May 31, 2001

EA 01-139

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: THREE MILE ISLAND STATION, UNIT 1-NRC INSPECTION REPORT 50-289/01-03

Dear Mr. Warner:

On May 12, 2001, the NRC completed an inspection at your Three Mile Island Unit 1 facility. The enclosed report documents the inspection findings which were discussed on May 18, 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.

Based on the results of this inspection, the inspectors identified two issues of very low safety significance (Green). Both issues were determined to involve violations of NRC requirements. However, because of the very low safety significance and because the problems have been entered into your corrective action process, the NRC is treating these issues as non-cited violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these non-cited violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-001; and the NRC Resident Inspector at the Three Mile Island Unit 1 facility.

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: 50-289
License No: DPR-50

Enclosure: NRC Inspection Report 50-289/01-03
Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION 1

Docket No:	50-289
License No:	DPR-50
Report No:	50-289/01-03
Licensee:	AmerGen Energy Company, LLC (AmerGen)
Facility:	Three Mile Island Station, Unit 1
Location:	P.O. Box 480 Middletown, PA 17057
Dates:	April 1-May 12, 2001
Inspectors:	J. Daniel Orr, Senior Resident Inspector Craig W. Smith, Resident Inspector Ronald L. Nimitz, Senior Health Physicist, DRS
Approved by:	John F. Rogge, Chief Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

Three Mile Island, Unit 1
NRC Inspection Report 50-289/2001-03

IR 05000289-01-03, on 4/01-5/12/2001, AmerGen Energy Company, LLC, Three Mile Island Unit 1, integrated resident inspector report, maintenance risk assessment, operability evaluation.

The inspection was conducted by resident inspectors and a senior health physicist. The inspection identified two Green findings, both of which were non-cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- **Green**. AmerGen failed to assess the increase in risk that resulted from proposed maintenance on the 'C' traveling screen and the 'A' bar rake in the intake screen house.

  The safety significance of the absent risk evaluation was very low (Green) because the 'C' traveling screen was never rendered inoperable before a risk evaluation was performed. The inspectors considered that the operators would have been able to restore both the 'C' traveling screen and 'A' bar rake to automatic operation in a relatively short time because only administrative tagouts prevented automatic operation. 10 CFR 50.65 (a)(4) requires before performing maintenance activities, including preventive maintenance, that licensees shall assess and manage the increase in risk that may result from proposed maintenance activities. Failure to assess the increase in risk that resulted from proposed maintenance on the 'C' traveling screen and the 'A' bar rake constituted a violation of 10 CFR 50.65 (a)(4).

- **Green**. Chemistry supervisors did not promptly report an out-of-specification emergency diesel fuel oil storage tank bottom sediment sample to the main control room and did not initiate a corrective action process (CAP) form for more than 24 hours. The timeliness for senior reactor operators' evaluating the out-of-specification result was important because both emergency diesel generators were supplied by the single diesel fuel oil storage tank.

  The safety significance of the delayed report was very low (Green) because the emergency diesel generation operation was never adversely affected. 10 CFR 50, Appendix B, Criterion XVI., "Corrective Action," requires, among other requirements, that deficiencies, deviations, and defective material be promptly identified. The chemistry supervisors' delay in reporting the out-of-specification fuel oil sediment result

to the main control room supervisors and delay in submitting a CAP form constituted a violation of 10 CFR 50, Appendix B, Criterion XVI., “Corrective Action.”

B. Licensee Identified Violations

A violation of very low safety significance which was identified by AmerGen was 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 April 1 through 25, 2001, when plant power was reduced to 75 percent to investigate an abnormal gassing condition on the 'A' main transformer. Between April 25 and May 12, 2001, AmerGen operated TMI between 1 and 75 percent power to facilitate troubleshooting and repairs on the 'A' main transformer. On May 12, 2001, AmerGen shut down the reactor to investigate a leaking pressurizer relief valve that developed on May 11, 2001. The leak was about 0.7 gallons per minute to the reactor coolant drain tank.

