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

November 1, 2010

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 5000289/2010004

Dear Mr. Pacilio:

On September 30, 2010, 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 October 7, 2010, 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.

This report documents one NRC-identified finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program (CAP), the NRC is treating this as a non-cited violation (NCV), consistent with Section 2.3.2 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with a basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administration, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors at the Three Mile Island facility. If you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I and the NRC Senior Resident Inspector at the Three Mile Island facility. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

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).

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

Sincerely,

Ronald R. Bellamy

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

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

Enclosure: Inspection Report 05000289/2010004
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/RA/
Ronald R. Bellamy, Ph.D., Chief
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U.S. NUCLEAR REGULATORY COMMISSION
REGION 1

Docket No:	50-289
License No:	DPR-50
Report No:	05000289/2010004
Licensee:	Exelon Generation Company
Facility:	Three Mile Island Station, Unit 1
Location:	Middletown, PA 17057
Dates:	July 1 through September 30, 2010
Inspectors:	D. Kern, Senior Resident Inspector J. Brand, Resident Inspector J. Heinly, Resident Inspector J. Richmond, Senior Reactor Inspector
Approved by:	R. Bellamy, Ph.D., Chief Projects Branch 6 Division of Reactor Projects (DRP)

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SUMMARY OF FINDINGS

IR 05000289/2010004; 7/1/2010-9/30/2010; Exelon Generation Company, LLC; Three Mile Island, Unit 1, Fire Protection.

The report covered a three-month period of baseline inspection conducted by resident inspectors and announced inspections by regional inspectors. One Green finding was identified, which was a non-cited violation (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. Cross-cutting aspects associated with findings are determined using IMC 0305, "Operating Reactor Assessment Program," dated December 2009. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight," Rev. 4, dated December 2006.

Cornerstone: Initiating Events

- Green. The inspectors identified a Green non-cited violation (NCV) of Technical Specification 6.8.1 for failure to properly control and store transient material within seismic Class I buildings such that the equipment did not pose a hazard to nuclear safety or safe plant operation. Specifically, an extension ladder and a maintenance tool cart were left unattended and unsecured in close proximity to the spent fuel pool cooling piping within the fuel handling building and near intermediate cooling pump IC-P-1A and intermediate cooling supply valve IC-V-4 in the auxiliary building, respectively. Operators promptly initiated actions to remove the subject material. During subsequent plant tours the inspectors identified numerous additional examples of improperly controlled transient material. The licensee promptly corrected the identified individual discrepancies and initiated issue reports (IRs) 1095403 and 1122633 to address this performance deficiency.

  The transient material posed a potential hazard to safe shutdown and safety related equipment operation during a seismic event. Cooling water supplies to the spent fuel pool, the reactor coolant pump (RCP) thermal barriers, and control rod drive mechanisms (CRDM) were potentially affected. The dominant risk associated with this performance deficiency is the increased likelihood of a loss of coolant accident or forced plant shutdown. This finding is more than minor because it affected the equipment performance attribute of the Initiating Events cornerstone. The issue was also similar to IMC 0612, Appendix E, Examples of Minor Issues, example 4.k which stated the issue was more-than-minor because it involved a credible (seismic) scenario in which the transient materials could affect equipment important to safety. This finding was of very low safety significance because it did not involve loss or degradation of equipment specifically designed to mitigate a seismic event, and did not involve total loss of a safety function that contributes to external event-initiated core damage accident sequences. The finding had a cross-cutting aspect in the area of Human Performance, Work Practices component because station personnel did not follow procedures for equipment storage and housekeeping within seismic Class I buildings [H.4(b)]. (Section 1R05.2)

