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United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

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

Subject: Response to Request for Additional Information concerning NRC Bulletin 2004-01,
"Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer
Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors"

- References:
- 1) NRC Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the
Fabrication of Pressurizer Penetrations and Steam Space Piping
Connections at Pressurized-Water Reactors," dated May 28, 2004
 - 2) Letter from K. Jury (Exelon Generation Company, LLC and AmerGen Energy
Company, LLC) to U. S. Nuclear Regulatory Commission, dated July 27, 2004

In the Reference 2 letter, Exelon Generation Company, LLC and AmerGen Energy Company,
LLC, provided our response to the Reference 1 NRC Bulletin 2004-01. Attached is our
response to an NRC Staff question as discussed in a conference call dated July 7, 2005.

Should you have any questions concerning this letter, please contact Tom Loomis
(610) 765-5510.

There are no commitments contained in this letter.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

8/16/05
Executed on



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

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Attachment: Response to Request for Additional Information

cc: S. J. Collins, USNRC, Administrator, Region I
D. M. Kern, USNRC, Senior Resident Inspector, TMI-1
P. S. Tam, USNRC, Senior Project Manager
File No. 05051

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
BULLETIN 2004-01, "INSPECTION OF ALLOY 82/182/600 MATERIALS USED IN
THE FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE
PIPING CONNECTIONS AT PRESSURIZED-WATER REACTORS,"
THREE MILE ISLAND NUCLEAR STATION, UNIT 1**

QUESTION

The NRC staff has completed its review of your response, dated July 27, 2004, to NRC Bulletin 2004-01, 60-day response to NRC Bulletin 2004-01 for the "Inspection of Alloy 82/182/600 Materials Used in The Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors." Based on the staff's review, please provide a supplemental response which addresses the following question.

1. Item 1(c) in Bulletin 2004-01 states in part, "if leaking pressurizer penetrations or steam space piping connections are found, indicate what followup NDE will be performed to characterize flaws in the leaking penetrations. Provide your plans for expansion of the scope of NDE to be performed if circumferential flaws are found in any portion of the leaking pressurizer penetrations or steam space piping connections." Therefore, please supplement your response to provide a statement that, where evidence of apparent reactor coolant pressure boundary leakage is discovered by visual examination, NDE capable of determining crack orientation will be performed in order to accurately characterize the flaw, its orientation and its extent. The response should also provide your plans for expansion of the scope of NDE to other components in the pressurizer to be performed if circumferential flaws are found in any portion of the leaking pressurizer penetrations or steam space piping connections.

RESPONSE

As discussed in our conference call on July 7, 2005, TMI, Unit 1 has embarked on an extensive mitigation strategy for Alloy 82/182/600 pressurizer welds. Of the 16 pressurizer penetrations containing Alloy 82/182/600 that were identified in the July 27, 2004 response (see Table 1 below), current plans have been established to mitigate the identified welds during the upcoming outages. These plans include:

- A. Mitigate seven (7) locations in the upcoming fall of 2005 outage (T1R16):
 1. Three (3) 2½-inch pressure relief nozzles;
 2. Three (3) 1-inch level sensing nozzles (in upper elevation steam space);
 3. The 1-inch vent nozzle.

B. Mitigate one (1) location in the 2007 outage (T1R17):

1. The 4-inch spray nozzle.

C. Mitigate the remaining seven (7) locations in the 2009 outage (T1R18):

1. The 1½-inch thermowell;
2. The 1-inch sample nozzle;
3. The remaining three (3) 1-inch level sensing nozzles;
4. The remaining two (2) 19-inch heater bundles.

D. One (1) heater bundle penetration was already mitigated in the 2003 outage (T1R15).

No additional NDE examinations are planned for those locations scheduled for mitigation this outage (T1R16- Fall 2005) if a leak is discovered, nor are additional NDE exams required by the ASME Code. However, if a leak is discovered by visual examination on any of the subject penetrations, scope will be expanded to perform a PDI qualified ultrasonic examination of the 4-inch spray nozzle to safe-end weld this outage (T1R16 - Fall 2005), and a sample of surface examinations (i.e., liquid penetrant) of other similar configuration penetrations will be performed.

The 4-inch spray nozzle to safe-end dissimilar metal weld was chosen for ultrasonic testing because this weld is capable of a PDI qualified ultrasonic examination. No PDI qualification exists for piping less than 2-inches (nominal pipe size (NPS) 2). As stated previously, the 4-inch spray line is not scheduled for mitigation during the next outage (T1R16 – Fall 2005), but is planned for mitigation during the following outage (T1R17- Fall 2007).

The heater bundle seal weld will be excluded from the liquid penetrant surface examination due to the inaccessibility of this seal weld located inside of the flange bolted connection. However, a best effort depressurized visual examination will be performed at the heater bundle flange connection opening. The expanded scope surface examinations will also exclude the 1½-inch thermowell due to the configuration of a J-groove weld located inside the pressurizer (see Figure 6 of the Bulletin 2004-01 response, dated July 27, 2004 for TMI, Unit 1).

Should leaks be identified during visual examinations, then acceleration of future 2009 outage (T1R18 – Fall 2009) mitigation efforts will be strongly considered for locations of similar system conditions and configuration.

Table 1
Pressurizer Penetrations

<u>Penetration Type</u>	<u>Number</u>
1-inch vent nozzle	1
2½-inch pressure relief nozzles	3
4-inch spray nozzle	1
1½-inch thermowell	1
1-inch level sensing nozzles	6
1-inch sampling nozzle	1
19-inch heater bundle openings	3
10-inch surge nozzle (outside the scope of this document, not steam space)	1
16-inch manway (not discussed in this document as it contains no Alloy 82/182/600).	1