

SeabrookNPEM Resource

From: Susco, Jeremy
Sent: Thursday, August 26, 2010 8:33 AM
To: 'WILLAM HARRIS'
Cc: Plasse, Richard
Subject: RE: Additional Reference Document for Seabrook Relicensing Environmental Review - Threat Assessment of EMP for Critical Infrastructure

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Mr. Harris,

Thank you for your comments. I am happy to process your comments, but if you have any others, please submit them via www.regulations.gov using Docket ID NRC-2010-0206.

As for your earlier two emails, I assume that you only want the "corrected" version to become a part of the public record. Is that correct?

Thank you,
Jeremy Susco

From: WILLAM HARRIS [mailto:willamrharris@yahoo.com]
Sent: Wednesday, August 25, 2010 11:27 PM
To: Susco, Jeremy; Plasse, Richard
Subject: Additional Reference Document for Seabrook Relicensing Environmental Review - Threat Assessment of EMP for Critical Infrastructure

For Messrs Susco and Plasse, Nuclear Regulatory Commission:

As a reference document that could be relevant to the scoping of environmental review for relicensing of the Seabrook Station No. 1 facility, please consider the attached full report of the Congressionally-mandated Commission to Assess the Threat of High Altitude Electromagnetic Pulse (EMP), completed in April 2008.

The entire report has a relevancy to critical infrastructure protection requirements. Chapter 2 provides an overview of the electric power industry, its infrastructure, particular system components, and overall vulnerability to EMP attack. If you have not considered this chapter before, please do so in the future.

Of particular interest, the Commission observed that protection of energy system components from prompt (E1), intermediate (E2) and longer phased (E3) energy pulse phenomena would be most cost-effective when combined with parallel efforts to improve cyber security -- relevant to the current initiatives of the National Security Agency to sponsor joint research programs with the electric power industry.

This Commission Report (the Graham Commission) notes the long-lead time to acquire transmission, transformer, and other specialized equipment under market conditions in which China and India and other emerging states have a substantial backlog of equipment orders. The risks of long-term electric power outages and shortages, because of back-orders for essential replacement equipment, are substantial.

One overall consequence of the risks of EMP attack (low probability/high consequence) and cyber attack on electric system infrastructure (higher probability/high consequence), with a National Electric Reliability

Council (NERC) excess capacity that is closer to 10 percent compared to historic reserve capacity of 20 percent is the following:

Taking into account a reduced reserve of electric power generation capability in future years for the nation and for the Northeast (US-Canada) region within which Seabrook operates, the relicensing of existing baseline electric generation capabilities, if sufficiently safe, contributes positively to a capacity buffer that could significantly protect the public health and safety and economy of the United States and of the North American continent, and of specific regions of the nation.

ISO New England currently projects (May 2010) net installed capacity (in MWe) of 32,127 for the year 2013-2014, with peak load capacity of 28,570 (MWe) in that same year. Projected peak load (demand) as a percentage of projected net regional capacity (which includes hydroelectric imports from Canada) is about 88.9%. Hence, there is a reserve of about 11 percent of net projected capacity as of the year 2013-2014.

Seabrook Station, with about 1,248 MWe of online capacity produces about 4.4 percent of the New England ISO demand projected for year 2013-2014. This is about one fourth of the nuclear generation in this region. The total loss of Seabrook Station No. 1 would significantly reduce the reserve margin of installed (and under contract hydroelectric import) capacity for the six state New England ISO region.

Consequently, Seabrook Station No. 1 is an important component of regional electric network supply and reliability. And if NRC demonstrates a commitment to reduce environmental and emergency-related risks deriving from renewed licensing of the Seabrook Station, this ocean-connected site has the capacity for additional licensable nuclear-electric facilities. These additional licensable facilities could contribute to relatively low cost baseline electric generation, and needed additions to regional electric reserve capacity. Extension of existing nuclear baseline generation, plus additional licensable nuclear-electric plants will complement additions of renewable generating capacity that provide more variable, intermittent generating capacity for the New England region.

With long lead times to replace or repair essential equipment for generation, transmission, or network system control (SCADA) of the electric power industry, the build-up of reserves of baseline electric power is essential for this region and the nation. Increased marginal capabilities for baseline nuclear-electric power can achieve a more robust and enduring electric network for the nation. Such increases in baseline generating capacity, combined with augmented transmission capabilities, can better endure emergencies affecting power systems, control (SCADA) systems, and related telecommunications systems that depend upon reliable electric power for their functionality.

As a consequence, the Nuclear Regulatory Commission should utilize every licensing and relicensing review that comes before it as a means of promoting not only the safety of licensable systems but also a commitment to increase the reserve electric power generating capacity of the nation and the North American continent for reliable baseline electric generation.

By using the relicensing review for Seabrook Station to update and improve *consequences assessments* and *emergency mitigation programs*, the Commission can pave the way for additional future plant licensing opportunities at the Seabrook facility, and at other nuclear facilities. All licensed nuclear facilities under NRC jurisdiction could also benefit from more cost-effective planning, near-real-time regional radiation monitoring, and emergency operational and phased evacuation capabilities.

It is possible that a Generic Review of Consequences Assessments, Regional Monitoring Capabilities for every licensable facility, and Emergency Contingency Capabilities should be established by the Commission, so that findings that are relevant for one facility, e.g. Seabrook Station No. 1, can lead to "best practices" for all of the nation's licensed and licensable nuclear-electric facilities.

Sincerely,

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