PSEGESPeRAIPEm Resource

From: Chowdhury, Prosanta
Sent: Thursday, February 09, 2012 11:33 AM
To: 'PSEGRAIResponses@pseg.com'
Cc: PSEGESPeRAIPEm Resource; 'James.Mallon@pseg.com'; 'David.Robillard@pseg.com'; Segala, John; Silvia, Andrea; Roach, Kevin; Clark, Phyllis; Canova, Michael; McLellan, Judith; Quinlan, Kevin; Hatchett, Gregory
Subject: PSEG Site ESPA DRAFT RAI 56 (eRAI 6309) SRP-02.03.01 (RHEB)
Attachments: PSEG Site ESPA Draft RAI 56 (eRAI 6309).doc

Please find attached DRAFT RAI No. 56 for the PSEG Site ESP application. You have ten working days to review this request and to decide whether you need a conference call to discuss it. Please notify me of your decision in this regard.

After the call, or after ten days, the RAI will be finalized and issued to you. You will then have 30 calendar days to respond. These durations are factored into your review schedule. If additional time is required to respond, please inform me of your proposed schedule to respond at your earliest opportunity.

If you have any questions, please contact me.

Prosanta Chowdhury
Project Manager
Licensing Branch 1 (LB1)
Division of New Reactor Licensing
Office of New Reactors
301-415-1647

Hearing Identifier: PSEG_Site_EarlySitePermit_RAI
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From: Chowdhury, Prosanta

Created By: Prosanta.Chowdhury@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
"Clark, Phyllis" <Phyllis.Clark@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

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Request for Additional Information No. 56

Application Revision 0

DRAFT

2/9/2012

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.