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Title: NextEra Energy Seabrook

Seabrook Station, Unit 1

Limited Appearance Statement Session

Docket Number: 50-443-LA-2

ASLBP Number: 17-953-02-LA-BD01

Location: Newburyport, Massachusetts

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4	ATOMIC SAFETY AND LICENSING BOARD PANEL
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6	LIMITED APPEARANCE
7	x
8	In the Matter of: : Docket No.
9	NEXTERA ENERGY SEABROOK, LLC : 50-443-LA-2
10	(Seabrook Station, Unit 1) : ASLBP No.
11	: 17-953-02-LA-BD01
12	x
13	Monday, September 23, 2019
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15	Newburyport City Hall
16	Auditorium
17	60 Pleasant Street
18	Newburyport, Massachusetts
19	
20	BEFORE:
21	RONALD M. SPRITZER, Chair
22	NICHOLAS G. TRIKOUROS, Administrative Judge
23	DR. SEKAZI K. MTINGWA, Administrative Judge
24	
25	

PROCEEDINGS

2 (6:02 p.m.)

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JUDGE SPRITZER: Good evening. Powerful microphone. Good evening. My name is Ron Spritzer. I'm the Chairman of this Atomic Safety Licensing Board. The case we are here about is in the matter of NextEra Energy Seabrook, Seabrook Station Unit 1. For those that may be interested, this is NRC Docket Number 50-443-LA-2, and it's also ASLBP Number 17-953-02-LA-BD01. As I mentioned, my name is Ron Spritzer. I'm Chairman of this Licensing Board. We've been designated to hear this matter and decide the issues related to a license amendment request submitted by NextEra concerning the operating license for Seabrook Station Unit 1, located in Seabrook, New Hampshire.

I'm an Administrative Judge with the Nuclear Regulatory Commission. I've been in that job for approximately 11 years. Before that I was an attorney in the United States Department of Justice working in the Environment and Natural Resources Division. And I will briefly ask my fellow judges to introduce themselves.

JUDGE MTINGWA: My name is -- I'm Judge Sekazi Mtingwa. I'm a retired nuclear physicist retiring from MIT about seven years. I've been an

Administrative Judge with the NRC since 2016.

JUDGE TRIKOUROS: My name is Nick Trikouros. I'm a nuclear engineer practicing for approximately 30 years in my own consulting company for a number of years, and I've been a judge with the Atomic Safety and Licensing Board for the past 13 years.

JUDGE SPRITZER: Very well. We're going to move on to statements as soon as possible. I just want to cover a few other preliminary things. First, I'd like to thank Mayor Donna Holaday and the city government for making this facility available to us. We prefer, at the NRC, whenever we can to hold proceedings like this in the community that's affected by the facility we're hearing about, and -- but we have to have cooperation of local governments to make that possible. We do not have our own facility in this immediate area, so we're very grateful to the city for helping us make this happen.

There are a few matters related to procedure that I do need to cover. Well, first let me give a little background on this case for those who may not be fully familiar with it. This case arose in response to a license amendment request filed by NextEra on August 1, 2016. The request was intended

to revise the Unit 1 updated final safety analysis report to include methods for analyzing the impact of a type of concrete degradation caused by an alkalisilica reaction -- we refer to it as ASR -- affecting Seismic 1, Category 1 reinforced concrete structures at the Plant. C-10 filed a number of contentions related to this license amendment. The Board was created to hear the case and after we had oral argument in Rockville, Maryland in 2017, the Board granted the hearing request of C-10 and admitted it as a party to the proceeding.

Now before the Board is one contention, which is essentially an amalgamation of five separate contentions that we admitted, and the substance of NextEra's that that contention is large-scale concrete-testing program yielded data that are not representative of the progression of ASR at Seabrook Unit 1 and that the resulting monitoring acceptance criteria and inspections intervals are inadequate. We'll be starting that hearing tomorrow, on the 24th, and we may continue as long as Friday, the 27th, although it's quite possible we'll end before that.

All right. As far as the procedure we'll be following this evening, first, we have allotted each speaker five minutes. We had about eight

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speakers that have registered in advance. We've had a number of others that have registered and maybe a few more that are still registering to speak. We'll give priority to those who submitted timely requests to make a statement before the commencement of this hearing. Once those speakers have concluded their statements, precedence will be given to those who registered with our law clerks at the table outside, although I'm going to make one slight modification to that procedure. We have a couple of public officials or representatives or public officials' offices here, so I'll let them start first, and then we'll move into those who pre-registered and those -- and then last, those who registered this evening.

We've heard -- we're planning to go to until 8 o'clock this evening. If we need to go a little later, we can do that, but we do need to be out of here certainly no later than 9 o'clock this evening.

The statements you'll be hearing tonight do not constitute testimony or evidence before the Board in the evidentiary hearing that we'll be starting tomorrow, but they may aid the Board in formulating questions for the evidentiary hearing. So it will help for those who are making statements if

you focus on matters pertaining directly to this state
-- to this case, general statements about your views
on nuclear power, while certainly interesting, are not
really going to help us much prepare for the hearing
tomorrow.

Please silence all cell phones, refrain from talking. We want to be able to give our full attention to those who are speaking. In order to keep within time limits, one of our law clerks will have time cards and -- yes, what is that -- yes -- one minute and stop, so he'll give you a little warning that you're approaching your time limit.

As I said, it's best to focus your questions on this case. Please do not ask questions of us. It's not appropriate for judges to comment on a case before we've heard the evidence.

Finally, no -- this may be obvious, but please, no violent or threatening language.

mentioned, the evidentiary And as Ι hearing will start tomorrow. You are welcome to This will not be a public participation attend. list of However, we have a designated witnesses -- oh, I'm sorry - -we have a list of witnesses who will be speaking -- who will answering questions from the Board. That's the

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purpose of the evidentiary hearing, to give us a chance. We have extensive -- we have about 15 volumes that look something like this of evidence, and we have a number of questions we have to get answered in order to make our decision. That's what we'll be doing for the next two, three, four days, however long it takes.

On Wednesday, we will have to have a closed session. That is one that is not open to the public. That's because there are certain information that's been designated by the parties as proprietary and that cannot be heard in the public session. But other than that, the evidentiary hearing is open to the public. And so everything we're doing tomorrow, which will include opening statements, admission of evidence, and then questioning of witnesses should be open to the public for those who may be interested in attending.

All right. With no further -- unless there's any preliminary matters I've overlooked -- I don't think so. All right. Let's begin with -- let's see, we have a representative of the -- from the New Hampshire House of Representatives, from the Chairman of the Criminal Justice and Public Safety Committee. This is Representative Renny Cushing. I hope I'm pronouncing the name correctly. Is that individual

here?

All right. Well, that cuts down our list somewhat. We have -- next, let's hear from Hannah Vogel form the office of Senator Edward Markey. Is she here?

Okay. Well, we're moving right along. The last public representative we have I believe is here, and that's Alex Bradley from the Office of the Attorney General of Massachusetts. Is it Maura Healey?

(Off mic comment.)

JUDGE SPRITZER: Yes, exactly. All speakers will speak from the podium up here.

MR. BRADLEY: Thank you. Thank you all for holding this meeting and taking the time to hear from the public. My name is Alex Bradley, and I'm here in an official capacity representing the Office of Attorney General Maura Healey. I was born and raised in Newburyport. Generations of my family live in this city, and AG Healey has a longstanding and deep connection with this region as well, so it's important to her as it's important to me that the safety and health of this committee -- this community is not put at risk by the Seabrook Plant. And that's why in March, AG Healey wrote the NRC expressing her

concern with the Seabrook Plant's ability to operate safely.

As you know, there have been concerns for years regarding the risk of the serious danger developing from ASR at the Seabrook Plant. These concerns have been validated by experts, by engaged people in this community, and by local, state, and federal leadership. And it's the AG's view that there was no legitimate reason for the NRC staff to act on the request for license extension back then. And it's clear that at the time, that extending the license was premature, and it would possible to revisit the request for an extension after NextEra had fully addressed the concerns about ASR.

So knowing that, the approval of license extension was baffling and disappointing to the AG, as I'm sure it was to many here. regardless of that hasty and, frankly, a little alarming, decision involved in granting the Seabrook's plant extension, the concern about ASR has not gone away. In fact, if this plant is going to continue to it's even more critical now that NextEra operate, sufficiently responds to those concerns and monitors the development of ASR at the Seabrook plant. happening, we believe that is not and now

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respectfully ask that it does. C-10's experts are among the best in the world. They raised serious concerns about ASR at Seabrook, and we can all benefit by allowing them to do their analysis of the plant and know exactly what we're dealing with.

So, you know, the NRC -- it's the AG's view that the NRC has already undermined the public's trust after its decision making, so this is a chance to restore that trust. And on behalf of AG Healey and the AG's office, thank you again for your continued engagement. Thank you to everyone here for being here, and thank you for allowing us to speak today.

