



CITY OF NEWBURYPORT

Stephen G. Burns, Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

August 11, 2015

CITY COUNCIL

NEWBURYPORT CITY HALL

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Dear Chairman Burns:

We serve on the City Council of Newburyport, Massachusetts.¹ Our city is located eight miles from Seabrook Station, within the plant's 10-mile emergency evacuation zone.² As city councilors, our most basic responsibility is to assure the safety of our residents. After listening to our constituents and attending Nuclear Regulatory Commission (NRC) public meetings, we firmly believe that the Seabrook nuclear reactor poses an unacceptable risk to the lives and livelihood of the people of Newburyport and New England.

On behalf of public safety, we urge the NRC to close the Seabrook nuclear reactor. Specifically, for the following reasons we ask that the NRC withdraw the license to operate Seabrook Station:

- (1) The plant is at risk of a nuclear incident due to extensive concrete degradation throughout the plant's foundation and safety structures, including the building that houses the nuclear reactor.
- (2) Should an accident, incident, or act of terrorism threatening or leading to a radiation release³ occur, a safe, timely, and humane evacuation would not be possible. (The appendix describes why)

We are also profoundly disturbed by the NRC's oversight. To the agency's credit, the NRC conducts semi-annual public meetings. In regard to the Seabrook plant, we have learned from these meetings that the NRC staff has a track record of making *extremely* high-risk decisions rather than taking a conservative, precautionary approach to public safety. This is especially disturbing because—due to the novelty of the concrete degradation that is plaguing the plant—the NRC is in uncharted waters. Case in point:

When alkali-silica reaction (ASR)⁴—the source of the concrete degradation—was discovered at the plant in 2009, the NRC staff admitted it had little to no expertise with ASR or a regulatory track

¹We constitute 4 of the 11 members of the Newburyport City Council. This letter does not reflect an action voted on by the council as a whole.

²The NRC refers to this as the emergency preparedness zone.

³Radiation could be released into the air from the building that houses the nuclear reactor or other structures, or from the high-level "spent" fuel pool that is located at the Seabrook plant.

⁴ASR is an expansive chemical reaction that occurs within concrete and causes the concrete to expand and crack. The chemical reaction occurs when both alkali and silica present in the concrete come into contact with water. (Groundwater surrounds the entire plant foundation because the Seabrook plant was

built in a salt marsh.) When cracking occurs, more water infiltrates the concrete. Rain has also triggered ASR at the Seabrook plant.

record to make informed decisions on it.. To date, Seabrook is the only US nuclear plant where ASR has been discovered. What has been clear to the NRC from the start is that there is “no known remedy” for existing ASR or any way to stop its progression.⁵ This should have triggered a cautious approach, but the NRC failed, and continues to fail, to protect the public by ordering NextEra to shut down the reactor while this adverse condition is fully assessed.

Instead, after reviewing some visual inspections conducted by plant staff, the NRC decided the plant could continue to operate in the “short-term.” The NRC has never clarified what it means by “short-term.” Although years have passed since the 2009 ASR discovery, the NRC continues to allow the plant to operate. At this time, there is still no scientific history or data we can rely on to predict the weakening that may be occurring due to ASR progression.⁶ This is especially risky given that respected scientists warn that the visual surface inspections the NRC relies on are totally inadequate for assessing the extent of degradation deep within the plant’s foundations and concrete structures.

The NRC has given the plant’s owner, NextEra, the green light to conduct a “long-term” reliability study of ASR, which has become the lynchpin to plant relicensing. The NRC has done so even though scientists warn that the NextEra study is fatally flawed since it is relying on replica samples (from New Mexico) and simulated conditions (in a Texas lab) rather than testing the plant’s *actual* concrete. The study results are not worth waiting for because the outcome will not be scientifically valid. Meanwhile, the study’s protracted timeframe increases the potential risk to the public. In spite of this, the NRC continues to revise the relicensing schedule—the relicensing decision was originally scheduled for March 2012—to accommodate NextEra’s problem-riddled study.

