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NRC Chairman Allison MacFarlane Addresses Concrete Degredation At Seabrook Nuclear Plant

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BY EMILY CORWIN

The Chairman of the U.S. Nuclear Regulatory Commission, or NRC, visited the Seabrook Nuclear Plant for the first time Thursday. Chairman Allison MacFarlane was looking into concrete degradation at the Seabrook plant.

Chairman Allison MacFarlane says the NRC is concerned about fracturing in the concrete walls at the Seabrook Nuclear Power Plant. In Seabrook Thursday, MacFarlane held up a sample of cement affected by the alkali-silica reaction.

We're concerned about it , we're watching it, we feel that the plant is being responsive, they're putting resources behind it, and they're doing some analyses to try to understand the situation better.

MacFarlane says Seabrook is the only nuclear plant in the United States experiencing this problem, although the same reaction has occurred at a plant in Belgium, and another in Canada.

NRC chairman checks Seabrook Station concrete degradation

Nuclear Regulatory Commission chairman Allison Macfarlane was in town on Thursday to tour the Seabrook Power Plant and discuss the ongoing concrete degradation issue.

By GRETYL MACALASTER

Union Leader Correspondent

SEABROOK — Nuclear Regulatory Commission chairman Allison Macfarlane was in town on Thursday to tour the Seabrook Power Plant and discuss the ongoing concrete degradation issue.

Macfarlane said it was her first visit to Seabrook, and she also spent some time viewing the nuclear waste storage on site.

Nuclear waste is a contentious issue, with Congress and the Administration unable to reach a decision on a federal repository — a permanent storage site. That means the plan for now is to leave spent fuel at each power plant across the country.

Seabrook uses both wet and dry storage systems, and Macfarlane said she found Seabrook's operations to be sound with below-grade storage that is stable.

Macfarlane's primary purpose was learning about a concrete degradation issue caused by an alkali-silica reaction. The issue was first identified at the power plant by NextEra Energy, the plant's owner and operator, in 2009. The reaction is not uncommon in concrete, but it is the first time it has been found in a nuclear power plant in the United States and is caused by the type of aggregate used in making the concrete.

NextEra Energy continues to study the issue, and Macfarlane said she is pleased with their efforts so far.

"They are certainly putting a lot of resources into it and taking it very seriously, as they should. We are taking it very seriously, too and will be vigilant in making sure we are satisfied they understand the impact on this reactor,"

Macfarlane said.

Macfarlane was sworn in as chairman of the NRC on July 2012 and reconfirmed for a five-year term in July 2013.

Her background is in nuclear waste issues, and she said she has always had an interest in the back-end of the nuclear fuel cycle.

Right now, the NRC is collecting public feedback on a draft waste confidence decision that they hope to have finalized next fall. The ultimate decision on nuclear waste storage will be up to Congress and the President.

"The long-term plan is up to Congress and the Administration to decide. Our job is to make sure whatever decision is carried out is done safely and securely," Macfarlane said.

She said there are few license inspections that are being held up by the lack of decision, and she does not expect there will be in the future.

NextEra Energy is pursuing a 20-year license renewal for Seabrook, which would allow it to operate through 2050.

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NewburyportNews.com, Newburyport, MA

November 8, 2013

NRC head tours Seabrook plant, looks at ASR problem

BY ANGELJEAN CHIARAMIDA
STAFF WRITER

---- — SEABROOK — Allison Macfarlane, chairwoman of the Nuclear Regulatory Commission since July 2012, visited the NextEra Energy Seabrook power plant yesterday, part of her goal to tour the nation's nuclear energy facilities her agency is charged with keeping safe.

"I'm making the rounds and this trip is to Seabrook and to Pilgrim (in Plymouth)," Macfarlane said.

Her visit included a review of the unique concrete degradation problem at Seabrook station known as alkali-silica reaction. ASR is a slow chemical reaction between the alkaline cement and reactive silica found in some aggregates used to make concrete that happens when moisture is present. Commonly found in dams, bridges and airport runways, ASR forms a gel that expands, causing micro-cracks that affect concrete properties, but which can take five to 15 years to show up.

Seabrook station is the only American nuclear power plant where the phenomenon of ASR has been discovered, Macfarlane said, although it has also been found in one power plant each in Canada and Belgium.

In June 2009, NextEra identified areas of alkali-silica reaction in subterranean structures at the power plant and reported the findings to the NRC. Found in a number of locations in the reinforced concrete walls in the plant, the majority of the concrete degradation is in an electrical tunnel some 40 feet below ground. The tunnel holds wiring that connects the plant's controls to machinery throughout the facility.

The NRC has repeatedly assured the public that the ASR has not affected the safety of Seabrook Station because the parts of the 2-foot thick walls affected still meet federal standards for load-bearing capacity due to the lattice of steel rebar within the walls. However, the discovery grew into a major concern for many antinuclear advocates, state and federal officials, especially when NextEra filed an application with the NRC requesting a 20-year extension of its operating license from 2030 to 2050.

Macfarlane confirmed yesterday that the plant is safe, but the issue bears watching, she said. As it should, NextEra Energy has committed considerable resources to its investigation of the current extent of the problem, she said, and its possible impact on the power plant in years to come.

"They're taking it seriously as they should — it's a serious issue," she said. "And the NRC is taking it seriously as well."