REPORT DETAILS

Summary of Plant Status

Three Mile Island, Unit 1 (TMI) began the assessment period at approximately 100 percent rated thermal power. On August 16, Group 6 control rods unexpectedly dropped partially into the core during routine reactor protection system (RPS) surveillance testing. Operators reduced power to 55 percent due to an inoperable control rod associated with this event (see Section 4OA3). Operators restored normal control rod alignment on August 17 and returned to 100 percent rated thermal power on August 18. Reactor power was briefly reduced to 89 percent on September 4 to support scheduled turbine valve stroke testing. Following successful completion of the test, operators returned the plant to full power operation. On September 19, an electric component failure caused the turbine to runback from full power and trip. The plant stabilized at 14 percent power (see Section 4OA3). Following repairs, the turbine was synchronized to the grid on September 20 and the plant was returned to full power on September 21.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Partial System Walkdowns (71111.04Q – 2 samples)

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

- On July 14-16, the inspectors walked down the 'B' and 'C' nuclear river (NR) cooling water pumps (NR-P-1B and NR-P-1C) while the NR-P-1A was out of service for planned troubleshooting to identify the cause of reduced flow; and
- On September 8, the inspectors walked down portions of the emergency feedwater, condensate, and main steam systems associated with EF-P-1 and EF-P-2A, while the 'B' emergency feedwater pump (EF-P-1B) was out of service for a planned maintenance outage.

The partial 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.

1R05 Fire Protection

.1 Annual Drill Observation (71111.05A – 1 sample)

a. Inspection Scope

The inspectors observed an unannounced fire brigade drill on September 1, to evaluate the readiness of station personnel to respond to and fight fires. The drill demonstrated response to a simulated fire located at the 322 foot elevation of the Unit 1 Turbine Building (fire zone TB-FA-1) in the vicinity of turbine driven main feedwater pumps. The inspectors observed fire brigade member use of protective clothing and appropriate turnout gear, including self-contained breathing apparatus, and their approach and methods to combat the fire as well as their interaction with the control room staff. The inspectors observed implementation of fire fighting strategies by the fire brigade, communications among participants throughout the drill, and emergency plan implementation. The inspectors reviewed the drill scenario objectives, determined whether drill scenario objectives were met, and observed the post-drill critique to verify that Exelon identified, discussed, and entered adverse conditions into the corrective action program. Additional documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Routine Resident Inspector Tours (71111.05Q – 5 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, and that fire protection features were properly controlled per surveillance procedure 1038, Administrative Controls-Fire Protection Program, Rev. 74. 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 AIT-FZ-1/1A, Air Intake Tunnel Elevation 281', Air Intake Tunnel;
- Fire Area CB-FA-2F, Control Building Elevation 322', East Battery Area;
- Fire Zone DG-FA-1, Diesel Generator Building, 'A' Diesel Generator;
- Fire Zone FH-FZ-2, Fuel Handling Building Elevation 305', General Area; and
- Fire Zone IB-FZ-2, Intermediate Building Elevation 295', Turbine Driven EFW Pump Room.

b. Findings

Introduction: The inspectors identified a Green non-cited violation (NCV) of Technical Specification 6.8.1 for failure to properly control and store transient material within seismic Class I buildings such that the equipment did not pose a hazard to nuclear safety or safe plant operation. Specifically, contrary to station procedures, an extension ladder was erected and left unattended and unsecured above the spent fuel pool coolers within the fuel handling building. Additionally, a maintenance cart with tools and a spare motor were left unsecured and unattended in close proximity to intermediate cooling pump IC-P-1A and intermediate cooling supply valve IC-V-4 in the auxiliary building.

Description: On July 28, while performing inspections of fire penetration seals within the fuel handling building and the auxiliary building, the inspectors identified several transient material items (i.e., ladders, equipment carts, lagging, signage, tools) not controlled or stored in accordance with station procedures. As described above, two items were found unattended and unsecured in close proximity to safety related and safe shutdown equipment. They posed a potential hazard to the equipment operation and plant safety during a seismic event. A twenty-plus foot extension ladder was upright, laying against piping in the spent fuel pool cooler room. The ladder posed a hazard to the spent fuel pool (SFP) radiation monitor and small SFP instrument lines and piping (1.5 inch diameter and smaller). This could in turn cause a SFP leak and degrade cooling to the spent nuclear fuel in the SFP. An equipment cart with tools and a spare motor was found unattended and unsecured approximately 6 feet from both IC-P-1A and IC-V-4. This posed a potential hazard to the cooling water supply to the reactor coolant pump (RCP) thermal barriers and control rod drive mechanisms (CRDM). Loss of cooling water to these components would pose a challenge to the RCP seals resulting in an unisolable loss of coolant accident and would also require a prompt plant shutdown due to damage to CRDM coils. Maintenance documentation indicated this cart had been left in this condition for several weeks.

