the public 12 information when 13 website with that it 14 available. MR. SAFER: How do you check the concrete 15 16 and the things you cannot possibly see? MS. HAMMOCK: Well, I believe -- Lance, correct me if I'm wrong -- I'm not sure if that's 18 19 within the scope of this particular public meeting. MR. RAKOVAN: It's really not. We are attempting to focus on environmental scoping. 21 22 we possibly get back to you on that, Don? 23 MR. SAFER: Please. Thank you. MR. RAKOVAN: Okay. The best way ensure that that happens is if you send an email to 25

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1 any of the meeting contacts. We will get the right people, and we will try to get a quick response back 2 3 to you. 4 MR. SAFER: Okay. Thank you. 5 MS. HAMMOCK: Thank you for your question, 6 Don. 7 MR. RAKOVAN: Any other clarifying 8 questions before we open the floor to comments? 9 This does not preclude asking questions, of course, moving forward, but let's go ahead and move on 10 to scoping comments. 11 Again, if you would like to provide a 12 scoping comment, use the raise your hand feature, and 13 14 I will go ahead and take hands as I see them in order. 15 If you are using -- if you are calling in on the bridge line, then hit star-5, and it should raise your 16 17 hand for you. You will still need to unmute. So, again, 18 19 if you are on the phone that is just your unmute button or star 6. If you are on Teams, you will still 20 I can activate your audio, but I 21 have to unmute. can't, you know, make it so that I can listen in to 22 whatever is going on there so. 23 24 We will pause to see if we get any hands. looking specifically for 25 Again, scoping we are

1	comments to help us determine the scope of the
2	environmental review.
3	MS. HAMMOCK: Hey, Lance, would it be okay
4	if I interject real quick with a clarification from
5	earlier?
6	MR. RAKOVAN: Please.
7	MS. HAMMOCK: I did quote the wrong date.
8	And I did want to clear that up for the record. So
9	the TVA application for Browns Ferry, the subsequent
LO	license renewal application, was received on January
L1	19, like I stated.
L2	We issued the receipt and availability of
L3	that document on February 8, 2024. The acceptance and
L4	sufficiency for docketing was issued on March 15. So
L5	I mentioned the wrong date earlier, and I did want to
L6	clear that up for everybody.
L7	MR. RAKOVAN: Thanks for that. And I do
L8	have a hand, Brian Paddock. Brian, you should be able
L9	to unmute and provide your comment at this time.
20	MR. PADDOCK: Yes, thank you. Thank you.
21	Can you hear me all right?
22	MR. RAKOVAN: Yes, we can. Please
23	proceed.
24	MR. PADDOCK: Okay. I just became aware
25	of this application in the last few days. And so I

haven't really had a chance to compare that to a lot of the information that has already been collected about Browns Ferry over the years, which those of us in Tennessee, the adjacent area, where TVA's nuclear power plant problems have watched closely, as particularly since it was allowed to operate at least two of the reactors recently. And that was a risky enough activity without deciding to extend it for another 20 years.

So one of the questions to my mind is are we going to evaluate those reactors as they now operate well beyond their original design in terms of the generation they are expected to produce?

The second thing that I would think belongs in the scoping is an awareness and response to the Government Accounting Office report that specifically noted that NRC apparently has decided to ignore climate issues.

And we are looking at something that would be an extension from, what, 2050 to 2060 or 2080 rather? And it just -- that is beyond the existing 20 year extensions which haven't yet kicked in in many cases.

How one can predict the environment and the impacts of the environment on the operations of

these reactors that far in advance, we don't have any idea what it will be like to be on earth in 2050 let alone how something like a nuclear reactor producing electricity would behave.

The ability to predict precipitation levels and flooding, the ability to predict the dangers from surrounding activities like floods and fires and so forth, all of that looks to me like it has to be paid attention to. And the GAO specifically in its report lays out that there has been a failure to do that in terms of the NRA's approach to these licensing extensions.

And I would hope that the scoping would in fact acknowledge that and change the scope of what it is looking at in terms of -- it wants to consider these same site specific depths. That's okay for the moment. But what climate change will do to those sites and the surrounding terrain and the surrounding weather and so forth just has to be addressed in my opinion. Thank you for accepting my comment.

