



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

May 2, 2011

Mr. Michael J. Pacilio
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO), Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND STATION, UNIT 1 – NRC INTEGRATED
INSPECTION REPORT 5000289/2011002

Dear Mr. Pacilio:

On March 31, 2011, 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 on April 21, 2011, with Mr. William Noll and other members of your staff.

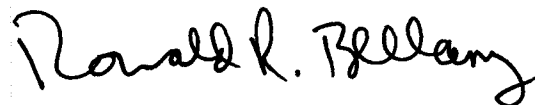
The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, no findings of significance were identified. However, a licensee identified violation which was determined to be of very low safety significance is listed in this report. Because of the very low safety significance of the violation and because it is entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC 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, 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).

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

Sincerely,



Ronald R. Bellamy, Ph.D., Chief
Projects Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000289/2011002
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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
Projects Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 05000289/2011002
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

Distribution w/encl:

W. Dean, RA (R1ORAMAIL Resource)
D. Lew, DRA (R1ORAMAIL Resource)
D. Roberts, DRP (R1DRPMAIL Resource)
J. Clifford, DRP (R1DRPMAIL Resource)
C. Miller, DRS (R1DRSMail Resource)
P. Wilson, DRS (R1DRSMail Resource)
R. Bellamy, DRP
S. Barber, DRP
C. Newport, DRP

N. Lafferty, DRP
A. Dugandzic, DRP
D. Kern, DRP, SRI
J. Heinly, DRP, RI
C. LaRegina, DRP, OA
S. Bush-Goddard, RI OEDO
RidsNrrPMTThreeMileIsland Resource
RidsNrrDorlLp1-2 Resource
ROPReportsResource

SUNSI Review Complete: RRB (Reviewer's Initials)

ML111220014

DOC NAME: G:\DRP\BRANCH6\+++THREE MILE ISLAND\TMI INSPECTION REPORTS\
TMI 11-002.DOCX

After declaring this document "An Official Agency Record" it will be released to the Public.

To receive a copy of this document, indicate in the box: "C"= Copy without attachment/enclosure "E"=Copy with attachment/enclosure, "N"=No copy

OFFICE	RI/DRP	RI/DRP
NAME <i>mmt</i>	DKern/ RRB for	RBellamy/ RRB
DATE	04/29 /11	04/ 29 /11

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
REGION 1

Docket No: 50-289

License No: DPR-50

Report No: 05000289/2011002

Licensee: Exelon Generation Company

Facility: Three Mile Island Station, Unit 1

Location: Middletown, PA 17057

Dates: January 1 through March 31, 2011

Inspectors: D. Kern, Senior Resident Inspector
J. Heinly, Resident Inspector
J. Brand, Reactor Inspector
J. D'Antonio, Senior Operations Engineer
N. Lafferty, Project Engineer

Approved by: R. Bellamy, Ph.D., Chief
Projects Branch 6
Division of Reactor Projects (DRP)

Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS.....	3
REPORT DETAILS	4
1. REACTOR SAFETY	4
1R01 Adverse Weather Protection	4
1R04 Equipment Alignment	5
1R05 Fire Protection	6
1R07 Heat Sink Performance	6
1R11 Licensed Operator Requalification Program.....	7
1R12 Maintenance Effectiveness	9
1R13 Maintenance Risk Assessments and Emergent Work Control	10
1R15 Operability Evaluations	11
1R18 Plant Modifications	12
1R19 Post Maintenance Testing (PMT)	13
1R22 Surveillance Testing	14
1EP6 Drill Evaluation	15
4. OTHER ACTIVITIES	15
4OA1 Performance Indicator Verification	15
4OA2 Identification and Resolution of Problems	16
4OA3 Event Follow-up	17
4OA6 Meetings, Including Exit	17
4OA7 Licensee Identified Violations.....	17
SUPPLEMENTAL INFORMATION.....	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED	A-1
LIST OF DOCUMENTS REVIEWED	A-2
ACRONYMS	A-5

SUMMARY OF FINDINGS

IR 05000289/2011002 1/1/2011-3/31/2011; Exelon Generation Company, LLC; Three Mile Island, Unit 1, Integrated Inspection Report.

The report covered a three-month period of baseline inspection conducted by resident inspectors and announced inspections by regional specialist 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 4, dated December 2006.

Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation 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 approximately 100 percent rated thermal power. Reactor power was briefly reduced to 89 percent on March 5 to support scheduled turbine valve stroke testing. Following successful completion of the test, operators returned the plant to full power operation on March 6. The plant operated at 100 percent rated thermal power for the remainder of the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Impending Adverse Weather - Severe Winter Storm & High Winds (1 sample)

a. Inspection Scope

On February 1, a severe winter storm approached TMI. The inspectors performed onsite inspection activities described below. Operators and work control personnel reassessed work activities to optimize equipment availability. The inspectors met with various station personnel to discuss the associated potential impact on offsite power availability, the river water intake pathway, emergency response organization (ERO) and plant operator/security officer relief availability in the event significant snowfall closed roadways. The storm brought strong winds and heavy icing over existing layers of snow. The inspectors discussed station implementation of OP-AA-108-111-1001, Severe Weather and Natural Disaster Guidelines, Rev. 5 and OP-TM-108-111-1001, TMI Site Inaccessibility Plan, Rev. 3. Planned maintenance activities were reviewed and, where appropriate (i.e. EG-Y-1A fuel injector drain line inspections), were deferred to maximize equipment availability. The inspectors performed station walkdowns, interviewed operators and security officers, and observed plant operations prior to, during, and after the storm to verify TMI operation was consistent with Technical Specifications (TS), the Security Plan was properly implemented, and ERO capabilities were maintained in accordance with EP-AA-1009, Radiological Emergency Plan Annex for TMI Station, Rev. 16.

b. Findings

No findings were identified.