Since its discovery Seabrook Station has mounted on-site testing to determine the current status and contracted with the University of Texas to undertake protected modeling on the possible future impact ASR can have on the concrete at the power plant, and develop ways to mitigate it if necessary.

A geologist by training, Macfarlane has a special interest in the ASR issue in Seabrook. She holds a doctorate in geology from the Massachusetts Institute of Technology specializing in metamorphic petrology and structural geology, and a bachelor's degree in geology from the University of Rochester.

Prior to beginning her term as the NRC's 15th chairman, Macfarlane was an associate professor of environmental science and policy at George Mason University in Fairfax, Va. She is considered an expert on nuclear waste.

While at Seabrook station, she inspected both the wet and dry spent nuclear fuel rod storage areas.

"I always look at spent fuel storage; my expertise is in the back end of the spent fuel cycle," she said. "The one in Seabrook is in a good situation because the spent fuel storage is below grade."

The topic of safe storage of the nuclear industry's spent nuclear fuel rods is on the front burner as the nation and the NRC grapple with developing a waste confidence strategy.

Currently all spent fuel rods are stored on site at nuclear power plants throughout the nation. All power plants must have wet storage, she said, and Seabrook has dry storage as well.

When rods are removed from the reactor, they have to be placed in wet storage pools to cool down, Macfarlane said, because they're extremely hot, in both a radioactive and temperature sense. After five years, they can be moved to dry storage, she added.

Trying to find a final resting place for the nation's spent nuclear fuel has been a controversy for years, but one Congress must deal with, not the NRC, Macfarlane said. The NRC's role is to ensure the safe storage of spent nuclear fuel rods wherever they are kept now and in the future.

From 2010 to 2012, Macfarlane served on the Blue Ribbon Commission on America's Nuclear Future, created by the Obama Administration to make recommendations about a national strategy for dealing with the nation's high-level nuclear waste. She said yesterday the country needs a geological repository for spent rods.

A Connecticut native, during her academic career she spent significant time in New England, she said, holding fellowships at Radcliffe College, MIT and Harvard.

"And I still have a 617 area code on my cellphone to prove it," she added.

NewburyportNews.com, Newburyport, MA

November 27, 2013

NRC chairman listened to N-plant concerns

Newburyport Daily News

---- — To the editor:

When Nuclear Regulatory Commission Chairman Allison Macfarlane visited the Seabrook nuclear power plant earlier this month, she invited representatives of several citizens' groups concerned about public safety to meet with her.

Those invited were the C-10 Educational Foundation represented by Sandra Gavutis and Debbie Grinnell, No More Fukushimas represented by Bruce Skud and Joanna Hammond, and the Seacoast Anti-Pollution League represented by Herb Moyer and Doug Bogen. Friends of the Coast based in Edgecomb, Maine, was also invited and represented by Raymond Shadis.

Each group presented specific concerns to the NRC chairman. The C-10 Research and Education Foundation spoke about the concrete degradation that is impacting structural integrity in safety structures at the plant. C-10 and the Union of Concerned Scientists have hired concrete expert Dr. Paul Brown to analyze the methods being employed in investigating the degradation. Dr. Brown recently reported significant flaws in the testing.

No More Fukushimas presented a statement concerning its belief that the plant should not be relicensed based on a history of inadequate plant management and weak NRC oversight. Several instances including the fact that the concrete degradation was not reported until it had reached a "moderate to severe" state were mentioned. NMF believes that the plant should not be relicensed based on a paper promise of a future fix. The chairman was reminded that 40 elected officials from surrounding Massachusetts towns have written to the NRC reiterating their concerns about relicensing especially in the light of the concrete degradation.

The Seacoast Anti-Pollution League emphasized the fact that climate changes will affect the relicensing period of 2030-2050. SAPL pointed out that since current NRC regulations do not allow flooding and seismic concerns to be addressed as part of relicensing, very important issues that affect public safety are ignored.

Friends of the Coast has been a co-intervener with the New England Coalition based in Brattleboro, Vt., in the licensing process. Mr. Shadis spoke about NRC practices that make information needed by the public inaccessible. He stated that there is no legal recourse for the public on the status or quality of promised fixes.

Each group expressed its appreciation of the opportunity to speak directly with Chairman MacFarlane. Chairman Macfarlane has stated that she believes that the NRC functions best when it considers views from a broad variety of interested parties. She has gained a reputation of being a good listener who is committed to communication and engagement with the public.

We think it is significant that the chairman has made herself available to listen to these concerns. However, we believe constant vigilance on the part of the public is of paramount importance. It is the public's safety that is at risk.

Bruce Skud

Newburyport

Joanna Hammond

Amesbury

for No More Fukushimas

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
NEXTERA ENERGY SEABROOK, LLC) DOCKET NO. 50-443-LR
(Seabrook Station, Unit 1))
)
(License Renewal))

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **NOTICE TO THE PARTIES (Regarding Chairman Macfarlane Site Visit to Seabrook Station)** have been served upon the following persons by the Electronic Information Exchange.

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NEXTERA ENERGY SEABROOK, LLC (Seabrook Station Unit 1) – Docket No. 50-443-LR
ORDER OF THE SECRETARY (Regarding Chairman Macfarlane Site Visit to Seabrook Station)

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[Original signed by Brian Newell]
Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 7th day of March 2014