

July 26, 2006

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 STATION, UNIT 1 - NRC INTEGRATED
INSPECTION REPORT 05000289/2006004

Dear Mr. Crane:

On June 30, 2006, the U. S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Three Mile Island, Unit 1 (TMI) facility. The enclosed inspection report documents the inspection results, which were discussed July 10, 2006, with Mr. Rusty West, TMI Site Vice President and other members of your staff.

The 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, no findings of significance were identified. However, three licensee-identified violations which were determined to be of very low safety significance are listed in this report. NRC is treating these violations as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy because of the very low safety significance of the violations and because they were entered into your corrective action program. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis of your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector at Three Mile Island.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) 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 Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Mr. Christopher Crane

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We appreciate your cooperation. Please contact me at 610 337-5200 if you have any questions regarding this letter.

Sincerely,

/RA/

Ronald R. Bellamy, Ph.D., Chief
Reactor Projects Branch 7
Division of Reactor Projects

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

Enclosure: Inspection Report 05000289/2006004
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION
REGION 1

Docket No: 05000289

License No: DPR-50

Report No: 050000289/2006004

Licensee: AmerGen Energy Company, LLC (AmerGen)

Facility: Three Mile Island Station, Unit 1

Location: PO Box 480
Middletown, PA 17057

Dates: April 1, 2006 - June 30, 2006

Inspectors: David M. Kern, Senior Resident Inspector
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SUMMARY OF FINDINGS

IR 05000289/2006004; 4/1/2006 - 6/30/2006; AmerGen Energy Company, LLC; Three Mile Island, Unit 1; routine integrated report.

The report covered a 13-week period of inspection by resident inspectors and announced inspections by regional inspectors. No findings of significance were identified. 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.

A. NRC-Identified and Self-Revealing Findings

No findings of significance were identified

B. Licensee Identified Violations

Three violations of very low significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Three Mile Island, Unit 1 (TMI) began the period at 100 percent rated thermal power. On April 5, 2006, operators entered a one hour plant shutdown limiting condition for operation per technical specification (TS) 3.0.1, due to declaring both trains of high pressure injection inoperable due to the discovery of an air void. This TS condition was exited when the air void was isolated. Licensee corrective action and NRC assessment of this event were documented in NRC inspection report 05000289/2006007. In late April 2006, heavy rains resulted in elevated Susquehanna river levels, increased debris in the river, and an algae bloom that caused continuous clogging of strainers of all pumps located in the TMI intake structure. The plant remained at or near full power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 1 sample)

a. Inspection Scope

The inspectors reviewed licensee actions in April 2006, when heavy rains resulted in elevated Susquehanna river levels, increased debris in the river, and the largest filamentous algae bloom the river had experienced in over twenty years. This review also included the impact of the algae on various pumps including: decay heat river (DR) water, reactor river water, nuclear river (NR) water, secondary river water, and fire protection water. On April 23, operators observed that river water pump discharge strainer differential pressures rose quickly. Filamentous algae was collecting on the strainers, causing increased differential pressure and reduced river water flow.

Other licensee actions reviewed by the inspectors included: staffing of the outage control center, maintenance crews cleaning strainers, and actions to address the fouling of the 'B' NR pump strainer that became fouled after just 2.5 hours of operation. The inspectors monitored river water pump performance and strainer cleaning in the intake screen house, safety related heat exchanger performance in the reactor plant, and implementation of the adverse condition monitoring (ACM) plan. Deficiencies were documented in issue reports (IRs) 489659 and 491480. The inspectors also reviewed application of appropriate TS limiting conditions of operation. Documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

Enclosure

1R04 Equipment Alignment (71111.04 - 3 samples)a. Inspection ScopePartial System Walkdowns

The inspectors performed three partial system walkdown samples on the following systems and components:

- On April 3, 'B' emergency diesel generator (EDG) and vital 4 kilovolt electrical system, while the 'A' EDG was out of service for a planned maintenance outage.
- On May 9, 'B' DR cooling train while the 'A' DR pump was out of service for a modification to its discharge strainer, DR-S-1A.
- On May 19, 'A' DR cooling train, while the 'B' DR pump was out of service for planned replacement of vacuum breaker valve (DR-V7B).

The partial system walkdowns were conducted on the redundant and standby equipment to ensure that trains and equipment relied on to remain operable for accident mitigation were properly aligned. Additional documents reviewed during the inspection are listed in the Attachment.

1R05 Fire Protection (71111.05 - 9 samples)a. Inspection Scope

The inspectors conducted fire protection inspections for several plant fire zones, selected based on the presence of equipment important to safety within their boundaries. The inspectors conducted plant walkdowns and verified the areas were as described in the TMI Fire Hazard Analysis Report (FHAR), and that fire protection features were being properly controlled per surveillance procedure 1038, "Administrative Controls-Fire Protection Program," Rev. 66. The plant walkdowns were conducted throughout the inspection period and included assessment of transient combustible material control, fire detection and suppression equipment operability, and compensatory measures established for degraded fire protection equipment in accordance with procedure OP-MA-201-007, "Fire Protection System Impairment Control," Rev. 3. In addition, the inspectors verified that applicable clearances between fire doors and floors met the criteria of Attachment 1 of CC-AA-309-101, "Engineering Technical Evaluations," Rev. 7. Additional documents reviewed during the inspection are listed in the Attachment. Fire zones and areas inspected included:

- The inspectors reviewed the controls and implementation of an hourly fire watch established from April 23 to May 2 on fire zone AB-FZ-5, due to a design deficiency identified on April 23, regarding the potential spurious opening of DH-V6A and 6B during a postulated fire.

