Congress of the United States
Washington, DC 20515

June 8, 2011

The Honorable Greg Jaczko
Chairman
Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Jaczko:

We write to urge the Nuclear Regulatory Commission (NRC) to immediately announce its intent to deny NextEra Energy Seabrook, the licensee for the Seabrook nuclear power plant, its June 1, 2010 request[1] for a twenty year operating license that would begin in 2030 and end in 2050[2]. In addition, we urge the NRC to adopt a more general policy of disallowing requests by nuclear power reactor licensees for a twenty-year license extension as early as twenty years prior to the time their current licenses expire.

Granting license extensions so far in advance is particularly unwise in the wake of the Fukushima meltdowns, as the NRC learns of new vulnerabilities at U.S. nuclear power plants that should impact its future licensing decisions related to both new and existing facilities. Moreover, there are additional aging and other safety issues that could not possibly be contemplated or fully understood a full twenty years in advance of the nuclear reactor's end-of-licensed-life, as exemplified by the May 30, 2011 article in The Boston Globe[3] noting that concrete surrounding a safety-related tunnel at the Seabrook nuclear power plant had lost 22 percent of its strength due to being saturated with water for the past decade. If safety structures that are supposed to help cool the Seabrook nuclear power plant are experiencing such alarming degradation during the reactor's 'adolescence', there is simply no way that the NRC can guarantee that it will remain safe until it enters its 'golden years' almost 40 years from now.

The NRC is currently considering twenty-year license renewal applications for 16 existing reactors at 11 power plant locations.[4] The NRC website states: "A nuclear power plant licensee may apply for a license renewal as early as 20 years before the expiration of its current license."[5] Indeed, an examination of NRC records indicates that since 2009, the NRC has begun reviewing license renewal applications for eight reactors more than ten years (and in some cases

[1] http://www.nrc.gov/reactors/operating/licensing/renewal/applications/seabrook.html
2 http://articles.boston.com/2011-03-27/bostonglobe/29352917_1_seabrook-station-nrc-nuclear-plant
[3] http://articles.boston.com/2011-05-30/lifestyle/29600250_1_nrc-seabrook-station-nuclear-power-plant
4 http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html
[5] http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/license-renewal-bg.html

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closer to twenty years) before the reactors' current operating license expires.[6] In fact there is at least one case where renewal was granted more than 20 years in advance. According to its renewal application found on NRC's website, the Catawba Nuclear Power Station 1 in South Carolina had its license renewed 21 years and 1 day before the previous license was set to expire.[7] There is little reason for such early consideration of a license renewal application by the NRC, as the NRC expects to complete its review of renewal applications within 30 months from receiving the application, if a hearing is required, or within 22 months if no hearing is required.[8] An examination of NRC re-licensing records indicates that the NRC has approved license renewals for 66 reactors with an average time of 25 months from the time it receives the application to the time the renewal was approved.

If the understanding of the vulnerabilities associated with nuclear power plants never changed, then making a decision in the year 2012[9] to allow (for example) the Seabrook nuclear power plant to operate until the year 2050 might seem reasonable. But this is not the case.

Some Safety and Aging Issues Might Not Be Known Decades In Advance

As The Boston Globe article[10] noted, water seepage beneath the Seabrook power plant has led to significant degradation of the concrete associated with a tunnel that is part of the reactor's cooling system, and NextEra also identified "corroded steel supports, piping, and anchor bolts in other areas they inspected". As the NRC noted in the May 23 document entitled "NextEra Energy Seabrook - NRC License Renewal Inspection Report 05000443/2011007," "the [NRC] inspection team was unable to arrive at a conclusion about the adequacy of your aging management review for the alkali-silica reaction issue," a reaction between concrete and water that is associated with some of the concrete structures at Seabrook. If these problems are surfacing a mere 21 years into Seabrook's operating life, it seems impossible to conclude that the reactor can be safely operated between the years 2030-50.

