

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: Uncontested Hearing For The Clinch River
 Nuclear Site Construction Permit Application

Docket Number: N/A

Location: Oak Ridge, Tennessee

Date: August 13, 2026

Work Order No.: NRC-0718

Pages 1-80

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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UNCONTESTED HEARING FOR THE CLINCH RIVER NUCLEAR
SITE CONSTRUCTION PERMIT APPLICATION

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THURSDAY,

AUGUST 13, 2026

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The meeting was convened at Pollard
Technology Conference Center, 210 Badger Avenue, Oak
Ridge, Tennessee 37830 at 5:30 p.m. EDT, Lance
Rakovan, Facilitator, presiding.

NRC PRESENTERS:

LANCE RAKOVAN, Facilitator

JEREMY BOWEN, Director, Office of Advanced
Reactors

MICHELE SAMPSON, Deputy Director, Office of
Advanced Reactors

MADELYN NAGEL, Environmental Project Manager

ALLEN FETTER, Safety Project Manager

INDIVIDUALS WHO SPOKE DURING HEARING COMMENT ANDQUESTION PERIOD:

WAYNE ARCHER

SCOTT BURNELL

DIANE COWIN

SCOTT CUNNINGHAM

RANDY EMON

AMY FITZGERALD

LUTHER GIBSON

SID BALL

KRIS LIGHT

ANN MULLER

PETER PENN

RICHARD REDANO

ROBERT SILVERA

THOR VICTOR

KATHY VINSON

WILLIAM WALKER

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

5:30 p.m.

MR. RAKOVAN: Hello, everyone. My name is Lance Rakovan, and it's my pleasure to facilitate today's public hearing on Tennessee Valley Authority's, or TVA's, construction permit application for Clinch River Nuclear Unit 1. We're going to do our best to make this hearing worthwhile for everyone, and we hope that you'll help us out. I'll walk through the process that helps support constructive engagement.

Some basic ground rules. We ask that you adhere to civil decorum out of respect for each other.

Please don't disrupt the speaking time of others, just as you wouldn't want someone to interrupt you. This includes silencing or turning off electronic devices, as well as stepping outside if you need to have a side conversation.

Threatening gestures or statements will under no circumstances be tolerated and will be cause for ejection from the meeting. If you feel like you are being threatened, by all means, please let me or someone else on the NRC staff in the room know, and we will take proper steps.

Keep in mind that we are transcribing

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today's meeting to make sure that we fully capture your comments. So, you can help us get a thorough transcript by identifying yourself and the group you're speaking with. You can also help us get a clean transcript by minimizing background noise during the public comment period.

The main purpose of this hearing is to receive comments and answer your questions about the NRC's review of TVA's construction permit application. We will also describe the NRC's new mandatory hearing process. We have plenty of time reserved after our presentations for your questions and comments. You can also provide your comments for the record by email until August 27th, and we'll be going over the process for asking questions or providing your comments once we get to that part of the meeting. So please, if you would, hold your questions until we are finished with our presentation.

Please note that the exits are on either side of the stage down here or back up the stairs and out through the lobby. Restrooms are out the door and to your left.

With that, I'd like to introduce Jeremy Bowen to provide some opening remarks regarding our

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new mandatory hearing process. Jeremy is the Director of the NRC's Office of Advanced Reactors. I will be back when it is time to start taking questions and comments. Jeremy, if you would.

MR. BOWEN: All right, thanks, Lance, and welcome, everyone. Thank you all for joining us and for braving the heat this afternoon and the pop-up showers. We're happy that you're all here. So as Lance said, I'm Jeremy Bowen. I'm the Director of the Office of Advanced Reactors. Our office is responsible for licensing all new advanced reactor technologies, and today, we're here to conduct the mandatory hearing for Clinch River.

The mandatory hearing process has been around since the mid-50s. It was actually established as part of the original Atomic Energy Act, the legislation that established the process for civilian use of nuclear technologies. The purpose of the mandatory hearing process was to basically provide an opportunity to communicate that the NRC was getting ready to make a licensing decision and to basically be transparent and provide some opportunity for some debate among the Commissioners about that activity.

We have five Commissioners at the Nuclear

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Regulatory Commission, and over the years the mandatory hearing process has changed slightly. The most recent iteration of that has been where the staff has presented its findings to the Commission. The Commission then has asked the staff questions about our review and our process and then deliberated and made a decision whether or not to move forward with issuance of a license.

In the spring of this year, the Commission actually decided to make a change to the hearing process. That's in recognition of the current interest in nuclear in the United States. They've added some additional flexibility to the process and some additional transparency. They moved the mandatory hearing to earlier in our licensing process and they added an opportunity for public engagement. That's why we're here this evening. We're going to basically present to you all how we the staff conducted our review and provide some information about our licensing process. We'll then provide an opportunity for you all to ask questions of us and provide any comments and that information we would then use to make sure we have done our due diligence and to inform our licensing decision.

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As Lance said, we're happy to take your questions this evening, if you choose to provide some additional comments at a later date, you can do that up until August 27th through email.

I do want to note that this is different than the contested hearing process. For those of you that are familiar with that, the contested hearing process is where you specifically are challenging directly an issue with a licensing action that the NRC is considering. That process was opened last summer, posted in July of last year. We did actually not receive any requests to intervene in the process. No requests to pursue that, so this is the last hearing process, if you will, for this action, and we will be making our decision within the coming weeks whether or not to move forward with the license.

With that, I will now turn it over to Michele Sampson, one of the deputy directors in the Office of Advanced Reactors, and she'll provide you a little more information about our process.

MS. SAMPSON: Thanks, Jeremy, and I'd also like to welcome everyone to this evening's meeting. As the Deputy Director of the Office of Advanced Reactors, I have the opportunity to oversee and direct

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the project team reviewing this application. Today's meeting supports the NRC's mission to -- sorry. Thank you. Next slide. You got it. Great. Today's meeting supports the NRC's mission to protect public health and safety through the efficient and reliable licensing, oversight and regulation of nuclear energy technologies; enable the safe and secure use of nuclear power.

The construction permit is one step in this process for deployment of new nuclear technology, such as the BWRX-300 small modular reactor design. The construction permit review builds on the NRC's work from 2019 when the NRC granted an early site permit to TVA. We concluded that the Clinch River site was suitable for the construction and operation of small nuclear reactors.

In preparation for the construction permit review, we held a public meeting here at the Pollard Center in May of 2025, to inform the community about TVA's plans to request a construction permit for Clinch River Nuclear Unit 1. We discussed the NRC's safety and environmental review process, as well as opportunities for public participation during the review.

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The NRC started our detailed technical review of TVA's application in July of 2025, and we recently completed the safety and environmental review work. The remaining activities are to finalize our licensing decision. If the construction permit is approved, TVA will have NRC's approval to build the reactor, Clinch River Nuclear Unit 1.

Under our two-step licensing process, TVA must request and receive additional NRC approval before operating it. Today, we'll provide more details on our review process and answer your questions. We look forward to engaging with you during the hearing.

I'd now like to introduce today's presenters. Madelyn Nagel, the NRC's environmental project manager for the Clinch River application review, and Allen Fetter is the NRC's safety project manager for the project. I'll turn things over to them to give the presentation. Once they are done, we will open the floor for your questions. Next slide, please.

MS. NAGEL: Thank you, Michele. The NRC's regulations are contained in Title 10 of the Code of Federal Regulations, or 10 CFR, which governs licensing and construction of nuclear power plants,

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research and test reactors, uranium recovery facilities, fuel cycle facilities, waste repositories, and for medical, industrial, and academic purposes. Next slide.

This slide shows the principal legislation and regulations driving timely decisions and outcomes for the environmental and safety reviews. More detailed and comprehensive information about this legislation and our regulations can be found by accessing the link shown at the bottom of this slide or on the NRC's public website. Next slide.

TVA applied for a construction permit for one unit at the Clinch River Nuclear Site, which is covered under 10 CFR Part 50 and is a two-step licensing process. The first step of the NRC's review is to determine whether it is safe to construct and operate a nuclear power plant at the Clinch River site based on the information submitted in the construction permit application.

In parallel to the safety review, the NRC also evaluates the environmental impacts from the initial plant construction and subsequent operation of a nuclear power plant at a proposed site. If approved, TVA may use the construction permit to move forward

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with construction of the plant. In order for the plant to begin operation, TVA will need to submit an operating license application to the NRC for review and approval. Next slide.