- Fire Zone AB-FZ-3 , Auxiliary Building Elev. 281', Makeup Valve Alley.
- Fire Zone AB-FZ-4 , Auxiliary Building Elev. 281', Reactor Building Pipe Penetration Area.
- Fire Zone AB-FZ-5, Auxiliary Building Elev. 281', General Area.
- Fire Zone AB-FZ-7, Auxiliary Building Elev. 305', Decay Heat Removal and Nuclear Services Closed Cycle Cooling Pump Area.
- Fire Area CB-FA-1, Control Building Elev. 306', Health Physics and Lab Area.
- Fire Zone CB-FZ-5A, Control Building Elev. 380', North H & V Equipment Room.
- Fire Zone CB-FZ-5B, Control Building Elev. 380', South H & V Equipment Room.
- Fire Zone FH-FZ-3, Fuel Handling Building Elev. 322', General Area.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 sample)

a. Inspection Scope

The inspectors reviewed AmerGen's external flooding mitigation strategy during periods of elevated river water levels during the week of June 28, 2006. The inspectors verified timely entry and implementation of flood emergency procedure 1202-32, Rev. 61. In addition, the inspectors verified that compensatory measures outlined in the procedure provided adequate protection against flood damage for risk significant equipment located in the intake structure.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q - 1 sample)

a. Inspection Scope

On June 20, the inspectors observed licensed operator requalification training at the control room simulator for the 'B' operator crew. The inspectors reviewed the ability of operators to diagnose certain events and implement the emergency plan, and compared operator performance to the criteria listed in simulator scenario 11.7.10.036, "Loss of '1B' 4160 Volt Bus, Dropped Control Rods, Stuck Control Rods, and Main Steam Isolation Valves Failing Closed," Rev. 1. The inspectors observed supervisory oversight, command and control, communication practices, crew assignments to ensure they were consistent with normal control room activities, and verified the fidelity of the simulator to the actual plant. The inspectors evaluated training instructor effectiveness in recognizing and correcting individual and operating crew errors, including post-training remediation actions. The inspectors attended the post-drill critiques to evaluate the effectiveness of problem identification. The inspectors verified that emergency plan

classification and notification training opportunities were tracked and evaluated for success in accordance with criteria established in Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 4. Additional documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12 - 3 samples)

a. Inspection Scope

The inspectors evaluated Maintenance Rule (MR) implementation for the following: MR scoping, characterization of failed structures, systems, and components (SSCs), MR risk categorization of SSCs, SSC performance criteria or goals, and the appropriateness of corrective actions. Additionally, extent of condition follow-up, operability, and functional failure determinations were reviewed to verify they were appropriate. The inspectors verified that the issues were addressed as required by 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Rev. 2; and AmerGen procedure ER-AA-310, "Implementation of the Maintenance Rule," Rev. 5. The inspectors verified that appropriate corrective actions were initiated and documented in the IR, and that engineers properly categorized failures as maintenance rule functional failures and maintenance preventable functional failures when applicable.

- IR 428361 described a potential binding of main feedwater check valve FW-V12B that occurred during disassembly on November 6, 2005.
- IR 388972 described frequency fluctuations of the 'D' vital inverter.
- IR 478622 described leakage past the vacuum breaker for the 'B' decay river water pump, during performance of the pump surveillance test.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)

a. Inspection Scope

The inspectors reviewed the scheduling, control, and restoration during the following five maintenance activities to evaluate the effect on plant risk. This review was against

criteria contained in AmerGen Administrative Procedure 1082.1, "TMI Risk Management Program," Rev. 5 and WC-AA-101, "On-Line Work Control Process," Rev. 12.

- On April 4, 2006, the 'A' building spray and low pressure injection trains were made inoperable to support installation of a high point vent valve and fitting on the bonnet of BS-V-52A. This installation was necessary to remove an air void which had been identified on the suction piping from the sodium hydroxide tank to the 'A' decay heat removal train (Risk Document 1183, Rev. 1).
- On May 9, 2006, the 'A' DR pump was removed from service to support planned modifications to its discharge strainer to mitigate the effects of marine biofouling as discussed in Section 1R01. This maintenance elevated the on-line maintenance risk profile to orange (Risk Document 1195, Rev. 2).
- On May 19, 2006, 'B' DR closed cooling water pump was removed from service for planned replacement of vacuum breaker valve DR-V7B (Risk Document 1190, Rev. 0).
- On May 31, 2006, the 'A' train of the reactor river system was removed from service for planned pump repacking, installation of valve (RR-V-10A) travel indication, and breaker preventive maintenance (Risk Documents 527, Rev. 7, and 683, Rev. 5).
- On June 29, 2006, emergency feedwater pump EF-P-1 was unavailable during planned surveillance testing in accordance with OP-TM-424-203, "Emergency Feed Pump 1 IST," Rev. 2 (Risk Document 599, Rev. 5).

b. Findings

No findings of significance were identified.

1R14 Operator Performance During Non-Routine Evolutions and Events (71111.14 - 1 sample)

a. Inspection Scope

The inspectors reviewed human performance during the following non-routine plant evolutions, to determine whether personnel performance caused unnecessary plant risk or challenges to reactor safety. The inspectors evaluated whether the evolutions were properly implemented according to the applicable procedures and TS limiting condition for operations (LCO). Additional documents reviewed during this inspection are listed in the Attachment.

- On April 4, 2006, during a planned, biennial maintenance outage on the 'A' emergency diesel generator (EG-Y-1A), technicians identified that a flexible gear drive was excessively worn and should be replaced prior to EG-Y-1A restoration.

