

December 15, 2004

Mr. Christopher M. Crane  
President and Chief Executive Officer  
AmerGen Energy Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (RAI), RE: THREE MILE  
ISLAND NUCLEAR STATION, UNIT 1 (TMI-1) INSERVICE TESTING (IST)  
PUMP RELIEF REQUESTS PR-01 AND PR-02 (TAC NO. MC2558)

Dear Mr. Crane:

By letter dated March 26, 2004, as supplemented July 19, 2004, AmerGen Energy Company, LLC (licensee), submitted pump relief requests PR-01, PR-02, PR-03, and PR-04, and valve relief requests VR-01 and VR-02 for TMI-1. The licensee requested relief from the IST requirements of the American Society of Mechanical Engineers, *Operations and Maintenance* (OM) Code-1998 Edition through 2000 Addenda. The licensee's July 19, 2004, letter provided additional information for relief request PR-03.

The Nuclear Regulatory Commission staff has determined that it will need the additional information identified in the enclosure to this letter in order to complete its review of the relief requests PR-01 and PR-02. As discussed with and agreed to by your staff, please provide the requested information within 45 days of receipt of this letter. If you have any questions, please contact me at (301) 415-1402.

Sincerely,

/RAI/

Timothy G. Colburn, Senior Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

INSERVICE TESTING RELIEF REQUESTS PR-01 AND PR-02

THREE MILE ISLAND NUCLEAR STATION, UNIT 1 (TMI-1)

DOCKET NO. 50-289

The TMI-1 Nuclear Service River Water and Nuclear Service Closed Cooling Water pumps fall within the scope of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel, Operations and Maintenance* (OM) Code (Code), are defined as Group A Pumps, and, therefore, are subject to quarterly Group A tests and a biennial comprehensive pump test (CPT). Pump speed as well as differential pressure or flow rate are required to be monitored for the Group A test. Additionally, speed, differential pressure, flowrate, discharge pressure and vibration are required for the CPT.

The CPT, which first appeared in the 1995 Edition of the ASME OM Code, results in a more accurate assessment of the pump's operational readiness and performance characteristics at a reduced frequency (once-every-refueling-cycle versus once-every-3-months). The test is intended to be conducted at or near a pump's design flow rate because this area of the pump curve is considered to be most representative of the pump's design performance characteristics. The quarterly Group A is primarily a qualitative test to detect gross mechanical as well as hydraulic degradation or failures. Acceptance criteria for the Group A test are provided in ASME OM Code, Table ISTB-5200-1.

The licensee requests relief from the requirements of individual flow measurement for PR-01 and PR-02. With two pumps in service, the required quarterly Group A test parameters will be measured except for flow rate. During this test, the <sup>a</sup>P will be throttled to the reference value, and vibration measurements for individual pump will then be recorded and compared with their reference values. From this test, any mechanical degradation or failures will be detected by comparing the deviations from the reference value with the range specified in ASME OM Code, Table ISTB-5200-1. As discussed above, the ASME OM Code also requires that a safety-related pump be tested quarterly to detect a deviation in hydraulic performance. Because the proposed test does not measure the flow rate, it is not clear how the hydraulic performance will be monitored or degradation will be detected. To determine whether the proposed alternative provides adequate assurance for the pump operability, the following information is requested.

1. Provide the methodology or analyses of how the test results of the proposed alternative are used to monitor the hydraulic performance or to detect hydraulic degradation and failures.
2. Provide the acceptance criteria that will be used to ensure that the hydraulic performance of either pump has not degraded more than  $\pm 10\%$ , or to demonstrate that the pump will continue to perform its intended safety function even though one or both of the pumps may have potentially degraded more than 10%.

Enclosure

Three Mile Island Nuclear Station, Unit 1

cc:

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