July 27, 2004

Ms. Marilyn Kray
Vice President, Project Development
Exelon Generation
200 Exelon Way, KSA3-N
Kennett Square, PA 19348

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 8 - EXELON EARLY SITE PERMIT APPLICATION FOR THE CLINTON ESP SITE (TAC NO. MC1122)

Dear Ms. Kray:

By letter dated September 25, 2003, Exelon Generation Company, LLC (Exelon) submitted its application for an early site permit (ESP) for the Clinton ESP site.

The Nuclear Regulatory Commission (NRC) staff is performing a detailed review of the Site Safety Analysis Report (SSAR) in your ESP application to ensure that the information is sufficiently complete to enable the NRC staff to reach a final conclusion on all safety questions associated with the site before the ESP is issued. The NRC staff has determined that additional information is necessary to continue the review. The topics covered in the request for additional information (RAI) contained in Enclosure 1 are geography, demography, and radiological consequences of accidents. These RAIs were sent to you via electronic mail (e-mail) on July 8, 2004, and discussed during a site visit on July 15, 2004. As a result, draft RAIs 2.1.3-2, 3.3.1-2, and 3.3.3-1 were deleted because the information requested is already in the application. Also, draft RAI 3.3.4-1 was deleted because the requested confirmation is already required by the regulations, and draft RAI 3.3-1 was reworded for clarification.

Receipt of requested information within 75 days of the date of this letter will support the NRC's efficient and timely review of Exelon's ESP application. Please note that failure to provide a response in a timely fashion may result in a delay of completion of the staff's safety evaluation report. If you have any questions or comments concerning this matter, you may contact me at (301) 415-1180 or nvg@nrc.gov.

Sincerely,

/RA/

Nanette V. Gilles, Exelon ESP Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 52-007

Enclosure: As stated
cc: See next page

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Enclosure: As stated

cc: See next page

ACCESSION NO. ML042020021

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NAME	NGilles	RDennig	TSmith	LDudes
DATE	07/20/04	07/26/04	07/26/04	07/27/04

OFFICIAL RECORD COPY

Exelon Early Site Permit (ESP) Application
Site Safety Analysis Report (SSAR) Sections 1.4, Plant Parameters Envelope,
2.1, Geography and Demography, and
3.3, Radiological Consequence of Accidents
Requests for Additional Information

SSAR Section 1.4, Plant Parameters Envelope (PPE)

RAI 1.4-1

Please clarify how the "dose consequences" in PPE Table 1.4-1, Sections 9.3 and 10.1, relate to the site characteristics identified in the referenced SSAR sections.

RAI 1.4-2

Should you delete "sec/m^3" from Section 9.3, "Dose Consequences," of Table 1.4-9 (it appears to be a typographical error)? Should you replace the word "gaseous" in Table 1.4-9 in the definition sections of items 9.3.1 add 9.3.2, and from the parameter sections of 9.5.1 and 9.5.2, with the words "airborne effluents" to more accurately represent the effluent release characteristics?

SSAR Section 2.1.1, Site Location and Description

RAI 2.1.1-1

SSAR Figure 1.2-3 shows the proposed ESP exclusion area boundary (EAB) and low population zone (LPZ), and the distances to the EAB and LPZ by sector. Please provide an expanded and legible figure to clearly show the proposed EAB and LPZ as well as existing Clinton Power Station EAB. Please provide the direction distances to the EABs and LPZ by sector. Please state the distance from the proposed ESP site to the nearest EAB line for the proposed ESP site, including its direction and distance.

SSAR Section 2.1.2, Exclusion Area Authority and Control

RAI 2.1.2-1

You stated in Section 2.1.2.1 that Exelon Generation Company (EGC) will ensure that it has or will be granted the necessary authority, rights, and control of the EGC ESP Site, including the exclusion area, prior to commencing actions allowed pursuant to any ESP granted from your application.

Please provide the following information regarding your approach to obtaining such a grant:

a) A list of regulatory agencies and other private parties from which you would need a grant;
b) Information as to whether the ESP site incorporates the entire EAB as shown in the SSAR; and
c) The duration of the grant that you would seek.

SSAR Section 3.3, Radiological Consequences of Accidents

RAI 3.3-1

In Section 3.3 of the SSAR, you stated:

> "The radioactivity released to the environs for [design-basis accidents] DBAs is provided by the reactor supplier based upon their standard safety analysis reports or as specified in their PPE listing as being representative of the bounding DBA environmental release."

Please clarify what you are referring to as the reactor supplier's "PPE listing."

SSAR Section 3.3.1, Selection of Postulated Accidents

RAI 3.3.1-1

In Section 3.3.1 of the SSAR, you stated that you used the AP1000 design in selecting DBAs for demonstrating site suitability. Westinghouse has revised its χ/Qs in the AP1000 design control document since submittal of the Clinton ESP application. Please use the updated χ/Qs in the Westinghouse AP1000 Design Control Document and revise the site-specific doses and fission product releases for all DBAs in SSAR Section 3.3 accordingly, or please note that the AP1000 values used in the emergency response (ER) have been revised but the applicant has elected not to use the updated values in the accident analyses.

SSAR Section 3.3.2, Evaluation of Radiological Consequences

RAI 3.3.2-1

Are the "0 to 2 hours" radioactivity release time intervals shown in Section 3.3.2 for any two-hour period with the greatest EAB doses? If so, please add a note to indicate this fact.

SSAR Section 3.3.4, Postulated Accidents

RAI 3.3.4-1

Several tables in Section 3.3 show time-dependent activities released to the environs as the PPE values. Please provide the references and the methodology used to determine the time-dependent activity release values in these tables. Also, please ensure the values in these tables appropriately reflect the AP1000 design χ/Qs as discussed in RAI 3.3.1-1 .

RAI 3.3.4-2

SSAR Table 3.3-2 summarizes the resulting doses at the ESP site for postulated DBAs using the AP1000, the advanced boiling water reactor (ABWR), and the ACR-700 as surrogate reactor designs. Please update the table for each DBA to include (1) AP1000, ABWR, and ACR-700 χ/Q values and doses used for the EAB and LPZ, and (2) the ratios of site-specific χ/Qs to design certification χ/Qs used.

RAI 3.3.4-3

Several tables, including Table 3.3-2 in Section 3.3, present doses for ABWR DBAs in total effective dose equivalent (TEDE) units. Please provide the doses in thyroid and whole body doses in addition to the doses in TEDE units, because the General Electric ABWR design is certified with the thyroid and whole body doses.

Distribution for Request For Additional Information Letter No. 8 dated July 27, 2004

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