TMI administrative procedure 1015, Equipment Storage Inside Class I Buildings, Rev. 5 , requires that loose equipment in Class I buildings when the reactor is not in cold shutdown must be securely anchored or located so as not to be a seismic hazard. TMI procedure MA-AA-716-026, Station Housekeeping/ Material Condition Program, Rev. 9, requires that ladders left erected in place be tied off at the base and near the top. Additionally, rolling equipment (including carts) must be rendered immobile and unable to rotate in any direction by use of appropriate methods (i.e., brakes, chocks, clamps, restraints). The inspectors informed control room operators of the uncontrolled transient materials. Operators promptly initiated actions to remove the subject material. During subsequent plant tours the inspectors identified numerous additional examples of improperly controlled transient material. The licensee promptly corrected the identified individual discrepancies and initiated IR 1122633 to address this repeated performance deficiency.

Analysis: Failure to properly control and restrain transient material within seismic Class I buildings was a performance deficiency. Consequently, a ladder and a maintenance cart were left unsecured and unattended within close proximity to safety related equipment, thereby posing a seismic hazard to safe shutdown and safety related equipment. The dominant risk associated with this performance deficiency is the increased likelihood of a loss of coolant accident or forced plant shutdown. This finding is more than minor because it affected the equipment performance attribute of the Initiating Events cornerstone. The issue was also similar to IMC 0612, Appendix E, Examples of Minor Issues, example 4.k which stated the issue was more-than-minor because it involved a credible (seismic) scenario in which the transient materials could affect equipment important to safety.

The inspectors evaluated the finding in accordance with IMC 0609.04, Phase 1 – Initial Screening and Characterization of Findings. This finding was of very low safety significance because it did not involve loss or degradation of equipment specifically designed to mitigate a seismic event, and did not involve total loss of a safety function that contributes to external event initiated core damage accident sequences. The finding had a cross-cutting aspect in the area of Human Performance, Work Practices component because station personnel did not follow procedures for equipment storage and housekeeping [H.4(b)].

Enforcement:
Technical Specification (TS) 6.8.1.a, requires written procedures to be established, implemented, and maintained covering applicable procedures recommended in Appendix A of NRC Regulatory Guide 1.33, Rev. 2. Appendix A, Section 1, requires administrative procedures for equipment control. TMI administrative procedure 1015, requires that loose equipment in Class I buildings when the reactor is not in cold shutdown must be securely anchored or located so as not to be a seismic hazard. Procedure MA-AA-716-026 requires that ladders left erected in place be tied off at the base and near the top. Additionally, rolling equipment (including carts) must be rendered immobile and unable to rotate in any direction by use of appropriate methods (i.e., brakes, chocks, clamps, restraints). Contrary to the above, on July 28, 2010, a ladder was left erected and unattended in the vicinity of safety related spent fuel pool cooling piping within the building. Additionally, an unrestrained maintenance equipment cart was left unattended in the vicinity of IC-P-1A and IC-V-4 within the auxiliary building. Because this violation is of very low safety significance and was entered into the TMI corrective action program (IRs 1095403 and 1122633), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy: **NCV 05000289/20100-01, Deficient Control of Transient Material in Seismic Class I Buildings**.

