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Three Mile Island Nuclear Station Unit 1
Facility Operating License No. DPR-50
NRC Docket No. 50-289

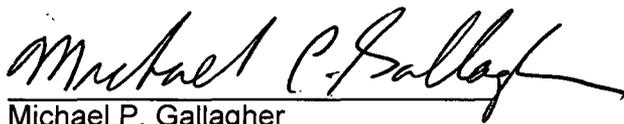
Subject: Comments on *NUREG-1437, Supplement 37 draft*.

Reference: Letter from Mr. David Pelton, Office of Nuclear Reactor Regulation to Mr. Michael P. Gallagher, AmerGen Energy Company, LLC entitled "Notice of availability of the Draft Plant-Specific Supplement 37 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (GEIS) regarding Three Mile Island Nuclear Station, Unit 1 (TAC no. MD 7702)", dated December 3, 2008.

In response to the reference letter, Exelon Generation Company, LLC is submitting, as an attachment to this letter, written comments on *NUREG-1437, Supplement 37 draft*.

If you have any questions, please contact Fred Polaski, Manager, License Renewal, at 610-765-5935.

Respectfully,



Michael P. Gallagher
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Exelon Generation Company, LLC

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Call = S. Lopez (SLH)

February 27, 2009

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Attachment: Exelon Generation Company, LLC comments on *NUREG-1437, Supplement 37 draft*.

cc: Regional Administrator, USNRC Region I, w/Attachment
USNRC Project Manager, NRR - License Renewal, Environmental, w/Attachment
USNRC Project Manager, NRR - License Renewal, Safety, w/Attachment
USNRC Project Manager, NRR - TMIGS, w/o Attachment
USNRC Senior Resident Inspector, TMIGS, w/o Attachment
File No. 08001

**EXELON GENERATION COMPANY, LLC
COMMENTS ON NUREG-1437, SUPPLEMENT 37, DRAFT**

Exelon Generation Company, LLC submits the comments listed below in response to the U.S. Nuclear Regulatory Commission (NRC) "Notice of Availability of the Draft Supplement 37 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants, and Public Meeting for the License Renewal of Three Mile Island Nuclear Station, Unit 1," which was published in the *Federal Register* on December 9, 2008 (73 FR 74766).

General Comment

On January 8, 2009, Exelon Generation Company, LLC ("Exelon Generation") officially integrated the nuclear generation assets held by its subsidiary, AmerGen Energy Company, LLC ("AmerGen") into Exelon Generation and dissolved the AmerGen legal entity. Accordingly, throughout the TMI-1 License Renewal Supplemental EIS, replace "AmerGen Energy Company, LLC" and "AmerGen" with "Exelon Generation Company, LLC" and "Exelon Generation," respectively.

General Comment

Exelon Generation notes that in Chapters 3 and 4 of the TMI Supplemental EIS, the NRC presents Category 1 issues differently than was previously done in license renewal Supplemental EISs for other nuclear plants. Previously, Supplemental EISs for license renewal included, for each applicable Category 1 issue identified in the GEIS, a table that listed the issue and text that summarized the GEIS determination concerning the issue. Otherwise, the text of the Supplemental EISs did not address Category 1 issues or discuss site-specific information related to such issues. Exelon Generation suggests that, if site-specific information related to a Category 1 issue is presented in the TMI-1 Supplemental EIS, then it should be made clear whether the evaluation of impacts for that issue is adopted from the GEIS or takes into account the site-specific information.

Page 2-70, lines 2 & 3

Replace the sentence that reads: "On March 28, 1979, TMI Unit 2 experienced a loss of coolant accident that resulted in a partial core meltdown, and is considered the nation's worst commercial nuclear accident (Walker 2004)." with the following sentences: "On March 28, 1979, TMI Unit 2 experienced a loss of coolant accident that resulted in a partial core meltdown. Although the accident was the most serious in U.S. commercial nuclear power plant operating history, off-site releases of radioactivity were very small, and there were no deaths or injuries to plant workers or members of the public." This alternative text was derived from the "NRC Fact Sheet on the Three Mile Island Accident" (see <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html>).

Exelon Generation believes that the suggested alternative text for the quoted sentence on p. 2-70, lines 2 and 3, more clearly describes the TMI Unit 2 accident and its significance. Furthermore, "Walker 2004," which is the reference cited in the draft Supplemental EIS (p. 2-70, line 3), is not listed in Section 2.4, "References."

Page 2-70, lines 3 to 5
Page 4-23, lines 35 to 38

Lines 3 to 5 on p. 2-70 contain the following sentence: "Although the [TMI Unit 2] structure is under 40 years of age, it can be considered potentially eligible for listing on the National Register of Historic Places under Criterion A, as a site of exceptional importance."