.2 Impending Adverse Weather – Flood (1 sample)

a. Inspection Scope

Winter storms, including heavy rains and winds, elevated the Susquehanna River level above flood stage and affected river conditions from March 11 to 13. The inspectors reviewed procedures, conducted interviews, and performed various inspections to verify

that operator actions to address adverse river conditions maintained the readiness of the various river water systems. Operators closely monitored National Weather Service flood projections and entered procedure OP-TM-AOP-002, Flood, Rev. 2A when the 36-hour forecast projected river level to reach flood stage (286.1 feet at the intake screen house [issue report (IR) 1186925]). The inspectors walked down the intake screen house which houses the fire protection system pumps and safety related cooling water pumps for the decay heat removal system, nuclear service water system, and reactor river water system. The inspectors evaluated the adequacy of various emergency and surveillance procedures associated with river water and intake systems to assess protection from storms and adverse river conditions.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Partial System Walkdowns (71111.04Q – 4 samples)

The inspectors performed four partial and one complete system walkdown samples on the following systems and components:

- On January 11, the inspectors verified that the 'A' decay heat closed cooling water (DHCCW) system was properly aligned to perform its accident mitigation function while the 'B' DHCCW system was out of service for planned maintenance;
- On January 19, the inspectors walked down the 'A' building spray system while the 'B' building spray system was out of service for planned maintenance;
- On January 28, the inspectors walked down the 'A' and 'C' makeup pumps while the 'B' makeup pump was inoperable due to scheduled maintenance; and
- On March 8-9, the inspectors walked down the turbine driven emergency feed water pump, the 'B' motor driven emergency feed water pump, and emergency feed water injection headers while the 'A' motor driven emergency feed water pump (EF-P-2A) was unavailable for a planned maintenance outage.

Complete System Walkdown (71111.04S – 1 sample)

The inspectors conducted a detailed review of the alignment and condition of the system listed below using piping and instrumentation diagrams and evaluated open corrective action program reports for impact on system operation. In addition, the inspectors reviewed the associated protected equipment log, and interviewed the system engineer and control room operators.

- On January 18, the inspectors independently performed a full system equipment alignment verification on the 'B' decay heat removal system after it was returned to service from a planned maintenance outage.

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

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q – 6 samples)

.2 Routine Resident Inspector Tours

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, and that fire protection features were properly controlled per surveillance procedure 1038, Administrative Controls-Fire Protection Program, Rev. 76. 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. 6. In addition, the inspectors verified that applicable clearances between fire doors and floors met the criteria of Attachment 1 of Engineering Technical Evaluation CC-AA-309-101, Engineering Technical Evaluations, Rev. 11. Fire zones and areas inspected included:

- Fire Zone AB-FZ-2B, Auxiliary Building Elevation 281', Makeup and Purification Pump B;
- Fire Zone AB-FZ-5, Auxiliary Building Elevation 281', General Area;
- Fire Zone CB-FZ-3A, 1D 4160V Switchgear Room;
- Fire Zone CB-FZ-3B, 1E 4160V Switchgear Room;
- Fire Zone ISPH-FZ-2, ISPH 1T Switchgear Area; and
- Fire Zone TB-FA-1, Turbine Bldg 305' General Area.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07 – 1 sample)

a. Inspection Scope

The inspectors verified the heat transfer capability of the intermediate cooler (IC-C-1A) during its system outage. This component is a water-to-water heat exchanger with river water from the nuclear services river water system on the tube side and intermediate cooling on the shell side. The inspectors reviewed the internal inspection completed on

February 9 per ER-TM-340-1002, Guidance for Heat Exchanger Inspections and Cleaning at TMI, Rev. 2 and drawing 302-620, Intermediate Cooling Flow Diagram, Rev. 49. The inspectors performed an independent internal visual inspection of the heat exchanger to assess its current material condition and interviewed key personnel responsible for oversight, cleaning, and inspection of the heat exchanger.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program

.1 Licensed Operator Simulator Training (71111.11Q - 1 sample)

a. Inspection Scope

On February 22, the inspectors observed licensed operator requalification training at the control room simulator for the 'D' operator crew. The inspectors observed the operators' simulator drill performance and compared it to the criteria listed in TMI Operational Simulator Scenario 2, Earthquake, Loss of 1D 4 Kilovolt Bus, EG-Y-1A Failure to Start, Loss of Secondary Instrument Air, Stuck Rods and Feed Water Control Problems, Rev. 10 and Scenario 23, Loss of 1B Screen House Motor Control Center – Feed Water Line Break on the 'B' Once Through Steam Generator Inside Containment, Rev. 7. The inspectors reviewed the operators' ability to correctly evaluate the simulator training scenario and implement the emergency plan. The inspectors observed supervisory oversight, command and control, communication practices, and crew assignments to ensure they were consistent with normal control room activities. The inspectors observed operator response during the simulator drill transients. The inspectors evaluated training instructor effectiveness in recognizing and correcting individual and operating crew errors. The inspectors attended the post-drill critique and reviewed the written crew critique in order 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 (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 6. Additional documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

.2 Biennial Licensed Operator Requalification (71111.11B - 2 samples)

a. Inspection Scope

The following inspection activities were performed using NUREG-1021, Operator Licensing Examination Standards for Power Reactors, Rev. 9, Supplement 1, Inspection Procedure Attachment 71111.11, Licensed Operator Requalification Program, Appendix A Checklist for Evaluating Facility Testing Material and Appendix B Suggested Interview Topics.

