

May 31, 2012

Ms. Marilyn C. Kray
Vice President
New Plant Development
Exelon Generation
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: ENVIRONMENTAL REQUEST FOR ADDITIONAL INFORMATION
LETTER NO. 13 RELATED TO RADIOACTIVE WASTE MANAGEMENT
SYSTEMS AND NONRADIOACTIVE WASTE SYSTEMS FOR VICTORIA
COUNTY STATION EARLY SITE PERMIT APPLICATION

Dear Ms. Kray:

By letter dated March 25, 2010, Exelon Nuclear Texas Holdings, LLC (Exelon) submitted its application to the U.S. Nuclear Regulatory Commission (NRC) for an early site permit (ESP) for the Victoria County Station (VCS) site in accordance with the requirements contained in Title 10 of the *Code of Federal Regulations* (CFR) Part 52, "Licenses, Certifications and Approvals for Nuclear Power Plants." The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion regarding the environmental impacts of the proposed action.

The NRC staff has identified that additional information is needed to continue portions of the environmental review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 45 days of the date of this letter. If you are unable to provide a response within 45 days, please state when you will be able to provide the response. In the event the response submitted is incomplete, please indicate in the response when the complete response will be provided. If changes are needed to the ESP application, the staff requests that the RAI response include the proposed wording changes. Your response should also indicate whether any of the information provided is to be withheld as exempt from public disclosure pursuant to 10 CFR 2.390.

M. Kray

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If you have any questions or comments concerning this matter, you may contact me at 301-415-1488 or via e-mail at Tomeka.Terry@nrc.gov.

Sincerely,

/RA/

Tomeka Terry, Environmental Project Manager
Environmental Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-042
eRAI Tracking Nos. 6454 and 6530

Enclosure:
As stated

cc: w/enclosure see next page

M. Kray

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ADAMS Accession Number: MLML12151A247 NRO-002

OFFICE	NRO/DNRL/ LA	NRO/DNRL/EPB2/PM
NAME	ARedden	TTerry*
DATE	5/25/2012	05/31/2012

* Approval captured electronically in the electronic RAI system.

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Request for Additional Information
No. 6454 Revision 0

Victoria County Station ESP
Exelon Texas
Docket No. 52-042
SRP Section: ESP EIS 3.4.3 - Radioactive Waste Management Systems
Application Section: Part 3, Environmental Report (ER) Section 3.5

QUESTIONS for Environmental Projects Branch 2 (RAP2)

ESP EIS 3.4.3-1

RW 3.5.-2 - ESRP Section 3.5 directs the staff to review the applicant's design of radioactive waste management and effluent control systems presented in the Environmental Report (ER). The blowdown discharge location for liquid effluent release is upstream of the raw water makeup intake structure (ER Figure 2.3.1-1). The releases upstream have a potential to get in the cooling basin through the raw water makeup system downstream. This mechanism could result in contaminating the cooling basin. ESRP Section 5.4.2 directs the staff to review the applicant's evaluation of doses due to radioactive gaseous and liquid effluent discharges presented in the ER. Licensees are responsible for evaluating any new exposure pathways and the resultant radiological hazards associated with the return of radioactive material to the operating facility and its subsequent discharge to the environment. As described in Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I," Revision 1, issued October 1977, licensees must evaluate any new exposure pathways to members of the public that contribute 10 percent or more of the total effluent dose and include these dose assessments in their demonstration of compliance with Appendix I to 10 CFR Part 50 Agencywide Documents Access and Management System at Accession No. ML072120368. Provide an evaluation of the potential radioactivity buildup concentration (pCi/L) in the cooling basin from the operation of proposed VCS units. Additionally, based on the radioactivity buildup concentration in the cooling basin, provide estimate of dose impacts to different receptors.

RW 3.5-3 - According to ESRP Section 3.5 the principal release points for radioactive material to the environment and the direct radiation sources stored onsite out-of-plant as solid waste (e.g., independent fuel storage) need to be identified. ESRP Section 5.5.2 directs the staff to review the applicant's evaluation of impacts from storage or disposal of mixed radioactive wastes presented in the ER. ESRP Section 5.7 directs the staff to ensure that all conclusions given in Appendix A to the ESRP are appropriate for the proposed project. A list of potential sources of radioactive and mixed waste generated from operations along with the disposal plans and estimated health effects related to radioactive and mixed waste testing and storage is needed. Provide clarification/justification for determining that the bounding total annual activity and generated volume of solid radwaste is 9600 Ci/yr and 16,722 ft³/year per unit respectively (see Section 3.5.4 of the ER). Provide information concerning the expected volume and classification of mixed waste expected to be generated per year per unit. The information should include:

- Expected volume each of radioactive waste category (e.g., low level radioactive waste, mixed waste, spent fuel) on an annual basis for each reactor design cited in the ER
- Quantity in Curies per year of each radionuclide in the solid waste stream
- Expected solid waste volume for each reactor design cited in the ER
- Citation of the document(s) relied upon as the source for each of the design-specific values

Provide clarification/justification for the disposal options for the different categories of radioactive and mixed waste to be generated from potential operations of the proposed VCS units that includes:

- Potential disposal sites for each radioactive and mixed waste material category (LLW within and external to the Texas Compact, HLW, and transuranic waste)
- Impacts on the disposal capacity of the potential disposal sites
- Measures to reduce the generation of Class B and C LLW
- Potential to construct and operate additional onsite storage facilities for mixed, LLW, HLW, and transuranics with their impacts

Request for Additional Information
No. 6530 Revision 0

Victoria County Station ESP
Exelon Texas
Docket No. 52-042

SRP Section: ESP EIS 3.4.4 - Nonradioactive Waste Systems
Application Section: Part 3, Environmental Report (ER) Section 3.6

QUESTIONS for Environmental Projects Branch 2 (RAP2)

ESP EIS 3.4.4-1

NRW 3.6-1 - ESRP Section 5.5.1 directs the staff to review the applicant's evaluation of impacts from nonradioactive effluent discharges presented in the ER. Sufficient detail of nonradioactive wastes is needed to assess the potential nonradioactive waste system impacts (ESRP Section 5.5.1). The data needed includes quantities of wastes, their pollutant concentration at points of release (ESRP Section 3.6.3), and frequency of waste discharges to water, land, and air. Provide the volume of different categories of nonradioactive waste (such as industrial waste, municipal waste, construction debris, spoils generated from dredging activities, sludge, sanitary waste, hazardous waste) generated from construction and operation of the proposed VCS units. Specify the disposal options/impacts associated with disposal of different categories of nonradioactive waste.