PSEGESPeRAIPEm Resource

From: Clark, Phyllis
Sent: Thursday, February 23, 2012 4:41 PM
To: 'PSEGRAIResponses@pseg.com'
Cc: PSEGESPeRAIPEm Resource; 'James.Mallon@pseg.com'; 'David.Robillard@pseg.com'; Segala, John; Silvia, Andrea; Roach, Kevin; Chowdhury, Prosanta; Canova, Michael; McLellan, Judith; Quinlan, Kevin; Hatchett, Gregory
Subject: PSEG Site ESPA Final RAI 56 (eRAI 6309).doc
Attachments: PSEG Site ESPA Final RAI 56 (eRAI 6309).pdf

Please find attached RAI 56 for the PSEG Site ESP Application. A draft of the RAI was provided to you on February 3, 2012. You informed via email on February 22, 2012, that you would not need a clarification call involving this specific RAI, and therefore, we are issuing this RAI as final with no changes made to it.

The schedule we have established for review of your application assumes technically correct and complete responses within 30 calendar days of receipt of RAIs. For any RAIs that cannot be responded to within 30 calendar days, it is expected that a date for receipt of this information will be provided to the staff within the 30-calendar day period so that the staff can assess how this information will impact the published schedule.

If you have any questions, please contact me.

P. Clark
Project Manager
U.S. Nuclear Regulatory Commission
Office of New Reactors, DNRL
Room T-6C10
Washington, DC 20555
301-415-6447
Phyllis.Clark@nrc.gov

Hearing Identifier: PSEG_Site_EarlySitePermit_RAI
Email Number: 115

Mail Envelope Properties (320204600EA7B9408FE833FF15E4FF7D7F5DA4B6FA)

Subject: PSEG Site ESPA Final RAI 56 (eRAI 6309).doc
Sent Date: 2/23/2012 4:41:13 PM
Received Date: 2/23/2012 4:40:30 PM
From: Clark, Phyllis

Created By: Phyllis.Clark@nrc.gov

Recipients:
"PSEGESPeRAIPEm Resource" <PSEGESPeRAIPEm.Resource@nrc.gov>
Tracking Status: None
"'James.Mallon@pseg.com'" <'James.Mallon@pseg.com'>
Tracking Status: None
"'David.Robillard@pseg.com'" <'David.Robillard@pseg.com'>
Tracking Status: None
"Segala, John" <John.Segala@nrc.gov>
Tracking Status: None
"Silvia, Andrea" <Andrea.Silvia@nrc.gov>
Tracking Status: None
"Roach, Kevin" <Kevin.Roach@nrc.gov>
Tracking Status: None
"Chowdhury, Prosanta" <Prosanta.Chowdhury@nrc.gov>
Tracking Status: None
"Canova, Michael" <Michael.Canova@nrc.gov>
Tracking Status: None
"McLellan, Judith" <Judith.McLellan@nrc.gov>
Tracking Status: None
"Quinlan, Kevin" <Kevin.Quinlan@nrc.gov>
Tracking Status: None
"Hatchett, Gregory" <Gregory.Hatchett@nrc.gov>
Tracking Status: None
"'PSEGRAIResponses@pseg.com'" <'PSEGRAIResponses@pseg.com'>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	1012	2/23/2012 4:40:30 PM
PSEG Site ESPA Final RAI 56 (eRAI 6309).pdf	66008	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 56

Application Revision 0

FINAL

2/23/2012

PSEG Site ESP
PSEG Power LLC, PSEG Nuclear LLC
Docket No. 52-043
SRP Section: 02.03.01 - Regional Climatology
Application Section: Regional Climatology

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.03.01-8

10 CFR 52.17(1)(vi), *Contents of applications; technical information,* states that site safety analysis reports should include "the meteorological characteristics of the proposed site with appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area and with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated." In addition, 10 CFR 100.20(c)(2), *Factors to be considered when evaluating sites*, states that the "meteorological characteristics of the site that are necessary for safety analysis or that may have an impact upon plant design" must be identified and characterized. 10 CFR 100.21(d), *Non-seismic siting criteria*, states, in part, that the meteorological characteristics of the site "must be evaluated and site parameters established such that potential threats from such physical characteristics will pose no undue risk to the type of facility proposed to be located at the site."

Nuclear power plants must be designed so that they remain in a safe condition under extreme meteorological events, including events such as tornadoes and hurricanes, that could result in the most extreme wind events that could reasonably be predicted to occur at the site. Initially, the NRC's predecessor, the U.S. Atomic Energy Commission considered tornadoes to be the bounding extreme wind events and issued RG 1.76, "Design-Basis Tornado for Nuclear Power Plants," in April 1974. The design-basis tornado wind speeds were chosen so that the probability that a tornado exceeding the design basis would occur was on the order of 10^{-7} per year per nuclear power plant.

In February 2007, the National Weather Service implemented the Enhanced Fujita Scale, which is a revised assessment relating tornado damage to wind speed. Relying on the Enhanced Fujita Scale, in March 2007, the NRC issued Revision 1 of RG 1.76, "Design-Basis Tornado and Tornado Missiles for Nuclear Power Plants." In Revision 1 of RG 1.76, the NRC decreased the design-basis tornado wind speed criteria. Since design-basis tornado wind speeds were decreased as a result of the analysis performed to update RG 1.76, it was no longer clear that the revised tornado design basis wind speeds would bound design-basis hurricane wind speeds in all areas of the United States. This prompted an investigation into extreme wind gusts during hurricanes and their relation to design basis hurricane wind speeds. As a result, in October 2011, the NRC issued RG 1.221, "Design-Basis Hurricane and Hurricane Missiles for Nuclear

Power Plants." RG 1.221 provides the design-basis hurricane wind speeds that correspond to an exceedance frequency of 10^{-7} per year.

Based on the data in RG 1.221, it is possible that the potential winds associated with hurricanes may exceed the wind speeds associated with tornados at sites near the coasts. The staff is therefore requesting, in accordance with the requirements of 10 CFR Parts 52 and 100, and the guidance of RG 1.221, that the applicant update the site characteristic values in the PSEG Site ESP SSAR to include a new site characteristic called "Hurricane Wind Speed." Alternatively, the applicant may provide a justification if the PSEG Site ESP SSAR is not updated to include this new site characteristic.