UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 2, 2010

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 - REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO ADOPT TSTF-425, RELOCATION OF SURVEILLANCE FREQUENCIES TO A LICENSEE CONTROLLED PROGRAM (TAC NO. ME3587)

Dear Mr. Pacilio:

By letter dated March 24, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100840205), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request (LAR) proposing to revise the Technical Specifications (TSs) for Three Mile Island Nuclear Station, Unit 1. The proposed changes would relocate certain surveillance frequencies to a licensee controlled program through the implementation of Nuclear Energy Institute (NEI) 04-10, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies." According to the submittal, the changes are consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications (STSs) change TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – Risk Informed Technical Specifications Task Force Initiative 5b," Revision 3.

The Nuclear Regulatory Commission staff has been reviewing the response and has determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). The questions were sent via electronic transmission on June 17, 2010, to Mr. Glenn Stewart, of your staff. The draft questions were sent to ensure that the questions were understandable, the regulatory basis for the questions was clear, and to determine if the information was previously docketed. The draft questions were discussed in a teleconference with your staff on June 23, 2010, where a minor wording change was made to RAI question 2. It was agreed that a response to this RAI would be submitted by July 30, 2010. If a response is not received by that date, the license amendment request will be subject to denial, pursuant to Title 10 of the *Code of Federal Regulations,* Section 2.108, "Denial of application for failure to supply information."

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

Peter Bamford

Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure:
As stated

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REQUEST FOR ADDITIONAL INFORMATION

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

PROPOSED RELOCATION OF SURVEILLANCE FREQUENCIES

TO A LICENSEE CONTROLLED PROGRAM

DOCKET NO. 50-289

By letter dated March 24, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100840205), Exelon Generation Company, LLC (Exelon, the licensee), submitted a license amendment request (LAR) for Three Mile Island Nuclear Station, Unit 1 (TMI-1). The licensee proposes to modify the TMI-1 Technical Specifications (TSs) by relocating certain surveillance frequencies to a licensee-controlled program through the implementation of Nuclear Energy Institute (NEI) 04-10, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies." According to the licensee, the changes are consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Standard Technical Specifications (STSs) change TSTF-425, "Relocate Surveillance Frequencies to Licensee Control – Risk Informed Technical Specifications Task Force Initiative 5b," Revision 3. In order for the NRC staff to complete its review of the LAR, a response to the following request for additional information (RAI) is requested.

RAI-1

The LAR states that the changes presented are consistent with TSTF-425 and also includes a discussion of the differences in the application that result primarily from the custom TMI-1 TSs as compared to the STSs presented in TSTF-425 and NUREG-1430. The LAR, Attachment 4, "TSTF-425 (NUREG-1430) vs. TMI Unit 1 Cross-Reference," is provided to aid in the determination of consistency of the surveillances proposed for relocation as compared to TSTF-425. In order to verify that the surveillances proposed for relocation are consistent with TSTF-425 as the LAR asserts, the NRC staff requests that the licensee provide corresponding TSTF-425 cross references for the following surveillance frequencies proposed for relocation: Table 4.1-1, "Instrument Surveillance Requirements," Channel Description Nos. 11, 15, 17, 19e, 19f, 45, and 46.

RAI-2

With reference to the LAR, Attachment 2, Table 2-1, each of the findings in the following table identified an issue or gap that, individually, might not significantly impact the results from a surveillance test interval (STI) risk evaluation performed via the NEI 04-10 methodology, but, when taken cumulatively, could prove significant. The NRC staff's comment associated with each is highlighted in italics. Please address whether, when taken cumulatively, their effects could prove significant to the risk evaluation for an STI TS change and, if not, why not.