1R06 Flood Protection (71111.06 – 1 sample)

a. Inspection Scope

The inspectors performed visual inspections of flood barriers and system boundaries located in portions of the intermediate building where internal flooding could adversely affect safety related systems needed for safe shutdown of the plant. The inspectors walked down the area enveloping a circular retaining wall surrounding the reactor containment and interviewed the system engineer and operators. The inspectors also reviewed IR 1079153 which evaluated a failure of the intermediate building flood level transmitter (SD-LS-1039) located in this area during a scheduled surveillance test (Recurring Task WO-R2159653).

b. Findings

No findings of significance were identified.

1R07 *Heat Sink* Performance (71111.07)

.1 Triennial Heat Sink Performance Review (3 samples)

a. Inspection Scope
Based on a plant specific risk assessment, past inspection results, recent operational experience, and resident inspector input, the inspectors selected the following heat sink samples:

- Nuclear river water system walkdown and performance review;
- Nuclear services closed cooling water system walkdown and performance review; and
- River water intake structure walkdown and performance review.

The inspectors reviewed the nuclear river (NR) and nuclear services closed cooling water (NS) system designs to evaluate the adequacy of system monitoring, testing, and maintenance. The NR and NS systems supply cooling water from the Susquehanna River to various plant heat loads to ensure a continuous flow of cooling water to systems and components necessary for plant safety during both normal operation and abnormal or accident conditions.

The inspectors reviewed Exelon's test, inspection, maintenance, and performance monitoring methods and task frequencies for the NR and NS systems to determine whether potential deficiencies could mask degraded performance, and to assess the capability of the systems to perform their design functions. In addition, the inspectors evaluated whether any potential common cause heat sink performance problems could affect multiple heat exchangers or heat removal paths in mitigating systems or could result in an initiating event.

The inspectors reviewed system health reports, pipe inspection records, performance and surveillance test results, design specifications, calculations, and hydraulic analysis. The inspectors compared as-found inspection results, and performance and surveillance test results to established acceptance criteria to determine whether the as-found conditions were acceptable and conformed to design basis assumptions for heat transfer capability. The inspectors evaluated performance trends to assess whether the inspection and test frequencies were adequate to identify degradation prior to loss of heat removal capabilities below their design requirements. For the NR system, the inspectors compared hydraulic analysis results to established system operating limits and system design attributes to assess parallel pump operations during off-normal operating conditions, and to verify whether adequate margins existed for pump minimum flow and pump run-out flow. In addition, the inspectors assessed Exelon's methods to monitor and control bio-fouling, corrosion, erosion, and silting to verify whether Exelon's methodology and acceptance criteria, as-implemented, were adequate.

The inspectors performed field walkdowns of selected portions of the NR and NS system piping, pumps, and heat exchangers, and the intake structure to independently assess the material condition of these systems and components. The inspectors reviewed the most recent American Society of Mechanical Engineers quarterly and comprehensive inservice pump test results for the NR and NS systems. The inspectors compared the as-found data against established acceptance criteria to evaluate the pumps' hydraulic performance and assess Exelon's inservice test activity effectiveness. In addition, the inspectors reviewed work order history and discussed system health with the respective system and design engineers. Additional documents reviewed during this inspection are listed in the attachment.

b. <u>Findings</u>

No findings of significance were identified.

.a <u>Inspection scope</u>

Annual Clam Kill Chemical Treatment Evolution

The inspectors reviewed the annual biocide injection process performed under procedure 1104-65, River and Circulating Water System Macrofouling Treatment, Rev. 25. The intent of the procedure is to ensure all river water systems are treated with the biocide such that any macrofouling organisms are exposed to the biocide. The inspectors validated that the procedure met its intent and would ensure continued satisfactory performance of the river water systems and their associated heat exchangers. The inspectors performed independent field observations of the biocide injection process including interviewing field technicians, chemistry technicians, and other key personnel responsible for the implementation and oversight of the biocide injection process. In addition, the inspectors independently verified that the final data met all applicable acceptance criteria.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

On August 24, the inspectors observed licensed operator requalification training at the control room simulator for the 'C' operator crew. The inspectors observed the operators' simulator drill performance and compared it to the criteria listed in TMI Operational Simulator Scenario TQ-LRU-106-S021, CST Leak, Small Grid Perturbation, Loss of Main Feedwater Pump, Plant Runback, EG-Y-1B Start, Loss of Main Feedwater, ATWS, Small Break LOCA, Loss of SCM, Rev. 0.

