March 5, 2001

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

SUBJECT: NRC'S INTEGRATED THREE MILE ISLAND REPORT 05000289/2000-009

Dear Mr. Warner:

On February 10, 2001, the NRC completed an integrated inspection at your Three Mile Island Unit 1 facility. The enclosed report documents the inspection findings which were discussed on February 22, 2001, with Mr. George Gellrich and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

No findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records 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).

We appreciate your cooperation. Please contact me at (610) 337-5146 if you have any questions regarding this letter.

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch 7
Division of Reactor Projects

Docket No: 05000289
License No: DPR-50

Enclosures: NRC Inspection Report 05000289/2000-009
Attachments: 1. Supplementary Information
2. NRC's Revised Reactor Oversight Process

cc w/encl:

AmerGen Energy Company, LLC - Correspondence Control Desk
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G. Gellrich, Plant Manager
J. A. Benjamin, Licensing - Vice President, Exelon Corporation
J. Hutton, Director - Licensing
TMI-Alert (TMIA)
D. Allard, PADER

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U.S. NUCLEAR REGULATORY COMMISSION

REGION 1

Docket No:	05000289
License No:	DPR-50
Report No:	2000-009
Licensee:	AmerGen Energy Company, LLC (AmerGen)
Facility:	Three Mile Island Station, Unit 1
Location:	P.O. Box 480 Middletown, PA 17057
Dates:	December 31, 2000-February 10, 2001
Inspectors:	J. Daniel Orr, Senior Resident Inspector Craig W. Smith, Resident Inspector Suresh Chaudhary, Senior Reactor Engineer
Approved by:	John F. Rogge, Chief Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

Three Mile Island, Unit 1
NRC Inspection Report 05000289/2000-009

IR 05000289/2000-009, on 12/31/2000-2/10/2001, AmerGen Energy Company, LLC, Three Mile Island Unit 1, integrated resident inspector report.

The inspection was conducted by resident inspectors and a regional maintenance rule inspector.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Violations

A violation of very low significance which was identified by AmerGen has been reviewed by the inspectors. Corrective actions taken or planned by AmerGen appear reasonable. This violation is listed in section 4OA7 of this report.

Report Details

Summary of Plant Status

AmerGen Energy Company, LLC (AmerGen) operated Three Mile Island, Unit 1 (TMI) at 100 percent power throughout the inspection period with the exception of a two day period at 50 percent power for main condenser tube leak repairs.

1 REACTOR SAFETY

Initiating Events/Mitigating Systems/Barrier Integrity [REACTOR - R]

R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted two partial system walkdowns during the inspection period:

- During the week of January 1, 2001, the inspectors conducted a walkdown of the motor driven emergency feedwater pumps and unaffected portions of the emergency feedwater system while the turbine driven emergency feedwater pump (TDEFWP) was out of service for planned maintenance. The inspectors also performed a walkdown of the TDEFWP after the maintenance and post maintenance testing was complete.

- During the week of January 29, 2001, the inspectors conducted a walkdown of unaffected portions of the nuclear river water system while the B nuclear river water pump was out of service for planned maintenance.

The inspectors conducted a full system walkdown of the high pressure injection system during the inspection period. The inspectors reviewed the updated final safety analysis report, design basis documents, and system operating procedures to determine the correct system alignment for current plant conditions. The inspectors conducted walkdowns of accessible portions of the system.

b. Findings

No findings of significance were identified.

R05 Fire Protection

a. Inspection Scope

The inspectors conducted fire protection inspections for the following plant areas:

- Makeup pump vaults
- Makeup system valve gallery
- Control building common area at 306' elevation
- Engineered safeguards 480 volt switchgear rooms

The inspectors conducted plant walkdowns and reviewed AmerGen's fire hazards analysis report for the inspected areas. The plant walkdowns included observations of combustible material control, fire detection and suppression system operability, and compensatory measures established for degraded equipment.

b. Findings

No findings of significance were identified.

R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed simulator requalification exams for two control room crews consisting of licensed reactor and senior reactor operators. The inspectors reviewed the exam scenarios, assessed operator performance during the training exams, and observed the evaluators' critiques of the training scenarios.

b. Findings

No findings of significance were identified.

R12 Maintenance Rule Implementation

.1 Biennial Maintenance Rule Evaluation

a. Inspection Scope

The inspectors reviewed the periodic evaluations required by 10 CFR 50.65 (a)(3) for TMI Unit 1 to verify that structures, systems and components (SSCs) within the scope of the maintenance rule were included in the evaluations, and balancing of reliability and unavailability was given adequate consideration. The inspectors reviewed the licensee's most recent periodic evaluation reports. The periodic report for TMI Unit 1 covered the period from September 1997 through September 1999.

The inspectors selected the following safety significant systems that were in (a)(1) status to verify that: (1) goals and performance criteria were appropriate, (2) industry operating experience was considered, (3) corrective action plans were effective, and (4) performance was being effectively monitored. The inspectors also reviewed the licensee's assessment of the balance between reliability and availability for these systems.

- Fuel and control components system
- High pressure injection/makeup and purification system
- Decay river water system
- Secondary river and screen wash system
- Engineered safeguard actuation system
- Main and auxiliary transformer system
- Fire protection system

The inspectors reviewed the following (a)(2) high safety significant systems to verify that performance was acceptable.

- Low pressure injection and decay heat system
- 7 and 4 kV auxiliary power system
- Emergency feedwater system
- Vital dc power system

b. Findings

No findings of significance were identified.