Additionally, climate change has the potential[11] to impact nuclear power plants through increased temperatures of cooling water, rising sea levels, more frequent and severe heat waves and more intense rainfall with associated flooding. Rep. Markey made a request to the Government Accountability Office in 2010 to review the adequacy of NRC regulations given

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[6] The eight reactors (and years remaining on their operating licenses when the re-license applications were filed) are Seabrook (19.8 years); Hope Creek (16.7 years); Salem Nuclear Generating Station, Unit 2 (10.7 years); Diablo Canyon Power Plant, Unit 1 (15 years), Unit 2 (15.8 years); Columbia Generating Station (13.9 years); South Texas Project, Unit 1 (16.8 years), Unit 2 (18.1 years). http://www.nrc.gov/reactors/operating/licensing/renewal.html

[7] http://www.nrc.gov/reactors/operating/licensing/renewal/applications/mcguire-catawba/duke-lra.pdf

[8] http://www.nrc.gov/reactors/operating/licensing/renewal/process.html

[9] http://www.nrc.gov/reactors/operating/licensing/renewal/applications/seabrook.html

[10] http://articles.boston.com/2011-05-30/lifestyle/29600250_1_nrc-seabrook-station-nuclear-power-plant

[11] http://www.globalchange.gov/what-we-do/assessment/previous-assessments/global-climate-change-impacts-in-the-us-2009

climate change.[12] In 2007, the Browns Ferry unit 2 reactor in Alabama had to shut down because the intake water was so warm that, after being warmed nearly 30°F going through the plant, its release back into the environment would have violated the Clean Water Act.[13] Moreover, for some coastal nuclear power plants such as Seabrook, a January 2011 study shows that the storm surge from a Category 4 or 5 hurricane could completely inundate the plants within their expected operating lifetimes.[14] But sea level rise may be even more rapid than was understood in 2007, given the accelerating melting of the Greenland and Antarctic ice sheets.[15] Current projections of sea level rise suggest an average 4 foot rise from 1990 levels by 2100.[16]

The NRC Has Not Incorporated the Lessons of Fukushima Into its Regulations or Analysis

The Japanese nuclear meltdown shows how readily a total loss of electricity can result in major radiation release – and many have speculated that this vulnerability may have been especially pronounced in Japan because the nuclear reactors involved are much older designs. A staff report recently issued by Rep. Markey's office[17] details some of the most glaring safety vulnerabilities exposed by the Fukushima events. As operating nuclear power plants reach the end of their initial forty year lifetime and enter their twenty year extended operation periods, there is certain to be new information about aging-related safety issues that the NRC should be continually evaluating.

Additionally, as has been noted previously,[18] we are concerned that the Commission has granted license extensions for four nuclear reactors since the Fukushima meltdown without requiring licensees to comply with the requirements of NEPA that any "new and significant" information regarding the environmental consequences of operating the nuclear reactor be included in the application. It is clear that the environmental consequences of Fukushima will be "new and significant" compared to those that had been previously contemplated, and that an assessment of NRC's safety regulations will also reveal "new and significant" vulnerabilities when viewed through the post-Fukushima lens. The NRC should not be approving *any* license extensions, let alone those that are only needed to continue operations more than a decade from now, before all of these vulnerabilities are both fully understood and addressed.

Given the changes to our planet, as well as changes to our understanding of safety-related vulnerabilities brought on by either accidents, extreme weather or geologic events, or unanticipated safety problems, the NRC should end its practice of accepting and granting license extensions twenty years before the license expires – and should reject those that it has already

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[12] http://markey.house.gov/docs/gaoinspection.pdf
[13] http://www.ucsusa.org/assets/documents/nuclear_power/20071204-ucs-brief-got-water.pdf
14 linkinghub.elsevier.com/retrieve/pii/S0301421510007329
15 http://www.agu.org/pubs/crossref/2011/2011GL046583.shtml
[16] http://www.nature.com/climate/2010/1004/full/climate.2010.29.html
[17] http://markey.house.gov/index.php?option=content&task=view&id=4352&Itemid=125
[18] http://democrats.naturalresources.house.gov/sites/democrats.resourcescommittee.house.gov/files/documents/2011-05-13_EJMtoNRCNEPA.pdf

received until the reactor has operated for more time so that potential safety problems can be identified and more fully understood. The NRC should stop making the dangerous assumption that risks, and our understanding of them, will remain static for decades.

Sincerely,

Edward J. Markey

John F. Tierney