A review was conducted of recent operating history documentation found in inspection reports, licensee event reports, the licensee's corrective action program, and the most recent NRC plant issues matrix. The inspectors also reviewed specific events from the licensee's corrective action program which indicated possible training deficiencies, to verify that they had been appropriately addressed. The senior resident inspector was also consulted for insights regarding licensed operators' performance. These reviews showed a number of configuration control issues, which were adequately addressed by the facility with corrective actions resulting in a reduction in such errors.

The operating tests for four exam weeks and written examinations for two exam weeks were reviewed for quality and performance.

On March 30, the results of the annual operating tests for year 2011 and the written exam for 2011 were reviewed to determine if pass fail rates were consistent with the guidance of NUREG-1021, Operator Licensing Examination Standards for Power Reactors, Rev. 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, Operator Requalification Human Performance Significance Determination Process (SDP). The review verified the following:

- Crew pass rates were greater than 80%. (Pass rate was 100%)
- Individual pass rates on the written exam were greater than 80%. (Pass rate was 100%)
- Individual pass rates on the job performance measures of the operating exam were greater than 80%. (Pass rate was 100%)
- More than 80% of the individuals passed all portions of the exam. (100% of the individuals passed all portions of the examination)
- Individual pass rates on the dynamic simulator test were greater than 80%. (Pass rate was 100%)

Observations were made of the dynamic simulator exams and job performance measures (JPM) administered to one crew during the week of March 14. These observations included facility evaluations of crew and individual performance during the dynamic simulator exams and individual performance of five JPMs.

The remediation plans for one crew failure, one individual operating test failure, and one written failure from the prior exams cycle were reviewed to assess the effectiveness of the remedial training.

Simulator performance testing and fidelity were reviewed for conformance to the reference plant.

A sample of records for requalification training attendance, proficiency and license reactivation watchstanding, and medical examinations were reviewed for compliance with license conditions, including NRC regulations. This sample consisted of one year of attendance records, two years of proficiency watchstanding, four license reactivations, and 10 licensed operator medical examinations.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors evaluated the listed samples for Maintenance Rule (MR) implementation by: ensuring appropriate MR scoping; characterization of failed structures, systems, and components (SSCs); MR risk categorization of SSCs; SSC performance criteria or goals; and 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; Nuclear Management and Resources Council 93-01, Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants, Rev. 2; and Exelon procedure ER-AA-310, Implementation of the Maintenance Rule, Rev. 8. The inspectors verified that appropriate corrective actions were initiated and documented in IRs, and that engineers properly categorized failures as maintenance rule functional failures and maintenance preventable functional failures, when applicable. Additional documents reviewed are listed in the Attachment.

- The inspectors observed several degraded conditions associated with the 'A' control building chiller (AH-C-4A) and performed inspection follow-up to verify appropriate performance monitoring, evaluation, and corrective actions were in place. Engineers identified a significant increase in chill water pump AH-P-3A vibration beginning in December 2010 and concluded the pump bearing was degrading (IR 1155336). Corrective action included increased monitoring frequency, use of more sensitive vibration monitoring equipment, contingency for more frequent pump bearing greasing, and scheduled pump replacement for May 2011. Additionally the AH-P-3A suction expansion joint (AH-XJ-40A) had several small circumferential cuts or gouges and the pump discharge expansion joint (AH-XJ-41A) was not designed for the two inch lateral offset which existed between pump discharge flanges (IR 1118910). Engineers determined the physical cuts/gouges on AH-XJ-40A did not adversely impact expansion joint strength. Engineers determined AH-XJ-41A remained capable of performing its function until its scheduled replacement date (September 2011). The inspectors questioned why the AH-P-3A and AH-XJ-41A replacements, which each required AH-C-4A to be unavailable, were scheduled for separate dates. Bundling the work activities together would reduce planned AH-C-4A unavailability. Engineers and work management staff reviewed this concern.
- Operations and engineering personnel have identified numerous equipment deficiencies and abnormal conditions associated with Joslyn Clark relays. The relays are primarily installed in the Engineered Safeguards Actuation System (ESAS). Specifically, the relays have exhibited armature misalignment, abnormal buzzing, high resistance contacts, and high plunger assembly friction. These conditions have contributed to or directly caused the failure of the relay to change state during performance testing. Recent surveillance testing led to the failure of three ESAS relays to fully reposition to their safety position (IR 1152443). The

inspectors questioned the adequacy of the current grade dedication process, replacement frequency, and the scope of relay replacements. Engineers developed corrective actions to enhance the commercial dedication process, perform a full relay replacement preventive maintenance activity, and implement a one-time replacement of all DC ESAS relays. In addition, the inspectors verified that the relay deficiencies identified were appropriately scheduled and repaired commensurate with their safety significance through the work management process.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the scheduling, control, and equipment restoration during the following maintenance activities to evaluate their effect on plant risk. This review was against criteria contained in Exelon Administrative Procedure 1082.1, TMI Risk Management Program, Rev. 8 and WC-AA-101, On-Line Work Control Process, Rev. 18A. Additional documents reviewed are listed in the Attachment.