.2 Routine Maintenance Rule Reviews

a. Inspection Scope

The resident inspectors reviewed maintenance rule evaluations for the following equipment functional failures:

- Unexpected 'A' main feedwater pump trip during overspeed trip testing
- Intermediate cooling system containment isolation valve, IC-V-3, failure during engineered safeguards actuation system surveillance testing
- Reactor building purge damper repetitive local leak rate testing failures
- Repetitive plant process computer failures

Industry Guideline For Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Revision 2 was referenced to verify that AmerGen was correctly determining each functional failure category. The inspectors also reviewed the corrective actions intended for each equipment failure.

b. Findings

No findings of significance were identified.

R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed AmerGen's risk management for separate planned system outages on the turbine driven emergency feedwater pump and the B nuclear service river water strainer. The inspectors also reviewed AmerGen's risk management for an emergent repair to the letdown system containment isolation valve, MU-V-3. The inspectors observed concurrent maintenance activities and verified that contingency actions were appropriately established.

b. Findings

No findings of significance were identified.

R14 Personnel Performance During Nonroutine Plant Evolutions and Events

a. Inspection Scope

The inspectors observed licensed operator performance during a planned power reduction to 50 percent for main condenser tube leak repairs. The inspectors reviewed the procedures controlling the evolution, attended the pre-evolution brief, and observed control room operator performance during the power reduction.

b. Findings

No findings of significance were identified.

R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following three degraded conditions for potential to affect the operability of safety-related systems:

- Unexpected surge tank level decreases during decay heat closed cooling cycle (DHCCC) pump starts. The level decreases did not immediately affect DHCCC system performance and were suspected by system engineers to be attributed to biologic gassing
- Reduced instrument air pressure to the letdown system containment isolation valve, MU-V-3
- Microbiologically induced corrosion on a nuclear service river water heat exchanger backwash line

b. Findings

No findings of significance were identified.

R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance tests performed for:

- Turbine driven emergency feedwater pump bearing cooling pressure control valves, EF-V-15A&B
- Reactor building purge exhaust outboard damper preventative maintenance
- 'B' control building chiller annual overhaul

b. Findings

No findings of significance were identified.

R22 Surveillance Testing

a. Inspection Scope

On February 1, 2001, the inspectors observed inservice testing of the nuclear river water systems and valves. The inspectors reviewed the test results and compared them against technical specification and procedure requirements.

b. Findings

No findings of significance were identified.

4 OTHER ACTIVITIES

OA3 Event Follow-up

(Closed) Licensee Event Report 05000289/19990006-02: Inability of Pressurizer Support Bolts to Meet FSAR [Final Safety Analysis Report] Requirements Supplemental Report. This licensee event report (LER) provides supplemental information documenting AmerGen's revised operability determination based on the as found condition of the pressurizer support structure. The support was brought into compliance during the Fall 1999 refueling outage. This LER pertained to a minor issued and was closed during onsite review.

OA6 Management Meetings

Exit Meeting Summary

On February 22, 2001, the resident inspectors presented the inspection results to members of AmerGen management led by Mr. George Gellrich. AmerGen acknowledged the findings presented. The senior reactor engineer inspector presented the maintenance rule inspection results to AmerGen management led by Mr. Oscar Limpias on January 12, 2001. AmerGen acknowledged the findings presented.

OA7 Licensee Identified Violations

The following finding of very low significance was identified by AmerGen and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as Non-Cited Violations (NCV):

- **NCV 05000289/2000-09-01**. Technical Specification 6.8, Procedures and Programs, requires written procedures be established, implemented and maintained in accordance with Regulatory Guide 1.33, Quality Assurance Program Requirements. Appendix A to Regulatory Guide 1.33 requires, among other items, written procedures be established for operating the main steam system. Three Mile Island Unit 1 equipment operators failed to ensure that a main steam trap remained in continuous service to support operation of the turbine driven emergency feedwater pump. This failure was contrary to

operating procedure *Main Steam System*, 1106-14. This problem was described in TMI corrective action program number T2001-0082.

If you deny this non-cited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region 1; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Three Mile Island Unit 1 facility.

ATTACHMENT 1
SUPPLEMENTARY INFORMATION

A. Key Points of Contact

M. Warner, Vice President, TMI Unit 1
G. Gellrich, Plant Manager
D. Atherholt, Director - Operations
O. Limpias, Director - Site Engineering
J. Telfer, Director - Radiation Health & Safety
B. Merryman, Director - Maintenance
A. Miller, Regulatory Licensing

B. List of Items Opened, Closed, and Discussed

Closed

LER 1999-006-02	Inability of Pressurizer Support Bolts to Meet FSAR Requirements Supplement Report

Opened/Closed

NCV 2000-009-01	Failure to Ensure Turbine Driven Emergency Feedwater Pump Main Steam Trap Remained in Continuous Service

C. Acronyms Used

ADAMS	Agencywide Documents and Management System
AmerGen	AmerGen Energy Company, LLC
CAP	Corrective Action Process
CFR	Code of Federal Regulations
DHCCC	Decay Heat Closed Cooling Cycle
DRS	Division of Reactor Safety
IR	Inspection Report
LER	Licensee Event Report
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
SDP	Significance Determination Process
SSC	Structures, Systems and Components
TDEFWP	Turbine Driven Emergency Feedwater Pump
TMI	Three Mile Island, Unit 1
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report

ATTACHMENT 2

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
• Initiating Events	• Occupational	• Physical Protection
• Mitigating Systems	• Public	
• Barrier Integrity		
• Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.