Enclosure

This additional work scope was well understood and could have extended beyond the 7 day TS LCO period. As a result, TMI requested a one-time only emergency TS amendment request to extend the TS LCO allowed outage duration. The NRC discussed the basis for the amendment request and on April 8, issued TS amendment 258, which extended the TS 3.7.2.c allowed outage time for one emergency diesel generator being out of service from 7 to 10 days , on a one-time basis. The inspectors monitored repair activities to verify the corrective maintenance proceeded safely and expeditiously. On April 8, during post-maintenance testing, technicians identified that the speed switch had also failed and required replacement. Repairs were successfully completed and EG-Y-1A was returned to service on April 9, within the original 7 day TS LCO allowed outage time.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 5 samples)

a. Inspection Scope

The inspectors reviewed operability evaluations for the following five degraded equipment issues. The inspectors verified that the degraded conditions in question were properly characterized, operability of the affected systems was properly evaluated, applicable extent of condition reviews were performed, and no unrecognized increase in plant risk resulted from the equipment issues. The inspectors referenced NRC Inspection Manual Chapter Procedure 9900, "Operable/Operability-Ensuring the Functional Capability of a System Component" and AmerGen procedure LS-AA-105, "Operability Determinations," Rev. 1, to determine acceptability of the operability evaluations. Additional documents reviewed during the inspection are listed in the Attachment.

- In early 2006, operators observed leakage from the 'A' DR pump vacuum break check valve DR-V-7B, indicating the valve would not fully seat. The magnitude of the leakage, the potential for valve binding in the open or closed position, and the potential for piping water hammer and room flooding were evaluated. (AR 2140258)
- On April 23, 2006, while performing reviews of abnormal operating procedures to ensure compliance with the fire hazard analysis report (FHAR), engineers identified a control logic error in the circuitry for the safety-related reactor building sump isolation valves DH-V6A and DH-V6B. This licensee-identified control logic error (IR 482679) could have allowed a spurious opening of the valves during a postulated fire in the auxiliary building 281 foot elevation (Fire Zone AB-FZ-5). (See Section 71111.17)

- On April 25, 2006, operators observed high differential pressure on NR strainer NR-S-1B, due to a large filamentous algae bloom in the Susquehanna River that started on April 23. The algae bloom caused continuous clogging of multiple strainers of all pumps in the TMI intake structure, including: the two safety related DR pumps, all three safety related NR pumps, and all three non-safety related secondary river pumps. The inspectors verified that a complex trouble shooting and strainer cleaning plan was developed and implemented to ensure continued operability of the multiple systems affected. In addition, the inspectors verified that proper corrective actions were implemented or planned to minimize the effects of filamentous algae blooms in the future. (IR 483080)
- On June 28, 2006, operators identified a step increase in the vibration readings at the auxiliary lubricating oil pump (EG-P-3A) for the 'A' EDG. (IR 504692)
- Inspectors reviewed the collective status of preventive maintenance (PM) tasks to determine whether late performance of PMs or deferral of PMs challenged operability or reliability of plant equipment. The inspectors reviewed PM tasks identified as being past their periodicity by less than 25 percent of the maintenance interval, PM tasks whose performance had been deferred, and a sample of IRs which documented various equipment problems during the past 6 months. Deferral justifications for 11 of the 70 currently deferred PMs were reviewed.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17 - 1 sample)

a. Inspection Scope

The inspectors reviewed Engineering Change Request 06-00355, "Modify Control Circuit For DH-V-6A/B To Prevent Spurious Opening," Rev. 0, to determine whether it was designed and/or implemented as required by CC-AA-102, "Design Input and Configuration Change Impact Screening," Rev. 10 and CC-AA-103, "Configuration Change Control," Rev. 9. The inspectors verified the modification supported plant operation as described in the UFSAR and complied with associated TS requirements. The inspectors reviewed the function of changed components, the change description and scope, and the associated 10 CFR 50.59 screening evaluations.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19 - 5 samples)a. Inspection Scope

The inspectors reviewed and/or observed five post-maintenance test (PMT) samples to ensure 1) the PMT was appropriate for the scope of the maintenance work completed; 2) the acceptance criteria were clear and demonstrated operability of the component; and 3) the PMT was performed in accordance with procedures. The following PMTs were observed and/or evaluated:

- On May 10, 2006, operators performed operational leak checks and OP-TM-533-201, "Inservice Testing of Decay River Train 'A' Pump and Valves," Rev. 7, in accordance with work order C2012848.
- On May 19, 2006, operators performed testing in accordance with procedure OP-TM-533-202, "IST Of DR Train B Pump And Valves," Rev. 5 and work order R2025231, following planned replacement of vacuum breaker valve (DR-V-7B).
- On April 8 and 9, 2006, station personnel tested EG-Y-1A in accordance with 1303-4.16, "Emergency Power System," Rev. 107 and 1107-3, "Diesel Generator," Rev. 112, following a biennial maintenance outage.
- On June 1, 2006, operators performed testing in accordance with procedure 1300-3KA, "IST Of RR Pump 'A' And Valves," Rev. 0, following planned preventive maintenance and packing replacement. The inspectors also reviewed IR 500696 which documented minor discrepancies identified by the inspectors regarding the established test acceptance criteria to measure pump performance.
- On June 27 and 28, 2006, maintenance technicians and engineers performed testing in accordance with procedure 1303-11.13, Control Room Filtering System Test," Rev. 18, following planned preventive inspections of the filter and charcoal bed sampling. The inspectors also verified that minor charcoal filter leakage identified during testing was properly corrected and entered into the corrective action program (IR 504314).

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 5 samples)a. Inspection Scope

The inspectors observed and/or reviewed the following five operational surveillance tests, to verify the adequacy of the test to demonstrate the operability of the required system or component safety function. Inspection activities included review of previous surveillance history to identify previous problems and trends, observation of pre-evolution briefings, and initiation/resolution of related IRs for selected surveillances.