1 REACTOR SAFETY

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

R04 Equipment Alignment

.1 Decay Heat Removal System Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system walkdown for the decay heat removal (DHR) system. The DHR system was selected because DHR had the highest relative system importance in TMI's probabilistic risk assessment. Aspects of DHR were reviewed to verify that the DHR system was correctly aligned and fully operable and included: the DHR maintenance backlog, maintenance rule database, system health report, system engineer interviews, outstanding design change requests, temporary modifications, inservice testing program requirements, mechanical flow diagrams, operating procedure 1104-4 *Decay Heat Removal System,* abnormal transient procedures, updated final safety analysis report, and a physical walkdown of all DHR system accessible areas. A review of the corrective action process was completed to verify that AmerGen was correcting any equipment alignment problems on all plant systems.

b. Findings

No findings of significance were identified.

.2 High Pressure Injection Partial System Walkdown

a. Inspection Scope

The inspectors conducted one partial system walkdown on the high pressure injection (HPI) system. The HPI system was selected because HPI had the second highest relative system importance in TMI's probabilistic risk assessment. The inspectors performed the partial walkdown of HPI after the HPI system was reconfigured to support emergent repairs on the 'A' intermediate closed cooling water (ICCW) pump. Although ICCW and HPI were physically independent, the two systems were operationally dependent because of reactor coolant pump seal injection and thermal barrier cooling functions. The inspectors verified the system alignment was in accordance with

operating procedures 1104-2 and 1104-8, *Makeup and Purification System* and *Intermediate Cooling System,* and controlled drawings, and verified operating parameters were consistent with the plant operating condition.

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:

- decay heat removal pump vaults
- building spray pump vaults
- engineered safeguards 4160 volt switchgear rooms
- control tower first floor control building chiller room

The rooms and areas were selected based on enclosing or proximity to risk significant equipment. The inspectors conducted plant walkdowns and reviewed the fire hazard analysis report for the inspected areas. The plant walkdowns included observations of combustible material control, fire detection and suppression equipment operability, and compensatory measures established for degraded fire protection equipment.

b. Findings

No findings of significance were identified.

R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed a simulator requalification training session on April 19, 2001, for an operating crew consisting of licensed reactor and senior reactor operators. The inspectors reviewed the lesson plans, assessed operator performance during the training sessions, and observed the evaluator's critique of the training scenario.

b. Findings

No findings of significance were identified.

R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors verified AmerGen's implementation of the maintenance rule for two equipment performance issues: an engineered safeguards ventilation system damper failure and an auxiliary building ventilation system damper failure. Although both problems were related to non-risk significant maintenance rule functions, the activities were selected for inspection because other risk significant failures had not occurred or will be inspected after AmerGen has evaluated the maintenance rule considerations. The inspectors verified the equipment failures were properly characterized in accordance with AmerGen's maintenance rule program and the performance criteria for the affected systems were properly classified in accordance with 10 CFR 50.65.

b. Findings

No findings of significance were identified.

R13 Maintenance Risk Assessment and Emergent Work Evaluation

.1 Intake Screen House Maintenance

a. Inspection Scope

On April 27, 2001, the inspectors toured the intake screen house and found the 'C' traveling screen and the 'A' bar rake concurrently out of service. The inspectors interviewed system engineers, reviewed the design basis of the intake screen house, and reviewed AmerGen's administrative procedure 1082.1, *TMI Risk Management Program,* to determine the appropriateness of the cross-channel maintenance.

b. Findings

The inspectors determined that AmerGen failed to assess the increase in risk that resulted from proposed maintenance on the 'C' traveling screen and the 'A' bar rake in the intake screen house. The safety significance of this finding was very low (Green) because automatic operation of the 'C' traveling screen and 'A' bar rake were only precluded by administrative tagouts. AmerGen's failure to assess the increase in risk during the preventive maintenance on the 'C' traveling screen while the 'A' bar rake was already tagged out for corrective maintenance constituted a violation of 10 CFR 50.65 (a)(4).