- On January 11-12, the 'B' decay heat removal, decay closed, and decay river systems were unavailable for planned maintenance. The condition elevated the online maintenance risk profile to Orange. The inspectors reviewed and independently assessed the licensee's additional compensatory actions associated with the elevated risk condition.
- On January 18-20, the 'B' building spray pump and the 'B' intermediate closed cooling water heat exchanger were out of service for planned maintenance. The online maintenance was elevated to Yellow during this maintenance outage. The inspectors reviewed and independently assessed the licensee's additional compensatory actions associated with the elevated risk condition.
- On January 24 through February 2, make-up pump MU-P-1B was unavailable for planned motor replacement and pump corrective maintenance. Online maintenance risk was Yellow throughout this period.
- On March 5-6, operators performed OP-TM-301-302, Turbine Valve Full Stroke Test, Rev. 8 and OP-TM-622-201, Control Rod Movement Test, Rev. 3. Online maintenance risk remained Green during this period.
- On March 8-9, the 'A' motor driven emergency feed water pump (EF-P-2A) was unavailable for a planned maintenance outage. Online maintenance risk remained Green during this period.

b. Findings

No findings were identified.

1R15 Operability Evaluations (71111.15 – 5 samples)a. Inspection Scope

The inspectors verified the selected degraded conditions were properly characterized, operability of the affected systems was properly evaluated in relation to TS requirements, 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 Part 9900, Operability Determinations & Functionality Assessments for Resolutions of Degraded or Nonconforming Conditions Adverse to Quality or Safety, Exelon procedure OP-AA-108-115, Operability Determinations, Rev. 10, and OP-AA-108-115-1002, Supplemental Consideration for On-Shift Immediate Operability Determinations, Rev. 2 to determine acceptability of the operability evaluations. Additional documents reviewed during this inspection are listed in the Attachment. The inspectors reviewed operability evaluations for the following degraded equipment issues:

- On January 16, operators identified a low temperature condition in the 'B' station battery room during routine plant rounds (IR 1163265). Specifically, the room temperature was identified to be 65°F which is below the minimum desired temperature of 70°F. The inspectors independently inspected the impact of the low temperature condition on the operability of the 'B' station battery. The inspectors verified design calculations, design basis, previous battery room temperatures, and interviewed engineers to determine operability. The inspectors concluded that 'B' station battery operability was maintained with room temperature above 60°F;
- On March 4-5, operators purged the reactor building containment to reduce elevated carbon monoxide levels. Initial attempts to purge containment were unsuccessful. Operators identified a failed fire damper within the ventilation purge path, foreign debris in the ventilation duct, and a damper alignment issue which impacted the operation of purge supply fan AH-E-6A and purge isolation valves AH-V-1C/1D (IRs 1183324, 1183528, 1183531, 1183599, and 1183665). The inspectors independently verified that the reactor building purge was permitted by TS during full power operation and that the degraded conditions didn't adversely affect operability of the containment purge isolation valves (AH-V-1A/B/C/D).
- Technicians identified a pressure indicator (DH-PI-1223B) on the decay heat removal (DH) system was out of tolerance during a routine surveillance test. On March 18, the inspectors reviewed an evaluation the licensee performed to determine the impact of the pressure indicator deficiency on previous testing of the DH System. The inspectors independently verified that the deficiencies identified did not impact the results of previous testing and the DH system remained operable.
- In 2010, nuclear river water (NR) pump NR-P-1C flow rate gradually degraded and entered the in-service test (IST) program Alert range. In early 2011, continued degradation of measured flow approached the IST Required Action range. Engineers noted that the NR-P-1C flow performance trend was similar to that measured for NR-P-1A prior to NR-P-1A being declared inoperable and replaced in November 2010. Post-replacement evaluation and testing by the vendor demonstrated that actual NR-P-1A pump performance had not declined. Engineers

evaluated the disparity between NR-P-1A in-plant measured flow performance and the vendor test results (IR 1089599). Engineers determined that cleaning (hydrolasing) a 4 inch thick layer of corrosion from the NR discharge piping inner wall during the last refueling outage (early 2010) had changed the cross-sectional piping flow area and consequently affected the flow instrument measurements. The NR pump IST reference flow performance curves were no longer valid and new pump flow reference values should have been established immediately following the refueling outage (see Section 4OA7). Engineers revised the pump reference values and determined NR-P-1A and NR-P-1C were operable.

- On March 28, operators performed the quarterly IST of the steam driven emergency feedwater pump (EF-P-1) and valves. Operators identified abnormal inboard pump packing leakage and leakage through the cooling water pressure relief valve, EF-V-35 (IR 1193798, 1193804). The inspectors reviewed the capability of EF-P-1 to perform its safety function with the identified conditions adverse to quality. The inspectors verified that the leakage past EF-V-35 did not impact the pump's capability to provide the required flow. In addition, the inspectors verified that the packing leakage provided adequate cooling and lubrication for the pump without impacting the pump bearing or flow capability. The inspectors concluded that EF-P-1 remained operable.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

a. Inspection Scope

The inspectors reviewed the following plant modifications to determine whether they were designed and/or implemented as required by procedures CC-AA-102, Design Input and Configuration Change Impact Screening, Rev. 20 and CC-AA-103, Configuration Change Control, Rev. 21. The inspectors verified the modifications supported plant operation as described in the Updated Final Safety Analysis Report and complied with associated TS requirements. The inspectors reviewed the function of the changed components, the change description and scope, and the associated 10 CFR 50.59 screening evaluations.