In 2024, TVA and GE Hitachi announced their plan to build a boiling water reactor, or the BWRX-300, at the Clinch River Nuclear Site. The BWRX-300 is a small modular reactor that generates up to 300 megawatts of electricity. This proposed small modular reactor has novel design features, including passive heat removal from the reactor core and the reactor containment. Next slide.

Shown here is the timeline for the Clinch River environmental review. The environmental review started with the publishing of a Notice of Intent in the Federal Register to inform the public of the NRC's plan to prepare a supplement to the early site permit Environmental Impact Statement, or SEIS. During the review, the NRC staff gathered information for the SEIS through audits with TVA, consultation with tribes and other government agencies, and independent topical research and data collection activities.

On November 7th, 2025, the draft SEIS was published for a 45-day period for input from all

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stakeholders, including the public, tribes, and other government agencies. The NRC received 17 comments on the draft SEIS. Staff used these comments to adjust the evaluation and analyses as needed and finalized the SEIS. On April 6th, 2026, the NRC staff published a Federal Register Notice of Availability for the final SEIS for the Clinch River Nuclear Site. Next slide.

An important step of the environmental review process under the National Environmental Policy Act, or NEPA, is establishing the federal actions. As the lead federal agency, the NRC may invite any federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a major federal action. The Army Corps of Engineers accepted NRC's invitation under existing Memorandum of Understanding to become a cooperating agency on this project. To ensure the SEIS covered both federal actions, each agency defined their individual proposed action in the document. Additionally, the established purpose and need was to demonstrate TVA's ability to construct and operate a small modular reactor, the BWRX-300, at the Clinch River Nuclear Site. Next slide.

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The following two slides show the breakdown of impacts on resources of the construction permit review. According to 10 CFR Part 51, an SEIS for a construction permit referencing an early site permit shall contain an analysis of those issues related to the impacts of construction and operation that were resolved in the preceding early site permit for which new and significant information has been identified.

If there is no new and significant information for matters resolved at the early site permit stage, the review team may adopt the early site permit SEIS findings at the construction stage and disclose those inclusions for matters considered during the early site permit review. Design parameters that were not reviewed and/or exceeded the values of an early site permit were reviewed at construction permit review. To guide the assessment of environmental impacts of a proposed action, or alternative actions, the NRC has established a standard of significance for impacts as presented in NUREG 1555.

Small impacts are effects that are not detectable or very minor and will not destabilize the

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resource. Moderate impacts may noticeably alter, but not destabilize, the resource. Large impacts are clearly noticeable and are sufficient to destabilize the resource. Please note that not all impacts are negative and may be considered beneficial. Next slide.

All resource area conclusions for the construction permit were found largely and valid of the early site permit. One change from the early site permit to the construction permit was found in historic and cultural resources. The early site permit EIS had a moderate to large impact due to pre-construction activities. However, the staff concluded that the construction permit would have a small impact during building and operation activities.

For an in-depth or larger picture, there is a poster outside the auditorium for members of the public to view. Now I'd like to introduce Allen Fetter to discuss the safety review.

MR. FETTER: Thank you, Madelyn. Next slide, please. Okay, this slide showcases the fundamental functions of a nuclear power plant evaluated as part of the safety review: reactivity and power control, which focuses on fuel and reactivity

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control systems; heat removal, which focuses on reactive cooling systems and reactivity control system and backup cooling systems; and radionuclide retention, which is containment of radioactive material within the facility.

The topics that NRC evaluates are how the plant would maintain safety after severe external events such as earthquakes, flooding, and other severe weather, and potential hazards and risks associated with nuclear power plants. The staff evaluates the plant's ability to control the safety of the core's nuclear chain reaction in the event of such events. Next slide, please. The staff also reviews the reactor design's ability to safely cool the core during operation and shutdown periods and protect workers and the public from radiation during normal operations. Next slide.

This slide shows part of the chronology of the staff's safety review and evaluation from acceptance of the preliminary safety analysis report through completion of the advanced safety evaluation report that went to the Advisory Committee on Reactor Safeguards, or ACRS, for their reviews and to support a full committee meeting on the staff's review on June

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3rd, 2026. Next slide, please.

This slide shows the rest of the chronology of the staff's safety review and evaluation from the ACRS letter report to the NRC Chairman through issuance of the final safety evaluations report for the Clinch River Nuclear Plant on June 25th, 2026. Next slide, please. Now I'll turn it back over to Lance, our facilitator, for this hearing.

MR. RAKOVAN: Thank you. All right. Now that we've finished with our presentation, let's go ahead and open the floor to questions and comments. If we can go to the next slide, please. So, we had some sign-in sheets at registration at the table out front, and I'm mining those sheets to call people up to ask questions or provide their comments. If you wish to have some time at the mic and haven't signed up, that's okay, just get my attention or come down to the microphone when we open things up, and we will certainly allow you to ask your questions or provide comments. If you have a hard copy of anything that you would like part of the official transcript of the meeting, please find me out and hand that to me. I'm happy to take that from you.

Before we start calling folks up, though,

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I want to do a quick check to see if we have any elected officials in the room that would like to speak. We usually give them a chance to speak first. Any elected officials? Okay, seeing no hands, I'll go ahead and start mining from the sign-up sheets that we have. Again, we've got names here. And if you didn't sign up and you wish to ask a question, I know we have a number of maybes on the sheets. If I call a maybe, I'll allow that at your own discretion if you wish to come up at this time. I'll go through the names that I have. If you wish to provide any sort of affiliation when you make your comments, by all means please do that. The first name I have is Luther Gibson. I'll start with Luther Gibson, and then after Luther we'll go to Robert Silvera. Luther?

MR. GIBSON: Shall I come down?

MR. RAKOVAN: Yes, that's okay.

MR. GIBSON: Yes, my name's Luther Gibson. I'm a retired DOE contractor, I worked at the Paducah and the East Tennessee Technology Park, or known as the Oak Ridge Gaseous Diffusion Plant. My question has to do with the emergency planning zone determination. I've seen that there are two options being carried forward, I guess, to the licensing application; a site

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boundary and a two-mile radius. Can you clarify the status of that determination and when it would be made and known to the public?

MS. SAMPSON: Yes. Thank you for the question. So, at this stage of the review, we're reviewing the construction permit application. The construction permit application itself requires TVA to identify major features of emergency planning, and the staff's finding is whether or not we believe TVA would be able to develop a full emergency planning plan for the site.

The construction permit does not authorize possession of radioactive material. So, the actual submittal of their emergency plan would come with the operating license application in the future. At that time, the staff will be reviewing the operating license application and will include the review of their emergency plan. We would make a determination on the acceptability of their emergency plan as part of completing our operating license review. At this time we have major features, but we have not made a determination on the full emergency plan.

MR. GIBSON: Thank you.

MR. RAKOVAN: Okay. Again, we're going to

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go to Robert Silvera, and then to Richard Redano.

MR. SILVERA: This type of SMR reactor, does it promise to give lower kilowatt hour costs versus conventional things like coal and natural gas and the type of reactors that we have in operation in TVA right now?

MR. BOWEN: Thanks for the question. So you know, Michele talked about the NRC's mission. We focus on safety and security. We don't actually make a determination on the cost benefit of the reactor. That's obviously a business decision for the companies.

That being said, a lot of the new technologies that we are looking at right now, they do take advantage of a lot of passive features that require -- they're easier to construct, easier to operate. So, in the safety case, also the enhancements into the safety case also result in, in theory, a lower operating cost, lower cost to construct, lower cost to operate. How that translates to the rate payer -- that is obviously up to the operator of the facility. But fundamentally, they are a lower cost facility than what's currently in operation.

MR. SILVERA: Is this experimental?

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MR. RAKOVAN: Sir, can I get your name for the record?

MS. NAGEL: Here, one second. One second, Lance. I would just like to add something for you. In the --

MR. SILVERA: Is this experimental this SMR only, or is it going to feed electricity into the grid?

MS. NAGEL: Back to your first question, if you are interested in the SEIS in chapter 4, there is a cost benefit analysis that you can review and can read at this time.

MR. BOWEN: Thanks, Madelyn.

MR. SILVERA: t's not available yet?

MS. NAGEL: It is.

MR. SILVERA: It is?

MS. NAGEL: Yes.

MR. BOWEN: Yeah. This --

MR. SILVERA: What is the result? What does it say? Do you know?

MR. BOWEN: Do you remember the specifics on that?

MS. NAGEL: The staff analyzed and did a cost benefit analysis. So, at this time it's just

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looking at a construction permit review, so it's not as detailed, but it was positive.