Fundamentally, the study is not credible because the NRC is allowing NextEra to directly pay and contract for the study—rather than using an independent third party. It is a blatant case of the fox guarding the hen house. Depending on the outcome of the study, NextEra stands to lose untold millions. NRC inspectors have made periodic trips to the Austin, Texas, lab to monitor the study; however, this does not offset the fact that this research framework is an indefensible breach of research ethics, which should be the gold standard for the NRC when millions of lives are at stake.

Our perspective is that ASR is a novel type of degradation at a US nuclear plant and pervasive throughout the Seabrook plant. As such, it is just too risky for a first-of-its-kind lab experiment, and an experiment that is not even independently conducted. In addition, the study methodology is far too controversial for the NRC to rely upon to risk the lives and livelihoods of millions of people.⁷

⁵A nationally recognized expert consulting for the Union of Concerned Scientists (UCS), Dr. Paul Brown of Penn State University, stated that “there is presently no generally accepted technology to mitigate the effects of ASR within an existing concrete structure” (*Statement on Concrete Degradation at Seabrook Station*, by David Wright, UCS Director of the Global Security Program.)

⁶Estimations of earthquake risk have risen dramatically in recent years as reported by the NRC itself. In 2012, a 4.0 earthquake occurred just 50 miles from Seabrook, and regional seismology suggests that a stronger earthquake could strike closer to the plant.

⁷Over four million people live within 50 miles of the Seabrook plant in Massachusetts, New Hampshire, and Maine.

The NRC has repeatedly bent over backwards to support NextEra's recklessness in continuing to operate the plant. Frankly, our constituents—including those who fully support nuclear power—have reevaluated their support for the Seabrook reactor. Many openly wonder if the NRC is dedicated to protecting owners' and shareholders' financial safety rather than our public safety. Public safety should be the NRC's top priority; it most certainly is ours.

It did not help build public confidence, or ours, when the Seabrook plant's Director of Safety proclaimed last year in the *Newburyport Daily News* that the "Seabrook Station is absolutely safe," a claim that defies credulity.⁸ These words—straight from Seabrook owner NextEra—are not just merely worrisome, they are cavalier and reckless. They are also a chilling reminder that Fukushima plant officials and regulators at the Japanese NRC (closely modeled after the US NRC) proclaimed the Fukushima plant to be safe.

In fact, Fukushima has been a catastrophe that has ruined the lives of 100,000 people and caused damage estimated to be over one hundred billion dollars, possibly much more. Our perspective is both conservative and precautionary: *electricity from the Seabrook plant—riddled with ASR and myriad other problems—is not worth the risk to human life and our economy that it poses.*

While maintaining an adequate *safe and clean* electricity supply for New England is not integral to the NRC's mission, such a supply is essential. Although the region is already headed in the right direction expanding the use of renewable sources of energy, we urge energy policy leaders and government officials in New England to unleash a coordinated, accelerated effort to harness the full potential for safe, clean, renewable electricity sources (and conservation) that could replace the loss of electricity from Seabrook and other plants that do not meet the "safe and clean" criteria.

The regional economy and jobs will certainly flourish if we become a world leader in renewable electricity technology—this region has the brainpower and expertise to do this. Everyone, including the business community and the unemployed—both of which we care about deeply—will cheer this initiative. Employment in the region's nuclear power industry has been steadily declining: five of New England's nine nuclear plants have already been shuttered by their owners.⁹

We believe that the continued operation of the plant is risky for the public and its shareholders. Closing the Seabrook nuclear plant is a win-win for both parties. Seabrook's owner and shareholders may ultimately balk at the extremely high cost to (1) remedy ASR and/or (2) address NRC-mandated post-Fukushima upgrades. Shareholders may also face untold millions of dollars to remedy projected and inevitable sea-level rise that could swamp the plant by the time license extension occurs, 2030-2050.

In other words, the NRC knows full well that as a private company, NextEra may choose to close Seabrook if the financials don't look good. Entergy did just that—suddenly

⁸ *The Newburyport Daily News*, Jan. 29, 2014 See http://www.newburyportnews.com/opinion/seabrook-station-is-absolutely-safe/article_6e84ca94-4028-57f0-9b19-e9b2f464d63f.html.