- On March 16, 2006, procedure 1303-4.16, "Emergency Power System," Rev. 107 was performed on the 'B' EDG. The inspectors reviewed the results of this surveillance to verify 'B' EDG operability during the extended 'A' EDG outage discussed in section 1R14.
- On May 10, 2006, procedure OP-TM-212-201, "IST Of DH-P-1A And Valves From ES Standby Mode," Rev. 5.
- On June 6, 2006, procedure OP-TM-424-201, "IST of EF-P-2A," Rev. 2.
- On June 17, 2006, procedure OP-TM-301-302, "Turbine Valve Full Stroke Test," Rev. 5.
- On June 18, 2006, procedure OP-TM-622-201, "Control Rod Movement," Rev. 2.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23 - 1 sample)a. Inspection Scope

The inspectors reviewed the temporary modification (TM) associated with Engineering Change Request (ECR) 06-00372, "Remove Internals of Decay River Water Pump Strainer DR-S-1A," Rev. 0. The review included the associated implementing documents, interviews with the respective system engineer, and a walkdown of the in-plant system to verify the plant design basis and the system and component operability was maintained. Procedures CC-AA-112, "Temporary Configuration Changes," Rev. 10 and CC-TM-112-1001, "Temporary Configuration Change Implementation," Rev. 3, specified requirements for development and installation of TMs.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness [EP]1EP6 Drill Evaluation (71114.06 - 1 sample)a. Inspection Scope

On May 18, 2006, the inspectors observed an emergency event training evolution conducted at the Unit 1 control room simulator, the technical support center, and the operations support center to evaluate emergency procedure implementation, event classification, event notification, and protective action recommendation development. The event scenario involved multiple safety-related component failures and plant conditions warranting simulated Unusual Event, Alert, Site Area Emergency, and General Emergency event declarations. The licensee counted this training evolution toward the Emergency Preparedness Drill/Exercise Performance (DEP) Indicator. The inspectors attended a portion of the station critique, and reviewed the critique report to determine whether the licensee critically evaluated drill performance to identify deficiencies and weaknesses. Additionally, the inspectors verified the DEP performance indicators (PIs) were properly evaluated consistent with Nuclear Energy Institute (NEI) 99-03, "Regulatory Assessment Performance Indicator Guideline," Rev. 3. Additional documents used for this inspection activity included:

- TMI Emergency Preparedness Drill Scenario T5X
- EP-AA-1009, "Radiological Emergency Plan Annex for TMI Station," Rev. 6
- EP-AA-111, "Emergency Classification and Protective Action Recommendations," Rev. 11

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY**Cornerstone: Occupational Radiation Safety**20S1 Access Controls (71121.01 - 2 Samples)a. Inspection Scope

The inspector reviewed selected activities and associated documentation in the below listed areas. The evaluation of AmerGen's performance in these areas was against criteria contained in 10 CFR 20, applicable Technical Specifications, and applicable AmerGen procedures.

Inspection Planning - Performance Indicators

The inspector selectively reviewed PIs for the Occupational Exposure Cornerstone. (See Section 4OA1)

Enclosure

Plant Walkdowns, RWP Reviews, and Jobs in Progress Reviews

The inspector toured the facility and reviewed radiological controlled area access controls, posting, barricading, and High Radiation Area access controls. The inspector selected three locked High Radiation Areas and verified locked status. The inspector made independent radiation survey measurements during the tours to verify applicable controls including radiological postings.

The inspector selectively evaluated personnel monitoring practices and evaluated external and internal dose assessments. The inspector selectively evaluated personnel radiation exposure results since the previous inspection.

Problem Identification and Resolution

The inspector selectively reviewed post-outage self-assessments and issue reports, as applicable, to determine if identified problems were entered into the corrective action program for resolution. The review included potential radiation worker or radiation protection personnel errors to determine if there was an observable pattern traceable to a similar cause. (Section 4OA2)

High Risk Significant, High Dose Rate HRA and VHRA Controls

The inspector discussed changes for High Radiation Area Access controls, if applicable, since the last inspection with the Radiation Protection Manager and selected supervisors, to determine if the changes resulted in a reduction in the effectiveness and level of worker protection.

Radiation Worker/Radiation Protection Technician Performance and Radiation Protection Technician Proficiency

The inspector reviewed problem reports since the last inspection to identify problems with worker or radiation protection technician performance.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02 -2 Samples)

a. Inspection Scope

The inspector conducted the following activities to determine if Amergen was properly implementing operational, engineering, and administrative controls to maintain personnel occupational radiation exposure as low as is reasonably achievable (ALARA). Implementation of these controls was reviewed against the criteria contained in 10 CFR 20, applicable industry standards, and applicable AmerGen procedures. The inspector

selectively reviewed Station ALARA Committee Meeting Minutes and presentations since the previous inspection.

Verification of Dose Estimates and Exposure Tracking

The inspector reviewed 2005 station aggregate dose estimates relative to applicable goals. The inspector selectively compared the results achieved (person-rem sustained) with the intended dose goals. The inspector evaluated differences between initial radiation dose estimates and actual doses sustained for the work activities to identify causes for differences in results achieved. The inspector reviewed 2006 dose goals and planned major work activities. The inspector reviewed long-term dose reduction initiatives, and AmerGen's proposed TMI 5-year exposure reduction plan.

Source-Term Reduction and Control

The inspector selectively reviewed and discussed AmerGen's source term reduction strategy designed to minimize the source-term external to the core and results achieved for the 2005 refueling outage. The inspector discussed source term reduction initiatives outlined in the proposed 5 year exposure reduction plan.