MR. BOWEN: And as to your question about experimental, this facility is planned to be connected to the grid, and there's a similar -- same design that's actually being constructed in Canada right now in Darlington.

MR. SILVERA: So, it's not experimental. It's functional for feeding electricity into the grid, planning wise?

MS. SAMPSON: Yeah. So, this particular design is the BWRX-300. The X is to indicate that it is the 10th generation of the boiling water reactor design developed by GEVH and their predecessor companies. So, the design itself is a new design. The first unit is being built right now in Canada. The TVA, when we complete our review, if we were to issue the construction permit, it would be the second unit of this design to be constructed. But the intent is to construct unit 4 power generation.

MR. SILVERA: Thank you.

MR. RAKOVAN: Okay. Again, if we could have Richard Redano.

MR. REDANO: I'm Richard Redano. I'm a

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former TVA nuclear engineer and reactor inspector from Region 4 in the old days. I have two questions. The first one is: for TVA's existing nuclear fleet, the reactor operators obtain plant-specific simulator training. Do you know what plans TVA has for its plant-specific simulator training for the operators of this plant?

MS. SAMPSON: I don't know, and that would be part of the operational programs that TVA would have to provide as part of their operating license application.

MR. REDANO: And my second question is: will the resident inspector be placed on site for this facility's construction site?

MS. SAMPSON: So, we'll be utilizing the NRC's Advanced Reactor Construction Oversight program for oversight of the design. Our Advanced Reactor Construction Oversight program is focused on ensuring the quality of construction. It does not mandate having a site resident during the entire period of construction, but we will have NRC construction inspectors on site periodically throughout the construction process.

MR. REDANO: Thank you.

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MR. RAKOVAN: Okay. Again, I had a number of maybes on the sign-in list, but I'll let you make those decisions at your discretion. Those were the three individuals that had marked a full yes in terms of wanting to have some time at the microphone. So, if there's anyone else at this time - sir, do you want me to run a microphone all the way up to you? Yeah. Okay. Scott's going to do it for me. Thanks, Scott. And again, sir, if you could introduce yourself and if you have any affiliation that you want to identify, that'd be great.

MR. McCLANAHAN: Ted McClanahan, resident of Oak Ridge and committee member of Greenlight Oak Ridge. There's a lot of discussion lately in the DOE of selecting a site for spent nuclear fuel waste permanent storage. What's the future of the spent fuel from this reactor? That's my first question. Thank you.

MR. BOWEN: So, thank you for the question, sir. I appreciate the ability to interact with you earlier. So again, that is part of the information that will have to be provided with the operating license, what the plan for handling of the spent fuel is at the site. We do have early indication from TVA

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that they do have a robust plan for managing the spent fuel at the site.

As far as the broader plan for as you mentioned, the activities that Department of Energy has underway for spent nuclear fuel policy across the entire United States, we're standing by. We're waiting for the Department of Energy to make that decision. We have no insights on that. We'll take that for the safety review whenever it comes our way.

MR. McCLANAHAN: Thank you. And one additional - the waste heat, is that - I suppose this is all in the application, and I apologize I haven't read the detail. Is that an evaporated cooling or river water cooling? How's the waste heat dispersed?

MR. BOWEN: Yeah. Allen, maybe I'll start and let you fill in with some specifics. But in general, a lot of these advanced reactor technologies are taking advantage of, like I said earlier, some new technologies, some additional passive cooling features and safety features. So, in many cases, they're able to take advantage of that and provide less of an impact.

MR. FETTER: Yes. But the cooling water would come from the Clinch River. It's also described

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in the environmental impact statement as well. The total megawatts thermal is around 2,400 megawatts thermal [Note: This value was subsequently corrected verbally as being around 870 megawatts thermal by Mr. Fetter (see page 28 of this transcript)], but the actual cooling system hasn't been designed yet. That would be in the operating license.

MR. McCLANAHAN: Thank you very much.

UNKNOWN MALE: I was curious. You were talking about cooling designs, and if water would come out of the Clinch River. There are new technologies available to take waste heat and convert it into potable water, drinkable water, out of the moisture in the air. Are any of these consideration of applying that kind of technology rather than just solely depending on the water in the Clinch River?

MS. SAMPSON: So, that type of a technology decision would be made by TVA, and if it impacts the nuclear safety of the facility, the NRC would do a review of it, but we wouldn't be involved in making that type of technology decision.

UNKNOWN MALE: Yeah, there's some very interesting new technology

(Simultaneous speaking.)

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MR. BOWEN: You've got to tell them about that.

UNKNOWN MALE: There's very interesting new technology that's being developed, you know, by GE Vernova. As a matter of fact, they're taking water out of the atmosphere in an economical manner using waste heat. So, I'm interested is that being applied to waste heat here rather than just doing it all by the river's water.

MS. SAMPSON: Thank you for your comment.

MR. RAKOVAN: Anyone else like some time at the microphone to either provide a comment or to ask a question? Thanks, Scott. Again, if you could introduce yourself.

MR. CUNNINGHAM: Hi, Scott Cunningham, a resident of that direction. Are they going to put up the emergency sirens out there like they have down here in the corner of the city? I know a lot of the other plants have them, but since we're bringing on a lot of new nuclear capabilities out there, and it looks like you have pressurizing and everything, are they going to put sirens out there? Thank you.

MS. SAMPSON: Thank you for your question. So, we have evaluated the major features of TVA's

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emergency planning as part of our construction permit application review. But design of their full emergency plan would be part of their operating license. So, I really can't speak to what their final design would be.

MR. BURNELL: And I can add to that a little bit. Good evening, my name is Scott Burnell. I'm one of the agency's spokespeople. I've been working on this project since its inception.

Speaking generally, sirens are one option for an operating facility. Many of the plants operating today have moved to take advantage of wireless communication technologies to send out mass alerts when necessary. So, that's another option. And depending on the analysis that TVA provides us at the operating license stage, that will help determine what level of alert notification will be required for the NRC registry.

MR. BOWEN: Thanks, Scott. There was a hand in the back.

UNKNOWN MALE: In one of the earlier responses, I thought I heard you say this plant will produce about 2,400 megawatts of thermal. If that's true, that'd be a thermodynamic efficiency of about 13

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percent. Are you sure that's the correct answer?

MR. FETTER: That's incorrect. I was going to correct the administrative record on that. It's about 870 megawatts thermal. The 2,400 megawatts thermal I mentioned earlier was the was the bounding value for the early site permit.

MR. BOWEN: Gotcha. Scott's behind you. Thanks for the assist. Sir, can you introduce yourself, please?

MR. FROEHLICH: Christopher Froehlich. I'm a program manager at Oak Ridge National Lab. I'm looking to Scott, but I was wondering if TVA gave any indication of why they chose part 50 over part 52 of the licensee permit.

MR. BOWEN: Okay. Sure. Sir? So thank you for the question. That's actually a question we get a lot these days with all the different technologies coming through. The advantage of part 50 is that it, the two-step process, allows construction to begin earlier in the overall life cycle of designing the plant. GE Vernova Hitachi is still working on - like Michele said earlier, this is the first iteration even though it's the 10th boiling water reactor design, this is the first iteration of this. They're learning

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from the actual construction activities that they have in Darlington, the Darlington site in Canada right now. So, they're doing changes to the design, learning from that construction, and making further adjustments.

The part 50 process allows them to get a construction permit, start constructing the major features, and then once they have a final design, all of the information, the operational programs, then they can submit the operating license at a later date once they have the facility actually constructed. So Part 52, would require submitting the complete design information all in one step. So, there's advantages -- not pros and cons, but there are advantages to each different licensing pathway.

MR. RAKOVAN: Further questions or comments? Please, sir, if you can introduce yourself?

PETER PENN: My name is Peter Penn and I worked in the nuclear industry previously.

MR. RAKOVAN: Could you hold the microphone a little closer? It's a little hard to hear.

PETER PENN: Yeah. I thought the meeting was supposed to start at 6:00, that's what our newspaper said, so I apologize for being late. I

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thought I was coming here early finally, and I'm late again. But are you going to provide an overview on the current status of the reactor? What time did the program start today?

(Simultaneous speaking.)

MR. BURNELL: I can address that.

MS. SAMPSON: Yes.

MR. BURNELL: Ladies and gentlemen, we did issue a meeting notice several weeks ago that made it clear the open house would start at 5:00, and the hearing would start at 5:30. We also shared that information directly with the media in the Knoxville area. We apologize for any confusion that may have been caused by what the media actually put in their reports. But we have been clear from the time that we scheduled this meeting, that it would start at 5:30.