⁹ Millstone Units I and II, Pilgrim, and Seabrook are the remaining four reactors; it is difficult to fathom that none of these plants will ever close.

closing Vermont Yankee this year! (This is not an anomaly given that five of the region's nuclear reactors have already been shuttered.) The NRC could (and should) reject the plant's relicensing application and close the plant.

It is no wonder that over 60 Massachusetts elected officials, from all levels of government, have sent the NRC letters of concern about Seabrook safety during the last two years.

We urge you:

- Review the 2013 letter from our Congressional delegation regarding the Seabrook plant.¹⁰
- View our state delegation's call for a plant shutdown at a 2013 NRC public meeting.¹¹
- Read the unprecedented letters written *unanimously* to the NRC by the selectmen and councilors of 7 towns and cities, including Newburyport.
- Reach out to Seabrook safety and scientific organizations, as your predecessor has.¹²

To be clear, we who are signing this letter include both those who are opposed to nuclear power and those who favor it, but we agree that this *particular* nuclear reactor should be closed.

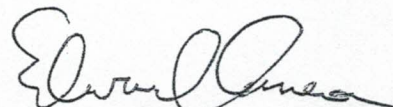
Simply put, the people who live and work in Newburyport do not want a Fukushima disaster here; we stand with them shoulder-to-shoulder. Again, on behalf of the lives and the livelihood of the people we represent, we advocate that the NRC withdraw the license to operate Seabrook Station.

Thank you for your concern about the safety of the people of Newburyport and New England.

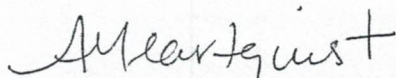
Yours truly,



Barry N. Connell, Councilor at Large



Edward Cameron, Councilor at Large



Allison Heartquist, Ward 1 Councilor



Robert Cronin, Ward 3 Councilor

¹⁰The letter can be found at http://www.markey.senate.gov/imo/media/doc/2013-12-18_NRC_Seabrook.pdf.

¹¹The NRC videotaped this public meeting or see <https://www.youtube.com/watch?v=YAJPe-HMl0w>.

¹²These include the Union of Concerned Scientists, C-10 Research and Education Foundation, Seacoast Anti-pollution League (SAPL), New England Coalition on Nuclear Pollution, and No More Fukushimas.

Appendix

Safe Evacuation for the Seabrook Nuclear Power Plant is Not Possible

For those within or outside the 10-mile Evacuation Zone

In the event of a catastrophic incident at the Seabrook nuclear power plant, safe evacuation is not possible. One would be hard pressed to find a single Newburyport resident who believes that school children, nursing home residents, and those who reside on Plum Island, could be evacuated safely in a timely way, especially in light of the 2014-2015 winter and the congestion experienced by local beachfront communities from normal summer traffic—even with our truly dedicated team of emergency responders.

Evacuation will be harrowing if not inhumane to children, their parents, and others.¹³ For example, when the Seabrook plant evacuation sirens sound signaling a radiation release, Newburyport parents are allowed to take their children from *day care centers* to try to reach a safe location. However, children in Newburyport *schools* will be locked down and then bussed to the Masconomet Regional Middle School in Topsfield, 15 miles away, where state emergency personnel will decontaminate them, if necessary. Any parent who tries to take a child out of school may be subject to arrest, and parents will not be allowed access to their children in Topsfield, even though the decontamination process this could possibly be the most traumatic experience their children have ever had.

Once decontamination is completed, the children will be bussed to the Lexington Regional School District, 50 miles away, where their parents can claim them. *We firmly believe that parents and children should not be asked to endure this (aside from the confusion of an evacuation).* We cannot help thinking that it might be our own children or grandchildren who will be put through this.

For two decades, the NRC has conducted biennial emergency radiation release drills at Seabrook Station, as it does at all nuclear plants in the United States. In a scheduled drill at Seabrook in April 2012, the NRC determined that Seabrook operators had failed to detect the direction of a potential “radiological release” and provided incorrect information to state emergency management officials that could have seriously threatened public safety had this been a real occurrence.