The TMI intake screen house supports all safety-related and non safety-related service water systems. The screen house includes three intake channels that join into a common bay providing suction for all service water pumps. Each intake channel includes an automatic bar rake and an automatic traveling screen. The bar rakes have one (1) inch clear openings and the traveling screens have three-eighth (⅜) inch clear mesh openings. In addition to the bar rakes, a skimmer wall arrangement projects below the minimum design river water level and assures that floating objects on the river surface will not be directly drawn into the intake channels. Bar grids also exist in the inlet openings to stop large debris from entering the intake structure. Annunciators in

the intake screen house alarm in the main control room and provide early indication of degrading river water conditions or traveling screen and bar rake trouble. Washing the traveling screens and removing debris from the bar rakes during all modes of plant operation is a risk significant function in TMI's maintenance rule program.

On April 27, 2001, the inspectors found the 'C' traveling screen and the 'A' bar rake out of service and questioned the appropriateness of the concurrent outages with system engineers. The 'A' bar rake was out of service from February 7, 2001, for corrective maintenance. The corrective maintenance on the 'A' bar rake was actually completed before the 'C' traveling screen was taken out of service; however, a post-maintenance test and a tagout clearance were never performed to restore the bar rake to automatic operation. The 'C' traveling screen was taken out of service on April 18, 2001. On April 30, 2001, the system engineers determined that the 'C' traveling screen was taken out of service for preventive maintenance and also that an online risk evaluation was not performed as required by AmerGen administrative procedure 1082.1, *TMI Risk Management Program*. The system engineers also determined that the preventive maintenance had not yet been initiated. An online-station risk evaluation document was completed on April 30, 2001. The online-station risk evaluation document resulted in a yellow condition, slightly higher risk of core damage or large early release. Yellow is one increment above the lowest risk category of green.

This finding was more than minor because if left uncorrected, cross-channel maintenance on risk significant systems, without due consideration for plant risk, could cause an increased level of plant risk or entry into unanalyzed conditions. The safety significance of the inadequate risk evaluation was very low (Green) because the 'C' traveling screen was never rendered inoperable before a risk evaluation was performed. The inspectors considered that the operators would have been able to restore both the 'C' traveling screen and 'A' bar rake to automatic operation in a relatively short time because only administrative tagouts prevented automatic operation. A main control room annunciator also provided early warning of degraded river conditions.
10 CFR 50.65 (a)(4) requires before performing maintenance activities, including preventive maintenance, that licensees shall assess and manage the increase in risk that may result from proposed maintenance activities. The scope of the assessment may be limited to systems that a risk-informed evaluation process has shown to be significant to public health and safety. Contrary to this requirement, AmerGen failed to assess the increase in risk that resulted from proposed maintenance on the 'C' traveling screen and the 'A' bar rake, both risk significant maintenance rule functions in TMI's risk-informed maintenance rule program. However, because of the very low safety significance of this violation and because AmerGen has entered this problem into its corrective action process (T2001-0410), this violation is being treated as a non-cited violation (**NCV 05000289/2001-003-01**).

.2 Additional Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed AmerGen's planning and risk assessment for two additional maintenance activities, one scheduled and one emergent, completed during the inspection period: scheduled surveillance testing of the turbine driven emergency feedwater (EFW) pump and emergent repairs to the 'A' ICCW pump motor bearings.

The ICCW system and EFW both performed risk significant maintenance rule functions. The inspectors verified AmerGen performed assessments of plant risk related to the work activities as required by 10 CFR 50.65 (a)(4). The inspectors reviewed the adequacy of AmerGen's risk assessment documents and verified the resultant risk was appropriately managed.

b. Findings

No findings of significance were identified.

R14 Personnel Performance Related to Non-routine Plant Evolutions and Events

a. Inspection Scope

On April 29, 2001, the inspectors observed licensed operator performance during a planned power reduction to 2 percent reactor power for the 'A' main transformer repairs. The inspectors attended the pre-evolution brief, observed the main control room operators implementing the plant operating and annunciator procedures, and observed coordination with the nuclear engineer for reactivity management.

b. Findings

No findings of significance were identified.