MR. BOWEN: Scott.

MS. SAMPSON: Scott.

MR. BOWEN: Scott, we have some time, and since there were several folks that came in late, we can run through the aspects of the presentation again.

So --

PETER PENN: I just saw the paper yesterday.

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MR. BOWEN: Yes, we apologize for the confusion with that, but yeah, we can run through it real quick. So, basically, again, why we're here --

MR. RAKOVAN: So, do you want to rerun through -- go through the slides?

MR. BOWEN: Yeah. I'll give an introduction. You can go back to the beginning real quick.

MR. RAKOVAN: Okay, yeah. Can we go back to the beginning of the slides? Yeah, this is like the second slide.

MR. BOWEN: Basically, we're here to -- this is a mandatory hearing. So, it's part of the NRC's process, been around since the Atomic Energy Act in the mid-50s. It's basically an opportunity to communicate to the public that the NRC is considering issuing a license to use nuclear technology. It's gone through several iterations over the years. The most recent iteration was earlier this spring, where the Commission decided to move it earlier in the process, provide some additional flexibility, and to provide an opportunity for public engagement in the past, that had not been done. So, that's what we're here for this evening.

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Basically, the way we've always done these hearings, we've presented the staff's review, kind of an overview of the technology to the Commission, our five Commissioners, and they then ask the staff some questions, and we've made a decision about licensing after that. So, now we're providing an overview this evening of our review, giving an opportunity for the public to provide comments and ask questions of the staff, and then we'll make a licensing decision in the coming weeks.

With that, Michele Sampson, the Deputy Director for the Office of Advanced Reactors, is going to give an overview of kind of our licensing process, and then we'll go from there.

MS. SAMPSON: Great. Next slide, please. Thank you for being here. And just again, Michele Sampson. I'm the Deputy Office Director for the Office of Advanced Reactors.

The construction permit review that we completed builds on our work from 2019 when the NRC granted an early site permit to TVA. We concluded that the Clinch River Site last year for the construction and operation of small nuclear reactors. In preparation for the construction permit review, we

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held a public meeting here in May of 2025 to inform the community about TVA's plans to request a construction permit for the Clinch River Nuclear Unit 1 based on GEH BWRX-300 reactor design. We discussed the NRC's safety and environmental review process, as well as opportunities for public participation during the review.

The NRC started our detailed technical review of TVA's application in July of 2025, and we've recently completed the safety and the environmental review work. The remaining activities are to finalize our licensing decision. If the construction permit is approved, TVA will have NRC approval to build the reactor. Under our two-step licensing process, TVA must request and receive additional NRC approval before operating it. Today, Madelyn and Allen will provide more details on our review process, and then we'll be able to answer your questions.

As noted on the slide, the NRC's mission is to protect public health and safety through efficient and reliable licensing, oversight, and regulation of nuclear energy technologies, enabling the safe and secure use of nuclear power. The construction permit is one step in that process for

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deployment of new nuclear technology, such as the BWRX-300 small modular reactor design. I'll turn it over to Madelyn to talk about the environmental review.

MS. NAGEL: Thank you. Next slide. The NRC's regulations are contained in Title 10 of the Code of Federal Regulations, or 10 CFR, which governs licensing the construction of nuclear power plants, research and test reactors, uranium recovery facilities, fuel cycle facilities, waste repositories, and for medical, industrial, and academic purposes. Next slide.

This slide shows the principal legislation and regulations driving timely decisions and outcomes for the environmental and safety reviews. More detailed and comprehensive information about this legislation and our regulations can be found by accessing the link at the bottom of this slide or on the NRC's public website. Next slide.

TVA applied for a construction permit for one unit at the Clinch River Nuclear Site, which is covered under 10 CFR Part 50 as a two-step licensing process. The first step of the NRC's review is to determine whether it is safe to construct and operate

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a nuclear power plant at the Clinch River site based on the information submitted in the construction permit application. In parallel to the safety review, the NRC also evaluates the environmental impacts from the construction and subsequent operation of a nuclear power plant at a proposed site.

If approved, TVA may use the construction permit to move forward with the construction of the plant. In order for the plant to begin operation, TVA will need to submit an operating license application to the NRC for review and approval. Next slide, please.

In 2024, TVA and GE Hitachi announced a plan to build a boiling water reactor for the BWRX-300 at the Clinch River Nuclear Site. The BWRX-300 is a small modular reactor that generates up to 300 megawatts of electricity. This proposed small modular reactor has novel design features, including passive heat removal with the reactor core and reactor containment. Next slide.

Shown here is the timeline for the Clinch River environmental review. The environmental review started with the publishing of a Notice of Intent in the Federal Register to inform the public of the NRC's

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plan to prepare a supplement to the early site permit environmental impact statement, or SEIS. During the review, the NRC staff gathered information for the SEIS through audit with TVA, consultation with tribes and other government agencies, and independent topical research and data collection activities. On November 7th, 2025, the draft SEIS was published for a 45-day period for input from all stakeholders, including the public, tribes, and other government agencies.

The NRC received 17 comments on the draft SEIS. Staff used these comments to adjust the evaluations and analyses as needed and finalized the SEIS. On April 6th, 2026, the NRC staff published a Federal Register Notice of Availability for the final SEIS for the Clinch River Nuclear Site. Next slide.

An important step of the environmental review process under the National Environmental Policy Act, or NEPA, is establishing federal actions. As the lead federal agency, the NRC may invite any federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a major federal action. The Army Corps of Engineers accepted NRC's invitation under an existing memorandum of understanding to become a cooperating

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agency on this project. To ensure the SEIS covered both federal actions, each agency defined their individual proposed action in the document. Additionally, the established purpose and need was to demonstrate TVA's ability to construct and operate a small modular reactor, the BWRX-300, at the Clinch River Nuclear Site. Next slide.

The following two slides show the breakdown of impacts on resources of the construction permit review. According to 10 CFR Part 51, an SEIS for a construction permit referencing an early site permit shall contain an analysis of those issues related to the impacts of the construction and operation that will result in the preceding early site permit for which new and significant information has been identified. If there is no new and significant information for matters resolved at the early site permit stage, the review team may adopt the early site permit EIS findings at the construction stage and disclose the conclusions for matters considered during the early site permit review.

Design parameters that were not reviewed and/or exceeded the values in the early site permit were reviewed during the construction permit review.

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To guide its assessment of environmental impacts of a proposed action or alternative actions, the NRC has established a standard of significance for impacts as presented in the NUREG 1555 guidance.

Small impacts are effects that are not detectable or are very minor and will not destabilize the resource. Moderate impacts may noticeably alter, but not destabilize, the resource. Large impacts are clearly noticeable and are sufficient to destabilize the resource. Please note that not all impacts are negative and may be considered beneficial. Next slide.

All resource area conclusions for the construction permit were found bounding and valid of the early site permit. One change from the early site permit to the construction permit was found in historical and cultural resources. The early site permit EIS had a moderate to large impact due to preconstruction activities. However, the staff concluded that the construction permit would have a small impact during building and operation activities. For an in-depth or larger picture, there is a poster outside the auditorium for members of the public to view. Now, I'd like to hand it over to Allen.

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MR. FETTER: Thank you, Madelyn. I'm Allen Fetter and was one of the Senior Project Managers on the safety review. Next slide, please. This slide showcases the fundamental functions of a nuclear power plant evaluated as part of the safety review. Reactivity and power control, which focuses on fuel and reactivity control systems; heat removal, which focuses on reactor cooling systems reactivity control systems and backup cooling systems; and radionuclide retention, which focuses on containing radioactive material within the facility. Next slide, please.

Some of the key safety topics that NRC evaluates is how the plant would maintain safety after severe external events such as earthquakes, flooding, and other severe weather and potential hazards and risks associated with nearby industrial facilities. The staff evaluates the plant's ability to control and safely halt the core's nuclear chain reaction in the event of such events. Next slide, please.

The staff also reviews the reactor design's ability to safely cool the core during operation and shutdown periods and protect workers and the public from radiation during normal operations. Next slide, please.

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This slide shows part of the chronology of staff safety review and evaluation from acceptance of the preliminary safety analysis report through completion of the advanced safety evaluation report that went to the Advisory Committee on Reactor Safeguards, or ACRS, for their review in support of a full committee meeting on the staff's review on June 3rd, 2026. Next slide, please.

This slide shows the rest of the chronology of the staff safety review and evaluation from the ACRS letter report to the NRC Chairman through the issuance of the final safety evaluation and report for the Clinch River Nuclear Unit 1 on June 25th, 2026. Next slide, please. And now I'd like to hand it back over to Lance or Jeremy at this point.