MR. RAKOVAN: All right. I appreciate your comment. You started the first with a question. And I guess I just wanted to loop back around to that if you could re-ask that. I think the Jessicas are ready to answer it. I just want to make sure that we

1	remember what it was. I apologize.
2	MR. PADDOCK: I would like a response.
3	MR. RAKOVAN: No. What was the question?
4	We were taking some notes. And then you provided some
5	comments, and we were listening to that. So if you
6	could ask the question again that would be very
7	helpful.
8	MR. PADDOCK: I wasn't really working from
9	notes so I'm not sure what I asked.
10	MS. UMANA: I have something scribbled
11	down. This is Jessica Umana. I have something
12	scribbled down. Brian, maybe this will jog your
13	memory a little bit.
14	But I think you were asking how we are
15	going to evaluate is the NRC going to evaluate the
16	reactors as they are operating now as opposed to how
17	they were originally designed to operate? Is that
18	correct? Did I characterize that?
19	MR. PADDOCK: Yes.
20	MS. UMANA: Did I capture that correctly?
21	MR. PADDOCK: Yes.
22	MS. UMANA: Okay.
23	MR. PADDOCK: Yes. Yes, you did. Thank
24	you.
25	MS. UMANA: I do not have a response for

1 you right now. But I will be happy to get back to you on that if possible. 2 3 MR. PADDOCK: Okay. Yeah, I think when 4 you decide what the scope of the EIS analysis is going 5 to include, I would hope it would completely and accurately characterize the 6 operations capabilities and difficulties of those reactors as 7 8 they stand right now. 9 Jessica Hammock, do you know MS. UMANA: 10 if this falls under the aging management review? MS. HAMMOCK: Yeah, I would say if we are 11 talking about operation beyond the initial 40 year 12 period, and we are looking at the initial license 13 14 renewal period, meaning 40 to 60 and then for TVA we 15 specifically looking at 60 to 80 for that 16 subsequent license renewal period, aging management 17 really is the thing that we are considering. At least on the safety side, that 18 19 firmly within 10 CFR Part 54. I know Jessica Umana is looking at 10 CFR Part 51 for the environmental review 20 portion. Does that answer your question a little bit 21 And we can obviously get back to you 22 more, Brian? with more detailed information. 23 24 MR. PADDOCK: Well, I quess what I hear is that you are considering looking into these things. 25

But I would have to go back and read Part 51 and do some more research actually to press the point.

As long as I still have the floor and have not been cut off, I would like to add one other thing. I sat on a TVA-appointed community action committee that actually received reports when the Watts Bar 2 reactor was being finalized in construction and then was operated through its test phases.

And I was there as a representative of the Sierra Club, as a matter of fact, which to me meant that if TVA put me on this thing, they felt that I was going to take issues seriously and based on facts and not just say nasty things about nuclear.

But I learned in that experience that there were some things built into the reactors that were designed, for example, to measure what was happening to some of the metals over time because of the exposure to radiation and neutron flux. And it is my understanding that those samples were used up by being drawn down and analyzed over the 40 years, or will be over the 40 years of the initial licensing.

And I am wondering if there is any parallel, if the Environmental Impact Statement is going to figure out some other way to look at things like the metals degradation in the radiation in the

subsequent licensing periods.

It seems to me like it's sort of a thing where -- which reinforces actually the fact that this was supposed to be -- these designs were set up to operate safely and effectively for 40 years. And at the time of their design and initial construction, the idea that they would be extended for 20 years at a time and now proposed the most recent extension we're talking about here for another 40 years altogether beyond their initial design, in other words twice as long as they were originally thought to be operating and designed for.

And it seems to me that figuring out how to see what level of difficulty and degradation you have in the operating parts of the reactor gets to be more difficult since you can't really stop it in the middle and take a chunk out of it and say, oh, this is where the middle is now from the radiation.

So I am concerned about that and how that is going to be analyzed and evaluated. And how it's going to be analyzed, you know, for a full 80 years. Thank you.

MR. RAKOVAN: Thank you. And again if there is any specific comments you have, the best thing to do is to email one of the contacts for this

meeting. And we will make sure that it gets to the right people.

All right. The next hand I see is Don Safer. Don, you should be able to unmute.

MR. SAFER: Okay. Can you hear me?

MR. RAKOVAN: We can. Please proceed.

MR. SAFER: Okay. Thank you. I wanted to call your attention to the General Accounting Office's report of April 2 of this year. It is GAO 24-106326, a Report to Congressional Requesters About Climate and Nuclear Regulatory Commission Change Considerations of Reactor Safety and for you all to specifically include the findings from that General Accounting Office study in your analysis of environmental realities around this -- the extending the life of these reactors. That's one point.

