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RS-08-004
5928-08-20018

January 18, 2008

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

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

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Subject: Response to Request for Additional Information - Exelon/AmerGen Application to Revise Technical Specifications Regarding Control Room Envelope Habitability in Accordance with TSTF-448, Revision 3, Using the Consolidated Line Item Improvement Process

Reference: (1) Exelon/AmerGen Letter to USNRC, "Exelon/AmerGen Application to Revise Technical Specifications Regarding Control Room Envelope Habitability in Accordance with TSTF-448, Revision 3, Using the Consolidated Line Item Improvement Process," dated April 12, 2007

This letter provides additional information in response to an NRC request for additional information (RAI) received via NRC email, dated October 25, 2007, regarding Three Mile Island Nuclear Station, Unit 1 (TMI Unit 1), and Quad Cities Nuclear Power Station, Units 1 and 2 (Quad Cities) Technical Specification (TS) Change Requests implementing TSTF-448, Revision 3, "Control Room Habitability," submitted to the NRC for review on April 12, 2007 (Reference 1). The additional information is provided in Enclosure 1.

Exelon Generation Company, LLC/AmerGen Energy Company, LLC have reviewed the information supporting a finding of no significant hazards consideration that was previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration.

No new regulatory commitments are established by this submittal. If any additional information is needed, please contact Mr. David J. Distel at (610) 765-5517.

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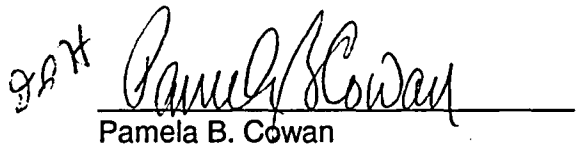
NRR

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 18th day of January, 2008.

Sincerely,



Pamela B. Cowan
Director – Licensing and Regulatory Affairs
Exelon Generation Company, LLC
AmerGen Energy Company, LLC

Enclosure: 1) Response to Request for Additional Information

cc: Regional Administrator, NRC Region I
Regional Administrator, NRC Region III
NRC Senior Resident Inspector – TMI Unit 1
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station
C. Gratton, NRC Senior Project Manager
P. J. Bamford, NRC Project Manager, TMI Unit 1
J. Wiebe, NRC Senior Project Manager, Quad Cities Nuclear Power Station
Illinois Emergency Management Agency - Division of Nuclear Safety
Director, Bureau of Radiation Protection, Pennsylvania Department of Environmental Resources
Chairman, Board of County Commissioners of Dauphin County, PA
Chairman, Board of Supervisors of Londonderry Township, PA
J. H. Riley - NEI

ENCLOSURE 1

Three Mile Island Nuclear Station, Unit 1

Quad Cities Nuclear Power Station, Units 1 and 2

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
TECHNICAL SPECIFICATION CHANGE REQUESTS TO IMPLEMENT
TSTF-448, REVISION 3, "CONTROL ROOM HABITABILITY"**

ENCLOSURE 1

THREE MILE ISLAND NUCLEAR STATION, UNIT 1

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION TECHNICAL SPECIFICATION CHANGE REQUESTS TO IMPLEMENT TSTF-448, REVISION 3, "CONTROL ROOM HABITABILITY"

The April 12, 2007, LAR identifies TSTF-448 exceptions as being:

1. TMI Unit 1 has not adopted the Standardized Technical Specification format. TSTF-448 has been incorporated into the existing TS sections with new sections being added as applicable.

2. TS Section 3.15.1.5 states that fuel handling operations shall be terminated in 2 hours, in lieu of immediately, from the time that both control room air treatment systems are made or found to be inoperable due to an inoperable CRE boundary. The 2-hour time period is consistent with current TMI Unit 1 TS requirements for inoperability of both trains of the control room air treatment system during fuel handling operations and allows orderly completion of fuel handling tasks in progress.

Given the above, the NRC staff requests the following information:

1. **NRC Question**

Your proposed Specification 3.15.1.5 reads:

> From the date that one or both control room air treatment systems are made or found to be inoperable due to an inoperable Control Room Envelope boundary, actions to implement mitigating actions shall be initiated immediately, verification that the mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits shall be performed within 24 hours, and the CRE boundary shall be restored to operable status within 90 days. Irradiated fuel handling operations shall be terminated in 2 hours. If the CRE boundary cannot be made operable in 90 days, reactor shutdown shall be initiated and the reactor shall be in cold shutdown within 48 hours.

TSTF-448, TS 3.7.10, ACTION E, states for one or more control room emergency ventilation system (CREVS) trains inoperable due to an inoperable CRE boundary during movement of irradiated fuel assemblies, immediately suspend movement of irradiated fuel assemblies. The TSTF-448 Bases for ACTION E reads: "...action must be taken immediately to suspend activities that could result in release of radioactivity that might require isolation of the CRE. This places the unit in a condition that minimizes the accident risk. This does not preclude the movement of fuel to a safe position."

a. Explain why the deviation from the TSTF-448 suggested wording to the 2-hour allowance to terminate irradiated fuel handling would be acceptable.