Peer Review Finding	Issue/Gap
IE-A4a-01	"The potential for common cause failures [CCFs] was included in examination of potential initiating events resulting from the systematic evaluation for potential initiating events." *As recommended per [Regulatory Guide] RG 1.200, Rev. 2, for Supporting Requirement (SR) IE-A6 (Capability Category [(CC)]-II), this examination should also include CCFs from routine system alignments that could result from preventive and corrective maintenance.*
IE-A5-01	"No documentation was found of incorporating: (a) events that have occurred at conditions other than at-power operation (i.e., during low-power or shutdown conditions), and for which it is determined that the event could also occur during at-power operation; (b) events resulting in a controlled shutdown that includes a scram prior to reaching low-power conditions, unless it is determined that an event is not applicable to at-power operation." *SR IE-A7 requires that, even if not documented, these events have to be incorporated.*
IE-A6-01 and IE-A7-01	"No documentation was found of interviews with plant personnel (e.g., operations, maintenance, engineering, safety analysis) to determine if potential initiating events have been overlooked ... No documentation of the review of plant-specific operating experience for initiating event precursors was found in the [probabilistic risk assessment] PRA notebooks." *Even if not documented, CC-II for both of these SRs requires that the interviews (SR IE-A8 [CC-II], with finding IE-A6-01) and reviews (SR IE-A9 [CC-II], with finding IE-A7-01) have been conducted.*
SC-C2-01	*SR SC-C2 requires that, even if not documented (or else still in the process of being documented), computer code "limitations or potential conservatisms" have to be addressed.*
QU-D5-01	"Some SSCs [structures, systems, and components] that are significant contributors to initiating events, but not to mitigation, are not explicitly identified in the documentation of significant contributors." *CC-II for SR QU-D6, against which this finding is cited, requires that significant contributors to core damage frequency, including initiating events, and SSCs and operator actions that contribute to initiating event frequencies, be identified. While "not explicitly identified" in the documentation, were these significant contributors to initiating events actually identified but just omitted from the documentation? If they were not identified, how were they known to be significant and to what extent?*
QU-F5-01	"[O]ther than the [large early release frequency] LERF truncation limitation, no evaluations of limitations were presented ..., [including] limitations of the model as they may apply to applications." *As implied by SR QU-F5, these limitations need to have been addressed.*

Peer Review Finding	Issue/Gap
LE-C8a-01	"The Reactor Building fan coolers are undersized at TMI and have a little to no impact on containment [CNMT] pressure and temperature with respect to early containment failure." *SR LE-C9 (CC-II) requires justification for any credit taken for equipment survivability under adverse environmental conditions such that, even if the fan coolers were assumed to be failed, there would be "little to no impact" on CNMT pressure and temperature with respect to early CNMT failure.*
LE-E4-01	"The level 2 results with the flag file are expected to be conservative. When the cutsets were reviewed, it was determined that there appears to be non-minimal cutsets in the level 2 model as quantified without the flag file ... Some sensitivities have been performed, although a conclusive determination has not been made regarding the current method for quantifying LERF ... ([T]he TMI model uses Forte 3.0c as the quantifier)." *SR LE-E4 requires that LERF be quantified consistently as with core damage frequency. This implies that the LERF quantification be conclusively determined as conservative, e.g., by quantifying LERF using Forte 3.0c at a greater truncation value just to assess whether the use of the flag file produces conservative results.*

RAI-3

With reference to the LAR, Attachment 2, Table 2-2, Finding DA-B2-01 states: "There is no evidence that the intent of this SR was met. Although the component failure rates are grouped by system and component type, that does not guarantee that outliers are not included in a group." SR DA-B2 (CC-II) requires exclusion of outliers in the definition of system/component failure groups. Were outliers appropriately excluded from group definitions? If not, will their exclusion be part of the sensitivity analysis for an STI evaluation?

RAI-4

With reference to the LAR, Attachment 2, Table 2-2, Finding IFEV-A5-01 states: "Several requirements in establishing flood initiating event frequencies are not met." Specifically cited are SRs IFEV-A5 through IFEV-A7, which require inclusion of plant-specific information and consideration of human-induced floods during maintenance (CC-II). Are any of the valves that may be assigned new STIs potential flooding sources, such that increasing the STI could increase the frequency of a flood due to miscalibration, etc., of one of these valves?

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

/ra/

Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure:
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