- Engineering Change Request (ECR) TM 10-537, AH-C-6A/B Condensate Drain Reroute, Rev. 0 was a temporary plant modification which routed the control building fan cooling coil drain line to a floor drain that goes to the auxiliary building sump. In 2010, station personnel detected low levels of tritium at the onsite sewage treatment plant (STP). Follow-up investigation identified the AH-C-6A/B drains as the source of the tritium detected at the STP. Following installation of ECR TM 10-537, tritium was no longer detected at the STP and the AH-C-6A/B drains were directed to the auxiliary building sump which is radiologically treated and monitored. The inspectors walked down the installed modification and verified installation matched the ECR TM 10-537 requirements.
- Engineering During cold weather periods, valve NR-V-4A is opened to provide additional makeup flow to the natural draft cooling tower circulating water flume. If plant event

occurred which required full nuclear river water flow to the nuclear services closed cooling water system, NR-V-4A is designed to automatically close. A degraded electrical relay contact made the automatic NR-V-4A closure function unreliable. ECR 10-00729, TCP – Jumper NR-V-4A Contact on ES Relay 63Z2A/RC1A, Rev. 0 was installed as a temporary plant modification to place a jumper around a degraded contact on relay 63Z2A/RC1A. The modification placed the degraded contact in its safety position and restored operability of the NR-V-4A safety function. The inspectors also reviewed drawing 209-491, Electrical Elementary Wiring Diagram ES 'A' HP Injection, Rev. 8 and procedure 1303-5.2A, 'A' Emergency Loading Sequence and HPI Logic Channel Component Test, Rev. 6 to verify installation and testing were properly preformed.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing (PMT) (71111.19 – 6 samples)

a. Inspection Scope

The inspectors reviewed and/or observed the following PMT activities 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. Additional documents reviewed are listed in the Attachment.

- On January 12, operators performed OP-TM-212-202, IST of DH-P-1B and Valves from ES Standby Mode, Rev. 9, following a planned maintenance outage of the 'B' decay heat train (work order (WO) R2170649);
- On January 31, technicians performed MA-AA-743-310, Diagnostic Testing and Evaluation of Air Operated Valves, Rev. 5 and 1430-Y-19, Flow/Pressure Regulator Repair/Adjustment, Rev. 8 following the 6-year periodic overhaul of emergency feed water injection valve EF-V-30A (WO R2086066);
- On January 31, operators performed OP-TM-211-206, In-Service Test of MU-P-1B, Rev. 7 following motor replacement and pump corrective maintenance (WO R2080357);
- On February 4, operators performed the monthly 'B' emergency diesel generator (EDG) operational test in accordance with 1303-4.16, Emergency Power System, Rev. 126, following disassembly and inspection of four cylinder injector fuel oil drain lines. The inspections were performed as part of the extent-of-condition evaluation associated with the 'A' EDG being inoperable in April 2010 due to excessive fuel oil leakage;
- On March 3, technicians performed 1303-4.13, RB Emergency Cooling and Isolation System Analog Test, Rev. 43 following replacement of the coil and magnet assembly for relay 63Z-2B/R-C1A (WO C2024973); and

- On March 10, operators placed the 'A' control building emergency ventilation train in service in accordance with procedure 1104-19, Control Building Ventilation System, Rev. 77, following corrective maintenance to replace failed supply fan AH-E-18A.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 9 samples)

a. Inspection Scope (3 IST samples and 6 routine surveillance samples)

The inspectors observed and/or reviewed the following operational surveillance tests to verify adequacy of the test to demonstrate the operability of the required system or component safety function in accordance with Exelon procedure WC-TM-430 Surveillance Testing Program, Rev. 0 and WC-TM-430-1001 Surveillance Testing Program Database Interface and Maintenance, Rev. 1. Inspection activities included review of previous surveillance history to identify problems and trends, observation of pre-evolution briefings, and initiation/resolution of related IRs for selected surveillances. Additional documents reviewed are listed in the Attachment.

- On February 7-9, technicians calibrated the 'A' decay heat train instruments in accordance with 1302-14.1, Calibration of In-service Test Related Instruments, Rev. 65;
- On February 10, technicians tested the logic of the heat sink protection system (HSPS) circuitry in accordance with 1303-11.37C, HSPS – OTSG Level and Pressure Channel III Tests, Rev. 27;
- On February 16, operators performed OP-TM-211-208, Inservice Test of MU-P-1C, Rev. 4;
- On February 23, operators performed surveillance testing on the reactor building isolation and cooling logic in accordance with 1303-5.1B, 'B' Reactor Building Emergency Cooling and Isolation System Logic Channel/Component Test, Rev. 5;
- On March 2, operators performed an as found local leak rate test on purge exhaust penetration valve AH-V-1B in accordance with OP-TM-823-251, Local Leak Rate Testing of Purge Exhaust Penetration Valves, Rev. 3;
- On March 4, technicians tested the operation of the reactor building 30 PSIG analog channels in accordance with 1303-4.14, RB 30 Psig Analog Channels, Rev. 30;
- On March 9, technicians calibrated reactor coolant temperature channel RC4A-TE-2 and its associated circuitry in accordance with 1302-5.1A, Calibration of RC4A-TE-2 Reactor Coolant Temperature to RPS Channel A, Rev. 1;
- On March 9, operators performed OP-TM-424-201, Inservice Test of EF-P-2A, Rev. 7; and
- On March 10, technicians performed procedure 1301-4.6.1, Station Battery 1A Weekly, Rev. 10.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 - 1 sample)

a. Inspection Scope

The inspectors observed an emergency event training evolution conducted on February 15, at the Unit 1 control room simulator, the technical support center, and the operations support center to evaluate emergency procedure implementation, event classification, and event notification. 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 inspectors observed the drill critique to determine whether the licensee critically evaluated drill performance to identify deficiencies and weaknesses. Additionally, the inspectors verified the Drill/Exercise performance indicators were properly evaluated consistent with NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 6. Additional documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

Cornerstone: Initiating Events (3 samples)

The inspectors reviewed selected station records to verify NRC Performance Indicators (PIs) had been accurately reported to the NRC as specified in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 6. The three PI samples listed below were verified for the period January to December 2010.