MR. BOWEN: So thanks, Allen and Madelyn. And thank you, sir, for pointing out the confusion with that. Hopefully going through the presentation again for those that came in later, hopefully that provided some additional context.

I did want to go back to the question, sir, that you had earlier about the economic impacts.

Madelyn pointed out on slide - if we can go back to slide 11 real quick. Thanks. The socioeconomics line

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there shows moderate to large - that was what Madelyn was pointing out and saying it was actually shown beneficial.

The poster outside has a little bit more information, and then the slide presentation has a link to the environmental impact statement that you can read a little bit more detail about in there.

MR. RAKOVAN: All right. And that brings us back to questions and comments round two. Thank you for those of you who stuck around for the second showing. I didn't realize we were going to do two showings of the presentation tonight, but you got two for the price of one, those of you who came for the first showing. Sir, if you could introduce yourself and any affiliations.

MR. EMON: Yes. I'm Randy Emon. I'm with the City of Oak Ridge. Just one quick question. You commented earlier about newer reactor design with passive reaction cooling. Can you comment about the difference between that feature in this versus older reactors and what is the backup cooling system?

MR. BOWEN: So, I can speak in general. I don't know if there are specifics about this design. Allen can correct me if I'm wrong. In general, a lot

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of these - you may hear them referred to as generation three plus or generation four technology. So basically, they use gravity instead of pumps. They use electricity, if there's a loss of electrical power, equipment fails in a condition where the reactor's put in a safe condition. Some of the initial reactor technologies required motive force from pumps. It required electrical power. There was a lot of, you know, forced pressure and everything to try and actually ensure the safe operation of the facility. A lot of these technologies now are relying, like I said, on gravity defaulting to failed equipment fails in safe condition. So, in general, that's kind of what these technologies are. And I don't know if they have --

MR. FETTER: Yeah, the only other word I would add is natural circulation.

MR. BOWEN: Thank you.

MS. LIGHT: Hi, I'm Kris Light. I'm a resident plus I'm also a science teacher. I have two questions. One of them was on the aquatic ecology. You've got the RFA as large. What does that mean?

MS. NAGEL: Thank you. So, RFAs are - I know, we tried. If you can go back to slide 11.

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MR. RAKOVAN: Reasonably foreseeable activities?

MR. FETTER: Yes.

MS. NAGEL: Absolutely. There it is. So RFAs are reasonably foreseeable actions, and so that looks at the cumulative impacts in the region and that are close to the site. So, any other actions that might be taking place at this time.

MS. LIGHT: Okay. What I was wondering is, is it bothering the fish, the birds, what is the effect on the environment or the aquatic ecology?

MS. NAGEL: Yeah. We also have a terrestrial ecology up there as well. So, for aquatic ecology, we determined it would be a small impact for building and operation. But based off of what other actions or events are occurring in the vicinity of the plant at this time, we just determined there would be more of an impact to aquatic ecology at that time, but it would be determined to be small for the building and operation of it.

MS. LIGHT: Okay. So, would that be like the hot water flowing back into the river?

MS. NAGEL: Correct.

MS. LIGHT: Okay. My second question is

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you mentioned flooding. You build this right on the river, and we have had floods here. What would that do to the reactor?

MR. FETTER: So, as part of our safety evaluation, we look at the maximum probable flood, and staff did review that. In the event of the worst case scenario of flood, the site would be above the maximum flood level. The location of Clinch River Nuclear Unit 1 is not right next to the river. Even though the property adjoins the river, the plant will be located where the topography up is higher and above the maximum flood level.

MS. LIGHT: Okay. Thank you.

MR. RAKOVAN: There's a couple in the center and down here.

UNKNOWN MALE: I've got a hand over here. Sir, if you could introduce yourself, please.

MR. WALKER: Hello. William Walker, resident of the city of Oak Ridge. So, under a construction permit, my understanding, it's more than just the walls, the floor, the ceiling. It's the installation of the major significant components, the reactor support systems. Are they allowed to do functional testing and performance testing of this

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equipment up to, but not including, the actual presence of fuel under the construction permit?

MR. BOWEN: Thank you for the question. It depends on the system. Some systems they can actually be doing some of that testing. But most of the nuclear systems that has to be done under kind of a test - I'm trying to think of the term. I can't recall the exact terminology right now, but it's basically a very formalized test procedure or process that they engage with the NRC before they actually begin that process. So, some of the, I'd say, support system, the non-nuclear system, that can actually absolutely be constructed, tested, and everything before they actually get into the nuclear systems.

That would be part of the operating license, and we would have to verify that the facility is constructed as designed, construction is complete, and then the testing processes are verified before we actually issue the operating license. That would allow them to go and actually continue and go into full operation.

MS. MULLER: Hi. Anne Muller. I'm from here in Oak Ridge. I'm not a science person, I'm just a resident, but I'm curious because I think of things in

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a systems way, and it seems like cooling would be part of the system, right? How is it that this could be the second unit built, and the cooling hasn't yet been designed, right? Can you help me to understand that, please?

MS. SAMPSON: I need a manual to utilize the microphone apparently. The NRC has two licensing processes. One is the two-unit process, which enables submittal of a construction permit. The applicant does not need a 100 percent complete design to submit the construction permit. So, the design that we reviewed did not include a complete cooling system. It wasn't required to be part of the design that we reviewed. I cannot speak for -- so I'm talking about what we reviewed. The GVH design for the BWRX-300, the state of completion for that it certainly is beyond what we reviewed in the construction permit.

As mentioned, the design is being built in Canada at the OPG site. And so the completeness of that design would be at a different stage than the design that we reviewed for the construction permit. So, it doesn't seem intuitive, I'm sure, but we only need a percentage of completeness of design to do our construction permit review. That enables time for the

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design to be built and finalized, and then we would review the operating license at a future date.

MR. BOWEN: And maybe I'll just add a little bit to what Michele said. There's also aspects where we're only looking at from the standpoint of protection of public health and safety. So, there's only certain information we need at this stage, like Michele said, to make sure that if the facility was constructed, then the public health and safety would be maintained.

Whether the reactor would actually produce money, that's not something we look at this. So, we're only focused on public health and safety. So, the cooling system does not need to be available. It might need to be available to support future operation and actual production of the facility, but at this stage, it's not relevant to our finding that public health and safety is maintained.

MR. FETTER: Can I add? This is Allen Fetter. I wanted to add one more thing. We have to look at if the reactor can be safely cooled. And then there's the operational part where you use cooling water to condense the steam, versus we have to look at can the reactor safely be cooled. But then the cooling

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water, for example, you've got parabolic towers, there's natural draft and then there's fan-cooled systems, and that's a business decision that has to be worked out. That doesn't - as we point out, that doesn't need to be known. There are distinctions - like, it's not that we don't know how they're going to cool the reactor. That's having to do with condensing the steam for continuing in the reactor system. That's a business decision.

MR. BURNELL: And just to pile on a little bit more to what Allen was saying, what we look at in a construction permit is the cooling of the reactor itself. The system that would potentially draw water from the river or use another system to provide cooling to the electricity generation part of the plant, that is still to be determined. That is something that we look at once you get an operating license.

MS. MULLER: So, the reactor cooling part has already been decided?

MR. BURNELL: To the point, it needs to be for the construction, yes.

MS. MULLER: That's reassuring.

MR. BOWEN: Scott's getting the steps in

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today.

MS. FITZGERALD: I'm Amy Fitzgerald with the city of Oak Ridge. I don't want to get too far ahead, but I was trying to remember from the early site permit that covered the additional allowance to build additional units on the site. So, if the business decision is made down the pipe by TVA to add units to this site, do they have to go back through the same process if they build an identical unit?

MS. SAMPSON: Sure. Thank you for that question. So, our early site permit, the application, and our early site permit approval did authorize multiple, or it evaluated multiple units for the site. The construction permit application submitted by TVA was for a single unit, Clinch River Nuclear Unit 1.

So, our construction permit will authorize construction of only one unit. Should TVA make the decision that they want to site additional units, they would submit a construction permit application for those additional units. To the extent that those units are identical to the unit that has been approved, the NRC would leverage the safety findings that we have made in the past to facilitate that review going a little bit faster because we wouldn't need to

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re-review things that are unchanged. But any additional new information would be reviewed to ensure the safety for those future construction permits.

MR. BOWEN: Lance, there's a gentleman down here.