Lines 35 to 38 on p. 4-23 contain the following sentences: "Another potential resource of historic significance on Three Mile Island is TMI Unit 2. TMI Unit 2 could be considered potentially eligible for listing on the NRHP under Criterion A, as a site of exceptional importance but its eligibility has not yet been determined."

For the following reasons, Exelon Generation suggests that the sentences on pages 2-70 and 4-23 quoted in this comment be deleted from the final TMI-1 License Renewal Supplemental EIS. Exelon Generation acknowledges the historic significance of the events that occurred at TMI Unit 2 on March 28, 1979. Consequently, Exelon Generation will cooperate with the owner of TMI Unit 2 to commemorate those events in a manner that does not interfere with the eventual decommissioning of either unit. However, Exelon Generation believes it is premature to speculate on whether such commemoration could involve the listing of TMI Unit 2 on the National Register of Historic Places.

Page 4-1, lines 8 & 9

The text states "Some remaining [GEIS] issues are not applicable to TMI-1 because of site characteristics or plant features." Exelon Generation recommends that, for completeness, all GEIS issues (Category 1 and Category 2) that do not apply to continued operation of TMI-1 or refurbishment activities be identified in an appendix to the Supplemental EIS. This could be easily accomplished by adding the information to the existing Supplemental EIS Appendix B, "NEPA Issues for License Renewal of Nuclear Power Plants."

Page 4-12, lines 5 to 7
Page xvi, lines 9 to 14
Page xviii, lines 9 & 10

The text on p. 4-12, lines 5 to 7 states:

"Based on the applicant's assertion that refurbishment activities are planned, slightly higher doses to members of the public, and the resultant environmental impacts, are expected from TMI-1 during the refurbishment period."

Also, the text on p. xvi, lines 9 to 14 and the text on p. xviii, lines 9 and 10, both state:
"Slightly higher radiation doses to members of the public are expected from TMI-1 during the refurbishment period."

None of these statements is supported by a reference citation or other information presented in the draft TMI-1 Supplemental EIS. Also, the statements are inconsistent with TMI-1 site-specific information provided to the NRC Staff during the TMI-1 site environmental audit (Responses to Questions ENV-53 and ENV-55).

The TMI-1 site-specific information indicates that replacing the steam generators at TMI-1 will not increase radiological effluents (liquid and gaseous) at TMI-1, and that members of the

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public are projected to receive no radiation dose as a result of the TMI-1 steam generator replacement project.

Exelon Generation believes the NRC Staff's conclusions in the draft TMI-1 Supplemental EIS were not based on the TMI-1 site-specific information. Rather, it appears that the NRC Staff relied solely on the generic analysis of human health effects from radiation exposures during refurbishment presented in the GEIS (Appendix C).

Since the GEIS analysis determined that the impact on human health of refurbishment is a Category 1 issue, adoption of the GEIS findings without considering TMI-1 site-specific dose impacts is an acceptable approach because the GEIS analysis bounds the planned TMI-1 refurbishment. However, as Section 3.8.1.2 (p. 3-32) in the GEIS explains, the GEIS analysis used conservative assumptions, and the use of more realistic data should decrease dose estimates in most cases.

In Section 3.8.1.5 (p. 3-35), the GEIS further states that effluents and dose impacts observed at example reactor sites (Cooper, Monticello, Nine Mile Point-1, Peach Bottom-2, and Vermont Yankee) during major refurbishment activities, such as steam generator replacement in the case of PWRs, did not differ significantly from normal operation. Notwithstanding, the GEIS speculates that "during the 9-month outage, a greater amount of work will be performed and some of the effluents, especially atmospheric particulates and possibly some liquid effluents associated with decontamination, may be slightly greater than were found during the [actual] steam generator changeouts or recirculation piping replacements." Accordingly, the GEIS indicates that each licensee has the opportunity to provide site-specific information regarding radiation exposures to members of the public, which Exelon Generation did.

Based on the site-specific information provided for TMI-1, the TMI-1 Supplemental EIS should conclude that refurbishment is not expected to result in increased dose to any member of the public, even though the GEIS analysis concludes that doses to members of the public due to refurbishment would be slightly higher than during a normal refueling outage. The TMI-1 Supplemental EIS should acknowledge that the TMI-1 conditions are more protective than the bounding conditions assumed for the GEIS analysis.

Specifically, the three sentences quoted at the beginning of this comment should be replaced with the following sentence or its equivalent:

"Based on the applicant's assertion that refurbishment activities will not increase radiological effluents (liquid and gaseous) at TMI-1, doses to members of the public are expected to be unchanged from those resulting from normal operations."