R15 Operability Evaluations

.1 Out-of-Specification Emergency Diesel Fuel Oil Sample

a. Inspection Scope

On May 8, 2001, at about 3:00 p.m., chemistry technicians obtained an out-of-specification result for the annual emergency diesel fuel oil storage tank (DFOST) sediment sample. The inspectors reviewed the sampling procedure and AmerGen's subsequent operability determination, interviewed system engineers and chemistry supervisors, and reviewed follow-up sample results at various tank elevations to assess the operability of both emergency diesel generators (EDG).

b. Findings

The inspectors determined that chemistry supervisors did not report an out-of-specification emergency DFOST bottom sediment sample to the main control room and did not initiate a corrective action process (CAP) form for more than 24 hours. The timeliness for senior reactor operators' evaluating the out-of-specification result was important because both EDGs were supplied by the single DFOST. The safety significance of this finding was very low (Green) because subsequent DFOST bottom sediment samples trended in specification and fuel oil samples at the higher EDG day tank suction were always in specification. The chemistry supervisors' failure to promptly report the out-of-specification DFOST sample constituted a violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action."

On May 10, 2001, the inspectors reviewed CAP T2001-0451. Although the out-of specification DFOST sample was mentioned at a work control meeting at 6:30 a.m. on May 9, 2001, a CAP was not initiated until 5:53 p.m on May 9, 2001. In either instance, the inspectors considered the report untimely in that the problem potentially affected both EDGs. Main control room supervisors were informed of CAP T2001-0451 on May 9, 2001, at 5:53 p.m. An operability determination was documented by the shift manager on May 9, 2001, at 10:28 p.m. The operability determination considered that only a bottom sample below the EDG day tank suctions was affected and that both EDGs had successfully operated within a few days of the out-of-specification sediment sample. The EDGs fuel oil strainer differential pressures were normal during the recent operations. The operability determination further stated that the most likely cause of the increased bottom sediment was turbulence from a large fuel oil transfer to the DFOST that occurred on May 3, 2001. Sample results from the tank supplying the DFOST were verified to be satisfactory prior to the transfer. The inspectors considered that the operability determination was adequate, but noticed that the CAP form and subsequent operability determination were completed more than 24 hours after the sample was discovered out-of-specification. The inspectors were interested in follow-up sediment sample results and determined that they had not been obtained more than 48 hours after the original out-of-specification result on May 8, 2001. On May 11, 2001, all DFOST sample results were in specification.

This finding was more than minor because if left uncorrected, delayed reporting of fuel oil problems could restrain a necessary plant shutdown if the determination was made that the fuel oil could not support extended EDG operation. The safety significance of the delayed report was very low (Green) because EDG operation was never adversely affected. 10 CFR 50, Appendix B, Criterion XVI., "Corrective Action," requires, among other requirements, that deficiencies, deviations, and defective material be promptly identified. Contrary to this requirement, chemistry supervisors waited for more than 24 hours to identify to the main control room an out-of-specification fuel oil sediment result potentially affecting EDG operation. However, because of the very low safety significance and because AmerGen has entered this problem into its corrective action process (T2001-0461), this violation is being treated as a non-cited violation (**NCV 05000289/2001-003-02**).

.2 Additional Operability Evaluations

a. Inspection Scope

The inspectors reviewed an operability evaluation for the 'B' EDG following the emergent failure of the stand-by lubricating oil pump. The inspectors verified that the operability of the 'B' EDG was properly justified and that no unrecognized increase in plant risk resulted from the lubricating oil pump failure.

b. Findings

No findings of significance were identified.

R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance tests performed by AmerGen in conjunction with emergent repairs to the 'A' ICCW pump motor bearings and emergent repairs to the 'B' EDG stand-by lubricating oil pump. The ICCW system and the EDGs both performed risk significant maintenance rule functions. The inspectors verified that the post-maintenance test procedures and test activities were adequate to verify operability and functional capability prior to the systems being returned to service.

b. Findings

No findings of significance were identified.