JUDGE SPRITZER: Thank you. All right.

The next person we would like to hear from is Brian

Campbell.

MR. CAMPBELL: Thank you. My name Brian Campbell, and I am a U.S. Navy vet, ecomodernist and BSEE who studied utility and renewable energy at UMass Lowell. What is the most dangerous nuclear Answer: The one that is not built like reactor? Seabrook 2, or the one that is prematurely closed like Pilgrim Nuclear. Why? Because their potential electrical generation was replaced by fossil fuels. Nuclear power is the safest method of electrical generation, including renewable energy. Anti-nuclear

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Douglas Foy, former president and CEO of the Conservation Law Foundation, led the fight in court to shutter Seabrook project. Seabrook 1 was built but 22 percent completed Seabrook was cancelled. This and other lawsuits doubled the cost of Seabrook. Thirty years later, Foy says, "Seabrook 1 needs to stay up and running" recognizing its emission-free generation.

Public health and environmental scientists at Harvard studied the emissions from Brayton and Salem coal plants in 2002. They concluded that Salem Harbor was responsible for 30 deaths, 400 emergency room visits, 2,000 asthma attacks, 50,000 incidents of upper respiratory symptoms per year. Had Seabrook Unit 2 been completed in the mid-1990's, its no emission, 1245 megawatts electrical generation could have displaced closed coal-burning Salem Harbor Power Station and still-operating Merrimack Station in Bow, New Hampshire in the 1990's.

Anti-nuclear, C-10 ally, New Hampshire State Representative Pete Somssich, supports Granite Bridge Pipeline proposal by Liberty Utility to build a connector pipeline from Manchester area to Exeter, New Hampshire. Representative Somssich sees more gas as a bridge to unreliable renewables. Anti-nuclear Massachusetts Sierra Club calls more pipelines a dirty

1 bridge to nowhere bus. Renewable emission-free Seabrook Station nuclear power providing 57 percent of 2 3 New Hampshire's total electrical generation can be 4 replaced by gas infrastructure and extra emissions. 5 Remember the 2018 Merrimack Valley gas explosions? This is what Massachusetts taxpayer-supported C-10 and 6 similar groups are really advocating. 7 8 New Hampshire and New England needs more 9 nuclear power, not gas, to really reduce emissions. 10 Thank you. JUDGE SPRITZER: Thank you. We would next 11 like to hear from John Gibson. 12 Well, thank you, gentlemen, 13 MR. GIBSON: 14 for the chance to speak. And welcome to our backyard 15 and our neighborhood where Seabrook Station looms 16 Thank you also to C-10 for monitoring 17 conditions in the area and whose intercession made these hearings possible. 18 19 What does C-10 see that NRC and Licensing Board does not, and what interests are 20 served by each? It's a step in the right direction to 21 reconsider NextEra's license renewal, but all the 22 agencies that have put input need to go further to 23

safety's sake. What this coastal area will look like

greater accountability and oversight

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in 2030 and 2050 depends on your decisions and those of your successors.

With the future in mind, let us not forget the past. Throughout the early years of permitting for Seabrook, many did their best to remind your predecessors that health and safety were paramount. That process is ongoing and although the hearings this week will deal with degrading concrete, the focus All needs to be the same. the engineering, construction, management, and agency responsibility are designed to maximize the health and safety of plant staff and the general public.

What can be said that has not been said before? Only that we need to be reminded of the gravity of decisions made that go beyond the interest of plant owners, electrical rates, bankers, investors, and the nuclear industry. The Atomic Energy Act of 1954 encouraged the private development of nuclear power. Cost is always a factor in business but should not be at the expense of health and safety. Let us learn from the past, put hubris in its place and err on the side of caution. As public servants, be mindful of the past nuclear accidents in this country and worldwide and how natural disasters can exacerbate the unforeseen.

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1	The two hours this evening are a fraction
2	of the time that will be spent this week reviewing
3	technical and procedural issues, but it's not so much
4	the time allotted as it is the matters that are
5	presented that bear on health and safety. We, the
6	people, are the invisible stakeholders and need to be
7	head at the table. We are not a variable in a risk
8	assessment formula. Policy is made in Washington but
9	impacts far and wide and generations to come.
10	Last week, the FAA gave Boeing the
11	authority to assess safety certain flight control
12	systems in the MAX 737, but an international panel
13	disagreed. Let this week be different where testimony
14	convinces you to rule on the side of independent and
15	fair review and hold NextEra to greater accountability
16	and higher standards.
17	Yes. Concrete cracks are a cause for
18	concern, but the cracks in procedures that allow for
19	license renewal contrary to facts are distressing.
20	Both need to be monitored and fixed to ensure the
21	health and safety of the general public. This is your
22	responsibility. Thank you for listening.
23	JUDGE SPRITZER: Thank you.
24	(Applause.)
25	JUDGE SPRITZER: I understand we have an

additional public representative, Senator Markey or someone from Senator Markey's office?

MS. TEYLOUNI: No. I am not Senator Markey. My name's Claire. Thank you for the opportunity to read a statement on his behalf.

MS. TEYLOUNI: Claire Teylouni.

JUDGE SPRITZER: Okay.

TEYLOUNI: In January, the Nuclear Regulatory Commission announced its plans to issue a license amendment and a license renewal to NextEra, licensed operator of the Seabrook Nuclear Power Station months before the Atomic Safety and Licensing Board was set to hear key evidence about structural degradation at the Seabrook Plant. I urge the NRC to wait until after the ASLB hearing and to additional public meetings in order to stakeholders to voice their concerns and present additional evidence about the threats continued degradation of the plant's concrete.

When the NRC then delayed its announcement and solicited community input and feedback at a public meeting in February, I again noted m concern that the NRC would still approve the Seabrook license amendment before the Atomic Safety and Licensing Board held its evidentiary hearing. This concern was validated when

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1 the NRC approved a license amendment and 20-year 2 license renewal in March. There was no rush driving 3 the NRC's hasty actions. The Seabrook license was not 4 set to expire for another decade yet the NRC rejected 5 calls from community stakeholders, elected officials, and safety experts to wait until after the ASLB 6 7 hearing and instead moved forward with its approvals. 8 This timeline has unacceptably subverted 9 the public input process, an issue we are grappling with across the state with the decommissioning of the 10 Pilgrim Nuclear Plant as well, and I am deeply 11 concerned that this disregard for transparency and 12 public input is becoming endemic across the NRC. 13 14 I implore the Atomic Safety and Licensing 15 Board to take the next several days to seriously consider the evidence presented by C-10 and associated 16 17 experts. NextEra's plans to address, monitor, and inspect structural degradation at Seabrook must be 18 19 held to the highest scientific standards. The trust of the entire community and its protection from 20 exposure to danger from a fracturing unsafe facility 21 over the next several decades I at stake. 22 Thank you. 23 JUDGE SPRITZER: Thank you. Next on our list is Sandra Thaxter. 24

MS. THAXTER: Hello.

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Can you hear me?

JUDGE SPRITZER: Yes, we can.

MS. THAXTER: I'm speaking as a citizen of Newburyport and because many of the people in this room have spent most of their lives keeping us safe and monitoring the nuclear power plant and actively advocating for this community. This is a matter of public trust. Seems to me this is a really good time in the history of our country to show that government institutions can be trusted to protect citizens.

We've always known that nuclear power was a powerful but dangerous technology. We saw with Fukushima what can happen if bureaucracies are not fully attentive, do not use all their knowledge and all the strategies of good management to manage nuclear power. Sometimes bureaucracies can become too comfortable in their role, but they are meant to serve our country and our citizens. C-10 is asking to restore the public trust by using the best available tools and information to evaluate the risk of this -- ASB is it --

JUDGE SPRITZER: ASR.

MS. THAXTER: -- ASR, thank you -- on the nuclear power plant here.

JUDGE SPRITZER: Thank you. Next person is Kathleen O'Connor Ives.

(Off mic comments.)

JUDGE SPRITZER: All right. We do not appear to have Ms. Ives with us. I previously mentioned Representative Renny Cushing. I don't know if that individual has arrived. Apparently not. Glenn Richards?

MR. RICHARDS: Thank you for giving me the opportunity to speak. My thrust was going to be -- my tentative total was quite, "Do Your Job," but lest you take that personally and feel insulted, I think I should explain. And it's already been partly explained that we have been disappointed in the past. I've been around here since -- I moved up here I think in 1980 when Seabrook was on the cusp of being built, and there were a lot of -- you know, there was -- it disappointed back -- the first disappointment was around evacuation planning. I'm not going to go into that. It's not really relevant right now.

But it's important to understand that right now this is not some pissing contest between tree-hugging hippies and anti-nuclear activists on one side and pro-industry whatever on the other side. That's not what this is about.

This is about public safety. You work for us, me. That's why I can tell you or suggest you,

quote, "Do your job," because through my taxes, through our taxes, we're paying you to protect us. And so I encourage you take seriously everything you hear, both sides, you know, be fair. I'm sure you will be. NextEra will have their experts. C-10 has also some very credible experts.

