

May 10, 2004

Mr. Christopher M. Crane  
President and CEO  
AmerGen Energy Company, LLC  
200 Exelon Way, KSA 3-E  
Kennett Square, PA 19348

SUBJECT: THREE MILE ISLAND UNIT 1 - NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT NO. 05000289/2004006

Dear Mr. Crane:

On March 26, 2004, the U. S. Nuclear Regulatory Commission (NRC) completed a team inspection at the Three Mile Island Station Unit 1. The enclosed report documents the inspection findings which were discussed during an exit meeting on March 26, 2004, with Mr. B. Williams and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations and the conditions of your operating license. Within these areas, the inspection involved examination of selected procedures and representative records, plant walkdowns and interviews with personnel.

On the basis of the samples selected for review, there were no findings of significance identified during this inspection. The team concluded that, in general, problems were properly identified, evaluated and corrected. However, some minor problems were identified involving narrowly focused condition report evaluations.

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Sincerely,

*/RA/*

Raymond K. Lorson, Chief  
Performance Evaluation Branch  
Division of Reactor Safety

Docket No: 50-289  
License No: DPR-50

Mr. Christopher M. Crane

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cc w/encl:

Chief Operating Officer, AmerGen

Site Vice President - TMI Unit 1, AmerGen

Plant Manager - TMI, Unit 1, AmerGen

Regulatory Assurance Manager - TMI, Unit 1, AmerGen

Senior Vice President - Nuclear Services, AmerGen

Vice President - Mid-Atlantic Operations, AmerGen

Vice President - Operations Support, AmerGen

Vice President - Licensing and Regulatory Affairs, AmerGen

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 50-289

License No: DPR-50

Report No: 05000289/2004006

Licensee: AmerGen Energy Company LLC

Facility: Three Mile Island Station Unit 1

Location: P.O. Box 480  
Middletown, PA 17057

Dates: March 8 - 12 and March 22 - 26, 2004

Inspectors: R. Fuhrmeister, Sr. Reactor Inspector, DRS  
J. Benjamin, Reactor Inspector, DRS  
C. Colantoni, Reactor Inspector, DRS  
J. Brand, Resident Inspector

Approved By: Raymond K. Lorson, Chief  
Performance Evaluation Branch  
Division of Reactor Safety

Enclosure

## SUMMARY OF ISSUES

IR 05000289-04-006; on 03/08-03/12/04 and 03/22-03/26/04; Three Mile Island Station Unit 1; biennial baseline inspection of the identification and resolution of problems.

The inspection was conducted by a regional senior reactor inspector, two regional reactor inspectors, and the site resident inspector. No findings of significance were identified during the inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### Identification and Resolution of Problems

The team concluded that AmerGen Energy Company, LLC (AmerGen) was generally effective at identifying problems and entering them into the corrective action program. AmerGen's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by AmerGen during the review period. AmerGen effectively used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementing corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. AmerGen audits and assessments were found to be effective and identified areas for improvement. On the basis of interviews conducted during this inspection, workers at the site utilized the corrective action program to identify problems.

#### A. NRC Identified and Self-Revealing Findings

None.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution

##### a. Effectiveness of Problem Identification

##### (1) Inspection Scope

The team reviewed selected items across several high risk systems with repetitive problems, and non-cited violations (NCVs) issued since the last problem identification and resolution (PIR) team inspection, to determine if problems were properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The condition reports (CRs) and other documents reviewed are listed in the Attachment to this report. The review included two audits of the corrective action program in addition to several additional AmerGen audits and self-assessments. The effectiveness of the audits and assessments was evaluated by comparing the audit and assessment results against self-revealing and NRC-identified findings.

The team evaluated the CRs to determine AmerGen's threshold for identifying problems and entering them into the corrective action program. The team also reviewed other pertinent documents including control room logs, work requests, engineering modification packages, self-assessment results, system health reports, and results from surveillance tests and preventive maintenance tasks to determine whether the extent of condition for identified problems was properly considered. The team reviewed each CR to determine whether the evaluations were sufficiently detailed to identify the likely problem causes and to provide appropriate corrective actions. The team also reviewed the assessment of equipment operability and reportability where applicable.

The team conducted walkdowns and interviewed plant personnel to identify other processes that may have been used to identify problems. The team reviewed work requests to understand the interface between the corrective action program and the corrective maintenance process. The team interviewed plant personnel and reviewed the CR initiation data to determine whether personnel were knowledgeable of and utilized the corrective action system to identify problems.

##### (2) Observations and Findings

No findings of significance were identified.

The team determined that AmerGen was generally effective at identifying problems and entering them into the corrective action system. This was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by AmerGen during the review period. AmerGen audits and assessments were of good depth and identified issues similar to those that were self-revealing or raised during previous NRC inspections.