Problem Identification and Resolution

The inspector reviewed problem reports in this area since the last inspection to determine if AmerGen was including ALARA deficiencies and issues into the corrective action program. (See Section 4OA2)

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

a. Inspection Scope (2 Samples)

The inspector reviewed selected activities and associated documentation in the below listed areas. The evaluation of AmerGen's performance in these areas was against criteria contained in 10 CFR 20, applicable Technical Specifications, and applicable station procedures. Additional documents reviewed during the inspection are listed in the Attachment.

Self-Contained Breathing Apparatus

The inspector reviewed the functional testing and inspection of self-contained breathing apparatus (SCBA) to ensure equipment was being properly maintained and inspected in accordance with the manufacturer's recommendations and applicable regulatory requirements. The inspector reviewed the functional testing of two, ready for use SCBA units (Kit Nos. 2 and 5), and visually inspected the SCBA kits. The components of the

two kits were also checked against approved component lists published by the SCBA manufacturer and the National Institute for Occupational Safety and Health (NIOSH). The inspector reviewed periodic testing of the SCBA units' components (i.e., hydro testing of tank, maintenance and testing of regulators, low pressure alarms), reviewed conformance of the SCBAs with published certification lists, and reviewed testing of breathing air. The inspector also reviewed the December 2005 audit of AmerGen's SCBA maintenance vendor.

Verification of Instrument Calibration, Operability, and Alarm Setpoint Verification

The inspector selectively reviewed calibration and operability check records of radioactivity counting instrumentation (SAC-4:794, 394; Ludlum 2000:102763, 12159, 102761, 10707).

Problem Identification and Resolution

The inspector reviewed issue reports in this area since the last inspection to determine if AmerGen was including instrument deficiencies and other issues in its corrective action program (Section 4OA2). The review included self-assessments, audits and corrective action reports.

b. Findings

No findings of significance were identified. However, one licensee-identified non-cited violation is documented in Section 4OA7.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope

The inspectors reviewed selected station records to verify NRC PIs had been accurately reported to the NRC as required by NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Rev. 4. The PIs listed below were verified for the period April 2004 to March 2006. Documents reviewed during the inspection are listed in the attachment.

Barrier Integrity Cornerstone

- Reactor Coolant System Leakage
- Reactor Coolant System Activity

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 - 1 sample).1 Review of Issue Reports and Cross-References to Problem Identification And Resolution (PI&R) Issues Reviewed Elsewhere

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing a list of daily issue reports, by reviewing selected issue reports, attending daily screening meetings.

.2 Semi-Annual Review to Identify Trendsa. Inspection Scope

The inspectors performed a semi-annual review of common cause issues in order to identify any unusual trends that might indicate the existence of a more significant safety issue. This review included an evaluation of repetitive issues identified via the corrective action program, self-revealing issues, and issues evaluated using programs supplemental to the formal corrective action program such as the maintenance rule program and corrective maintenance program. The results of the trending review were compared with the results of normal baseline inspections.

b. Findings and Observations

No findings of significance were identified. However, the inspectors made the following observations. NRC Inspection Reports 05000289/2005005 and 05000289/2005009 previously documented an adverse trend of procedure quality and adherence deficiencies. Station management determined that this performance represented an undesirable trend and implemented numerous actions in 2005 and early 2006 to address the issue. The inspectors reviewed the licensee common cause assessment (CCA) for this issue (IR 469374), associated corrective actions, associated station performance metrics for the first half of 2006, and discussed results-to-date with station personnel. The CCA stated that the three common causes were deficient procedure usage, deficient procedure quality, and deficient knowledge and use of human performance tools.

The major actions/initiatives in 2006 included:

- Established a full-time Site Human Performance Coordinator position;
- Established "procedure use and adherence" as a 2006 station focus area;
- Established and began implementing a corrective action plan with 111 items;
- Increased management observations of procedure use in the field;
- Redirection of a procedure upgrade project to focus on completing existing procedure change requests;

Enclosure

- Increased First Line Supervisor ownership and interaction;
- Improved use of human performance tools;
- Site-wide training on revisions to HU-AA-104-101, "Procedure Use and Adherence;"
- Human Performance Management Challenge Meetings; and
- Leadership and Organizational Behavior Observations.

Indications that station personnel were actively engaged to improve performance in this area included:

- a 50 percent increase in the number of procedure related management field observations;
- a 200 percent increase in the number of procedure change requests initiated;
- a 50 percent reduction in the number of procedure adherence IRs; and
- a noted increase in the procedure revision completion rate.

The inspectors determined that station personnel understood the issue, had initiated appropriate corrective actions, and had made reasonable progress to improve procedure quality and adherence during this assessment period.

However, while progress has been made toward improved procedure quality and adherence, the inspectors noted examples where established programs were not properly implemented. Station personnel did not properly implement processes for managing licensed operator work hours (IR 508420) for adverse condition monitoring of elevated river water biological fouling (IRs 489659 and 491480), and mitigation of onsite groundwater tritium (IR 496445). The inspectors also identified continued in-service testing process deficiencies test acceptance criteria were not properly established (IR 500696) for RR-P-1A. Although these performance deficiencies were minor, they indicate inconsistent implementation of station programs. Additionally, the biennial NRC Problem Identification and Resolution Team (NRC Inspection Report 05000289/2006007) documented several issues for which station personnel did not properly evaluate indications of equipment problems.

.3 Annual Sample: Review of The Operator Workaround Program

a. Inspection Scope

The inspectors reviewed the cumulative effects of the existing operator work-arounds (OWAs), the list of operator challenges, existing operator aids and disabled alarms, and the list of open main control room deficiencies. This review was performed to identify any effect on emergency operating procedure operator actions, and any impact on possible initiating events and mitigating systems. The inspectors evaluated whether station personnel were identifying, assessing, and reviewing OWAs as specified in AmerGen administrative procedure OP-AA-102-103, "Operator Work-Around Program," Rev. 1.