And I think that with this ASR thing, there were some very critical questions at the hearing that was mentioned. I think it was in February. The NRC was there and we talked about -- discussing this ASR problem and we were discussing inspections of the plant. And I said well, how do you inspect the pressure vessel -- containment building I should say, not the pressure vessel, the containment building, because it's, you know, very radioactive. They said well, it's actually not the radioactivity. It's really the heat in there. It's extremely hot. Workers can only be in for a short period of time.

And then, you know, something clicked. Heat, as you all know, as engineers -- well, and a judge -- that heat accelerates chemical reactions. And when that came up, they said yeah, literature is clear that ASR is accelerated due to heat, has -- and I think a very relevant question for you would be to consider the testing that NextEra had done. Did they

consider that. Did they try to simulate those conditions? So that's a very relevant question, I think, to be looked into.

And the other one that occurred to me was They -- you know, they always talk -- I'm referring to a CRW (phonetic) article -- it's not a local paper -about, you know, Neal Sheanna (phonetic), someone saying don't worry, everything's fine, plant was designed with a margin of error, margin of safety, which is great. There's a reason they do that, but when they built in the margin of safety, that margin is no longer the margin it was in 1980, whenever the plant went online, because of the ASR. And the containment building in particular not only has to -- it's not just a structure that's holding up a roadway. It's got to be able to withstand pressure in the event of something unfortunate, in the event of, you know, some kind of pressure, pipe breaking, either orworse case scenario; okay, you get my drift.

So I don't know that any of that was taken into consideration in the Texas testing that was done or in this -- evaluating this margin of error or margin of safety that was built into the -- you know, yeah, okay, the walls aren't going to fall down. We

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know that, you know, there's enough strength there despite the ASR, that the place isn't going to collapse. You know, that's pretty much a given.

But I hope you will listen to both sides, take them seriously, and most of all -- and I consider myself kind of a citizen scientist; my mantra is "challenge your assumptions, never be afraid to ask yourself what if I'm wrong; you know, what if this thing -- you know, what if we weren't -- didn't get this right; you know, what are the consequences and, you know, which -- you know, which side is really making sense here, which one -- which data holds up and withstands your scrutiny?

You know, it's not about opinions like oh, the plant has been operating well. Oh, I should mention that, too. You know, they -- on all your perspectives, past performance is no guarantee of future success. And the fact that the plant has operated safely for however many years does not guarantee it will continue to do so.

So anyway, thanks for the time. I see my time is about up, so I hope these things will -- you know, you'll get into these things tomorrow and take them very seriously. Thanks.

JUDGE SPRITZER: Thank you. Let's see, I

think we've heard from Hanna Vogel or another representative of Senator Markey's office. Afroz Khan?

MS. KHAN: Thank you very much. My name is Afroz Khan. I'm actually a Newburyport City Counselor-at-large, but today I'm here in front of you as a resident of Newburyport. So two weeks ago when my kids started school, we all had to fill out the regular forms that we do for medical and all the emergency contact information. But we also have to fill out a form giving permission for our kids to be provided with potassium iodide tablets in the event of a radiation emergency from the NextEra Nuclear Plant.

So I have master's in electric power engineering from RIP in the 90's, and I'm not here at all tonight to diminish or speak out against nuclear power plants. My intention tonight is actually to highlight a public safety concern. So alkali-silica reaction is a slowly progressive problem that occurs in concrete structures over time.

So in doing a quick research on this phenomena, it's easy to see what has been happening globally with the detection of ASRs. And I was able to see that it's been found in bridges, in dams, in parking garages. And in almost all of those

situations, those structures have been demolished because of the risk. So as you know, ASR can lead to cracking, and then it really compromises the long-term longevity of the structure. So in many cases, you know, as an engineer, we see that if construction materials are compromised, it does affect not only the performance but the lifespan of a structure.

So as we know, a controlled nuclear reaction is nothing but routine, and it's the concrete that protects 180,000 people from the inadvertent release of radioactive gasses, fallout, and molten corium if a catastrophe was to occur.

But a known concrete problem such a ASR has not been seen in nuclear reactor containment structures. In fact, with 98 nuclear reactors in the U.S., this is the first one that has a known ASR issue. And unlike other structures, nuclear plants don't have shear reinforcements.

So when dealing with the public safety, I think it's really important to expect the unexpected. It is the unexpected that has led to the largest nuclear disasters in our recent history. So I'm asking that the Atomic Safety and Licensing Board please take the necessary actions in assuring our safety. So of the number that -- of reactors I talked

about and with NextEra facility being the first to have an ASR issue, I think a decision from this body can help launch best practices needed in addressing a critical issue that is being faced by the nuclear power community for the first time. We are relying on your oversight and your guidance in safeguarding this affected concrete containment vessel that lies a mere 9-1/2 kilometers from this very spot. Thank you.

JUDGE SPRITZER: Thank you.

(Applause.)

JUDGE SPRITZER: I believe we also have an Aboul B. Khan. Is that individual here? Here we go.

MR. KHAN: Good evening. My name is Aboul Khan. I'm a Selectman in Seabrook for -- this is my fourth term, and also I represent Seabrook and Hampton Falls at the statehouse as a state rep. This is my third term.

Good evening. I have resided in Seabrook for many years and actually lived in relatively close proximity of the Seabrook Station. I have raised my family in Seabrook, and as a resident I have always been impressed with the Seabrook Station's commitment to our community. They have been and continue to be good neighbors, good corporate citizens, active in promoting positive actions and outcomes for Town of

Seabrook and the whole seacoast area. As a town official, I can tell you that I and the Board of Selectmen have worked closely with NextEra in areas of emergency planning and other procedures that we go through all the time. They have been both proactive and diligent in meeting our needs and requirements with a strong and bond and cooperation between Seabrook and NextEra and the entire seacoast region.

As a host community, we have seen firsthand NextEra's commitment to running Seabrook Station in a safe and efficient manner. I and the Board have high confidence in NextEra's commitment to the health and safety of your community and the seacoast region -- and of the seacoast region.

Finally, I would like to express confidence in the rigorous oversight over the Seabrook Station by NRC. Seabrook Station, through the course license of applying for amendment and license extension, has been subject to a process designed to protect the public and ensure that Seabrook Station meets standards and delivers energy in a clean, efficient, and safe way. This process has been taking much time and examined many issues. We in Seabrook support the NRC and feel that the process should not be hurried, but we also recognize that the process

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1	would not and should not continue forever. It is our
2	strong belief that NRC review on the concrete issue
3	met the highest standard and was based on solid
4	science and that the data provided by all the experts
5	and the study more than sufficient to support the
6	license amendment sought by NextEra. Thank you very
7	much.
8	JUDGE SPRITZER: Thank you.
9	(Applause.)
10	JUDGE SPRITZER: Next we I believe it's
11	Jack is it Santos?
12	MR. SANTOS: I'd like to thank the Board
13	for holding this hearing and letting me speak. I also
14	have a copy of written comments I can enter into the
15	record after the session.
16	JUDGE SPRITZER: Why don't you give them
17	to our one of our people who met you at the front
18	desk.
19	MR. SANTOS: I will do after I speak.
20	JUDGE SPRITZER: Okay.
21	MR. SANTOS: My name is Jack Santos. I'm
22	a resident within a 10-mile radius of Seabrook
23	Station. I live here in Newburyport. My comments are
24	anchored in my experience as a software engineering
25	professional, a senior executive in healthcare and

financial services, and I currently provide consulting and research services to the NRC as well as the Canadian NRC, the U.S. Air Force, and NASA, and other public and private sector organizations including NextEra. But I'm here as a private citizen, and the opinions expressed are my own.

Since 1990, the Seabrook Nuclear Power Plant has been operating safely. My interest is in making sure it continues to do so. Based on the work of Dr. Saouma, I believe that the testing by Ferguson Structural Engineering Labs does not give me that level of certainty that we will not avoid a failure at Seabrook Station. It's not representative of the level of concrete degradation onsite at Seabrook, nor does it adequately take into account additional factors that may cause worsening of the concrete or its related structure.

So my testimony is simple. I propose that the Board, over the next few days, consider three key points; number one, ensure open and transparent testing results publicly peer-reviewed by experts in the field other than those hired just by NextEra or the NRC. What is at risk is too great to limit review and exclude portions just because of proprietary concerns.

Number two, sufficiently replicate by analyzing the concrete and related structures in situ. This includes destructive and non-destructive independent scientific testing of the onsite concrete exhibiting ASR and the related structures. We want to ensure that infrastructure, including concrete, is still within operating parameters and includes its ability withstand events like earthquakes and flooding.

And number three, share those results with the public in full disclosure, factor in concrete and building practices that were in place during the construction of Seabrook Station and how ASR deterioration would affect its soundness today, especially during an abnormal event like an earthquake or a storm surge. I believe m three points are reasonable considering what is at stake here.

