

## PMVictoriaESPPEm Resource

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**From:** Eudy, Michael  
**Sent:** Wednesday, February 08, 2012 5:48 PM  
**To:** david.distel@exeloncorp.com  
**Cc:** VictoriaESP Resource; Quinlan, Kevin; Hatchett, Gregory  
**Subject:** Draft Victoria ESP RAIs for Section 2.3.1  
**Attachments:** RAI 6254.doc

**Importance:** High

David,

Please find attached a draft RAI related to the NRC staff's review of the VCS ESP application section 2.3.1 Please review and let me know if you need a clarification call with our staff within 5 business days. Thanks.

Michael A. Eudy - Project Manager  
U.S. Nuclear Regulatory Commission  
NRO/DNRL/LB3  
301-415-3104

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Request for Additional Information No. 6254 Revision 0

Victoria County Station ESP  
Exelon Texas  
Docket No. 52-042  
SRP Section: 02.03.01 - Regional Climatology  
Application Section: Regional Climatology

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.03.01-\*\*\*

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 tornadoes at the VCS site. 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 VCS ESP SSAR to include a new site characteristic called "Hurricane Wind Speed." Alternatively, the applicant may provide a justification if the VCS ESP SSAR is not updated to include this new site characteristic.