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The team noted that a number of the selected CRs did not receive extent of condition reviews. While reviewing the corrective action program manual, the team noted that the responsibility for determining when an extent of condition review was required was not specifically assigned. This may have contributed to this issue. The team did not identify a violation associated with this observation.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed CRs listed in the Attachment to determine whether AmerGen adequately prioritized and evaluated the identified problems. Under the program, each problem is assigned a significance level of one through five. Significance level one is the highest level, and is used for issues that have a major plant impact. Significance level five is the lowest level, and is used for plant improvement items. AmerGen also assigns investigation classes to the problems: Class A requires a root cause evaluation, Class B requires an apparent cause evaluation, Class C requires a common cause evaluation, and Class D can be closed to trend or to an assigned action. No significance level one or two issues had been identified since the last PIR inspection. The team compared the assigned significance level for selected CRs, including equipment-related CRs, to the applicable procedural guidance to determine whether the assigned significance level was appropriate. The team assessed the use of risk in prioritization of corrective actions by comparing the significance level criteria to the NRC Revised Oversight Program assessment criteria thresholds and Technical Specification allowed outage times.

(2) Observations and Findings

No findings of significance were identified.

The team determined that AmerGen specified corrective actions to correct the conditions identified in the CRs. The team also determined that AmerGen appropriately scheduled and tracked the assignments to completion. The team identified several instances where corrective actions were closed to work orders or action requests (ARs) without the work actually being completed. The Exelon corrective action procedure was revised in mid-2003 to preclude recurrence of this problem. The team did not find any risk significant issues which had been closed without completing the work.

The team concluded that AmerGen had been effective at utilizing risk insights to prioritize evaluations of and corrective actions for degraded conditions.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The team reviewed the corrective actions associated with the CR's and the other documents listed in the Attachment to determine whether the corrective actions addressed the identified causes and were scheduled or completed in a timely manner. The team also reviewed the corrective actions to determine if there were risk significant items that had not been properly resolved that could adversely affect plant safety.

The review included the corrective actions taken by AmerGen in response to a prior violation (NCV-03-03-01, Severity Level IV) regarding the failure to report potentially disqualifying operator medical conditions to the NRC in a timely manner. The following documents were reviewed:

- CR-195798, "License Coordinator Not Notified of Change In Operator Medical Condition," dated 1/16/04;
- CR-189592, "No License Duties CRO Stood Watch," dated 12/8/03;
- CR-164042, "License Operator Failure To Report Changes In Medical Condition, dated 6/19/03;
- NRC Inspection Report 05000289/2003003, dated 7/23/03;
- CR-159904, "Late Report of Change in Medical Condition, dated 5/21/03;
- CR-152381, "Results of Licensed Operator Medical Exam Self-Audit", dated 4/4/03;
- CR-143977, "Audit of TMI Licensed Operator Medical Files", dated 2/11/03;
- CR-197500, "Tracking of NRC Notification Not in Compliance With OP-AA-105-101, dated 1/26/04.

(2) Observations and Findings

No findings of significance were identified, however, the team identified one potential problem involving ineffective corrective actions. Specifically, CR's 164042, 189592, and 195798 documented examples where four individuals did not disclose information related to potentially disqualifying medical conditions to the license coordinator. The team identified that for three of these four operators, the conditions were not reported to the NRC within the required 30-day time frame. The time from when the individuals were aware of these conditions until the reporting requirement was recognized and the reports made to the NRC ranged from three to six months. In all cases, the conditions were adequately controlled by medical treatment.

The corrective actions for the prior problems were addressed in CR 143977 and CR 147624. These actions included the training of medical personnel and licensed operators and addition of a checklist to each licensed operator medical file. The team's review of this issue was on-going at the conclusion of the inspection period and was considered a potential violation of 10 CFR 50.74. This issue will remain unresolved pending further review by regional specialists. **(URI 05000289/2004006-01)**

4OA6 Management Meetings



On March 26, 2003, the team presented the inspection results to Mr. B. Williams and other members of the AmerGen staff . AmerGen acknowledged the findings presented.

Some of the information reviewed during the inspection was marked as proprietary. Those documents were returned to AmerGen at the conclusion of the inspection.

**ATTACHMENT**

**KEY POINTS OF CONTACT**

Licensee Personnel

B. Williams, Site Vice President  
G. Gellrich, Plant Manager  
L. Clewett, Director of Engineering  
G. Chick, Director of Maintenance  
G. Rombold, Manager of Regulatory Assurance  
J. Goldman, Plant Engineering Manager  
L. Brown, Nuclear Oversight Assessor  
B. Rittle, Maintenance Corrective Actions Coordinator  
S. Queen, Design Engineer  
W. Lopkoff, System Engineer  
A. Miller, Regulatory Assurance Engineer  
J. Tesmer, Regulatory Assurance Engineer  
E. Fuhrer, Regulatory Assurance Engineer

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened/Closed

05000289/2004006-01	URI	Potential violation for failure to notify the NRC regarding the change in the medical status of a licensed operator as required by 10 CFR 50.74. (Section 4OA2.c.2)
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**LIST OF DOCUMENTS REVIEWED**

