

December 9, 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. 12 - 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) and Emergency Planning information in your ESP application. The NRC staff is requesting additional information with respect to the application. The request for additional information (RAI) contained in Enclosure 1, which addresses emergency planning, has arisen as a result of the NRC's review of the evacuation time estimate provided by Exelon in support of the ESP application. This RAI was sent to you in draft form via electronic mail on November 12, 2004, and discussed with your staff in telephone calls on December 2 and 3, 2004. During these discussions, Exelon staff clarified that some of the information requested in the original item (k) was contained in figures within the ESP application. Exelon staff also noted that they had identified some inconsistencies between information contained or referenced in the ESP application and the State and local emergency plans. Based on these discussions, the NRC staff revised RAI 13.3-20(k).

Your prompt response to this RAI within 45 days of the date of this letter is important in supporting the staff's timely issuance of its final safety evaluation report for your ESP application. Because of the timing of this RAI, items in it may be carried as one or more open items in the staff's draft safety evaluation report.

The staff notes that the scope of an ESP application review is different from the NRC's oversight of operating plant emergency planning. Exelon's ESP application includes a "major features emergency plan" pursuant to 10 CFR 52.17(b)(2)(i), which takes into account certain elements of the emergency plan in place for the Clinton Power Station. For Exelon's submittal, the ESP review includes evaluation of information, including the evacuation time estimate, notwithstanding the fact that some of this information may also be subject to an ongoing reactor oversight process with respect to the Clinton Power Station.

M. Kray

-2-

If you have any questions or comments concerning this matter, you may contact me at (301) 415-1180 or [nvg@nrc.gov](mailto: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

M. Kray

-2-

If you have any questions or comments concerning this matter, you may contact me at (301) 415-1180 or [nvg@nrc.gov](mailto:nvg@nrc.gov).

Sincerely,

**/RA/**

Nanette V. Gilles, Exelon ESP Project Manager  
New Reactors Section  
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Division of Regulatory Improvement Programs  
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Docket No. 52-007

Enclosure: As stated

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**Exelon Early Site Permit (ESP) Application**  
**Emergency Plan**  
**Requests for Additional Information (RAI)**

RAI No. 13.3-20

Provide the following information regarding the Evacuation Time Estimates (ETE) for Clinton Power Station:

(NOTE: RAIs a through j relate to Section II.A. "Evacuation Time Estimate Analysis" in Supplement 2 to NUREG-0654.)

- a) Discuss the rationale for not including shadow or voluntary evacuation.
- b) Provide site specific distributions for hospitals, nursing homes and correctional facilities addressed in the 1993 ETE Study or describe other studies that were used to arrive at the assumption that these facilities would commence evacuation between one to two hours after the 15 minute notification.
- c) Regarding the 1993 ETE Study, provide a separate analysis of the evacuation time estimates for special populations for normal and adverse conditions.
- d) Regarding the 1993 ETE Study: Discuss the basis for neighbors and State/local authorities contributing one vehicle per household for the transport-dependent (non-auto-owning) population. Provide site-specific data regarding how many non-auto-owning households are in the plume exposure pathway emergency planning zone (EPZ). Provide the methodology for determining the transport-dependent population. Provide an estimate of the number of auto-owning residents versus transport-dependent residents. Provide information on the initiation/mobilization time distribution for transport-dependent population. Provide a separate estimate of the time required to evacuate the transport-dependent population.
- e) Clarify whether the characteristics for each segment analyzed in the 1993 ETE Study are for the narrowest section or bottleneck, if the roadway is not uniform.
- f) Regarding the roadways that were driven and verified in May 2002, discuss any road changes identified including new or changed access points, roadway condition, and whether new roadway constrictions have been constructed that may reduce the capacity of sections of the route.
- g) Discuss how the NETVAC model accounts for traffic control or whether the ETE is reduced if these traffic control measures are implemented. Clarify whether existing traffic control devices will prevail during an evacuation or traffic control points will be manned by emergency personnel for traffic control.
- h) Discuss why there is such a small difference in the ETE for the evacuation of the entire plume exposure pathway EPZ between the winter weeknight adverse conditions and normal conditions in the 1993 ETE Study.

- i) Regarding the 1993 ETE Study, discuss the basis for the assumption that 50,000 people in 16,500 additional vehicles will enter the evacuation route during the Apple and Pork Festival. If park and ride or shuttles are used during the event, discuss the dependency of the people attending the festival on public transportation to get to their vehicles. Discuss whether any of these vehicles will return home to park or pick up relatives prior to evacuating the plume exposure pathway EPZ. Discuss the estimated time to mobilize from the festival to start the evacuation. Provide trip generation times for this event.
- j) Since the 1993 ETE Study adds 50,000 people to the transient population for the Apple and Pork Festival, discuss the basis for the population estimate of 22,000 people per day for the festival that is used in Section 2.3.4, "Analysis - Special Event," in the EGC ESP Emergency Plan.

(NOTE: RAls k through v relate to Section III. "Early Site Permits - Major Features of the Emergency Plans" in Supplement 2 to NUREG-0654.)

- k) Regarding Section 1.3, "Reception Centers," in the 1993 ETE Study, Figure 2.3-1, "Evacuation Routes and Congregate Care Centers," in the Emergency Plan for the ESP application, and Map C, "Clinton-Shelter and Evacuation Map," in *The Illinois Plan for Radiological Accidents*, Volume VIII, identify which of these items correctly specifies the location of the Registration and Congregate Care Centers.
- l) Explain the assumption of an automobile occupancy factor of 60 students per bus and 40 residents per bus for special facility populations. Provide specific information regarding whether vans or ambulances will be needed in addition to the buses. If vans and ambulances are needed, provide information on whether they are included in the vehicle estimate.
- m) Provide information on whether pass through traffic affects the roadway capacity and the ETE within the plume exposure pathway EPZ evacuation routes.
- n) Explain why the NETVAC model input files in Appendix 3 assign Area Types identified as '4' or Residential for the entire plume exposure pathway EPZ.
- o) Discuss the roadway characteristics, traffic control measures and area types that support the NETVAC model runs.
- p) Provide the assumptions regarding hotel/motel population estimate of 39 people per day.
- q) Provide a reference for the community college enrollment.
- r) Provide trip generation times for the migrant worker population and the transport-dependent population. In addition, discuss the availability of buses, drivers and the process for mobilizing these populations during an evacuation. Discuss whether evacuations can occur in a single trip or if return trips are necessary.
- s) Explain why the automobile occupancy rate is assumed to be different for Clinton Power Station than other factories.

- t) Provide information on the automobile occupancy rate for migrant workers. Are these workers considered transport dependent? Provide trip generation times for these workers.
- u) Provide on-road travel and delay times, as well as the estimated number of cars evacuating, for each segment.
- v) Since the additive reporting format for time estimates when probability distributions are used is not included in the 1993 ETE Study, provide the percentage of the population as a function of time.

Exelon ESP

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