R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following surveillance testing activities completed during the inspection period:

- quarterly station battery inspection
- decay heat removal closed cooling water system inservice test
- decay heat removal river water system inservice test

All surveillances selected for inspection were associated with maintenance rule risk significant functions. The inspectors observed portions of the selected surveillance tests and verified, based on the test results, the systems met their technical specification and licensee imposed procedural requirements. The inspectors sampled AmerGen's corrective action process for problems identified during previous performances of the selected surveillance tests and verified AmerGen was identifying and resolving surveillance testing problems at an appropriate threshold.

b. Findings

No findings of significance were identified.

2 RADIATION SAFETY

Occupational Radiation Safety [OS]

OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

The inspector reviewed the effectiveness of access controls to radiologically significant areas. The inspector toured accessible areas of the radiological controlled area and physically inspected and challenged five locked high radiation area (HRA) access points to determine if access controls were sufficient to preclude unauthorized entry. In addition, the inspector made independent radiation level measurements within accessible radiologically controlled areas (RCAs) and reviewed radiation measurement data to verify areas expected to exhibit radiation levels in excess of 100 mR/hr, were posted and controlled as HRAs.

b. Findings

No findings of significance were identified.

OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

The inspector selectively reviewed calibration and checking of radiological measurement instrumentation used in the survey of an incoming shipment of radioactive material on May 1, 2001, to determine if the instruments were properly calibrated and response checked, as appropriate. Calibration records were reviewed for the following instrumentation:

- Xetex Telescan, Sn. No. 42528/4259
- Ludlum 2000, Sn. No. 102763
- Eberline SAC 4, Sn. No. 466

The review was against criteria contained in 10 CFR 20 and ANSI N323A, *Calibration of Radiation Protection Instrumentation*.

b. Findings

No findings of significance were identified.

Public Radiation Safety [PS]

PS2 Radioactive Material Processing and Transportation

.1 System Walkdown

a. Inspection Scope

The inspector walked down accessible portions of the station's radioactive liquid and solid waste collection, processing, and storage systems/locations to determine if systems/facilities were consistent with the descriptions provided in the updated final safety analysis report (UFSAR) and to evaluate their general material conditions. Areas reviewed included the auxiliary building, interim solid waste storage, solid waste storage building, and exterior storage areas. The inspector reviewed the following matters:

- the status of any non-operational or abandoned radioactive waste process equipment and the adequacy of administrative and physical controls for those systems
- changes made to radioactive waste processing systems and potential radiological impact
- current processes for transferring radioactive waste resin and sludge to shipping containers, and mixing and sampling of the waste (as appropriate)
- radioactive waste, and material storage and handling practices
- sources of radioactive waste at the station, processing (as appropriate) and handling of the waste
- the general condition of facilities and equipment

The review was against criteria contained in the station’s UFSAR, 10 CFR Part 20, 10 CFR 61, the process control program (PCP), and applicable station procedures.

b. Findings

No findings of significance were identified.

.2 Waste Characterization and Classification

a. Inspection Scope

The inspector reviewed the following matters:

- radio-chemical sample analysis results for radioactive waste streams
- the development of scaling factors for difficult to detect and measure radionuclides
- methods and practices to detect changes in waste streams
- classification and characterization of waste relative to 10 CFR 61.55 and 10 CFR 61.56
- implementation of applicable NRC Branch Technical Positions on waste classification, concentration averaging, waste stream determination, and sampling frequency

- current waste streams and their processing relative to descriptions contained in the UFSAR and the station's approved PCP
- revisions of the PCP and the UFSAR to reflect changes (as appropriate)

The review was against criteria contained in 10 CFR 20, 10 CFR 61, 10 CFR 71, the UFSAR, the PCP, applicable NRC Branch Technical Positions, and licensee procedures.

b. Findings

No findings of significance were identified.

