

July 5, 2001

EA-01-115

Mr. Mark E. Warner
Vice President, TMI Unit 1
AmerGen Energy Company, LLC
Three Mile Island Nuclear Station
P. O. Box 480
Middletown, PA 17057-0480

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING AND
NOTICE OF VIOLATION AT THREE MILE ISLAND UNIT 1
(NRC Integrated Report 05000289/2001-002)

Dear Mr. Warner:

The purpose of this letter is to provide AmerGen Energy Company, LLC with the final results of our significance determination of the preliminary White finding identified during an NRC inspection conducted between February 11 - March 31, 2001. The results of the inspection were discussed with members of your staff at an exit meeting on April 11, 2001. The inspection finding was assessed using the significance determination process and was preliminarily characterized as White, an issue with low to moderate increased importance to safety that may require additional NRC inspections. This preliminary White finding, which was described in the subject NRC inspection report, dated May 9, 2001, concerned a failure to take corrective actions for a problem with a motor driven emergency feedwater (EFW) pump.

The NRC determined that between February 1 and February 14, 2001, AmerGen personnel missed several opportunities to identify the degraded condition of the 'A' motor driven EFW pump and take corrective actions consistent with the pump's importance to safety. On February 12, 2001, NRC inspectors found the 'A' motor driven EFW pump outboard bearing oiler empty. Subsequent investigation by your staff and the NRC inspectors revealed that an oil leak developed on the pump outboard bearing coincident with a surveillance test of the pump on February 1, 2001. During the surveillance test, the pump also exhibited an unexplained step increase in vibrations, which was later determined to be directly related to the oil leak. The oil leak was of sufficient magnitude to cause the pump to be inoperable. On February 12, 2001, AmerGen engineers determined the cause of the oil leak (and increased pump vibrations) to be loose bolts on the pump bearing inner cover. The pump was repaired and returned to an operable condition on February 14, 2001. These events demonstrate that various operations and engineering groups did not adequately respond to, or exhibit a questioning attitude towards, the degraded condition that existed.

The last successful start and operation of the 'A' motor driven EFW pump was on January 6, 2001, for testing of the EFW automatic start circuit. Any time the pump was called on to operate subsequent to this time would have likely resulted in the same conditions that occurred on February 1, 2001; namely, the bearing housing cover bolts would have loosened sufficiently

to cause an oil leak of sufficient magnitude to render the 'A' motor driven EFW pump inoperable. Therefore, the NRC concluded that the pump was inoperable from January 6, 2001, until the pump was repaired on February 14, 2001, a period of 39 days. We have further evaluated, through the NRC Significance Determination Process (SDP), that operation of the reactor plant with a single emergency feedwater pump inoperable for greater than 30 days to be of low to moderate risk significance (White). The technical specification allowed outage time for a single emergency feedwater pump is 72 hours.

The NRC letter transmitting the inspection report provided you an opportunity to either request a Regulatory Conference to discuss this issue or to explain your position in a written response. At your request, a Regulatory Conference was held on June 25, 2001. During the Regulatory Conference, you agreed with the NRC's characterization of the issue as a White finding and that a violation had occurred. You discussed an overview of the EFW system, including recent history associated with the inoperable condition of the 'A' motor driven EFW pump, its root causes and corrective actions. Your slides that were used for your presentation during the Regulatory Conference have been entered in the NRC's document system (ADAMS) and are accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> under Accession Number ML011780343.

After consideration of the information developed during the inspection and the information you provided at the conference, the NRC has concluded that the inspection finding is appropriately characterized as White, an issue with low to moderate increased importance to safety that may require additional NRC inspections. You have 10 business days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in NRC Inspection Manual Chapter (IMC) 0609, Attachment 2.

Per the Action Matrix associated with the NRC's Assessment Process (IMC 0305), any single White issue, such as this finding, places Three Mile Island Unit 1 in the Regulatory Response Band. Therefore, we will use the NRC Action Matrix to determine the most appropriate NRC response. We will notify you by separate correspondence of that determination, including any adjustments to the NRC inspection plan.