MR. RAKOVAN: One minute please. We got a couple of hands up here. Sir, can you introduce yourself, please?

MR. BALL: Yeah. Sid Ball. I'm a retired board. On the question of the effects of low level radiation on health outcomes and that kind of thing. There's this thing called linear no-threshold. I don't know if you covered that before in this meeting and I got here at 6:00.

MR. RAKOVAN: We did not cover that as far as this meeting. But Scott, do you want to?

MR. BURNELL: Thank you. The agency is currently going through a process to consider changes to our approach to radiation protection. The basic idea of linear no-threshold analysis remains, and just to explain it briefly, linear no-threshold means that any increase in radiation also carries with it an increase in the potential risk of cancer. If it's a small increase, small increase in risk. If it's a

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larger increase, larger increase in risk. Linear no-threshold remains in place.

What the agency is looking to revise is another concept that has been called as low as reasonable achievable, or the term ALARA. The agency has applied that for the past several decades, but it's been kind of an amorphous and ill-defined concept. So, how different companies apply it has varied. It's lead to some inefficiencies. The approach that we're taking now is something a little more rigorous, a more analytical approach that maintains our radiation protection standards, but increases the efficiencies by which companies will apply linear no-threshold to make sure that their workers and the public remain safe.

MR. BALL: I'm sure you understand that linear-no-threshold is a bogus concept.

MR. BURNELL: It remains the consensus approach to radiation protection around the world.

MR. BALL: Well, the French, they understand that it's probably behind. I had heard that recently, maybe six months ago, the NRC had changed their mind on all of this.

MR. BURNELL: The short answer is no. There

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was a request several years ago, it was resolved I want to say 18 months ago. Several members of the radiation protection community suggested to the NRC that an alternative approach, something called hormesis. The idea that small doses of radiation up to a certain amount actually are beneficial to prompt the body to increase its ability to withstand radiation. These people said we think hormesis is valid, and we think the NRC should follow that approach.

The NRC took a great deal of time considering the information those people provided. We continued to come to the conclusion - and we still do - that linear no-threshold is the most valid approach to radiation protection. If you have additional information that another regulatory body has a different approach, the rulemaking regarding LNT and ALARA is still open and you can submit it through that process. We can get you the information on how to do that.

MR. FITCH: Bill Fitch, I'm a resident of Oak Ridge. Looking here at slide 11 that we have on the screen, construction impact is - various categories: moderate, small, large. If you could kind of give us a brief definition of small, moderate, and

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large, please.

MS. SAMPSON: Thank you. So, small impacts are effects that are not detectable or are very minor, so it would not destabilize the resource. Moderate impacts may noticeably alter, but not destabilize, the resource. Large impacts are clearly noticeable and sufficient enough to destabilize the resource, but I would like to preface that, you may see a large impact on here, but it may not always be negative. It may be a large impact that may be beneficial, such as we've seen in socioeconomics and the breakdown of it - such as taxes, we determined it would be a beneficial part of the resource.

MR. RAKOVAN: Sir, if you could introduce yourself, please.

MR. ARCHER: My name is Wayne Archer. I own property across the river about 300 feet down from the intake. And my question about aquatic ecology. What's it going to do to the water levels? I heard you say, I think, that a gravity-fed system, is that correct, to the intake?

MS. SAMPSON: So, within the reactor, cooling within the reactor vessel itself is gravity. So, that would not be the system to move water from

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the river. They're two different systems.

MR. ARCHER: So, there will be a pump system there then at the intake site? Is that correct?

MS. SAMPSON: So, we haven't reviewed TVA's design for that in full yet, so I couldn't speak to exactly how the design will be. But traditionally, that would be the system.

MR. ARCHER: Yes. What's it going to do to the water levels of the river? Especially in the wintertime when it might drop six to eight feet?

MR. BURNELL: If I could start generally, and then Allen can add some information. In general, the more you look at the overall water levels in the river and as part of the safety determination for an operating license, we will look at TVA's analysis. They're going to say the river can only go so low before we could continue operating. We'll analyze that and make sure that it's appropriate and in so doing, we will make sure that, from a safety standpoint, TVA's approach is going to maintain safety in terms of being able to withdraw water from the river during normal operation. They'll also have to talk to the state about a permit to both take water from the river and return it once they're finished.

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MR. FETTER: I was just going to talk about the Clean Water Act limits that can be taken as part of the environment. Obviously there has to be enough to - it's not dependent on -- it's not a safety system to take it out. It's for their cooling of the steam. But that being said, if it's very hot water, there's still limitations that are put on by the state, not by NRC, to evaluate that. Madelyn, do you want to add to that?

MS. NAGEL: So, part of our review, we have a memorandum of understanding with the United States Army Corps of Engineers. As part of this project, they are a cooperating agency with us. And so we utilize part of their analyses to make our impact determinations on the environmental review. And so part of that is TVA would be required to go to the United States Army Corps of Engineers for a Department of the Army permit for the intake structure for the water.

MR. ARCHER: Okay. Would there be a review for that as well?

MS. NAGEL: I can't speak for what the Army Corps does, but it will be coming at a later date.

MR. ARCHER: Okay. And I guess my last

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question about it would be the visual impact. What kind of light shines at night? Is there going to be a huge or a imposing light? Are these massive LEDs or what?

MS. SAMPSON: I think that you would have to work with TVA for those type of aesthetic design questions for the facility. Our review is focused on the public health and safety of the reactor, the plant itself.

MR. ARCHER: Okay. Gotcha. So, we would need to go to TVA to do that.

MS. NAGEL: There are some visual impacts discussed in the land use section of chapter 3 of the SEIS.

MR. ARCHER: Okay.

MS. NAGEL: If you're interested but at this time, nothing has been finalized, so I can't give you specifics, unfortunately.

MR. ARCHER: Okay. Last question real quick. If you owned the land across from it, would you be willing to build it? Would you feel safe enough to build it?

MR. BOWEN: So, sir, we were actually at the site this morning, and I want to say you have a

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beautiful piece of property, so.

MR. ARCHER: That's why I want to be certain.

MR. BOWEN: Yeah. And I think that TVA recognizes that. I can't speak for them, but I got the impression that they recognize you have a beautiful piece of property there and want to be a good neighbor. And I think our job is to make sure that you continue to be able to use your property in a safe and secure manner. So we will commit -- we are committed to do our part. You know, Michele offered to reach out to TVA about your concerns and everything. But I can commit to you on behalf of the NRC, we're here to make sure that you stay safe. Thank you.

MR. ARCHER: Thank you.

MR. VICTORS: Thor Victors. I'm also a property owner across the river. And just to follow up, and I apologize if this question is already asked.

The visual and the sound - and I'm sure this information's out there, maybe online or somewhere. I'm not exactly sure how tall the proposed site is going to be. Is it 3 stories? Is it 10 stories? And then also the cooling towers, do we have any idea of the decibels that it's going to be putting out? Is

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there an existing site somewhere in North America that exists that I can travel to and put my eyes on this exact design?

MR. RAKOVAN: It's looks like, Madelyn, I'll let her look up the information while I'm kind of giving some information. The second question, the second part of your question: The facility, the similar design, the same design is being built in the Darlington nuclear plant in Canada. It's an hour or so north of Toronto. So, that's currently being constructed. They are continuing to learn lessons from that construction. So, the same exact facility might not be built at Clinch River, but that design is being constructed right there now. Madelyn, I'll let you jump in on the first part of the question.

MS. NAGEL: So, if you go to 3.11 of the SEIS under Non-Radical Health, we did do an impact analysis of noise. We did determine that it would be a small to moderate impact for noise. However, there is a regulated level of decibels, and so TVA will have to be under that or at that level, and we did determine it, they would be.

MR. FETTER: Also, in one of the handouts, we have a couple of their QR codes. TVA's application

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in chapter 1 of their Preliminary Safety Analysis Report, they have some figures showing elevations of the building. I don't have them memorized. I'm thinking like 49 feet comes to mind right now. But you know, I don't want to commit to the proposed height right now until I can go back and look at that. But if you need help, we have some slides later. If you've got the contact information for me and for Madelyn, we can help you navigate our website. We can help you out with that, get you the detailed information.

MR. RAKOVAN: Sir, can you reintroduce yourself?

MR. BALL: Yeah. It's Sid Ball again from Oak Ridge. I don't know if I missed the first part. Was there a discussion that's pretty current now about people building plants which provide a lot of power for the AI question? Have you gone through that for this exercise? And did the agency look into the same thing? You know what I'm talking about, I guess. A lot of people are complaining about the fact that their water systems are facing - and their electrical systems are shortchanged by all these hot spots put up for AI.