.3 Shipment Records and Documentation

a. Inspection Scope

The inspector selected and reviewed the records associated with five non-excepted shipments of radioactive material made during the period February 2000-February 2001. The shipments were Nos. RS-00015-1, RS-00-052-I, RS-00-072-I, RS-00-011-I, and RS-001-021-I. The following aspects of the radioactive waste, radioactive material packaging, and radioactive material shipping activities were reviewed:

- implementation of applicable shipping requirements including completion of waste manifests
- implementation of the specifications in the applicable certificates of compliance (as appropriate) for the approved shipping casks including limits on package contents or approved vendor procedures
- classification and characterization of waste relative to 10 CFR 61.55 and 61.56
- implementation of recent NRC and Department of Transportation shipping requirements rule changes
- implementation of 10 CFR 20 Appendix G
- implementation of specific radioactive material shipping requirements
- packaging of shipments
- labeling of shipping containers
- placarding of transport vehicles
- conduct of vehicle checks
- provision of driver emergency instructions
- completion of shipping paper/disposal manifest
- evaluation of package against package performance standard
- conformance with procedures for cask loading, closure and use requirements (including consistency with cask vendor approved procedures)

The review was against criteria contained in 10 CFR 20; 10 CFR 61; 10 CFR71; applicable Department of Transportation requirements, as contained in 49 CFR 170-189 for the above areas; station procedures; applicable disposal facility licenses; and applicable certificates of compliance or vendor procedures for various shipping casks. The inspector also reviewed the Three Mile Island Combined Annual Radioactive Effluent Release Report, Attachments 2 and 4, dated April 23, 2001, relative to types and quantities of radioactive waste shipped offsite and relative to changes to the PCP.

b. Findings

No findings of significance were identified.

.4 Identification and Resolution of Problems

a. Inspection Scope

The inspector reviewed assessments of the radioactive waste handling, processing, storage, and shipping programs. Also reviewed were assessments of the PCP. The inspector also reviewed corrective action documents written against the radioactive material shipping programs since the previous inspection. The following documents were reviewed:

- *Solid Low Level Waste Assessment*, dated April 27, 2001
- *Joint Utility Management Audit*, dated November 3, 2000
- *Audit S-TMI-00-15 checklist*, dated November 15, 2000 (completed January 2, 2001)
- *Audit S-TMI-00-15, Radwaste Management*, dated January 15, 2001
- *Audit S-TMI-99-04, Radwaste Management*, dated April 27, 1999
- *Nuclear Safety Monitoring Report 12*, dated February 24, 2000
- AmerGen corrective action process documents (Nos. T2001-0416, T2001-0443, T2001-0432)

The review was against criteria contained in the UFSAR applicable station audit and surveillance procedures, and Technical Specification 6.5, Review and Audit.

b. Findings

No findings of significance were identified.

4 OTHER ACTIVITIES

OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors verified the performance indicator for the initiating events cornerstone. The inspectors reviewed the performance indicator data for unplanned scrams per 7,000 critical hours, scrams with loss of normal heat removal, and unplanned power changes for 7,000 critical hours for the previous 4 calendar quarters. The inspectors reviewed licensee event reports (LERs), control room logs, and monthly operating reports. No problems with the performance indicator accuracy or completeness were found.

b. Findings

No findings of significance were identified.

OA3 Event Follow-up

.1 (Closed) Licensee Event Report 50-289/1999-011-01: Incomplete Control Rod Insertion. This LER provides supplemental industry information supporting TMI's original root cause investigations and actions taken to mitigate incomplete control rod insertions. TMI had two incomplete control rod insertions during trip insertion time testing on September 11, 1999. The supplemental industry information was provided by other Babcock and Wilcox reactor plants and analytical models. The inspectors reviewed the LER and determined that the supplemental information was consistent with TMI's original corrective actions.