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Power Changes per 7000 Critical Hours

The inspectors reviewed operator logs, licensee event reports, monthly station operating reports, corrective action program database documents, calculation methods, definition of terms, and use of clarifying notes. The inspectors also verified accuracy of the number of reported critical hours used in the calculations (IR 1187722).

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Review of Issue Reports and Cross-References to Problem Identification and Resolution Issues Reviewed Elsewhere

a. Inspection Scope

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 IRs, reviewing selected IRs, attending daily screening meetings, and accessing the licensee's computerized corrective action program database.

.2 Annual Sample: Effectiveness of Corrective Actions for Missed Surveillance Tests (1 sample)

a. Inspection Scope

This inspection was conducted to assess the effectiveness of Exelon's corrective actions implemented to address multiple occurrences of missed surveillance tests. Specifically, numerous issues regarding scheduling deficiencies and human performance errors were identified by Exelon during a review of the American Society of Mechanical Engineers (ASME) Code testing program in September 2009 (IR 969783). These issues could affect the TS operability of safety related components and have potential regulatory impact. The deficiencies included: TS surveillance tests not completed during the required time frame for safety related components, such as pumps, radiation monitors, under voltage relays, and valves (IRs 948606, 1020359, 1021322, and 1021633); missed relief valve surveillance tests (IR 978999); local position verification not performed on multiple valves (IR 1078858); and visual inspections for multiple accessible snubbers located outside the reactor building D-ring not performed prior to the established due date (IR 963873).

The inspectors reviewed the associated IRs and related assessments to assess the effectiveness of the corrective actions. In addition, the inspectors reviewed completed surveillance test results performed as part of the corrective actions. The inspectors used the guidance in NUREG-1022 to evaluate Exelon's event reporting as required by 10 CFR 50.73, associated with the identified deficiencies that exceeded allowable TS time requirements. The inspectors reviewed surveillance test procedures to ensure that testing was being performed in accordance with the current licensing basis. The inspectors also interviewed engineer and work scheduling personnel to evaluate the adequacy of Exelon's administrative controls and associated corrective actions. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings were identified. The inspectors concluded that, in general, Exelon had taken timely and appropriate actions in accordance with ASME Code requirements and their corrective action program. Following identification of each missed surveillance test, station personnel successfully completed the associated test or appropriately scheduled the test in accordance with TS 4.0.2. Therefore, the safety significance of the missed surveillance tests was minor. Exelon's assigned corrective actions were generally aligned with their identified causal factors, adequately tracked, properly documented,

and completed as scheduled. The inspectors noted that Exelon's evaluation of cause for instrument air valve IA-V-1624B in-service testing failure documented in IR 987285 was not performed. The inspectors determined the valve was replaced and Exelon entered this issue in the corrective action program to address the missed evaluation (IR 1165356).

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

a. Inspection Scope

Elevated Containment Atmosphere Carbon Monoxide Level

On March 3, while performing reactor building containment atmospheric sampling in preparation for planned maintenance, safety technicians identified elevated carbon monoxide (CO) concentration (135 parts per million (ppm)) (IR 1182861). Workers were promptly directed to exit containment. Follow-up air sampling confirmed CO concentration as high as 157 ppm. Although this CO level was unexpected, it remained well below the immediately dangerous to life and health limit of 1200 ppm. Operators subsequently purged containment atmosphere to reduce CO concentration. The inspectors verified workers were not exposed to CO levels above the permissible exposure limits established by the Occupational Safety and Health Administration. Engineers concluded the most likely source of the elevated CO was decomposition of lubricating oil which had leaked from reactor coolant pump RC-P-1C. The inspectors reviewed the causal analysis and verified reasonable adverse condition monitoring plans were established for both the continued RC-P-1C oil leakage and management of elevated containment atmosphere CO levels.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On April 21, 2011, the resident inspectors presented the inspection results to Mr. William Noll and other members of the TMI staff who acknowledged the findings. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

10 CFR 50.55a requires inservice tests (IST) to verify operational readiness of pumps, whose function is required for safety, be performed in accordance with the Code. American Society of Mechanical Engineers (ASME) OMB Code-2000 Addenda to ASME OM Code-1998 requires that when a pump test reference value may have been affected by repair, replacement, or routine servicing of a pump, a new reference value or set of

values shall be determined or the previous reference value shall be reconfirmed. Further, TS 6.8.1 requires that written procedures shall be established and implemented as recommended by Regulatory Guide 1.33, Revision 2. Appendix A to Regulatory Guide 1.33 requires, in part, that procedures for performing maintenance that can affect the performance of safety-related equipment be properly pre-planned and performed in accordance with written instructions appropriate to the circumstances. Station procedure MA-AA-716-012, Post Maintenance Testing (PMT), Rev. 12, requires PMT be performed following maintenance activities on plant equipment that may have impacted the equipment's ability to perform its intended function. Contrary to the above, in December 2009, following maintenance (hydrolasing) on nuclear river (NR) pump discharge piping, which affected NR system flow characteristics and NR pump IST reference values, appropriate PMT work instructions were not established or implemented to reestablish new IST reference values for NR-P-1A or NR-P-1C. Consequently, station personnel incorrectly concluded NR-P-1A was inoperable, removed NR-P-1A from service, and replaced the pump in November 2010. This finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the availability of NR-P-1A to respond to an initiating event to prevent undesirable consequences. The licensee entered the condition into their corrective action program (IR 1089599) and took immediate corrective actions to revise IST reference values for NR-P-1A and NR-P-1C.