Let me remind the Board of two other engineering instances, one recent, one not so recent where this kind of due diligence we are asking for here was not taken and with consequences. The first is still fresh in our mind. It's already been mentioned. It continues to be investigated. The Boeing 737 MAX airplane failure. It's been chilled for the sake of competitiveness, proprietary data was

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withheld from the airlines, from the pilots, and from the public that had it come out, we would have brought into question the MCAS systems single point of failure. Not all operating conditions were tested, and there was no transparent and/or independent review of the MCAS software. It's a situation that mirrors what we are dealing with here. Three hundred fortysix lives were lost. We're looking at much higher stakes with Seabrook Station.

The second is the Challenger accident of 1986. I was at Cape Canaveral at the launch. One simple decision to launch or not hinged on a statement in the launch procedure manual: "Are current conditions on the launch pad below freezing?" It has been proven that freezing temperatures would result in brittle O-rings, the cause of the disaster. What nobody asked or like what we are discussing this week, no one cared to replicate, was what if it had been freezing just a few hours before but temperatures had risen to above freezing by launch time.

I implore you, don't make an O-ring mistake. Consider independent public professionally-verified results that reflect real onsite tests, and share those with those of us whose lives depend on it. Thank you.

1 JUDGE SPRITZER: Thank you. 2 (Applause.) 3 JUDGE SPRITZER: Next person we'd like to 4 hear from is Carolyn Johnson. 5 MS. JOHNSON: Hello. First, I'd like to agree with Mr. Santos' skepticism about the validity 6 7 of the tests of the concrete. They really -- the 8 requirements of those tests really did not meet the 9 standards that they should have. It was all done 10 offsite at lab in Texas on newly-produced concrete that may or may not be even similar to the concrete at 11 Until onsite testing is done with core 12 Seabrook. samples from Seabrook's actual concrete, we will have 13 14 no idea whether the test results concerning concrete 15 degradation are at all meaningful. In addition, because the ASR problem is 16 17 caused by the presence of water reacting with elements of the concrete, there should be great concern for the 18 19 effects of higher tides resulting from climate change, especially because parts of the plant are already 80 20 feet below sea level. Continued storm surges are a 21 threat that should be considered. However, this issue 22 is not being addressed. 23 24 The same problem applies to the spent fuel

rods which are now onsite stored in ponds, in water.

Nuclear waste has never -- the problem with storage of nuclear waste has never been considered or addressed -- it's been considered, but it has not been addressed successfully. And again, the threat from extra high tides reaching the pools where the spent fuel is stored is really terrifying. So I'd really like to believe that these concerns will be addressed further than they have been so far. Thank you.

JUDGE SPRITZER: Thank you.

(Applause.)

JUDGE SPRITZER: The next person we would like to hear from -- I hope I'm pronouncing this correctly -- is Hank Baotzmann.

MR. BAOTZMANN: Thank you. My name is Herman Baotzmann. I served on two nuclear power submarines in the U.S. Navy, and I'm a retired chief engineer from Raytheon residing in Portsmouth, New Hampshire. The process of concrete degradation caused by alkali silica reaction, or ASR, a chemical process that causes small cracks in concrete, has been fully reviewed and an acceptable inspection program has been put in place to assure nuclear safety. Assessments by Seabrook Station engineers and nuclear experts, independent reviews by some of the most accomplished structural engineering experts in the world, the

1	International Atomic Energy Agency, and the NRC
2	itself, all have concluded that Seabrook Station is
3	and will operate safely. Academic scientifically-
4	verifiable studies have established that ASR is an
5	identified manageable condition common in critical
6	infrastructure like bridges, runways, and dams, the
7	same infrastructure that is currently in service
8	across the country. Most bridges in Massachusetts and
9	New Hampshire not only have ASR, they are built with
10	nowhere near the robustness or reinforcement of the
11	nuclear power plant.
12	Several of my of the country's most
13	experienced structural engineering experts including
14	MPR Associates, Simpson Gumpertz & Heger, and the
15	University of Texas have studied and validated
16	Seabrook Station's strategy to manage ASR. The NRC
17	has validated this approach noting the actions of
18	Seabrook Station have taken regarding concrete issue
19	ASR have been comprehensive and reasonable, and all of
20	the commitments made regarding ASR have been
21	completed. Thank you.
22	JUDGE SPRITZER: Thank you.
23	(Applause.)
24	JUDGE SPRITZER: The next person we would

like to hear from is Howard Mandeville.

MR. MANDEVILLE:

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Hi.

I'm Howard

Mandeville from Newburyport. Thank you for having this public comment opportunity. Like many of us here love this ocean shore and its vibrant Ι I want all of us to ensure that it remains beautiful and safe place for generations. What had always been confidence in the endurance of this region is now a worry. There are many concerns on which to hang our worries, but chief among them for me is the conceivable notion that there exists a clear and present danger, a nuclear power plant made of degrading concrete in an area that includes rising tides, nor'easters, hurricanes, and earthquakes, all of those since I moved here three years ago.

even more alarming is that the danger of degrading concrete is not adequately addressed. NextEra has told us that there's a plan to manage the ASR concrete degradation, but an unbiased expert, Victor Saouma, an expert on ASR, concrete degradation, has a different view. He said he could not tell us that the plant is now operating safely. He could not tell us how long into the future the plant could operate without hazard.

1	He explained that the tests that would
2	illustrate the impact of ASR concrete degradation
3	could be conducted but these tests have not been done.
4	Given the risk, given the worry, why would testing
5	using available methods of analysis not be carried out
6	as soon as possible? The atomic safety and licensing
7	board and the NRC should insist that NextEra allow
8	unbiased experts to demonstrate to you and to the
9	citizens in this region whether or not the plant, with
10	its ASR concrete degradation currently unresolved, can
11	operate safely. The residents of this area rely on
12	you to mobilize objective and unbiased experts to
13	confirm the plant's safety now and during its half-
14	century licensing tenure. Thank you.
15	JUDGE SPRITZER: Thank you.
16	(Applause.)
17	JUDGE SPRITZER: Susan Stafford.
18	MS. STAFFORD: Good evening, delight to
19	see such a diverse and committed group here, and
20	August, highly-credentialed judges. It's a delight
21	because I have lived in New England all my life, but
22	I spent a lot of time in Philadelphia, and we didn't
23	have this kind of stuff.
24	A nuclear power plant is not something

that is like a bridge. If it goes bad, it doesn't

1 mean a couple of people will fall of the bridge. 2 drove in 95 in Connecticut, which had a terrible 3 bridge, and several people died and finally, they 4 fixed the bridge. We are now talking -- and I 5 appreciate Senator Martin's representative -- about something that is not minor. This is America. We have 6 7 competent engineers. We know about ASR, concrete structures, 80-foot below sea level, the weather has 8 9 I have done climate change reporting on the changed. 10 seacoast; I'm a NOAA-credentialed person from UNH. is very simple, continued 11 The point degradation without careful analysis by unbiased 12 experts who report publicly -- this is America -- we 13 14 appreciate all the remarks that people made, 15 appreciate the gentleman from Seabrook, but this is 16 not something that can be sloughed off. I met an 17 engineer from Seabrook many, many years ago, and she said, "It's dangerous." And she had no reason to fib 18 19 to me, and she was an employee. I feel that we cannot degradate, and we cannot give up the chance to analyze 20 this professionally. We do not want a Chernobyl here. 21 Thank you. 22 23 JUDGE SPRITZER: Thank you. 24 (Applause.)

JUDGE SPRITZER:

Philip Hurzeler.

1	MR. HURZELER: Thank you for allowing us
2	to speak to this issue. Despite the technical experts
3	on both sides going at it, it seems to me that the
4	core issues here are not really technical. What we
5	have here is an argument about sample selection,
6	whether the process of testing and the and the
7	process of selecting a sample and the tests that are
8	done on it, whether that's secret or open. I think we
9	can all understand that it's a matter of common sense
10	that there's possibility of a bias there.
11	Also, as the representative from Senator
12	Markey's office said, the 20-year extension that came
13	in, it seems prematurely. We don't understand,
14	haven't heard, despite going to the meetings up on
15	Route 1 in the Hamptons, why it is so premature.
16	I would also like to make the remark that
17	the notion that we need to do something really quick
18	in a hurry to avoid the use of fossil fuels is just a
19	red herring. We need to consider this case on its own
20	merits.
21	We need to take a conservative approach.
22	This is where we truly need to be conservative in the
23	purest sense of that word. And thank you very much.
24	JUDGE SPRITZER: Thank you.
25	(Applause.)