The inspectors reviewed focused area self-assessment report FASA AT#: 451025, dated June 26, 2006, which evaluated TMI's process to identify, prioritize and resolve Main Control Room Distractions to minimize operator burden. In addition, the inspectors toured the control room, and discussed the following items with the responsible system engineers and operators to ensure the items were being addressed on a schedule consistent with their relative safety significance:

- Workaround AR-A2132488, "Unexpected ULD Response When Placing ICS In Automatic"
- Challenge AR-A2083733, "CW-P-4A Trip"
- Challenge AR-A2143592, "Recurring Fire Alarm PLF-1-7 From Aux. Building Fire Panel Zone 8"

b. Findings

No findings of significance were identified.

.4 Occupational Radiation Safety

a. Inspection Scope

The inspector reviewed problem reports to determine if identified problems were entered into the corrective action program for resolution. The inspector selectively reviewed the reports to evaluate AmerGen's threshold for identifying, evaluating, and resolving problems relating to occupational radiation safety. The review included a check of possible repetitive issues, such as radiation worker or radiation protection technician errors.

This review was against criteria contained in 10 CFR 20, Technical Specifications, and the station procedures.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (IP 71153 - 1 sample)

.1 Underground Deicing Line Water Leak

a. Inspection Scope

On May 17, 2006, station personnel identified water emanating from a utility access manway (T-4) in the owner controlled area, in the site north parking area, about 1200 feet north of the access point to the station's Protected Area. The licensee issued a corrective action document (IR 490836) on May 17, 2006, and initiated an investigation as to the source of the water. Since the water source appeared to be coming from the north, the source was initially believed to be a leak in a domestic water line, which was

the only known source of water in the area. The domestic water source at the location was periodically sampled for radioactivity, via a local well location, and noted to be at background. The licensee subsequently pumped out about 2000 gallons of water to parking lot asphalt during the period May 17- 20, 2006, and identified the manway to be an access port to underground telephone cables and initiated further actions to identify the source of the leakage. Plant personnel continued to monitor the manway and water levels, and on May 27, 2006, identified water emanating from the location and initiated a second issue report (IR 494303). In addition, a second pump-down of the water occurred resulting in an additional 2000 gallons of water being pumped to the parking lot asphalt. During the Station Operations Committee (SOC) review of this second IR, a recommendation was made on May 31, 2006, to sample the water for tritium.

On June 1, 2006, the licensee sampled and analyzed the water from manway T-4 and identified that the water contained tritium at a concentration of 45,000 picocuries per liter (pCi/L). This value is above the Environmental Protection Agency limit for drinking water (20,000 pCi/L). The licensee initiated collection and analysis of samples from nearby groundwater wells which did not indicate elevated levels of tritium.

A project team was formed to assess, identify, mitigate, and correct the source of tritium detected at manway T-4. A troubleshooting and ACM Plan was developed in accordance with procedure MA-AA-716-004, "Conduct of Troubleshooting," Rev. 5 and OP-AA-108-111, respectively. The licensee traced the underground cableway back to the plant and identified that manway T-5 (approximately 500 feet closer to the plant) also contained water. The licensee issued a third IR (IR 495884) on June 2, 2006, to document identification of tritium in-leakage into the telephone cable conduit. The licensee sampled water from a third manway access (T-6) and also identified tritium in water contained in this manway. The licensee subsequently controlled the water as a radioactive effluent and subsequently collected and analyzed the water for controlled discharge.

On June 2, 2006, the project team identified the water had come from the condensate system and had reached the parking lot via a series of underground telephone cable conduit runs. On June 4, 2006, engineers identified the source of the tritium water to be a leak from an underground four inch de-icing line from the condensate system to the condensate storage tank. The four inch pipe was excavated and temporarily patched to stop the leak. The licensee team continued enhanced monitoring of ground water wells and verified that tritiated water had not left the owner controlled area (island) via the underground cable conduit runs. State and federal officials were promptly informed of the issue and kept informed throughout the period.

The inspectors reviewed station drawings, conducted field walkdowns, and interviewed personnel to verify appropriate actions were implemented to stop the leak and prevent the migration of the tritium water offsite. The inspectors reviewed dose projections developed by the licensee for members of the public, and workers who may have come in contact with the water. The inspectors reviewed licensee dose projections associated with maximum potential leakage from the condensate storage tank during the period,

release of the water to the parking area, and licensee actions to document the activity released in release permits.

The presence of tritium and mitigation actions were subsequently consolidated and documented in AR 495884. In addition, deficiencies in approving and communicating the ACM plan were documented in IR 496445.

b. Findings

No findings of significance were identified. However, one licensee-identified non-cited violation is documented in Section 4OA7.

.2 (Closed) LER 05000289/2005-002-00, Safe Shutdown Analysis For Control Building Fire Area 1 was Discovered To Have Flaws In The Fire Mitigation Strategy Due To Insufficient Technical Rigor

On April 27, 2005, the licensee identified an error associated with an Appendix R fire scenario involving multiple high impedance faults (MHIF), in the 306 foot elevation of the control building. Specifically, a fire in the control building fire area (CB-FA-1) could cause loss of indication and control needed to maintain the plant in a safe shutdown condition. The electric power source to the inverters could be lost due to MHIF on unprotected cables fed from the 1B motor control center. The safe-shutdown analysis did not identify that a loss of all four vital inverters could occur until the 'B' and 'D' vital buses were recovered. In addition, an engineering evaluation determined the operating procedure for recovery of vital power for instrumentation and control, following a postulated fire involving MHIF in the area, would not be successful. The licensee determined the root cause to be insufficient technical rigor applied in the analysis of the MHIF strategy and in the procedure review process. Corrective actions included establishing a one hour fire watch, implementing an interim change to the procedure to isolate unprotected circuits, and completing a modification in December 2005, to re-route cables to the 'B' and 'D' inverters to ensure adequate separation. The licensee determined this issue was in violation of 10 CFR 50, Appendix R, fire protection program requirements. This finding is more than minor because it had a credible impact on safety, in that required instrumentation and control would be lost due to a 1B motor control center trip. The finding affected the mitigating systems cornerstone and was considered to have very low safety significance due to the existence of fire detection and sprinkler systems, low fire loading in the affected area, and based on the risk informed approach detailed in NRC Regulatory Issue Summary (RIS) 2004-03. In this RIS, the NRC states that "Multiple high impedance faults are considered of very low likelihood." The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