The second point is in that report Appendix 3, Table 2, it says that the risk of flood hazards to Browns Ferry is high. And we know down here in the Tennessee Valley that Browns Ferry is on the Tennessee River and at that point it drains an enormous area. And the TVA and the Corps of Engineers have a series of dams on that, what used to be a free flowing river. That really, the river now is a series of manmade impoundments.

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And during that same panel that I was on along with Brian, the question was raised about flooding, potential flooding, for Watts Bar Unit 2. And TVA did extensive studies of the dam safety upstream of that reactor of Watts Bar.

So TVA has that information in hand. I am sure they have the information about the dam safety of all of their dams, or I would hope so. But one of the concerns that was raised around that issue was the possibility of cascading dam failures caused by unprecedented rainfall events such as we have been experiencing in the Tennessee Valley for the last several years, I am presuming, because of climate change.

But I know in Nashville, we had a flood. That's where I live. We had a flood that was 17 inches -- caused by 17 inches of rain in a two day period. And it was totally off the charts in terms of the amount of water.

think terms $\circ f$ And so Т in t.he environmental analysis, it is incumbent upon Nuclear Regulatory Commission to not go in rearview mirror with flood data or high probable maximum flood data and go to what's likely to happen or what's possible to happen even moving forward.

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When Browns Ferry was originally designed and approved and built, it was a different environment than we have now because after all, that's going to be the end of 60 years of licensing. And we all know that climate changes are affecting weather patterns in ways that are unprecedented.

So that's another aspect of incorporating into this consideration on the environment just what the effects of climate are going to be and, you know, for that matter even these incredible cold weather events that happen -- you know, we've always had cold weather, but some of those things would be exacerbated and intensified by the colder vortex or whatever event. So that's kind of number two.

Number three, I have been looking at the TVA Subsequent License Renewal Environmental Report. It's just 450 pages. So I have not read all of it. But on Page E455, Section 4.10.2, Severe Accidents, this is something that has just been consistent over the years, even after Fukushima.

And by the way, these Browns Ferry reactors are GE Mark I's. And I know this is part of the safety analysis, but the same reactor design has caused those enormous radiation releases when they had their accidents at Fukushima.

So I'm reading from that section I have quoted, the 2013 generic EIS, and I think that using generic EIS for these subsequent license renewals is an egregious shortcut that short changes the public in terms of public safety. It certainly makes it easier for the applicant and the Nuclear Regulatory Commission to approve these applications.

But in terms of public protection, I think it is a disservice to the residents within that 50 mile zone and really anybody downwind or downstream to be going over something this serious in terms of the consequences of an accident and using a generic Environmental Impact Statement.

And further, using the sleight of hand called probability weighted consequences of severe accidents is also a disservice to the residents and really everybody in the TVA region because we are all going to suffer, and everybody in the nation, because as in Japan and as in Chernobyl, the former Soviet Union, a major nuclear accident is going to be a major financial disaster as well as human disaster.

So using probability-weighted consequences because you all have been able to figure out that the chances of a severe accident in your view is so small that you don't -- it lessens -- you don't nearly need

to even go over the analysis of what would happen.

And you don't need to include any data that may have
been learned from Fukushima and Chernobyl about the
environmental consequences of a severe accident.

And to say that the probability is so low that we don't need to really consider it is ignoring fact that two of these major accidents already happened. And Three Mile Island in the United States, we just passed, what, the 45th Anniversary, that was almost on that level of accident, but it was industry people, including not as the Nuclear Regulatory Commission Ι believe, but industry proponents saying that Three Mile Island didn't hurt anybody, and it was no big deal.

Well, just see the movie Radioactive - The Women of Three Mile Island, which was recently released and tell me that it didn't affect people in the area and plenty of farm animals by the way and pets.

So I think that this Environmental Impact Statement to be valid, and not just an exercise in bureaucratic checking off boxes, has to go into the detail of what the environmental effect of a serious accident, release of radiation, both to the land and water and to the surrounding people, and those things

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should be considered and not dismissed out of hand as unlikely because the unlikeliness argument has been proven wrong by our experience.

I guess that's all I have today. I hope I can participate next Thursday.

And I also would like to say that providing just a week's notice for these meetings doesn't seem like an effort to include the public. I don't know how many people you have participating from the public, but it could easily sneak by in the week.

And I don't know how much publicity you all do, particularly in the region, the area around Athens and Decatur and Northern Alabama and in the 50 mile zone. It would seem that you ethically should make every effort to publicize this process. And the people who are living near these reactors get a full, you know, opportunity to engage and to learn about what they're living with.

