



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

October 6, 2009

Mr. Charles Pardee
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 GENERIC LETTER 2008-01,
(TAC NO. MD7888)

Dear Mr. Pardee:

By letters dated April 11, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML081020758), and October 14, 2008 (ADAMS Accession No. ML082880706), AmerGen Energy Company, LLC, the licensee, now Exelon Generation Company, LLC, provided a response to Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" (ADAMS Accession No. ML072910759), for Three Mile Island Nuclear Station, Unit 1.

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 September 17, 2009, to Mr. Ken Nicely, 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 September 29, 2009, where clarification was added to question number 3. It was agreed that a response to this RAI would be submitted by November 20, 2009.

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

Sincerely,

A handwritten signature in cursive script that reads "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

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
THREE MILE ISLAND NUCLEAR STATION, UNIT 1
GENERIC LETTER 2008-01, MANAGING GAS ACCUMULATION IN
EMERGENCY CORE COOLING, DECAY HEAT REMOVAL AND
CONTAINMENT SPRAY SYSTEMS
DOCKET NO. 50-289

By letters dated April 11, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML081020758), and October 14, 2008 (ADAMS Accession No. ML082880706), AmerGen Energy Company, LLC, the licensee¹, provided a response to Generic Letter (GL) 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" (ADAMS Accession No. ML072910759) for Three Mile Island Nuclear Station, Unit 1 (TMI-1). Additional information is required for the U.S. Nuclear Regulatory Commission (NRC) staff to determine that the licensee has acceptably demonstrated "that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance," as stated in GL 2008-01.

Background:

Guidance on NRC staff expectations is provided by NRC letter dated May 28, 2009, (ADAMS Accession No. ML091390637). These expectations are generally consistent with Nuclear Energy Institute (NEI) guidance provided to the nuclear industry. The NRC staff recommends that the licensee consult NRC letter, dated May 28, 2009, when responding to the following request for additional information:

1. The licensee has stated that "TMI [Three Mile Island] is currently performing initial fill ultrasonic testing [UT] checks, post-maintenance fill UT checks, and periodic UT checks for the HPI [high pressure injection], DH [decay heat removal], and BS [building spray] systems." What is the meaning of "periodic?" Are "checks" the same as "surveillances" and, if not, what is the difference? Are these checks to be continued until Technical Specification (TS) changes are addressed in response to industry resolution of the gas accumulation TS issues is obtained via the Technical Specifications Task Force (TSTF) effort that is underway in response to GL 2008-01?

¹ The operating license for TMI-1 has been transferred from AmerGen Energy Company, LLC to Exelon Generation Company, LLC as of January 8, 2009.

2. Provide the following information, for TMI-1:
 - a. A broad identification of surveillance locations and methods with identification and justification of excluded locations.
 - b. A description of void volume determination methods.
 - c. A brief description of the process for re-performance of UT/venting at locations where gas may accumulate during venting at other locations to: (1) verify gas was removed after venting; and, (2) to ensure gas was not transported into a high point that was previously found to be gas-free.
3. The response, for TMI-1, does not identify how gas movement is assessed with respect to operating conditions. The GL requests information for systems required to support all operating modes and all accident conditions. Please provide a response that addresses all the considerations implicit in the GL request.²
4. Summarize the corrective action program (CAP) aspects and/or procedures that address vortex formation for the decay heat removal (DHR) pumps during suction from the reactor coolant system hot legs, for TMI-1.
5. Summarize the post-surveillance activities, such as gas volume trending and procedural checks to periodically identify leakage through check valves that separate the subject systems from higher pressure locations and the response actions in procedures and the CAP if such leakage is identified, for TMI-1. Include in-series check valves that could be exposed to a higher pressure if the "first off" check valves were to leak.
6. Summarize the measures used to guard against gas intrusion because of inadvertent draining, system realignments, incorrect maintenance procedures, or other evolutions, for TMI-1.
7. Discuss the control and revision of work packages due to change in maintenance work scope, including review and reauthorization of the package and any new temporary procedures as it relates to preventing gas intrusion into the systems that are the subject of this GL, for TMI-1.
8. Discuss the monitoring of pump operation in all modes and specialized monitoring of appropriate plant parameters during shutdown operation, including reduced inventory and mid-loop operation, for TMI-1.
9. Provide a table that lists the current incomplete items and the completion schedule for TMI-1.

² For example, realistic response to a large break loss-of-coolant accident would not generally involve loss of a pump or a train whereas the single failure criterion applies to the design basis. Flow rates and gas entrainment behavior will likely be different. The assessment should cover both realistic responses and assumed design basis conditions. Further, the GL request includes concerns with operation all operating modes, from power operations through refueling shutdown.

10. Training was not identified in the GL but is considered by the NRC to be a necessary part of applying procedures and other activities when addressing the issues identified in the GL. Briefly discuss the training aspects of the issues described by this GL at TMI-1.

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Sincerely,
/RA/
Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
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ADAMS Accession Number: ML092600818

* concurrence via memo

OFFICE	LPLI-2/PM	LPLI-2/LA	SRXB/BC	LPL1-2/BC
NAME	PBamford	ABaxter Slittle for	GCranston*	HChernoff
DATE	9/30/09	10/5/09	07/24/2009	10/6/09

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