.2 (Closed) Licensee Event Report 50-289/2002-001-00: Emergency Feedwater Pump 2A Inoperable Greater than the Technical Specification Allowable Outage Time Due to an Incorrect Operability Determination. This LER describes an event where the 'A' motor driven emergency feedwater pump (EF-P-2A) was determined to be inoperable for longer than the technical specification allowed outage time. During inservice testing the pump bearing cover bolts loosened resulting in an oil leak and high vibrations that made the pump inoperable. The degraded condition was not immediately identified by plant personnel. AmerGen concluded the root cause of the event was a failure by plant personnel to consider all the available information when assessing the operability of degraded plant equipment. NRC inspection report 05000289/2001-002, dated May 9, 2001, provides a more detailed description of the circumstances surrounding this event and preliminarily concluded the event was of low to moderate risk significance (White). The event was also an apparent violation of NRC requirements. The inspectors reviewed the LER and determined AmerGen's root cause determination was consistent with the NRC's observations. AmerGen's immediate corrective actions included: 1) corrective maintenance to restore the pump to an operable condition; 2) an extent of condition review to ensure similar degraded conditions did not exist on other safety related pumps; and, 3) briefings to operating crews on operability determinations and recognition of degraded plant equipment. AmerGen will provide long-term corrective actions in a supplemental report. AmerGen entered this event into its corrective action process (T2001-0305).

OA6 Management Meetings

Exit Meeting Summary

On May 18, 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 health physicist presented the radwaste and transportation inspection results to members of AmerGen management on May 4, 2001. AmerGen acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during this inspection should be considered proprietary. No proprietary information was identified.

OA07 Licensee Identified Violations

The following finding of very low safety 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 a non-cited violation (NCV):

- **NCV 05000289/2001-003-03.** 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, maintenance that can affect the performance of safety-related equipment be performed in accordance with written procedures, documented instructions, or drawings. Contrary to this requirement, maintenance technicians failed to obtain the proper torque value when reassembling the 'A' nuclear service closed cooling water pump coupling bolts. The pump was returned to service with the coupling bolts torqued to a value less than required by the vendor technical manual. This issue was more than minor because operability of the pump was affected. AmerGen entered this problem in the corrective action process (CAP T2001-0347).

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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-001; and the NRC Resident Inspector at the Three Mile Island Unit 1 facility.

ATTACHMENT

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

D. Atherholt, Shift Operations Superintendent
G. Gellrich, Plant Manager
O. Limpias, Director - Site Engineering
J. McElwain, Manager, Regulatory Assurance
B. Merryman, Director, Maintenance
S. Queen, Senior Manager, Plant Engineering
J. Robertson, Plant Operations Director
J. Telfer, Director, Radiation Health & Safety
M. Warner, Vice President, TMI Unit I

b. List of Items Opened, Closed, and Discussed

OPENED AND CLOSED

2001-003-01	NCV	Failure to Adequately Assess the Increase in Risk that Resulted from Proposed Maintenance on the 'C' Traveling Screen and the 'A' Bar Rake
2001-003-02	NCV	Failure to Promptly Identify an Out-Of-Specification Emergency Diesel Fuel Oil Sample
2001-003-03	NCV	Failure to Obtain the Proper Torque Value When Reassembling the 'A' Nuclear Service Closed Cooling Water Pump Coupling Bolts

CLOSED

1999-011-01	LER	Incomplete Control Rod Insertion
2001-001-00	LER	Emergency Feedwater Pump 2A Inoperable Greater Than the Technical Specification Allowable Outage Time Due to an Incorrect Operability Determination

c. List of Acronyms

ADAMS	Agencywide Documents and Management System
AmerGen	AmerGen Energy Company, LLC
CAP	Corrective Action Process
CFR	Code of Federal Regulations
DFOST	Diesel Fuel Oil Storage Tank
DHR	Decay Heat Removal
EDG	Emergency Diesel Generator
EFW	Emergency Feedwater
HPI	High Pressure Injection
HRA	High Radiation Area
ICCW	Intermediate Closed Cooling Water

IR	Inspection Report
LER	Licensee Event Report
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
PCP	Process Control Program
RCA	Radiologically Controlled Area
SDP	Significance Determination Process
TMI	Three Mile Island, Unit 1
USFAR	Updated Final Safety Analysis Report