And the last thing I guess I would want to bring up today in terms of environmental impact is the high level radioactive waste that is called spent fuel, misleadingly called spent fuel by your industry, onsite at Browns Ferry needs to be considered given the fact that it's store in half inch stainless steel, and this material is not, I'll put it in these

canisters and forget it, material. 1 It's going to need to be transferred out 2 of those canisters at some point or moved. And there 3 4 is currently -- and moving it is problematic. 5 there is currently no place to take it. So even after a reactor is shut down, they are left with the 6 7 radioactive waste onsite. And -- but I think during this license 8 9 extension process, subsequent license renewal, 10 would be an opportunity for the NRC to get serious about the safety of the used fuel because there are 11 many questions that are unanswered about particularly 12 the high burnup fuel that is being stored onsite. 13 14 So I will see if I can think of anything 15 else for next week, and I appreciate the opportunity to talk, to ask these questions. And I hope you all 16 17 do a very serious consideration of the environmental effects and thank you. 18 19 MS. UMANA: Hi, this is --MR. RAKOVAN: Thanks. 20 MS. UMANA: -- hi, Lance. Sorry. This is 21 I wanted to address, your comment, 22 Jessica Umana. Don, about, you know, a week's notification for these 23 24 meetings.

We actually provide -- we publish an ad

1 notifying -- for notification of this meeting -- I 2 don't have the dates on hand, but it was well ahead of 3 a week, I believe, in local newspapers. And we also 4 have the meeting up in our public meeting notice 5 system a couple of weeks ahead of time. We have a 10-day notification that is 6 7 required of us before we have a public meeting. So if it falls under the 10 days, we can't have the meeting 8 9 that quick unless we have some sort of extraordinary 10 circumstances. So we do take seriously involving the 11 public and being transparent. So we try to get these 12 meeting notices out well ahead of the 10-day required 13 14 notification as possible. MR. BURNELL: And Mr. Safer, this is Scott 15 I'm one of the agency spokespeople. 16 17 I will also note that we have put out on social media announcements for next week's meeting, 18 19 again, to make sure people are aware that happening. 20 And just for the record to speak to a few 21 of the things that you mentioned, the GAO report 22 speaks to effects of the environment on the plants. 23 24 What the staff is looking at here for license renewal

is the potential effects of normal operation of the

plant on the environment. Those are two separate things.

That being said, the NRC has formally notified the GAO that we disagreed with their conclusions when they gave us a draft version of the report. We will be responding in full to their final report in the coming months.

I can say we continue to disagree with the GAO's conclusions in part because all U.S. nuclear power plants conducted additional detailed hazard analysis for both seismic and flooding considerations using updated state-of-the-art analysis techniques covering topics such as locally intense precipitation in line with the events that you mentioned.

Beyond that, the NRC also has a process for analyzing new information on natural hazards as it becomes available. That process will ensure that if any particular site, any group of sites or the entire U.S. nuclear fleet could be adversely affected by new information on natural hazards, the NRC will take appropriate steps to make sure that the plants remain safe.

And finally to your mention of the generic Environmental Impact Statement, the NRC recently spent more than two years revising the generic Environmental

1 Impact Statement for license renewal. We offered 2 multiple opportunities to comment, for the public to 3 comment during that process. And to be clear, for 4 issues that are generic to all nuclear power plants, 5 a single impact statement is appropriate. For site specific issues, such as for 6 Browns Ferry, the staff does additional work to make 7 8 sure that site specific issues are appropriately 9 accounted for. Thank you. All right. 10 MR. RAKOVAN: So I do have another hand up. Brian Paddock, Brian, you should be 11 able to unmute and provide your comments. 12 MR. PADDOCK: All right. I hope you can 13 14 hear me. 15 MR. RAKOVAN: We can. There is one other known 16 MR. PADDOCK: 17 impact on the plant operations, and it is to some extent caused by plant operations of nuclear and other 18 19 heat discharging, waste heat discharging operations of TVA upstream. 20 And that is that if your records will 21 probably show you exactly when this happened, but the 22 Sequoyah plants opposite Chattanooga were forced to --23 24 I think they used the word de-rate and cut back on

their level of generation because the river had gotten

too hot.

And each of these plants, as you know, has a permit for discharge of cooling water from the state agency, the Tennessee Department of Environment and Conservation, under the Clean Water Act's regulation of discharges.

And this problem of the river heating both from manmade contributions to that and from climate change is going to happen again and again. And the French have shown that they have actually had rivers virtually run dry and thus had to cut down -- not just cut down, but close their nuclear plant operations at certain locations. And this is something that I think that can happen.

