Exelon
Generation

NP-10-0006
May 13, 2010

10 CFR 52, Subpart A

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Exelon Nuclear Texas Holdings, LLC
Victoria County Station
Early Site Permit Application Correction Notification
NRC Project Number 0781

References: Exelon Nuclear Texas Holdings, LLC letter to USNRC, Application for Early Site Permit for Victoria County Station, dated March 25, 2010

Exelon Nuclear Texas Holdings, LLC (Exelon) submitted an application for an early site permit (ESP) in the referenced letter for the Victoria County Station (VCS) site. That submittal consisted of six parts as described in the referenced letter.

Exelon has identified two issues described below potentially affecting information presented in the VCS ESP Application.

The first issue impacts the Environmental Report (ER) Sections 5.7.2 and 7.4, and involves a conservative error in the length of the Advanced Pressurized Water Reactor (APWR) refueling cycle. Eighteen months were used instead of 24 months in one calculation. This results in an overestimation of all impacts that depend on the number of trips for shipments of both fresh and spent nuclear fuel for the APWR. This issue is not expected to impact any conclusions in the ER.

The second issue impacts the Site Safety Analysis Report (SSAR) Section 2.5.2, and involves a discrepancy in the updated Mmax distribution values for the VCS site.

These issues are being entered into a corrective action program. These issues are described in more detail below.

1. **Conservative Consequence Values for APWR in ER Sections 5.7.2 and 7.4**

Section 5.7.2 of the VCS ESPA Environmental Report discusses the non-accident consequences of transportation of radioactive materials, including fresh fuel, spent nuclear fuel, and radiological waste. Section 7.4 discusses the accident consequences of these same shipments. To calculate potential consequences from normal and accident shipments, the RADTRAN 5 computer code is used. The outputs from this analysis are multiplied by the expected annual shipments for each potential reactor design. It has been identified that a conservative error was made for the calculations associated with the Mitsubishi APWR design. The calculations for the APWR design incorrectly used an 18 month refueling cycle assumption

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instead of the correct value of 24 months. This resulted in overly conservative calculated values for the potential number of shipments, collective dose, radiological accident risks, and numbers of accidents/fatalities due to transportation accidents. The impacted calculations only apply to shipments of fresh fuel and spent fuel.

The corrected values will result in lower consequences than those currently shown in the VCS ESPA ER Tables. Exelon will provide corrected markups of the affected ER pages by May 28, 2010.

2. Potential Incorrect Maximum Magnitude (Mmax) Distribution in SSAR Section 2.5.2

Section 2.5.2.4.3.1 of the VCS ESPA SSAR discusses updates to the Maximum Magnitude (Mmax) distributions for five of the six EPRI-SOG source zones representing the Gulf Coastal region. These updates to the original EPRI-SOG Mmax values were based on the occurrence of two earthquakes within the Gulf of Mexico since completion of the EPRI-SOG model in 1986 (the 10 September 2006 mb 6.1 and 10 February 2006 mb 5.5 earthquakes). SSAR Table 2.5.2-19 displays the original EPRI-SOG Mmax distributions, as well as the updated distributions used in the VCS ESPA.

For the Bechtel team's Gulf Coast source zone (zone BZ1) the original Mmax values from the EPRI-SOG model are (SSAR Table 2.5.2-19):

5.4 (weight 0.1)
5.7 (weight 0.4)
6.0 (weight 0.4)
6.6 (weight 0.1)

The updated Mmax values for this zone used in the VCS ESPA are based on the occurrence of the 10 September 2006 mb 6.1 earthquake and are (SSAR Table 2.5.2-19):

6.1 (weight 0.1)
6.4 (weight 0.4)
6.6 (weight 0.5)

This updated distribution was developed based on misinterpretation of the methodology for determining Mmax distributions developed by the Bechtel team in the EPRI-SOG study. Reanalysis of the Bechtel methodology and the Mmax distribution for zone BZ1 that has occurred due to a recent industry focus on the Gulf Coast source zones confirms that the Mmax distribution for the zone should be:

6.1 (weight 0.1)
6.4 (weight 0.4)
6.7 (weight 0.4)
6.6 (weight 0.1)

The resolution of this issue is not expected to impact the site because the alternate Mmax distribution for Bechtel zone BZ1 presented here will have an insignificant impact on the VCS site hazard. This conclusion is based on the observations that:

1. Only one source zone from one of the six EPRI-SOG teams is impacted; and
2. The difference in mean Mmax between the two distributions is insignificant (mean Mmax from SSAR distribution = mb 6.47; mean Mmax for the alternate distribution presented here = mb 6.51).

The impact of the error is expected to be approximately 0.1% GMRS based on previously performed calculations. A sensitivity analysis using the corrected Mmax distribution will be performed to confirm that the error is insignificant. SSAR Section 2.5.2 will be revised to show the corrected distribution. Changes to SSAR Section 2.5.2 and a discussion of the sensitivity analysis will be submitted to the NRC by June 15, 2010.

The content of this submittal has been previously discussed with the NRC staff.

Regulatory commitments established in this submittal are identified in Enclosure 1. If any additional information is needed, please contact David J. Distel at (610) 765-5517.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th day of May, 2010.

Respectfully,

Marilyn C. Kray
Vice President, Nuclear Project Development

Enclosure: (1) Summary of Regulatory Commitments

cc: USNRC, Director, Office of New Reactors/NRLPO (w/enclosure)
USNRC, Project Manager, VCS, Division of New Reactor Licensing (w/enclosure)
USNRC Region IV, Regional Administrator (w/enclosure)

ENCLOSURE 1

SUMMARY OF REGULATORY COMMITMENTS

(Exelon Letter to USNRC No. NP-10-0006, dated May 13, 2010)

The following table identifies commitments made in this document. (Any other actions discussed in the submittal represent intended or planned actions. They are described to the NRC for the NRC's information and are not regulatory commitments.)

COMMITMENT	COMMITTED DATE	COMMITMENT TYPE	
		ONE-TIME ACTION (Yes/No)	Programmatic (Yes/No)
Exelon will provide markups of the affected ER pages showing the corrected APWR values for the potential number of shipments, collective dose, radiological accident risks, and numbers of accidents/fatalities due to transportation accidents.	May 28, 2010	Yes	No
A sensitivity analysis using the corrected Mmax distribution will be performed to confirm that the error is insignificant. SSAR Section 2.5.2 will be revised to show the corrected distribution. Changes to SSAR Section 2.5.2 and a discussion of the sensitivity analysis will be provided.	June 15, 2010	Yes	No