1 JUDGE SPRITZER: Marcia Hart. 2 MS. HART: Hello. Good evening. 3 JUDGE SPRITZER: 4 MS. HART: I'm from Gloucester, 5 Massachusetts, which is 17 miles across the water from I have not been in favor of Seabrook for 6 Seabrook. 7 40-something years. During the time that has 8 transpired between 1977 and the present, I've had an 9 entire career, a training as a nurse and a 36-year 10 nursing career. My children were 6 and 3 when I first protested at Seabrook. They're 45 and 48. 11 granddaughter who's 26. 12 So two generations have taken place during 13 14 this time, and my opinion has not changed in all that I would like to feel safe across the water from 15 Seabrook, but when you have licensing procedures that 16 17 continue in the present to hurry up and give a premature license, I don't feel secure. So I didn't 18 19 come here knowing a great deal about this issue. shocked that it's the first plant that has this ASR 20 problem. Certainly, this is -- you're in a position 21 of setting precedent on how the government will deal 22 with that danger. 23 24 I have not developed a feeling of faith and trust in any of the operating managers of any of 25

1	the worldwide nuclear plants. They seem intent on
2	protecting their bottom line, withholding information,
3	so you are our hope that you will look into this
4	sufficiently. I stand with Senator Markey's opinions,
5	with Maura Healey's opinions, with C-10's opinions.
6	I have learned to trust all of them over this period
7	of time, but I can't say that I have the same faith in
8	corporation.
9	Please be very cautious. Many people's
10	lives depend on it. It isn't a bridge, as someone
11	said. Thank you.
12	JUDGE SPRITZER: Thank you.
13	(Applause.)
14	JUDGE SPRITZER: Those are all the people
15	on my list. Do we have any other please proceed.
16	Why don't you state your name since we don't have you
17	
18	MS. HOLADAY: Donna Holaday, Mayor of the
19	City of Newburyport.
20	JUDGE SPRITZER: We've met previously.
21	MS. HOLADAY: And I do apologize for the
22	heat in here. We had anticipated that by this time in
23	September, it would not quite be this warm. But after
24	listening to the testimony of all these people from
25	Greater Newburyport who came today, I thought that I

had to stand up and again reiterate the fact that this is critical. The license was premature. I agree with Senator Markey, Attorney General Healey, all of the people who spoke -- the majority of the people who spoke today asking you to do your due diligence. I have toured the plant myself, had a private tour several years ago, and really felt that I was being given sort of the marketing response, "that we know what we're dealing with in terms of the ASR, and it's nothing to worry about."

But C-10 has brought in an expert, and there are very few experts who have the kind of international capacity who have done the research. And we do not has, as you've heard from many people testify tonight, experience with a nuclear power plant that has this kind of ASR degradation. Yes, lots of bridges, dams, but look at the response in terms of repair. We do not have that information about how to proceed going forward with this plant, and it's not like a bridge. It's not a building that can be torn down and replaced. This is extremely serious.

We need you to listen to the -- all of the experts that will be presenting testimony. Please make the research public to us. This is our community. The climates have changed. We have storm

1	surge issues that we're approaching. We have many
2	issues and concerns about the future licensing of this
3	plant, and we ask that, as one of the speakers said,
4	please, do your job. You are here to protect the
5	public, and we need you to do that over the course of
6	this week.
7	Thank you for these evidentiary hearings.
8	This means a lot to our community that you are here to
9	take testimony and to really understand the
10	seriousness of this issue for our community, our
11	future, and our children. Thank you.
12	JUDGE SPRITZER: Thank you.
13	(Applause.)
13 14	(Applause.) JUDGE SPRITZER: Okay. Jim, is it Kirk?
14	JUDGE SPRITZER: Okay. Jim, is it Kirk?
14 15	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read.
14 15 16	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.)
14 15 16 17	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.) JUDGE SPRITZER: Oh, okay.
14 15 16 17	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.) JUDGE SPRITZER: Oh, okay. (Off mic comments.)
14 15 16 17 18	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.) JUDGE SPRITZER: Oh, okay. (Off mic comments.) MR. KIRBY: So my name is Jim Kirby. I
14 15 16 17 18 19	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.) JUDGE SPRITZER: Oh, okay. (Off mic comments.) MR. KIRBY: So my name is Jim Kirby. I live in Brattleboro, Vermont. We have a moth-balled
14 15 16 17 18 19 20 21	JUDGE SPRITZER: Okay. Jim, is it Kirk? I'm not sure. This is a little hard to read. (Off mic comments.) JUDGE SPRITZER: Oh, okay. (Off mic comments.) MR. KIRBY: So my name is Jim Kirby. I live in Brattleboro, Vermont. We have a moth-balled somewhat being taken apart nuclear plant, and I just

plants together, but they never really thought of the

1 waste, and they never thought of how to take a plant And it's like the bookends at this final date 2 3 where the reactor is complete. After 4 everybody's on their own. I think they're starting to address that issue, but all the communities, this 5 community will face that issue. Whether they face it 6 7 now or in 10 years or in 20 years, they're going to 8 fact that issue, and they're not going to have -- is 9 there going to be sufficient money. 10 It's a merchant plant. Nobody really thought about what a merchant plant will mean in terms 11 if the trust fund runs out of money. 12 Eventually, it'll all come back to us. We pay the bill and this, 13 14 from an energy point of view, has been -- you know, it's been a little detour which ultimately has not 15 16 really produced much in the way of power. 17 long-term, it's got to be renewables. That's our only And again, I thank you for your time. 18 Thank you. 19 JUDGE SPRITZER: (Applause.) 20 Lori Cartwright. 21 JUDGE SPRITZER: MS. CARTWRIGHT: Good evening, gentlemen. 22 Thank you for giving the public the opportunity to 23 24 make their comments heard. I am Lori Cartwright.

live in Putney, Vermont. I drove down to support the

work of C-10 and the work that they've been doing to keep their communities safe. And we're not here to talk about the change in climate. There's a lot of controversy about that in certain circles. And we're not here to talk about natural gas.

We're here to talk about the nuclear power

industry and the way in which the regulators seem to rubberstamp anything that the nuclear reactors want, and it's clear that some evidence has emerged that puts this community and other communities at risk. And I implore the Board to do everything within their jurisdiction to listen to the evidence and with an unbiased decision, do your work, like one of our speakers said earlier, to keep this community safe. Thank you.

JUDGE SPRITZER: Thank you.

(Applause.)

JUDGE SPRITZER: Clay Turnbull.

MR. TURNBULL: Hi. Good evening. My name is Clay Turnbull. I'm a resident of Townshend, Vermont, and I'm a staff person and trustee with New England Coalition on Nuclear Pollution in Brattleboro. My comments tonight are my own. They're not for the organization, but I suspect that the majority of our membership and trustees would agree with what I have

to say; and that is quite simply that C-10 has done phenomenal work over the years. They've proven their ability to bring real issues to light, and I just wanted to come over from Vermont tonight to lend a voice of support to C-10 and the work that they do. Thank you.

JUDGE SPRITZER: Thank you.

(Applause.)

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ADMIN. JUDGE HARVEY: And William Woodward.

MR. WOODWARD: I, too, am h ere to support I come from Durham, New Hampshire, home of the University of New Hampshire. I teach psychology for sustainability. We, in the past, have taken tours of the Seabrook Power Plant. They're not in-depth tours. We know that they're trying to be safe, but having come to numerous events up in Hampton where NRC has made its case, we continue to wonder how safe it is when a whole raft of concerns such as escape routes, disposable nuclear waste are not dealt with. know this is the evening for ASR, but one of the is why they didn't test lingering concerns You have a -- the second concrete from Seabrook. reactor was never put into operation, but the concrete From a scientific point of view, is there.

wouldn't test that concrete rather than some simulated concrete down in Texas. I've always wondered about that.

I recently heard Greg Jaczko speak. Some of you know his book, "Confessions of a Rogue NRC Regulator." He says that the 10 recommendations following the Fukushima disaster by United States Commission were not respected and not followed. How could that be? Why would the NRC not take an independent scientific commission seriously? I'm told that we have the same mark, whatever, power plant that Fukushima has. We, too, live on the water. Why do we assume that we couldn't have a Fukushima? And why don't we take the commonsense recommendations?

Now the gist of that book is that the NRC is a rubberstamp for the nuclear industry. Go read the book. I hate to say that. I'd like to think that they're an impartial regulatory agency but according to Greg Jaczko, the people on the committee are primarily representatives of industry, nuclear industry, which is, by the way, a heavily subsidized industry.

And they really haven't through long-term, as the previous gentleman said. They haven't thought about the decommissioning. These -- NextEra's not

1 going to pay for the decommissioning. The nuclear waste problem which we were addressing in the Seacoast 2 3 in the 1970's has not been answered. Where is it going to go? No one will take it. Who's going to 4 5 keep it cooled for an eternity? How much will that 6 cost? Who will pay for that? 7 Now these -- I suppose, those comments 8 don't belong here tonight, but this is part of the 9 unease, that we don't have a basis for trusting NRC's 10 safety claims. We want to see a safety record on their part. So at least you could test the local 11 concrete and at most, you could look at some of these 12 other concerns that have been in the air since the 13 14 1970s. Thank you very much. 15 JUDGE SPRITZER: Thank you. 16 (Applause.) 17 JUDGE SPRITZER: These are all the people. All the people have spoke. Oh, we have one more. 18 19 (Off mice comments.) JUDGE SPRITZER: I was just about to say 20 since we -- everyone has been concise and to the 21 point, we're actually -- it's only a little after 7, 22 we're going to be here -- we've arranged to be here 23 24 until 8. We don't have to stay here till 8 just to --

for the sake of staying, but if there are other people

who would like to speak, we'll try and give you a chance. So why don't you go up, and please identify yourself since you're not on the list.