4OA5 Other Activities

.1 Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to gather information to support the assessment of nuclear power plant operational readiness of offsite power systems and impact on plant risk. The inspectors evaluated licensee procedures against the specific offsite power, risk assessment and system grid reliability requirements of TI 2515/165. They also discussed the attributes with licensee personnel.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation on April 3, 2006. Additional documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 10, 2006, the resident inspectors presented the inspection results to Mr. Rusty West and other members of the TMI staff, who acknowledged the findings. The regional specialist inspection results were previously presented to members of AmerGen management. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary and none was identified.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- AmerGen did not implement a complete quality assurance program for SCBA in accordance with the manufacturer's guidance and regulatory requirements outlined in 10 CFR 20.1703, which constitutes a non-cited violation of 10 CFR 50.47(b)(10). On June 2, 2006, AmerGen identified that it did not conduct complete functional testing (negative pressure testing) of the SCBA mask, breathing hose, and regulator combination, during periodic testing. This finding was identified in the licensee's corrective action program as AR No. 496852. This finding, in the Emergency Preparedness Cornerstone, is of very low safety

significance because it did not result in a degraded emergency planning standard in that: SCBA users were required to conduct a negative pressure test of the mask and hose combination during donning of the equipment, the individual regulators were serviced in accordance with manufacturer's recommendations, and additional devices were available for use. The licensee modified procedures to require the negative pressure testing of the mask, breathing hose, and regulator combination during functional testing, and no issues were identified during the modified testing.

- AmerGen discharged tritium contaminated water to a Controlled Area parking lot during the period May 17 - 31, 2006, and did not make reasonable and necessary radiological surveys, that are required by 10 CFR 20.1501, to ensure compliance with the radioactive material controls requirements of 10 CFR 20.1801 and public dose constraints of 10 CFR 20.1302. 10 CFR 20.1501 requires surveys (i.e., an evaluation of the radiological conditions and potential hazards incident to, among other items, the release or presence of radioactive material) to ensure compliance with the applicable regulations of 10 CFR 20. On June 1, 2006, the licensee identified that the water contained tritium concentrations of 45,000 pCi/l. A radiological survey of the water, prior to pumping, was reasonable considering that the site has had previous tritium groundwater contamination and the licensee could not completely exclude a plant source (see section 4OA3 for details). This finding, in the Public Radiation Safety Cornerstone, is of very low safety significance because, although the licensee had an impaired ability to assess dose, the licensee subsequently assessed the dose which was well below 10 CFR 50 Appendix I and 10 CFR 20.1301(d). The licensee also conducted dose assessments for occupational workers who may have come in contact with the water. No significant doses were identified. The matter was documented in IR 495884 on June 2, 2006.

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC 10 CFR 50, Appendix R requirements which meets the criteria of Section 8.1.7.1 (c) of the NRC Enforcement Manual, for being dispositioned as an NCV.

- 10 CFR 50, Appendix R, requires fire protection features to limit fire damage so that one train of systems necessary to achieve and maintain safe shutdown from either the control room or emergency control station is free of fire damage. Contrary to this requirement, on April 27, 2005, the licensee identified an error involving MHIF in the 306' elevation of the control building. This finding is more than minor because it had a credible impact on safety, in that a fire could affect multiple trains and result in loss of safe shutdown function from the control room and the remote safe shutdown panel. Specifically, a fire in the control building fire area (CB-FA-1) could cause loss of indication and control needed to maintain the plant in a safe shutdown condition. In addition, an engineering evaluation determined the operating procedure for recovery of vital power for instrumentation and control, following a postulated fire involving MHIF in the area, would not be successful. This issue was placed in AmerGen's corrective action program as

IR 327038 and 329440. In addition, interim compensatory measures were promptly implemented, and the condition has been corrected by implementation of a design modification to re-route cables to the 'B' and 'D' inverters to ensure separation. The finding is of very low safety significance due to the existence of fire detection and sprinkler systems, low fire loading in the affected area, and based on the risk informed approach in NRC RIS 2004-03. In this RIS, the NRC states that "Multiple high impedance faults are considered of very low likelihood".

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Arnone, Director, Operations
S. C. Baker, Chemistry Manager
G. Chick, Plant Manager
E. Eilola, Director, Site Engineering
J. Heischman, Director, Maintenance
A. Miller, Regulatory Assurance
D. Mohre, Nuclear Oversight Services Manager
T. Nahay, Director, Work Management
C. Smith, Regulatory Assurance Manager
C. Wend, Radiation Protection Manager
R. West, Vice President, TMI Unit 1

Others

M. Murphy, Pennsylvania Department BRP

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

2005002-00 LER Safe Shutdown Analysis For Control Building Fire Area 1 was Discovered To Have Flaws In The Fire Mitigation Strategy Due To Insufficient Technical Rigor (Section 40A3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