MR. BURNELL: Just to make sure that we're

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understanding your question, you're asking about data centers and how this plant's output could be provided to those data centers?

MR. BALL: Yeah. I guess so. You have about 200 megawatts disposable even for a few hundred megawatt plant.

MR. BURNELL: The short answer, and I'm sure Jeremy will have some more details, is we consider the safety of the plant itself. TVA is going to sell the output of the plant through the regional grid. It's not, to our knowledge, dedicated to any one application. It goes to the grid. And as far as any given data center's impact on the environment, I'm going to go out on a small limb here, and Madelyn will correct me. If we have information when we get to the operating license stage that there are data centers in the vicinity that would be drawing water from the Clinch River, that would be another impact that would be taken into account during our environmental impact statement for an operating license.

MR. BOWEN: I think everything Scott says is correct, so I don't think anything to add.

MR. RAKOVAN: Any further questions or comments? Oh, okay. We already have one.

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MR. BENNETT: My name is Peter Bennett. I'm a resident of Oak Dale, not Oak Ridge. But the question that I have pertains to slide number 14, so I don't know.

MR. RAKOVAN: We're pulling it up. There we go.

MR. BENNETT: It says, Nearby industrial facilities - the external hazards. Okay, so this is from the local paper on what's going on in Oak Ridge. Orano USA announced an enrichment facility which will provide domestic for producing fuel for power plants while; 2 BWXT is enriching fuels for the national security mission; 3, LIS Technologies is developing new laser enrichment technology; 4, TRISO-X is producing fuel for next generation, including those being constructed locally by Kairos Power, that's number 5. Radiant Nuclear has announced a factory to manufacture microreactors and number 7, Oklo has announced a nuclear fuel recycling facility. All of that has been announced for Oak Ridge. Are they included in your nearby industrial facilities and how does one impact the other?

MR. FETTER: So, as part of our chapter 2 review, we looked at everything provided by TVA as it

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regarding nearby industrial facilities at the time including any potential large traffic on the river. For example, there is no LNG transport on the Watts Bar Reservoir, but that would be an example of a nearby industrial hazard. But all of the hazards, including airports, are also looked at.

Some of these announcements came after we received the application and when we come to the operating license phase, those would also need to be considered as part of the external hazards safety review.

MR. BENNETT: So, what you're saying is that all of these announced nuclear facilities, you know, nuclear fuel recycling, there's a lot of radioactive materials going in there. You're saying that they will be considered during the operating license and have not yet been considered?

MR. FETTER: So, part of the external hazards is to make sure that any industrial accident doesn't impact the safe operation of the plant. Maybe I'm not understanding the question.

(Simultaneous speaking.)

MR. BENNETT: Have these seven facilities -

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MR. FETTER: Let me start with the base level. When we're looking at TVA's application, at the time they filed it, many of these announcements had not been made. However, we still have enough information to show that during construction of the facility, we are satisfied that any nearby industrial facility that exists today is taken into account in terms of an accident that might happen on site, some sort of chemical release that could affect the site.

Once we get to the potential operating license application, everything you listed, as long as it is going - as long as it has the ability to directly impact the Clinch River site, it will be analyzed to make sure that the plant maintains safety even if there's some sort of off-site industrial incident. Anything to add?

UNKNOWN MALE: And that would even include like wreck of a chemical truck along Interstate 40 as well.

MR. BOWEN: And if I could - I appreciate you bringing this up, sir. I think the distinction that you're hearing, Allen's pointing out the areas where the NRC doesn't have any prior involvement and understanding of what the accident could be with.

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He's mentioning liquid natural gas shipping on the river, a chemical plant issue, a traffic accident. Every facility you mentioned will be licensed - will be reviewed and required to be licensed by the NRC. So, not only are we considering the impact of an event at one of those facilities, we are considering the safety of that facility as well. Each of those facilities will have to go through the same rigorous safety and environmental review that we've done for Clinch River, so we have more insights into whether there is a concern from a safety standpoint there. If there is, we wouldn't license that specific facility.

If we're confident that that facility can operate safely, it would not pose a risk to public health and safety, then we would be able to license that. So, the impact, I would say, from those facilities are - I might not be saying this the right way, but less of a concern from this standpoint -- from the standpoint of a nearby industrial facility. In this instance, nearby industrial facilities are something where we have no prior knowledge of how the safety of that facility was initially determined, we're considering a worst-case accident of that

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facility. For the nuclear facilities you mentioned, we're reviewing them in depth to get them to license them.

MR. BENNETT: Just a follow-up. Wouldn't you say that everything that's going on in the city of Oak Ridge, and not to mention everything that's currently at the layout, is pretty much unprecedented for a very, very small area? I've worked in Hanford, and everything is 10 miles apart. They have a grid 10 - you know, for 70 miles. The facilities are spaced out 10 miles apart. This is unprecedented, wouldn't you say?

MR. BURNELL: To try to rephrase what Jeremy said, all the projects you listed would require an NRC license. What we're talking about today is what TVA has announced. Going forward - and I'm sorry, TRISO-X also has talked to us and we've gone through the process there - going forward, any additional facilities that are proposed in this area will get a review not only for themselves, but we will start taking into account all of the potential interactions between any facilities that are nearby.

So, it's not a case where one is built and then the next. If another one comes up, the existing

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one is taken into account. If the two are built -- and like you say, a third one shows up, that one is taken into account for the other two. It's an ongoing process. The ultimate goal, on an ongoing basis, is to make sure that anything we license is going to maintain public health and safety.

MR. BOWEN: And I do agree, it is a historical time for nuclear. It is an especially a historical time for nuclear in the Oak Ridge, East Tennessee area. I think it is probably unprecedented since World War II, and I think that is not lost on anyone. In addition to everything we talked about, I mean all of those facilities being licensed by the NRC, we're also aware there's a lot of work that the Department of Energy has going on.

We cooperate and coordinate extensively with the Department of Energy, so we understand what they're doing, what activities that they're doing, how that might impact licensing decisions that we're making. We have routine interactions with them. So it is again, I agree it's unprecedented. It's not lost on us, but again, you do have our commitment that we're making sure that each of these facilities, if they are licensed, will be done so safely.

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MR. BENNETT: Can I ask one?

MR. BOWEN: Sure.

MR. BENNETT: So, out of all the facilities that I mentioned, they've been announced on public record, have any of them been included in the nearby industrial facilities that's on the slide?

MR. BOWEN: For example - did you mention Kairos? Kairos was mentioned. Kairos was considered. Anything that came up during - I'd have to go back, not committed to memory.

(Simultaneous speaking.)

UNKNOWN MALE: TRISO-X probably.

MR. BOWEN: TRISO-X was also on there, but the Orano was not necessarily --

MR. BURNELL: Orano was afterwards.

MR. BOWEN: Afterwards.

MR. BURNELL: I think Radiant Nuclear was after. I think Orano was afterwards. Radiant Nuclear was afterwards. But Kairos --

MR. BOWEN: -- and Oklo has --

MR. BURNELL: Yes, so two out of --

MR. BENNETT: So, two out of seven?

MR. BURNELL: To this point.

MR. BENNETT: Okay, all right.

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MR. BURNELL: Relying on our memories, which are imperfect. You mentioned BWXT. That's an existing facility that is not in the Oak Ridge area. Their work related to national security enrichment is at an entirely separate facility, I believe, southwest -- what am I not saying? Lynchburg.

MS. COWIN: I'm Diane. I'm a resident of the west end of Oak Ridge. Two questions. First one refers to slides 11 and 12 with the environmental impacts. Are those, just to clarify for myself, are those impacts only related during the construction phase or are these including what we would consider an impact during the operational phase as well?

MS. NAGEL: That's a great question So we made a determination during the early site permit, EIS, and then when the construction permit came in, our analysis looked at the ESP, and then we determined whether or not it was bounding.

MS. COWIN: What's ESP?

MS. NAGEL: Early site permit - I'm sorry. We looked at the early site permit, EIS, what those impacts were, and we looked to see whether or not it was bounding and valid of it. And so with that, if - I'm sorry, I'm trying to answer your question. Could

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you just repeat it one more time for me so I make sure I'm answering this correctly for you?

MS. COWIN: Okay. Basically, are slides 11 and 12 relating only to during the construction phase of the plan, or is it also after it's been built during the operational phases?

MS. NAGEL: So primarily, we looked at construction for the construction permit. We do include an impact determination for operation. However, when that operating license comes back in, we will do another round of analysis at that point and make another impact conclusion.