MR. BOGEN: Yes. My name is Doug Bogen. I'm Director of the Seacoast Anti-Pollution League based in Exeter, New Hampshire. On behalf of our hundreds of members throughout the 10-mile EPZ and beyond, SAPL supports the contention by C-10, and we urge you to address it conscientiously and thoroughly. For the record, we are not a party to this contention, but we did become an intervener back earlier in the decade on the issue of alternatives to continued operation of Seabrook under NEPA, but evidently determined that there other are no alternatives, that Seabrook is the most viable power source for many decades to come. But we do appreciate the opportunity to address this current issue before you.

I should mention that the public was not aware of ASR even though the plant owners, and I guess the NRC, was prior to when we submitted our contentions, but we certainly would have if we'd known about it at the time. And as we've heard from others, the studies did not look -- the Texas study did not look at actual concrete onsite, the actual conditions

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likely to affect the plant in coming decades. environmentalist, I'm very concerned about the impacts of the environment on human structures as well vice-versa. And we know a few things about ASR. know that it increases with higher humidity. We know it increases with higher temperatures. And the one thing we know about climate change is that these conditions are likely to increase over time, over And in particular, also, the post coming decades. Fukushima study of flooding in severe weather impacts projects impacts that were, quote, "not bounded by the current design basis flood hazard." In other words, the plant was not built to handle the increased flooding, storm surges, severe weather, etcetera that is now projected from climate change. And even more recent studies of climate impacts since that study was done show that it is likely a much worse situation and the estimates developed in that plan are probably too conservative.

At the very least, this ground water regime at the plant will change. It will add pressure and additional water infiltration to the existing structures. The need to pump ground water from the site will increase. The water chemistry could certainly change with increased tidal infiltration and

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so forth. And temperatures will definitely change. I think recent experience the last few months, even the last few days tells us that temperatures are changing, and they're changing faster than previously determined.

So I urge you to look at all -- at this done on the flooding hazard and the analysis of it. And please consider whether the monitoring plan and the Texas study really addresses those issues in the real world, in the world we live in where the plant is subject to these environmental impacts. Ι'm very concerned that there's mitigation plan discussed or contemplated. I know the NRC claims there's no need for that, because they'll be monitoring it and they don't expect anything to happen. Well, that's great, but, you know, it's our lives we're dealing with here. Decades into the future, it really strains credulity that anybody could know for certain that this won't be an impact, a greater impact, an impact that threatens the viability of the plant.

All we have to do is look at the one other plant in the -- in North America that had exhibited ASR up in Quebec, Canada, and that plant, when the price of the mitigation of that problem exceeded \$2

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1 billion, they abandoned the plant. This is something that we ought to be looking into. We ought to be 2 considering what those eventualities could be. 3 4 And I just ask you to please consider that 5 these concerns are fully discussed in this proceeding, and also these contentions, whether the existing 6 research is adequate or not and whether the ASR 7 8 approach, the monitoring is adequate or not to ensure 9 our safety for decades to come. Thank you very much 10 (Applause.) Thank you. 11 JUDGE SPRITZER: (Off mic comments.) 12 13 JUDGE SPRITZER: Is there anyone else I 14 haven't called that would like to speak, please, 15 again, state your name since we don't have you on the 16 list. (Off mic comments.) 17 JUDGE SPRITZER: Oh, all right. Yes. 18 19 looks like I missed one. All right. Well, please proceed. Are you on this one? 20 MR. SZABO: Good evening, gentleman. 21 Му Tom Szabo. I've of 22 name is been a resident Newburyport for 37 years, and I've raised my family 23 24 But I come to you not just as a citizen of Newburyport, but also as a scientist. I'm a professor 25

at Boston University and I've been doing research for over 50 years, much of it on materials and tissues, the viscoelastic properties of these materials. And I've also spent nearly 20 years in industry doing product design, and I'm also a chair of an international standards group on medical imaging, so that standards group, what we do is we bring -- I have 30 different countries, and we reached consensus on the best ways of testing the efficacy of products and also ensuring their safety.

I'd like to bring to your attention from a scientific point of view is that ASR a progressive and irreversible process. therefore, the only way to really monitor it is by doing in situ testing, and I think that we can appeal to good science here, because if you think about it, when this plant was designed, the Seabrook Plant was designed in 1976, we had IBM XT computers, and we had 1976 automobiles. Now from an industrial design point of view, products have a lifetime and during that life cycle, then they're replaced by other products. the -- also, the standards for design have enormously changed over all these years. And as we know that now, our cars today are not only more efficient and safer, but they're also much more reliable because of

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improved design standards that have come into play.

So what we're talking about here is a plant that was designed in the late 70s, and what we're trying to do is figure out a safe way of maintaining that plant. And I believe that right now none of us can say what is the condition of the concrete due to ASR. The only way that we can find out is by doing in situ testing. And I believe that there are methods now available to do that. example, in Fukushima, they're spending billions of dollars right now to do further testing of the plant using robotics and other instrumentation to measure things under very extreme conditions. suggesting that's what we do here, but there are several methods, seismic methods using propagating waves, also acoustic emission and other methods which could be used to do in situ testing.

And the burden of proof is on the owner of the nuclear plant to show that ASR is not a problem and that the plant is safe. And I believe it's our responsibility and yours to hold them to that, that we look at the side of caution here and make sure that they're doing their job. And so as you know now, we know that there are good construction processes that could avoid ASR just by, you know, doing things

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1 correctly. But back in the -- that time, these things were not known. 2 3 So what we know about ASR is that 4 compromises the structural and elastic integrity of 5 the concrete. What this means is that the structure is compromised. So if there is an earthquake -- and 6 7 there was one in, I believe, 2011 -- it's not -- you 8 don't need much of an earthquake. When you have a 9 structure that has got cracks in it, it can crumble. And I don't know if you're aware of problems like 10 that, but if the actual structure has microcracks in 11 it, then that whole structure is compromised. 12 So I think that in terms of ensuring the 13 14 continued safety of Seabrook and also the nuclear 15 waste storage, that you are at a critical point where you can ensure that good practices are being done here 16 and that you should hold the owner of Seabrook to the 17 highest standards of testing, in situ testing. 18 19 you. 20 JUDGE SPRITZER: Thank you. (Applause.) 21 Gary Schoene. 22 JUDGE SPRITZER: No longer with us. All right. 23 24 Crowley. MS. CROWLEY: Good evening and thank you 25

for holding this public session for comments. My name is Heather Crowley and I'm a physician and mother, and I've lived in East Kingston, New Hampshire with my husband and two children, ages 13 and 17, for the past 16 years. Notably, in that 16 years, we have never had a practice evacuation and as, you know, just to see if there was an accident if we could get out safely in small New England roads. So I just wanted to bring that to your attention.

Tonight I'm here to remind you of your responsibilities and to let you see one of the faces of the over approximately 150,000 people living in the 15 towns within a 10-mile radius of Seabrook. In 2011, during the Fukushima nuclear accident, the U.S. Government instructed Americans living in the area to evacuate if they were in a 50-mile radius. If you widen the radius around Seabrook Plant to 50 miles, the City of Boston, with over 600,000 people living in it, is included, and we would easily be over a million people at risk from an accident or leak at Seabrook including all the other towns in a 50-mile radius.

You hold the lives and safety of all of these families in your hands, and I am asking you, we are asking you to follow your own principles of good regulation as described on the NRC website. These

include, and I quote, "Independence, nothing but the highest possible standards of ethical performance and professionalism should influence regulation; openness, nuclear regulation is the public's business, and it must be transacted publicly and candidly; and reliability, regulations should be based on the best available knowledge from research and operational experience; systems interactions and technological uncertainties must all be taken into account so that risks are maintained at an acceptably low level."

So I am here to remind you of what and who is at stake and to ask you to be quided by your organization's values which include, and I again quote from the NRC's website, "integrity in our working relationships, practices, and decisions; service to the public and others who are affected by our work; openness and communications and decision-making including transparency forthrightness; and commitment to public health and safety, security, and the environment." I am very concerned that these values are not being upheld and have been undermined in light of the premature re-licensing of the Seabrook Plant despite significant risks posed by concrete degradation and ASR.