ATTACHMENT: SUPPLEMENTAL INFORMATION

**SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT**

Licensee Personnel

D. Atherholt	Manager, Regulatory Assurance
T. Orth	Manager, Chemistry
P. Bennett	Manager, Design Engineering - Mechanical
D. Divittore	Manager, Radiological Engineering
M. Fitzwater	Senior Regulatory Assurance Engineer
M. Hardy	System Engineer-Flood Protection
C. Incorvati	Director, Maintenance
J. Karkoska	Manager, Site Security
M. Kersey	Risk Management Engineer
M. Krause	Component Monitoring Engineer
R. Libra	Plant Manager
R. Masoero	System Engineer-Inservice Testing Program Owner
W. McSorley	Procedures and Flood Protection
D. Neff	Manager, Emergency Preparedness
W. Noll	Site Vice President
J. Piazza	Senior Manager, Design Engineering
M. Reed	System Engineer
C. Robles	System Engineer
S. Wilkerson	Manager, Design Engineering – Electrical and Instrumentation & Control
L. Weber	Chemist
M. Willenbecher	Supervisor, Planning
G. Wright	Senior Work Week Manager
M. Wyatt	Manager, Training Support

Other

D. Dyckman	Nuclear Safety Specialist Pennsylvania Department of Environmental Protection Bureau of Radiation Protection
------------	--

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Closed

None

Opened and Closed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

OP-TM-211-000, Makeup and Purification System, Rev. 21
 OP-TM-212-000, Decay Heat Removal System, Rev. 14
 OP-TM-212-271, DHR ES Standby Mode Lineup, Rev. 5
 OP-TM-214-271, Building Spray ES Standby Mode Lineup Verification, Rev. 3
 OP-TM-424-000, Emergency Feed Water System, Rev. 11
 OP-TM-543-271, DHCCW ES Standby Mode Lineup Verification, Rev. 0

Drawings

302-082, Emergency Feed Water Flow Diagram, Rev. 24
 302-202, Nuclear Service River Water System, Rev. 77
 302-640, Decay Heat Removal Flow Diagram, Rev. 83
 302-645, Decay Heat Flow Diagram, Rev. 39
 302-660, Makeup & Purification System, Rev. 44
 302-661, Makeup & Purification System, Rev. 59
 302-662, Makeup & Purification System, Rev. 0
 302-712, Reactor Building Spray Flow Diagram, Rev. 49

Section 1R11: Licensed Operator Regualification

Procedures

OP-TM-AOP-003, Earthquake, Rev. 0
 OP-TM-AOP-013, Loss of 1D 4160 Volt Bus, Rev. 6
 OP-TM-AOP-027, Loss of ATA or ICS Auto Power, Rev. 3
 OP-TM-AOP-028, Loss of Instrument Air, Rev. 5
 OP-TM-AOP-051, Secondary Side High Energy Leak, Rev. 0
 OP-TM-EOP-001, Reactor Trip, Rev. 10
 OP-TM-EOP-002, Loss of 25F Subcooling Margin, Rev. 8
 OP-TM-EOP-003, Excessive Primary to Secondary Heat Transfer, Rev. 7
 OP-TM-EOP-010, Emergency Procedure Rules, Guides, and Graphs, Rev. 11
 OP-TM-534-901, Reactor Building Emergency Cooling Operations, Rev. 10

Section 1R12: Maintenance Effectiveness

Procedures

MA-TM-123-002, Joslyn Clark Relay Maintenance PMT/Inspection, Rev. 1

Drawings

302-847, Control Building Chilled Water Flow Diagram, Rev. 22
 209-639, Electrical Elementary Wiring Diagram ESAS, Rev. 4

Other

System 826, Control Building & Machine Shop Heating and Ventilation System Health Report
 (4th Quarter 2010)
 System 827, Control Building Chilled Water System Health Report (4th quarter 2010)
 AH-P-3A Vibration Monitoring Records for period October 2002 to February 2011
 VM-TM-0185, Clark Relays, Rev. 7
 Work Orders R1821453, R2072465, R2104400
 IRs 1018893, 1034563, 1046748, 1049051, 1052810, 1052816, 1052819, 1060541, 1081039,
 1152443, 1155203, 1192998

Section 1R13: Maintenance Risk

Procedures

OP-AA-108-117, Protected Equipment Program, Rev. 1
OP-AA-112-101, Shift Turnover and Relief, Rev. 7
WC-AA-101-1004, On-Line Maintenance for Limiting Condition for Operation of Systems or Components, Rev. 4

Other

AR 2268794
IR 1168550

Section 1R15: Operability Evaluations

Procedures

IC-17, Pressure Gauge Calibration, Rev. 11
OP-TM-212-214, DH-P-1B Refueling IST, Rev. 6
OP-TM-424-203, IST of EF-P-1 and Valves, Rev. 9
OP-TM-424-000, Emergency Feedwater System, Rev. 11
OP-TM-823-406, Reactor Building Purge – Containment Closed, Rev. 8
1107-2C, Vital DC Electrical System, Rev. 10
1302-14.1, Calibration of IST Related Instruments, Rev. 65
1410-P-1, Pump Packing Maintenance, Rev. 24