In connection with this issue, the NRC determined that AmerGen violated the requirements of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," as cited in the enclosed Notice of Violation (Notice) because your staff failed to promptly identify and correct a significant condition adverse to quality. Details regarding the circumstances surrounding this violation were also discussed in the inspection report. In accordance with the NRC Enforcement Policy, NUREG-1600, the Notice of Violation is considered escalated enforcement action because it is associated with a White finding. The NRC Enforcement Policy is available at the Office of Enforcement website at <http://www.nrc.gov/OE/>.

You are not required to respond to this letter because the NRC has sufficient information on the docket concerning this issue, including details in the subject NRC inspection report, Licensee Event Report No. 2001-001, Revisions 00 and 01, and your slides from the Regulatory Conference. These slides, as well as your presentation, provided your immediate and long term corrective actions to prevent recurrence of the violation. Your immediate corrective actions included, but were not limited to: (1) tightening bearing housing bolts on the 'A' EFW pump; (2) checking similar bolts on the other EFW pumps; (3) evaluating vibration data and

assessing oil consumption rates for all other safety related pumps; and (4) developing a new procedure for performing operability determinations and prompt investigation of degraded components. Your long term corrective actions included, but were not limited to: (1) revising the Inservice Test Program and system engineering guidelines to provide specific guidance for entering degraded equipment issues into the corrective action process; (2) revising the operator logs to add minimum oil level requirements for bearing oil reservoirs; (3) reinforcing the operability determination process with staff; and (4) presenting a case study of the event to appropriate site personnel, particularly as it relates to the need to exhibit questioning attitudes.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Hubert J. Miller
Regional Administrator

Docket No. 05000289
License No. DPR-50

Enclosure: Notice of Violation

cc w/encl:

Amergen Energy Company - Correspondence Control Desk
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J. McElwain, Manager, Regulatory Assurance
G. Gellrich, Plant Manager
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* Concurrence received by phone from Dixon-Herrity, OE. EN issued 06/29/01.

NOTICE OF VIOLATION

AmerGen Energy Company, LLC
Three Mile Island Unit 1

Docket No. 50-289
License No. DPR-50
EA-01-115

During an NRC inspection conducted between February 11, 2001, and March 31, 2001, and as discussed with AmerGen during an exit meeting on April 11, 2001, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, the violation is listed below:

10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to prevent repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

Contrary to the above, between February 1, 2001, and February 14, 2001, with the reactor operating at full power, AmerGen failed to promptly identify and correct a significant condition adverse to quality that resulted in the 'A' motor driven emergency feedwater (EFW) pump being inoperable for longer than the technical specification allowed outage time. Specifically, between those dates, operators and system engineers failed on several occasions to identify the significantly degraded condition of the pump and take corrective actions consistent with the pump's importance to safety, despite several opportunities to do so. For example:

1. Between February 1 and February 10, 2001, auxiliary operators made daily additions to the outboard bearing oiler without recognizing the impact on pump operability or taking actions to have the adverse condition investigated (i.e., the need to add oil on a daily basis).
2. On February 5, 2001, an auxiliary operator found the outboard bearing oiler empty and reported it to a control room supervisor. The control room supervisor incorrectly determined that pump operability was not affected because the pump was in a standby condition. As a result, the control room supervisor did not initiate any further investigation.
3. Data recorded during a test run of the pump on February 1, 2001, showed an unexplained step increase in vibrations. System engineers were aware of the situation, but did not initiate actions to identify the cause of the increased vibrations. The increased vibrations were later determined to be related to the oil loss in the outboard bearing and directly contributed to the inoperable condition of the pump.

This violation is associated with a WHITE Significance Determination Process finding.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket (i.e. your slides used during the Regulatory Conference, Licensee Event Report No. 2001-001 and NRC Inspection Report No. 05000289/2001-002). However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room). Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 5th day of July 2001