I implore you to remember your commitment

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to public health and safety, security, and the environment before all other possible interests including interest from the nuclear industry. You are serving the people, not the industry, and we are counting on you. I mean it's on the pamphlet that you've handed out tonight. It says, "Protecting people and the environment." And I implore you to do that this week. Thank you.

(Applause.)

JUDGE SPRITZER: Thank you. Cathryn Capra.

MS. CAPRA: Hi. I'm Cathryn Capra. I live in Georgetown, which is about 10 miles south of Newburyport, and I came tonight because I -- I know very little, but what I have heard about ASR in Seabrook, what's been discovered so far has really alarmed me. And the concrete testing conditions seemed inadequate. NextEra conducted them and it was not natural sample from the plant is my understanding. So it's the first plant in the U.S. that has this, and there's no clear idea of exactly what the progression will be, what the damage will be in the future, because this has never happened before here.

So the license extension seemed premature and was very alarming to me, and I agree with Dr.

1 Saouma that there needs to be more extensive testing and monitoring done independently and transparently. 2 3 Thank you. 4 JUDGE SPRITZER: Thank you. 5 (Applause.) JUDGE SPRITZER: Barry Connell. 6 7 MR. CONNELL: Thank you for coming here 8 My name is Barry Connell. I am President of 9 the Newburyport City Council. My comments are my own and not those of the Council, and what I'm going to do 10 is point out that the last time the Council offered 11 testimony to you regarding the extension of 12 license for the reactor in Seabrook, we never received 13 14 I hope that that's different this time a reply. 15 around. 16 My question to you is this. 17 prepared to offer competent testimony to you tonight, but my question to is how long will the record remain 18 19 open so that I might submit testimony in the hope that in this instance you will reply? 20 JUDGE SPRITZER: We have -- I don't know 21 -- we can receive comments whenever you care to submit 22 I think the proceeding you're referring to was 23 24 probably with the NRC staff as you haven't been before

this Board before, so I can't really speak to what

1	they did or didn't
2	MR. CONNELL: I understand.
3	JUDGE SPRITZER: did or didn't do.
4	They're a different part of the Agency or actually,
5	one of the parties who will be before us tomorrow
6	defending their position. So if you want to but if
7	you want to put comments in the record of this public
8	hearing, we can still take them I think.
9	MR. CONNELL: For how long?
10	JUDGE SPRITZER: I don't know that we have
11	an express deadline but the sooner the better.
12	MR. CONNELL: Okay. Is a week's time
13	reasonable?
14	JUDGE SPRITZER: I think so.
15	MR. CONNELL: Very well, I'll submit it
16	then. Thank you for your time.
17	JUDGE SPRITZER: You're welcome.
18	(Applause.)
19	JUDGE SPRITZER: Well, we do have a little
20	time left. Does anybody else want to be heard? We
21	have a lady in the back.
22	MS. KAPLAN: Yes. Hello, my name is Fran
23	Kaplan. I've lived with my family here for 44 years,
24	love this community. I am a supporter of C-10, and I
25	just want to thank everyone that spoke with their

I'm not going to bring up a scientific concerns. I think people have shared that, but what I wonder about is we protect ourselves and our property with insurance policies. Monetary values are assigned to compensate us in the event of loss of our most physical possessions, our homes, insurance tries to compensate us in the event If there's a high level of confidence by the NextEra Plant and the NRC and your Board is there a dollar figure set aside compensate all the people that would lose property and health in the event of a disaster happening, even a small scale one that would cause us to have to leave our homes? I've never heard about such a fund, so I really would like to know if there is such a thing, because that's the way the world operates. We operate on risk, and we operate on monetary presumed, you know, amounts tied to that risk, so thank you.

JUDGE SPRITZER: Sure. To answer your question, there is a statute called "The Price-Anderson Act that requires nuclear power utilities to contribute to a fund. I'm not an expert on it as we're not hearing about that this week, and we don't here contentions about that ever to my knowledge, but there is a fund. You might -- you can probably do

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research online and find out more about it than I could tell you.

MS. KAPLAN: I would really appreciate knowing that and to the scope, as you heard from one of the physicians -- that it could involve a distance of up to 50 miles. So I really would like to know if that fund exists and what they propose. Thank you.

JUDGE SPRITZER: Thank you. All right.

Do we have anyone else? One more. Yes, sir.

MR. FITZSIMMONS: Peter Fitzsimmons, 45year resident of Newburyport, so I was here before the nuclear power plant. I don't want to beat it to death, because others have already talked about it, but my biggest concerns are how the decision actually gets made in whether to move forward or not. You see, I have very little trust, faith in our regulatory institutions. I think someone already mentioned the 737 disaster. Clear failure of one of our regulatory institutions as well as corporate greed. A worse case came up 10 years ago, just as I retired, and that was great financial collapse destroyed \$28 trillion in wealth within a matter of a month. Again, at least five U.S. Government regulatory agencies didn't do their job.

And the thing is no one was punished. I

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dor	n't think anybody will be punished or see anything
oth	her than maybe a demotion for the 737. These are
ded	cisions made by people we don't even know,
bui	reaucrats who will disappear into the woodwork and
if	something happens 20 years from now or 10 years,
the	ey're not going to be around. That's my biggest
cor	ncern.
	I have a background in engineering. I
hav	ve master's degree in electrical engineering. I'm
a	10-year member of the IEEE Power Engineering
Soc	ciety, although I've never worked in power. Most of
my	life, I worked in telecom, but I do have I feel
I'r	m unbiased in the sense that I see the advantages of
nuo	clear power, particularly given climate change or
glo	obal warming as I prefer to call it. It may be at
lea	ast a temporary solution to that.
	So I'd like to see this go through if it's
abs	solutely safe, but as I said, I don't have much
fa	ith in current regulatory agencies. Thank you.
	JUDGE SPRITZER: Thank you.
	(Applause.)
	JUDGE SPRITZER: All right. Is there
any	yone else who has not spoken?
	MR. LYNCH: Hello. My name is
Bi	ll Lynch. I'm also an electrical engineer, a

graduate of UMass Lowell with expertise in renewable energy with a doctorate degree. I'm currently working on -- at MIT on studying energy storage devices, batteries, although my opinion is my own and not specifically representing MIT.

I agree with the previous gentleman in many respects. Nuclear power is an extremely large source of clean energy. I haven't personally studied the ASR issue that much, but I understand it could be serious, and it should be studied in an unbiased manner. But if the plant can be operated safely, which seems likely if enough care goes into the maintenance, it's a huge source of clean energy and, therefore, can mitigate climate change.

And I like solar energy very much and wind energy and other renewables. I studied those. I've participated in solar car races, and I like people learning about those technologies. But it also takes a lot of them to replace a nuclear power plant. Some offshore wind is planned. It would take hundreds of large 10-megawatt offshore wind turbines that could take a long time to be installed to replace that clean energy as well as to make that intermittent energy acceptable to utilities, large amounts of batteries. Some prototype systems set up a Tesla in Hawaii, I

recall about, had four hours of battery storage, four peak energy hours of battery storage for PV systems. That's a lot of batteries, and it is not that it's not doable, but it's a lot, and we are doing it, and we should be doing both.

PV panels, it could take millions of PV panels to replace a nuclear power plant, and they are being put in. But again, I think we should be doing both and as long as it's safe, I don't think it should be prematurely closed. Thank you.

JUDGE SPRITZER: Thank you. Does anyone else want to speak that hasn't?

MR. MOYER: My name is Herb Moyer. I'm a 47-year resident of Exeter, New Hampshire. I've been involved in the Seabrook licensing hearings as a member of the Seacoast Anti-Pollution League since they were first run at the high school where I taught in Hampton, New Hampshire in the early 70s. I have very jaded experience with NRC decisions, and I'll give you one example.

As part of some of the ASLB hearings in the 70s, we came upon an administrative law judge named Helen Hoyt. The utility, then public service company, was supposed to have done a certain technical correction. They hadn't done that and my organization

has been through legal proceedings to -- for -- since 1969 really to work in opposition to the construction permit, the licensing permit, and certainly the license extension. And I estimated we probably spent half a million dollars on legal fees just to get our point considered seriously by various NRC entities.

In that administrative law judge Helen Hoyt situation where the utility was supposed to have done X, they didn't do it, and we requested why, why have you -- why has the utility not done that fix. Her response -- and I will never forget this -- her response was, "The utility's commitment to comply was evidence of compliance." Obviously, that can't stand. That's irrefutable evidence that the game is rigged.

We've been involved in a variety of NRC hearings. I'm not optimistic that we will get any satisfactory answers from the ASLB or from any NRC entity. When we proposed our contention on reliable alternative energies about five years ago, the NRC wasn't listening obviously, and the courts weren't listening, and I doubt that they're still doing it. I'm concerned that the so-called science that the Texas consultant is doing regarding ASR. This is being done in the dark. There is no opportunity for comment on the techniques if it's not being made

available to the public. How can you have a scientific analysis that's done fairly when you don't know all the parameters of that technique that was being done?