And to Browns Ferry, as time goes on, we may even see it this summer, since we are now setting a new record for worldwide increase in temperatures, not the amount of increase but the fact that it increases over the previous month.

I think we are on 18 months now where we have higher and higher global warming average temperatures around the globe. And of course that translates to increases in temperature in certain sites more than others.

But these plants are not immune from the

1 environment in which they work. And since their job is to provide energy for us, that is a risk to their 2 3 operations that I think should be considered. And to 4 just write it off as climate change, particularly when 5 it has already happened in the Sequoyah reactors by Chattanooga, I think would be a terrible mistake. 6 7 Thank you for your time today. I really 8 appreciate the fact that we have had an opportunity 9 and a good dialogue. I appreciate it. 10 MR. RAKOVAN: Thank you, sir. Anyone else have any environmental scoping comments that they 11 would like to provide at this time? 12 Again, please raise your hand if you're on MS Teams or if you're on 13 14 the phone, you can press star-5 and that will raise 15 your number, if you will, similar to raising your 16 hand. So we will pause for a moment to see if we have 17 any additional comments. All right. While we are pausing, maybe we 18 19 can back up and go one more time through how folks can provide their comments through other means. 20 So Angela, if you could now back us up -- I think it's 21 the slide right before the public participation slide. 22 23 There we go. 24 So, again, you can provide your comments.

You can write them and send them into our Office of

1	Administration. That's at the U.S. Nuclear Regulatory
2	Commission, Washington, D.C. 20555. You can go to the
3	website regulations.gov and search for Docket ID NRC-
4	2024-0030 or you can send them by email to
5	brownsferryenvironmental that's one word,
6	brownsferryenvironmental@nrc.gov. Again, we ask that
7	you submit your comments by May 3 to ensure that we
8	can incorporate them into our processes.
9	So I am seeing no hands at this point.
10	John, do you want to go ahead and oh, I got a hand.
11	Mr. Safer, please, go ahead.
12	MR. SAFER: Yes. So the questions we have
13	raised today, are they included in the record or do we
14	have to duplicate our efforts and send that in in
15	addition to participating today?
16	MR. RAKOVAN: So we will have your
17	questions as part of the transcript. And we can
18	attempt to mine them, if you will, from them. But
19	your best option if you have anything specific is to
20	send it in to one of the meeting contacts. And,
21	again, we will get it to the right people and try to
22	get you an answer.
23	MR. SAFER: Well, to meeting contacts or
24	to this brownsferryenvironmental@nrc?
25	MR. RAKOVAN: Either way. Any way that

1 you send it in, as long as it is to someone at the NRC who is involved in this meeting, we will funnel it to 2 3 the right people. 4 MR. SAFER: Okay. Thank you. 5 MR. RAKOVAN: Of course. John, do you 6 want to go ahead and close us out today? 7 MR. MOSES: Thanks a lot, Lance. And good 8 afternoon, everyone. On behalf of the staff, I want 9 to thank you for taking the time to attend today's 10 virtual public meeting and for your questions and comments. 11 Just to reiterate a few things. 12 going to summarize our next steps. We are currently 13 14 about halfway through the scoping period. And we will 15 accept your comments until May 3, 2024. And our team 16 will gather the comments that we heard today as well 17 as comments that we receive, as Lance mentioned, from regulations.gov at Docket NRC-2024-0030 and also by 18 19 email and postal mailed letters. So our team will compile those comments, 20 evaluate them and issue a scoping summary report that 21 summarize the conclusions reached from the 22 scoping process. 23 24 We anticipate issuing а draft Environmental Impact Statement in the spring of 2025. 25

1	I believe it's April or so. Once we issue the draft
2	Environmental Impact Statement, we will have another
3	public meeting and comment period to receive
4	additional input from you. And we look forward to
5	your comments on that document once we have prepared
6	the draft evaluation.
7	In summary, we really appreciate tonight's
8	dialogue and your sharing of perspectives. Even
9	though this is an environmental scoping meeting, I
10	want to assure you that any safety issue that you
11	raised, we will consider and share it with the safety
12	team, also and Jessica will also take it back to her
13	team. And it will get appropriately addressed and
14	considered by the safety reviewers.
15	So with that, thank you for your
16	participation, your comments and your questions. And
17	thank you for taking your time this afternoon. I hope
18	you have a wonderful day. Thanks.
19	(Whereupon, the above-entitled matter went
20	off the record at 2:00 p.m.)
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