Drawings

302-011, Main Steam, Rev. 72
302-082, Emergency Feedwater Flow Diagram, Rev. 24
302-831, Reactor, Auxiliary, and Fuel Handling Building Ventilation, Rev. 56
302-832, Reactor, Auxiliary, and Fuel Handling Building Ventilation, Rev. 9

Other

IR 1124973, 1138713, 1163265
Work Orders R1834529, R2112363, R2113194, R2127319
IST Evaluation 195, DH-P-1B, Rev. 0
TS Amendment 246, Containment Isolation Valves
Radioactive Discharge Release Permit G201103007
C-1101-734-5350-003, Battery Capacity Sizing and Voltage Drop for DC Systems, Rev. 10
VM-TM-0063, Emergency Feed Pumps / Turbine, Rev. 21

Section IR19: Post Maintenance Testing

Procedures

HU-AA-104-101, Procedure Use and Adherence, Rev. 4
HU-TM-104-101-1001, Procedure Utilization, Rev. 5
OP-TM-211-000, Makeup and Purification System, Rev. 21
OP-TM-211-432, Removing MU-P-1C from Service, Rev. 3
OP-TM-212-202, IST of DH-P-1B and Valves from ES Standby Mode, Rev. 9
OP-TM-543-000, Decay Heat Closed System, Rev. 8
1420-Y-11, ESAS Channel Relay Maintenance, Rev. 28

Drawings

302-645, Decay Heat Flow Diagram, Rev. 39
302-660, Makeup and Purification Flow Diagram, Rev. 44
302-661, Makeup and Purification Flow Diagram, Rev. 59
302-662, Makeup and Purification Aux Systems, Rev. 0

Other
IR 1161740

Section IR22: Surveillance Testing

Procedures

ER-AA-520, Instrument Performance Trending, Rev. 3
 IC-12, Pressure Switch Calibration, Rev. 10
 1104-19, Control Building Ventilation System, Rev. 77
 1303-5.1B, 'B' RB Emergency Cooling and Isolation System Logic Channel/Component Test, Rev. 5
 1303-11.37C, HSPS – OTSG Level and Pressure Cannel III Tests, Rev. 27

Drawings

302-610, Nuclear Services Closed Cycle Cooling Water, Rev. 78

Other

Work Order R1832993, R2050881, R2172352, R2172516
 IR 918035

Section 1EP6: Drill Evaluation

Procedures

EP-AA-122-1001-F-10, Drill & Exercise Post-Event Critique & Report Development Guidance, Rev. C
 EP-AA-1000, Exelon Nuclear – Standardized Radiological Emergency Plan, Rev. 20
 EP-AA-1009, Radiological Emergency Plan Annex for the Three Mile Island (TMI) Station, Rev. 17
 EP-MA-114-100-F-01, State/Local Event Notification Form, Rev. J
 OP-TM-EOP-005, OTSG Tube Leakage, Rev. 7
 OP-TM-EOP-010, Emergency Procedure Rules, Guides, and Graphs, Rev. 11

Section 4OA2: Identification and Resolution of Problems

Drawings

302-273, Emergency Feedwater & Main Steam Valves, Rev. 23

Procedures

1300-4H, IST of ASME Class 2 and 3 Relief Valves, Rev. 13

Miscellaneous

TS Section 4.0.1, Surveillance Standards, Amendment No. 256
 TS Section 4.2, Reactor Coolant System Inservice and Testing, Amendment No. 256
 QHPIR 1020358, Assignment # 3, Tech Spec Surveillance Test For DC-P-1A Was Not Performed Prior to The System Being Required per Tech Specification
 Apparent Cause Report, 963873, Assignment #5, Snubber Visual Inspections of Accessible Grinnell Snubbers Outside the Reactor Building D-ring Were Not Performed Prior to the Established Late Date

Work Orders

R1801013	R2077650	R2084854	C2024973
R2044843	R2077934	R2124137	
R2048654	R2077938	R2151520	
R2048971	R2082921	R2151521	

Issue Reports

688282	969783	1020359	1134148
947552	978999	1021322	1152536
948606	987285	1021633	1152443
963873	988261	1078858	*1165356

(*) IR written as a result of this inspection

LIST OF ACRONYMS

ADAMS	Agencywide Documents and Management System
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DH	Decay Heat
DHCCW	Decay Heat Closed Cooling Water
DRP	Division of Reactor Projects
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
ERO	Emergency Response Organization
ES	Engineered Safeguards
ESAS	Engineered Safeguards Actuation System
HSPS	Heat Sink Protection System
IMC	Inspection Manual Chapter
IR	Issue Report
IST	Inservice Testing
JPM	Job Performance Measures
MR	Maintenance Rule
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NR	Nuclear River
NRC	Nuclear Regulatory Commission
PADEP	Pennsylvania Department of Environmental Protection
PARS	Publicly Available Records
PI	Performance Indicators
PMT	Post Maintenance Testing
PPM	Parts Per Million
SDP	Significance Determination Process
SSC	Structures, Systems, and Components
STP	Sewage Treatment Plant
TDEFW	Turbine Driven Emergency Feedwater Pump
TMI	Three Mile Island, Unit 1
TS	Technical Specifications
WO	Work Order