In addition, surrounding text should be modified for consistency with the change, and NRC staff should consider moving the paragraph from p. 4-12, lines 5 to 11, into an appropriate location in Chapter 3 (Environmental Impacts of Refurbishment) because the contents of these lines deal with refurbishment impacts rather than impacts of operation. Consistent with its title, the contents of Chapter 4 (Environmental Impacts of Operation) should focus on environmental impacts of operation.

Page 8-16, line 3

The NRC Staff's environmental justice (EJ) analysis of the supercritical coal-fired generation alternative concludes that the impacts would range from "Small to Moderate and would depend on the location of the power plant site in proximity to minority and low-income populations."

While this statement is, to a degree, correct, the standard for assessing EJ impacts, as set forth in NUREG-1555, Supplement 1, Section 4.4.3, is whether impacts to minority and low-income populations would be significant and disproportionate. Thus, if the location of the coal-fired plant results in significant impacts to all local residents, regardless of their minority or low-income status, mitigation may not be warranted. The apt inquiry is whether location or other operational factors result in disproportionate impacts to the relevant minority and low-income populace. Exelon Generation recommends that NRC Staff review the EJ impacts analyses for other alternatives presented in Chapter 8 to verify that the appropriate standard of review is applied.

Page 8-45, lines 36 to 41Page 8-46, lines 1 to 3

On pp. 8-45, lines 36 to 41 and 8-46, lines 1 to 3, the draft text states:

"The NRC notes that the energy conservation/energy efficiency alternative has SMALL impacts in all categories evaluated, and upon shut down of TMI-1, current operating impacts of TMI-1 would cease. Therefore, the energy conservation/energy efficiency alternative is the environmentally preferred alternative to license renewal. All other alternatives capable of meeting the needs currently served by TMI-1 entail potentially greater impacts than the proposed action of license renewal of TMI-1. The no-action alternative does not meet the purpose and need of this draft SEIS, however if it triggers the energy conservation/energy efficiency action to replace the capacity currently supplied by TMI-1, it could result in an overall SMALL impact, as well."

For the reasons set forth below, Exelon Generation disagrees that the energy conservation/energy efficiency alternative is "capable of meeting the needs currently served by TMI-1." While increased energy efficiency and energy conservation can play a role in long-term resource planning, there are considerable uncertainties about the costs and effectiveness of such proposals. As Black and Veatch notes in their work (Pletka, 2004) while there is the potential for reduction in required long-term energy use, achieving these potential reductions would require a wide variety of programs targeting behavior by many different sorts of customers. We have two major concerns. First, the historical record shows that while regulatory efforts and an increased awareness of efficiency and conservation has led to a slower rate of load growth over the last 30 years, load continues to grow and per capita electricity use has continued to increase. Second, while some of the potential savings alluded to in the Black and Veatch analysis will undoubtedly prove feasible and economical, it is unreasonable to assume that all of the potential programs they consider will ultimately prove feasible. The potential 10% savings they allude to in terms of total energy consumed must be considered an outer bound.

Exelon Generation believes that a more detailed look at the components of programs alluded to by Black and Veatch would result in a much lower expectation of economical and feasible

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reductions in load through increased efficiency and conservation. The EIA forecasts for long-term electricity demand growth, which implicitly assume that long-term trends toward greater efficiency and conservation are extended in future decades, projects that long-term load growth from 2007 to 2030 will average over 1percent. (EIA, Annual Outlook 2009).

In addition to the uncertainty around the costs and effectiveness of potential conservation, it is also unclear how not granting license renewal to TMI would lead to the implementation of greater conservation and efficiency measures. If increased conservation and efficiency did not completely offset the reduction in generation that would accompany the shut-down of TMI, the remaining loss in generation would most likely be offset by higher use of fossil-fired generation, probably resulting in higher costs as well as additional emissions.

It is also important to note that many demand-side management programs essentially serve to peak-shave demand, and reduce peak demand by shifting this demand to other hours of the day where underlying demand is lower. While this may reduce the need for new generation in the peak hour, the level of underlying baseload generation – such as nuclear – is likely to be relatively unaffected.

References

Pletka, R. 2004. "Potential Impact of an Advanced Energy Portfolio Standard in Pennsylvania." Presented at NREL Energy Analysis Forum, November 9, 2004. Available at URL: <http://www.nrel.gov/analysis/forum/docs/2004/pletka.ppt>

EIA (U.S. Department of Energy, Energy Information Administration). 2009. Annual Energy Outlook 2009 Early Release Outlook. DOE/EIA 0383(2009). Washington, D.C. Available at URL: <http://www.eia.doe.gov/oiaf/aeo/pdf/overview.pdf>