In other words, notwithstanding *20 years of practice and an announced drill*, Seabrook operators failed to accurately notify the public of the wind direction with a radiation release. The NRC handed out a mild administrative slap on the wrist for this potentially life-threatening result. What assurance does the public have that plant personnel can be relied upon to protect them in the case of an emergency radiation release?

Further, evacuation is *destined* to be a complete disaster because the existing emergency radiological response plans pertain only to towns and cities within a 10-mile

¹³The state's evacuation plan is issued by the Massachusetts Emergency Management Agency (MEMA).

radius. When the reactors at Fukushima were damaged by a tsunami, the US government, *upon the advice of the NRC*, recommended that US citizens in Japan move 50 miles away. There is no valid reason why the NRC would advised Americans in Japan to move 50 miles away from Fukushima yet be satisfied with a 10-mile buffer zone here. A 50-mile evacuation zone around Seabrook would encompass portions of New Hampshire, Maine, and Massachusetts and include 4.3 million New Englanders.¹⁴

Although the people of Newburyport are our constituents, we are also concerned about people outside the 10-mile evacuation planning zone who will be in very deep trouble if an incident occurs. There are no plans whatsoever to evacuate school children or nursing home residents in the case of a radiation release for those who live outside the 10-mile zone. Parents and children are left on their own to deal with radiation deposited by the wind.

¹⁴MEMA could and should adjust the evacuation zone to 50 miles. The NRC and FEMA should provide support and assistance to MEMA, and NextEra should be assessed for the cost of an expanded safety zone.

FOUR NEWBURYPORT CITY COUNCILORS CALL FOR SEABROOK REACTOR SHUTDOWN

On August 11, 2015, four members of the Newburyport City Council called upon the US Nuclear Regulatory Commission (NRC) to shut down the Seabrook nuclear reactor on behalf of public safety. Councilors Ed Cameron, Barry Connell, Bob Cronin, and Allison Heartquist signed the letter to NRC Chairman Burns. Their stand represents the first time municipal elected officials have called for a Seabrook reactor shutdown. Our state delegation comprised of Senator Kathleen O'Connor Ives and former Representative Michael Costello did so in 2013.

According to the Councilors, "The people who live and work In Newburyport do not want a Fukushima disaster here; we stand with them shoulder-to-shoulder. On behalf of the lives and the livelihood of the people we represent, we urge the NRC to withdraw the license to operate Seabrook Station."

Specifically, the councilors urge the NRC to withdraw the license to operate Seabrook Station because

- (1) The plant is at risk of a nuclear incident due to extensive concrete degradation [due to alkali-silica reaction] throughout the plant's foundation and the building that contains the nuclear reactor.
- (2) Should an accident, incident, or act of terrorism occur, evacuation plans for a radiological release are *destined* to fail.

The councilors state that they are profoundly disturbed by the NRC's oversight. They write that the NRC has repeatedly bent over backwards to support NextEra's recklessness in continuing to operate the plant *and* ask for a 20-year license extension in a post-ASR era. They write:

"Frankly, our constituents—including those who fully support nuclear power—have reevaluated their support for the Seabrook plant. Many openly wonder if the NRC is dedicated to protecting owners' and shareholders' financial safety rather than our public safety. Public safety should be the NRC's top priority; it most certainly is ours."

While they acknowledge that some councilors are opposed to nuclear power and some favor it, they state "we all agree that this *particular* nuclear reactor should be closed on the basis of public safety." Recognizing the need for alternative sources of energy, the councilors' letter urges the New England region to dramatically ramp up existing efforts to use safe and clean renewable electricity sources.

No More Fukushimas' co-founders Joanna Hammond and Bruce Skud thank these members of the Newburyport City Council. They state: "They have made an extraordinary effort—attending NRC public meetings, reviewing documents, visiting the plant, and most importantly, listening to constituents. We invite other elected officials to join those who have called for shutdown: the only way to ensure public safety in regard to the Seabrook nuclear power plant."

No More Fukushimas is a grassroots citizens group focused on public safety who reside within and near the evacuation zone surrounding the Seabrook nuclear power plant