Response

It is recognized that the TSTF-448, TS 3.7.10, Action E statement requiring immediate suspension of movement of irradiated fuel assemblies for one or more Control Room Emergency Ventilation (CREV) trains inoperable due to an inoperable CRE boundary is worded to be consistent with the existing STS 3.7.10, Action E statement to immediately suspend movement of irradiated fuel assemblies with two CREV trains inoperable. TMI Unit 1 does not have Standard Technical Specifications (STS). Therefore, the proposed TS 3.15.1.5 wording for both CREV systems inoperable due to an inoperable CRE boundary was adopted to be consistent with the existing TMI Unit 1 TS 3.15.1.4 wording for both CREV systems inoperable, which currently specifies that irradiated fuel handling operations shall be terminated in 2 hours. The 2-hour action statement in the TMI Unit 1 existing TS 3.15.1.4, and the proposed TS 3.15.1.5, allows movement of fuel to a safe position, consistent with the TSTF-448 Bases for Action E to not preclude movement of fuel to a safe position.

Therefore, the proposed TMI Unit 1 TS action statement wording was adopted to be consistent with the existing TMI Unit 1 TS action statements for inoperable CREV systems, and maintains consistency with the intent of the TSTF-448 Bases to allow movement of a fuel assembly to a safe position in the event both CREV systems are inoperable.

TSTF-448 has the TS 3.7.10, ACTION C for being in MODE 5 in 36 hours, if the 90-day completion time is not met.

b. Explain why the deviation from the TSTF-448 suggested wording for being in MODE 5 in 36 hours to your proposed 48 hours to cold shutdown would be acceptable.

Response

It is recognized that the TSTF-448, TS 3.7.10, Action C statement for being in Mode 5 (Cold Shutdown) in 36 hours, if the 90-day completion is not met for one or more Control Room Emergency Ventilation (CREV) trains inoperable due to an inoperable CRE boundary, reflects the existing STS 3.7.10, Action C requirement when one inoperable CREV train cannot be restored to operable status within the 7 day completion time or both CREV trains are inoperable. TMI Unit 1 does not have Standard Technical Specifications (STS). Therefore, the proposed TS 3.15.1.5 requirement to be in cold shutdown within 48 hours if the 90-day completion time for both CREV systems inoperable due to an inoperable CRE boundary was adopted to be consistent with the existing TMI Unit 1 TS 3.15.1.4 requirement for both CREV systems inoperable. The existing TMI Unit 1 TS 3.15.1.4 requirement for both CREV systems inoperable currently requires the reactor to be in cold shutdown within 48 hours from the date both CREV systems become inoperable, or an inoperable CREV train cannot be made operable within 7 days.

Therefore, the proposed TMI Unit 1 TS action statement wording for an inoperable CRE boundary was adopted to be consistent with the existing TMI Unit 1 TS action statements for inoperable CREV systems.

2. **NRC Question**

Your proposed TS 6.19 d. reads:

> Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one train of the Control Room Ventilation System, operating at the design flow rate, at a Frequency of 24 months.

TSTF-448 has the suggested wording for 5.5.15 read:

> Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one subsystem of the [ ] System, operating at the flow rate required by the VFTP, at a Frequency of [ ] months on a STAGGERED TEST BASIS.

Explain why the deviation from the TSTF-448 suggested wording, for CRE boundary differential pressure test performance on a staggered test basis, would be acceptable.

Response

The existing TMI Unit 1 TS do not include a definition of STAGGERED TEST BASIS. The TMI Unit 1 CRE boundary differential pressure test, required by the proposed TS 6.19.d, will be performed as part of the Emergency Control Room Air Treatment System flow surveillance specified in TMI Unit 1 TS 4.12.1, each refueling interval (24 months). This TS surveillance tests the design flow of each train of the Emergency Control Room Air Treatment System each refueling interval. Once the test equipment is setup, each train of the ventilation system is tested individually. Since most of the system ductwork is common, this testing only requires swap over from the "A" train to the "B" train of the Emergency Control Room Air Treatment System. The CRE boundary differential pressure test for each train of the Emergency Control Room Air Treatment System will be performed as part of the same test plan. This approach is more conservative than the TSTF-448 requirement since both trains of the TMI Unit 1 Emergency Control Room Air Treatment system will be required to demonstrate adequate CRE pressure relative to external areas every 24 months, whereas the TSTF-448 requirement would test a single ventilation system train every 24 months with both trains being tested every 48 months in accordance with the Standard Technical Specifications (NUREG-1430) definition of STAGGERED TEST BASIS.

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 and 2

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
TECHNICAL SPECIFICATION CHANGE REQUESTS TO IMPLEMENT
TSTF-448, REVISION 3, "CONTROL ROOM HABITABILITY"**

1. **NRC Question**

The licensee included Bases changes with the proposed TS changes. Since the information contained in the Bases is not a part of the TS, the NRC staff reviewed the Bases only to assure consistency with the proposed change. As such, the NRC staff has the following comment on the Quad Cities, Units 1 and 2, Bases:

On mark-up page B 3.7.4-8, in the modified section now titled "D.1 and D.2," the second section was not modified and continues to read "...the required Actions of Condition C are modified..." It appears that the sentence is no longer consistent with the proposed mark-up for TS 3.7.4.

Response

Exelon Generation Company (EGC) agrees with the NRC comment on the proposed Bases changes. The Bases page should read, "...the Required Actions of Condition D are modified..." EGC will correct this item prior to implementation in accordance with the TS Bases Control Program.