MS. COWIN: Okay. And then my second question has to do with any kind of radiation waste. What kind of waste might this plant produce, and where will it go? What kind of - if there were some sort of horrible environmental thing, like an earthquake or, you know, our state is full of karst, we have sinkholes everywhere. Gosh forbid, a huge sinkhole opens somewhere in the building and stuff happened. Back to the radiation waste, where is this going to be going to, and what kind of exposure might workers or people living nearby possibly have if an event occurred?

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MR. BOWEN: So, thank you for that question. I'll take the second piece first. The seismic design and the siting of the facility, it does account for the bedrock, the soil, how all that interacts to make sure that the plant can withstand the worst case external event that could be an impact, whether it's a seismic event - Allen mentioned earlier, it considers flooding, high winds, wind-driven missiles, so trees that are uprooted, stuff like that.

All of that is considered as part of the hazard analysis for determining whether the facility is safe to be licensed. All of that is factored in to make sure that if there is one of the impacts of that, there will not be a negative impact on public health and safety.

Now, as far as the waste that would be generated, every nuclear plant generates - we'll start with probably the most common thing folks are aware of - spent nuclear fuel. Spent nuclear fuel, that would be considered as part of how the TVA plans to handle the safe storage of spent nuclear fuel at the site. That will be considered as part of the operating license review. They will have to provide, you know, a

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robust plan for managing that waste.

There's also what's referred to as low-level waste. That's normal operation of a nuclear plant, there's sampling of the chemistry of certain systems. There's --

MS. SAMPSON: Filtration.

MR. RAKOVAN: - thanks, Michele for that, and stuff like that. That's all considered low-level nuclear waste. That stuff is usually packaged and transported off-site and managed by another facility, and disposed of according to that. So, that's the sort of waste that would be generated at the plant that the TVA, as part of the operating license, will have to -- in addition to the plan for managing the spent nuclear fuel - they will have to provide a plan for managing the low-level waste as well.

MS. COWIN: So, that's part of the operational applying to that?

MR. BOWEN: Correct. They cannot operate and generate any nuclear waste until they have the operating license.

MS. COWIN: There's no radiation exposure at all, except -

MR. BOWEN: During construction, no.

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MS. COWIN: At any time? You know, yeah, being exposed to radiation isn't good for your health, and the fact that the government is still paying RBCA, the Radiation Exposure Compensation Act, we kind of need to learn from our mistakes in the past. So, no exposure is good exposure, you know? It's not like an allergy. You can't just keep having it and hope you get used to it.

MR. BURNELL: And as I mentioned earlier, the standards that we have in place remain the same and are set at levels that are low enough to ensure that even if you hit that level, it is unlikely to affect your health going forward. To add a little bit to what Jeremy said, when TVA comes in with its operating license application, the process that it uses to store spent fuel, both in the short term when it immediately comes out of the reactor - both that process, and any, call it, medium-term processes, what we tend to call dry cask storage - large, steel and concrete containers.

All of that is analyzed to make sure that it can withstand the same sorts of severe events that can affect the site, so that it keeps the spent fuel separately and it keeps you and others safe.

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Mr. RAKOVAN: All right. Further questions or comments? If you would please introduce yourself.

MS. VINSON: Kathy Vinson, Oak Ridge resident. Speaking of impacts, I was curious to know if there was any way to quantify historical impacts that had occurred on the site from previous projects that did not come to fruition. And they were so long ago that I don't know if there's any way to assess what had occurred during all of that activity. And if so, has that gone into your impact assessment?

MS. NAGEL: One part of our review is called the affected environment. And so the affected environment is essentially the baseline of what the site looks like today. And so that would include any historical disturbance, excavation that was on the site visually. And then we would be looking at the impact to what it looks like today. So, it's all included in the affected environment.

MS. VINSON: Well, I'm just curious whether back 50 years ago, there was this type of environmental assessment that even existed and so if there had been any effects to that activity, was it even acknowledged and recorded, and if not, then is there any way to quantify that currently?

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MR. RAKOVAN: I think what you're asking is regarding the - the breeder reactor work in the early 50s. At the time -

MS. VINSON: In the 70s.

MR. BOWEN: 70s, sorry. I think at the time that was done, there wasn't - the National Environmental Policy Act had not been passed, nor had the National Historical Preservation Act been passed. So, the level of assessment that we are doing today, no, it was not done - to my knowledge, it was not done back then. It certainly wasn't done to the standard of NEPA or NHPA today. But like Madelyn said, we're looking at the assessment based on the land as it exists today, what the impacts are going forward.

MR. BURNELL: And again, just to reiterate what Madelyn said and correct me if I'm mistaken, we look at the environment as it exists. We understand the baseline as it exists today. So, regardless of what had impacted in the past, that is still the status today. Actually looking to see what would be affected by future activities.

MS. VINSON: Well, I guess I wonder what type of baseline can be established at this point in time, given the lack of information about what really

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occurred there.

MR. BURNELL: Let me rephrase the question. Madelyn, can you explain the extent to which TVA has, in its environmental report, outlined its understanding of the existing environment?

MS. NAGEL: Absolutely. So, part of the environmental report, they were required to give us a baseline of what the land looks like today. And the breeder reactor was included in that baseline. As we were doing our analysis, the breeder reactor hole that is there is part of that analysis, we were aware of it. We actually just saw it this morning when we were at the site. And so it was taken into account for our analysis of it. I believe under our land use impact analysis for 3.1 of the SEIS, you may see a more robust analysis of what that looks like for the affected environment and what that baseline is. I would direct you there to really review that.

MR. FETTER: This is Allen Fetter. I wanted to point out that there were some legacy wells that were dug during that period of time that were not abandoned. So, there was some baseline data from those wells that's still stored and available that was available for the environmental folks. There are also

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legacy documents, which have a lot of photographic evidence from the geologic standpoint as well.

MR. RAKOVAN: Further questions or comments? And please be aware NRC staff will be in the lobby area outside the meeting, so if you wish to follow up on a discussion or if you have a question that you don't necessarily want to make in this sort of venue, we can have a one-on-one conversation after leaving.

MR. BURNELL: We have a slide for contact information, if we can go to that.

MR. RAKOVAN: Let's make sure that there are no more questions.

(Simultaneous speaking.)

MR. BURNELL: I'm perfectly willing to get some more steps in, if somebody in the back has a question.

MR. BOWEN: I do appreciate the questions thus far. This is a very educated crowd, so you all are asking a lot of questions that we've been asking ourselves as we've gone through this process, other communities that we've been engaging with, with other projects that are being proposed. I do appreciate the questions thus far. So please, any other questions, we

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are happy to take them.

MR. RAKOVAN: While you're thinking about that, we'll go ahead and if we could go back to that slide that was just up, please? Please, any comments that you would like to have after this meeting, if you'd like to submit them, send them to ClinchRiver-CPHearing@nrc.gov. Again, we ask that you get those in by August 27th, 2026 and that is 11:59:59 Eastern Time, just to be clear on that. Get them in before midnight Eastern Time.

You see some QR codes here. There's also QR codes on several tables in the lobby areas that you can use to see a copy of the final safety evaluation report and the final supplemental environmental impact statement. Again both Madelyn and Allen referred to several sections of those documents during our discussions tonight and that's where you can follow up and look at those. Staff, did you have anything you wanted to add?

MR. BURNELL: I'm good for now.

MR. RAKOVAN: Okay. We'll get you some more steps after this. Don't worry. We'll do some sprints or something. Jeremy, did you want to go ahead and close us out?

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MR. BOWEN: Sure. Just one last call for any questions? All right. Again, we very much appreciate your all's engagement. This is, again, we said it earlier, this is a historic time. We do recognize that. We do acknowledge all of the work that's going on, especially in this area.

Again, I'll go back to Michele's point of the NRC's mission statement. We are an independent safety regulator. We serve - our mission is to ensure that the public health and safety is protected and that the environment is as well. I commit to you that four of us are up here, but there are hundreds of staff at the NRC who are dedicated every day to making sure we fulfill that mission in the most effective way we can and we are committed to making sure that we are here to serve you all and that is our job.

We appreciate you all for attending tonight. We appreciate your participation. We appreciate very much the thoughtful comments and the thoughtful questions. As Lance mentioned, we look forward if you have any additional comments or questions that you'd like to provide written, you can do so through that portal through August 27th. And otherwise we wish you all a pleasant evening.

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(Whereupon, the above-entitled matter went
off the record at 7:13 p.m.)

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