WC-AA-107, "Seasonal Readiness," Rev. 2
1202-32, "Flood," Rev. 61
High Differential Pressure Across River Water Pump Strainers adverse condition monitoring plan dated April 25, 2006
OP-AA-108-111, "Adverse Condition Monitoring and Contingency Planning," Rev. 2
Calculation C-1101-533-E410-013, "TMI-1 Decay River Water Hydraulic Performance Using Field Test Data," Rev. 4
Various plant process computer data trends

Section 1R04: Equipment Alignment

Drawings:

E-206-022, "4160 Volt Engineered Safeguards Switchgear," Rev. 21
302-202, "Nuclear Services River Water System," Rev. 6

302-351, "EDG Services," Rev. 18

Procedures:

1107-2A, "Emergency Electrical - 4KV and 480 Volt," Rev. 14

1107-3, "Diesel Generator," Rev. 112

Section 1R05: Fire Protection

TMI-1 Fire Hazard Analysis Report Volume 1, Rev.22

TMI-1 Fire Pre-Plan Strategies

Section 1R11: Licensed Operator Requalification Program

OP-TM-EOP-001, "Reactor Trip," Rev. 6

OP-TM-EOP-004, "Lack of Primary-to-Secondary Heat Transfer," Rev. 3

EP-AA-1009, "TMI-1 Emergency Action Level Matrix," Rev. 6

OP-TM-AOP-001, "Fire," Rev. 0

OP-TM-AOP-011, "Loss of 1B 4160 volt Bus," Rev. 0

OP-TM-AOP-062, "Inoperable Rod," Rev. 1

Section 1R14: Operator Performance During Non-Routine Evolutions and Events

Other Documents:

AmerGen Response to Request for Additional Information - Emergency License Amendment Request No. 332 - EDG dated April 7, 2006

NRC TMI Unit 1 - Issuance of Emergency Amendment Re: Allowed Outage Time Extension from 7 Days to 10 Days for EDG (EG-Y-1A) dated April 8, 2006

Section 1R15: Operability Evaluations

Procedures:

MA-MA-716-009, "Preventive Maintenance Work Order Process," Rev. 3

Other Documents:

List of PMs Currently Deferred dated June 21, 2006

List of PMs Late Within Next 90 Days with Evaluations dated June 19, 2006

List of Open 2006 PMs dated June 19, 2003

Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment

Procedure:

6610-OPS-4510.03, Rev 1., Inspection and Maintenance of Respiratory Protection Equipment

Section 4OA1: Performance Indicator Verification

Procedures:

1301-3, "RCS Chemistry & Activity," Rev. 29

LS-AA-2001, "Collecting and Reporting of NRC Performance Indicator Data," Rev. 4

LS-AA-2090, "Monthly PI Data Elements for Reactor Coolant System (RCS) Specific Activity," Rev. 4

LS-AA-2100, "Monthly PI Data Elements for Reactor Coolant System (RCS) Leakage," Rev. 5

N1807.1, "Reactor Coolant & Pressurizer Sampling & Degas," Rev. 14

Other Documents:

TS 3.1.4.1, Reactor Coolant System Activity

TS 3.1.6.1, RCS Leakage

Plant Operations Review Committee Meeting Number 2006-09 Meeting Minutes dated April 13, 2006

RCS Leakage Tracking Database, Shift Operations Log, RCS Leak Rate Trend Graphs, and Reactor Building Atmosphere Particulate Monitoring Data for the period April 2004 to March 2006

IR 502671

Section 4OA2 Problem Identification and Resolution

AR 496874

AR 496852

AR 443580

AR 445180

AR 446423

AR 452702

AR 457767

AR 470188

AR 477449

AR 490836

AR 494303

AR 495884

Section 4OA3: Event Follow-Up

Estimate Dose Due to Exposure to Tritium Due to Leak from Condensate Storage Tank "A" Deice Line, dated June 23, 2006

Prompt Investigation Report - Tritium Identified In Manhole South of Building 48 (IR495884)

Section 4OA5: Other

1107-11, Rev. 17, Grid Operation Procedure

WC-AA-101, Rev. 11, On-Line Work Control Procedure

ABN-60, Rev. X, Grid Emergency Procedure

OP-OC-106-101, Rev. 3, Substation Tour

OP-OC-108-107-1002, Rev. 3, Interface between First Energy/JCP&L and Exelon Generation for OC Switchyard Operations.

LIST OF ACRONYMS

AC	Alternating Current
ACM	Adverse Condition Monitoring
ADAMS	Agencywide Documents and Management System
ALARA	As Low As is Reasonable Achievable
AmerGen	AmerGen Energy Company, LLC
AR	Action Request
CCA	Common Cause Assessment
CFR	Code of Federal Regulations
CW	Circulating Water
DEP	Drill Exercise Performance
DR	Decay River
DRP	Division of Reactor Projects
EDG	Emergency Diesel Generator
FHAR	Fire Hazard Analysis Report
HP	Health Physics
HRA	High Radiation Area
ICS	Integrated Control System
IMC	Inspection Manual Chapter
IR	Issue Report
LCO	Limiting Condition for Operation
LER	Licensee Event Report
MR	Maintenance Rule
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NIOSH	National Institute for Occupational Safety and Health
NR	Nuclear River
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
MHIF	Multiple High Impedance Faults
PARS	Publicly Available Records
PI	Performance Indicator
PI&R	Problem Identification And Resolution
PM	Preventative Maintenance
PMT	Post-Maintenance Test
OWAs	Operator Workarounds
RCA	Radiologically Controlled Area
RCS	Reactor Coolant System
RIS	Regulatory Issue Summary
RWP	Radiation Work Permit
SDP	Significance Determination Process
SOC	Station Operations Committee
SSC	Structure Systems and Components
SCBA	Self Contained Breathing Apparatus
TM	Temporary Modification
TMI	Three Mile Island, Unit 1

TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
ULD	Unit Load Demand
VHRA	Very High Radiation Area