So I'm in the camp with the Dr. Victor Saouma that what the Texas utility is doing -- and these are not his words, these are my words -- is really junk science. So we expect to have reliable scientific techniques done on things throughout our government. If they're not, we're going to find there are problems. So my feeling is the NRC pretends that it's listening to the public; however, the extensive record of NRC rulings is replete with evidence to the contrary. History will show that the people who are involved in making such decisions were putting the public in harm's way.

Dr. Gregory Jaczko is correct. Nuclear power is a dying technology. Why don't you let it die a dignified death instead of being linked with decisions that have put the public at greater risk at loss of health and property? There will be another nuclear accident in the U.S. I'm convinced of that. I hope you have factored that into your moral calculus.

And just in response to the woman that

raised the issue of insurance liability, I'm in the insurance industry and obviously, from 1957 forward, nuclear industry took very little, responsibility for any damage that it would do. was what the Price-Anderson Act did in 1957. It took the utilities off the hook for any liability and casualty damage that was done, and they now contribute so many million dollars, and I don't remember the figure, but Dr. Jaczko, at a recent presentation, told us that the amount of money available to deal with any major technological hazard is about \$20 billion. We've now seen Chernobyl and Fukushima cost in the 2 to \$300 billion right now. So, all you property owners, check out your liability policy. You have no It's going to be the public that will be protection. put at risk financially for any accident. I urge you to consider all these wonderful comments that people have made seriously. Thank you very much.

(Applause.)

JUDGE SPRITZER: Thank you.

MR. CUSHING: My name is Renny Cushing.

I'm a State Representative from New Hampshire. I'm from the Town of Hampton. A portion of the atomic plant is in my district. I apologize for being late.

I'd signed up earlier. I appreciate --

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JUDGE SPRITZER: That's all right. We're glad to have you.

MR. CUSHING: And my comments, I'll keep them brief and to the point. My background with the plant goes back to when I was in high school, Winnacunnet High School, and there was -- the announcement was first made that there'd be an atomic plant built on our state's precious 18 miles of seacoast. In 1972, I testified before the State Site Evaluation Committee here, and which gave the states permission to proceed with the licensing before the Atomic Safety and Licensing Board.

And what I recall from that, the promises that were made, the representations that were made back then have nothing to do with what we're seeing now. My perspective of the current situation with ASR at Seabrook is that I don't understand how it is that we could have gone through the process of constructing an atomic power plant that now 30 years later has ASR, has the concrete cancer that seems to be besetting the plant.

I don't know how come -- and I've never had anyone be able to explain to me how is it that Seabrook is distinguishable from every other atomic plant in the United States as far as I know, is the

only one that has ASR. I know that the promise that the state made -- the owner of the Seabrook Plant, the builders, was that the plant would operate for 40 years. A license was granted. A certificate of site was granted by the Site Evaluation Committee predicated upon a 40-year operating license. also predicated upon a prompt dismantlement. also predicated upon not storing high-level It's turned now into kind of a radioactive waste. nuclear waste dump. We've got the dry cask storage Never received permission from the that are there. state to do that, simply went to the NRC.

I would ask you to just please let the Seabrook license expire and just waste -- don't devote further time. I think ASR is a compelling reason to close it right now. Thank you.

(Applause.)

MS. CARR: My name is Victoria Carr, and I'm a 40-year resident of Newburyport. I remember picketing on the lines up in Seabrook with a lot of other people here, and I also -- a friend of mine, good friend of mine had a couple of friends who worked at Seabrook, and I still remember the parties and some of the comments of those people. And I'm sure probably other people here have done the same thing

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where they would talk, laugh about going in blitzed, particularly on a Monday, and they would joke about the -- how they covered up things.

And at the time, my sister was working as an accountant for nuclear designer for plants, but he And we used to have these only worked in Europe. awful arguments about Seabrook and about nuclear power in general. And he kept on saying, "it's very safe, stringent criteria they had very in terms construction, they had maintenance, and plants," but he was talking about European plants. several years after Seabrook was built, contacted me and said he was really sorry for all of the putdowns that I had gotten the times that we had talked, and he said from what he has heard from the industry, that he could see my concerns Seabrook. And he didn't talk about the other plants in the United States, but he did say that he thought on things that have been documented discussed in the industry, that we had every right to worry about the future of Seabrook.

JUDGE SPRITZER: Thank you.

(Applause.)

JUDGE SPRITZER: All right. Has everyone spoken that -- we have more.

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MR. McLAUGHLIN: Evening, folks. It's a real honor to be here with some of the people that you've heard from tonight. I'm very familiar with some of them and the very distinguished service that they've given to their community over the last 40 or 50 years. All have been true heroes to me the way they put their community above everything else and make tremendous amounts of social sacrifice in the name of the clamshell and what have you.

My name is Dave McLaughlin. I live in Derry so I'm well within that 50-mile limit that we But I did live in Newburyport during talked about. the construction of the plant, and I just wanted to go along with what this last person said. I, too, remember the stories of my friends that worked at the nuclear power plant and their very uncomfortable illat-ease feeling working there. And when they would inquire of their project managers and supervisors why they were pouring concrete in below-freezing weather when they had never worked for a housing contractor that would pour a foundation in the wintertime, they were just told that due to regulation setbacks and one thing or another, these guys were under a tremendous amount of pressure to be able to work within the time restraints they had. It was very important to get two

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-- the space for two reactors over there although eventually, sense prevailed and there's only one reactor going. They were forced at that time to be building the retainers for two reactors over there. And they simply had to keep pouring through the winter.

I don't know if anybody here lives in a house with a foundation that was poured in the wintertime, but it's my understanding it's never been a particularly good idea to pour concrete in the winter.

I hope you folks are able to take a look at the construction records over there and determine when that concrete was poured and go over U.S. meteorological records of those time periods to see what the temperatures were on those days when it was poured, and perhaps there would be a little better understanding of why we are very close to the only nuclear power plant in the country that apparently showed tremendous stress problems in its concrete. Thank you. Good luck, gentlemen, ladies, and I hope you people are what we would very much like to see, people that are looking at your own selves, your own communities, your own families when you make these decisions, because we're all human.

JUDGE SPRITZER: Thank you.

(Applause.)

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JUDGE SPRITZER: All right. Does anybody else want to speak that has not spoken already? We're getting close to our -- oh, we got one more. All right. I think we will make this our last, but please go ahead.

MS. SCOTT: Sharon Scott. I came to Newburyport in '72. I did leave for a little while, and I've been back here for over 20 years. And I also had friends that worked at the nuclear power plant, and it used to horrify me some of things, but I don't want to get into all that. I just want to be very brief and say that it frightens me, and I find it rather appalling that the age of this plant now, that it's in the process of possibly being re-licensed and the license will expire in 2050. That's 31 years from I mean most of us are going to be dead, but it's 31 years from now, and we've got this problem that's been building up -- I mean I don't really know when it started, the cracking, but I just find it appalling that it's got this issue now, and we're actually considering letting it go until 2050, 31 years from So basically, that's all I have to say. you.

JUDGE SPRITZER: Thank you.

K (Applause.)

JUDGE SPRITZER: Well, I said that would be the last, but she was very brief, so if anybody else wants to speak, we can accommodate one more. All right. Thank you for attending. It's been a very interesting and informative session for us. As I said, you are welcome to attend the evidentiary hearing where we will really be getting into the details including the 15 volumes or so of evidence that we have already to consider.

There will be a transcript prepared of the hearing. Initially, it will be kept non-public until the parties have had a chance to go over it and remove any protected information, but that's a relatively small part of the case. And once that's completed, the transcript, except for those protected parts, will be made public. It should be available on the NRC website, I would estimate, roughly 30 days from the conclusion of the hearing, although that's not an absolute guarantee. So you're more than welcome to review that, and you can see what actually transpired at the hearing.

We will, of course, issue a decision after the hearing is closed. Given the volume of

information we have to deal with, it will take us a while, but I would estimate hopefully by January of 2020, we should have a decision, perhaps earlier, perhaps a little later. But we will definitely be issuing a decision that will be publicly available except in the event there are any specific protected information that's included and -- but I can't imagine -- most of the decision, if not all of it, will be publicly available.

What happens next after that, any party dissatisfied with our decision can appeal to the Commission. Once the Commission issues a decision, any party that is dissatisfied with that decision has the opportunity to challenge the Commission's decision in federal court, which is usually the federal Court of Appeals, either here in Massachusetts, the First Circuit, or in D.C., the United States Court of Appeals for the D.C. Circuit. Eventually, the case could conceivably go to the Supreme Court although of course, they have a lot on their plate so - -and they have the ability to choose which cases they do or don't take.

In any event, we will be issuing a decision and you're more than welcome to review the decision and the transcript when they're available.

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1	All right. Thank you for your attendance.
2	(Applause.)
3	(Whereupon, the above-entitled matter went
4	off the record at 7:54 p.m.)
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