Condition Reports

00073622	00092697	00093689	00095011	00095753	00097198
00097786	00095371	00096371	00095469	00098680	00099502
00100720	00101994	00102515	00102525	00102002	00102219
00102461	00102572	00103021	00103920	00108821	00109205
00109226	00109861	00110300	00110306	00110314	00110331
00110406	00110903	00111236	00112412	00113437	00114597
00114940	00115285	00115310	00117760	00118154	00118572
00118780	00119399	00102037	00120792	00120480	00121122
00121152	00122996	00123736	00125511	00125792	00125895
00126106	00126271	00126703	00126765	00125847	00128048
00128054	00128057	00128144	00128460	00128565	00129296
00130263	00130713	00130725	00130728	00130838	00131570

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00131573	00131765	00132061	00132062	00132502	00132810
00132878	00132880	00133744	00134131	00134168	00134474
00133960	00136995	00137261	00138244	00138783	00138778
00138874	00138930	00139182	00140699	00141090	00141285
00142559	00146995	00147688	00148150	00148233	00148380
00149119	00149291	00143176	00145497	00147808	00148233
00149855	00149885	00152511	00152522	00125538	00155773
00155825	00157427	00158324	00158863	00159445	00163056
00163646	00164725	00165028	00166913	00167117	00167468
00168055	00168068	00166931	00168068	00168106	00168357
00166674	00168676	00169251	00170213	00170728	00170841
00171529	00171925	00172002	00172013	00172142	00173089
00173252	00175247	00178928	00179254	00180343	00181732
00182311	00184752	00183266	00184753	00185821	00187352
00187846	00189173	00189501	00190679	00191452	00193169
00193807	00195104	00203254	00206114	00206819	00206114
00206507	00206614	00207707	00207791	00207841	00207894
00207914	00208003	00208044	00208553	00209210	00210181
00210282					

Action Requests

A1721547	A1802311	A2003830	A2003962	A2005094	A2007363
A2024270	A2025250	A2027508	A2028885	A2029975	A2048596
A2048676	A2053471	A2054230	A2057113	A2057824	A2083268
A2084672	A2084673	A2084674	A2084675	A2084676	

Work Orders

C2003874	R1831797	R2008533	R2040298	R2040666	R2040668
R2040671	R2040675				

Procedures

1041, Rev. 41, IST Program Requirements  
1302-5.4A, Rev 1, RPS Channel A Reactor Coolant Flux Flow Comparator  
1302-5.4, Rev 27, Reactor Coolant Flux Flow Comparator  
1407-4, Rev. 60, TMI Lubrication Program  
LS-AA-125, Rev. 4, Corrective Action Program (CAP) Procedure  
LS-AA-125, Rev. 5, Corrective Action Program (CAP) Procedure  
LS-AA-125, Rev. 6, Corrective Action Program (CAP) Procedure  
LS-AA-125-1002, Rev. 1, Common Cause Analysis Report Format and Content  
LS-AA-125-1006, Rev 5, Attachment 1, Guidance for Determining Investigation Class  
LA-AA-125-1006, Rev 5, CAP Process Expectations Manual  
LS-AA-105, Rev 1, Operability Determinations  
M138, Rev. 11, Oil Sampling/Draining Oil from Operating Components  
MA-AA-716-040, Rev. 2, Control of Portable Measurement and Test Equipment Program  
MA-AA-716-230, Rev 2, Predictive Maintenance Program

MA-AA-716-230-1001, Rev. 2, Oil Analysis Interpretation Guideline  
MA-AA-716-230-1002, Rev 0, Vibration Analysis/Acceptance Guideline  
MA-AA-716-230-1003, Rev. 0, Thermography Program Guide  
OP-TM-214-203, Rev. 1, IST of ECCE Valves - BS Valves

Calculations

C-1101-641-5522-008, Rev 0, TMI-1 RC Pressure/Flow-Reactor Loop Error Analysis  
C-1101-641-5522-008, Rev 1, TMI-1 RC Pressure/Flow-Reactor Loop Error Analysis

Miscellaneous Documents

CAP T1999-0307  
CAP T2001-0042  
CAP T2001-0552  
CAP T2001-0276  
Root Cause Assessment High Failure Rate 2003 Biennial Licensed Operator Requalification Examination (Ref 00146995)  
Three Mile Island Vibration Program Assessment October 9, 2002  
Submittal of a Revised Request for Relief to the Requirements of 10CFR50.55a Concerning Third Ten-Year Interval Inservice Testing Program, Date: March 10,2004, 5928-04-20090  
Submittal of a Request for Relief to the Requirements of 10CFR50.55a Concerning Third Ten-Year Interval Inservice and Fourth Ten-Year Interval Inservice Testing Program, Date: September 24, 2003, 5928-03-20194  
Site Integrated Performance Assessment, Third and Fourth Quarters 2003 Report

**LIST OF ACRONYMS**

AR Action Request  
CR Condition Report  
NCV Non-Cited Violation  
NRC Nuclear Regulatory Commission  
PIR Problem Identification and Resolution  
URI Unresolved Item