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 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.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)

a. Inspection Scope

The inspectors evaluated the listed sample 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;

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.

- On July 11, NR-P-1A was declared inoperable based upon degraded flow observed during performance of the quarterly in-service flow test. Engineers, operators, and maintenance personnel developed and implemented a complex troubleshooting plan to verify pump performance and determine the cause of any resulting degradation (IR 1089599). Troubleshooting confirmed NR-P-1A flow performance had degraded during the past year. No similar indications of degradation were observed on the other two NR pumps. An accelerated test frequency was established for NR-P-1A. Test results through the end of this inspection period verified NR-P-1A remained inoperable, but available to perform its safety function. Corrective pump repairs were scheduled for late fall, when river water temperatures were lower and only one NR pump would be needed to perform the safety related heat removal support function.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 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 conducted 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. 17A.

- On July 11, NR-P-1A failed the periodic in-service flow test and was declared inoperable. Additional testing was performed on NR-P-1B and NR-P-1C to verify no common cause failure issues existed (IR 1089599). Operators aligned NR-P-1B and NR-P-1C as protected equipment. Due to elevated river water temperatures (i.e., 93 degrees Fahrenheit) station personnel maintained NR-P-1A in an available state and scheduled corrective maintenance for November, when river water temperatures would be considerably lower;

- On August 16-17, technicians performed troubleshooting of the Group 6 control rod drive mechanism control circuitry in accordance with MA-AA-716-004, Conduct of Troubleshooting, Rev. 10 and work orders A2257463 and R2159445 following a Group 6 programmer malfunction which caused all eight Group 6 control rods to unexpectedly drop partially into the core. Station risk was elevated to Yellow during a portion of this period due to a severe thunderstorm warning which was unrelated to the Group 6 control rod malfunction;

- On September 8, emergency feedwater pump EF-P-2B was removed from service for a planned maintenance outage. Station risk was Yellow during this period of EF-P-2B unavailability; and
- On September 29–30, emergency diesel generator (EDG) EG-Y-1A was removed from service for a planned maintenance outage. The purpose of the outage was to perform inspections for equipment conditions which had caused failure of a similar EDG at another nuclear power plant. Station risk was Yellow during this period of EG-Y-1A unavailability.

b. Findings

No findings of significance 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. 9, 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 July 28, TMI personnel identified a discrepancy in the minimum high heating value (HHV) specification for the TMI diesel fuel oil (IR 01095297). The TMI specification required a HHV of 130,000 Btu/gal while the Exelon corporate specification required 135,000 Btu/gal. The lower HHV would increase the fuel consumption rate of the EDG and could adversely impact its ability to meet its mission time. The evaluation concluded that based upon diesel fuel oil samples and previous calculations, the current diesel fuel oil is acceptable and the EDGs remain operable.
- On August 16, Group 6 control rods experienced a ratchet trip from the full out position, leaving the control rods misaligned (IR 1102069). Rod 6-5 dropped to the 51 percent withdrawn position and the other seven Group 6 control rods stopped between 91 and 96 percent out. Operators promptly declared control rod 6-5 inoperable and implemented appropriate TS required actions. Following troubleshooting activities, operators withdrew control rod 6-5 to the 96 percent out position and declared it operable on August 17.

- On August 21, during inspection of station flood barriers, engineers identified that a check valve in a 6 inch line between the air intake tunnel (AIT) and the AIT sump pump room was not installed. Engineers concluded that a flood path had existed which, during the probabilistic maximum flood, could permit water to enter the auxiliary building and make the high pressure injection (HPI) pumps, decay heat removal (DH) pumps, and building spray.(BS) pumps inoperable (IR 1104245). Operators reported the issue to the NRC in accordance with 10 CFR 50.72. Station personnel had already installed two temporary modifications (see Section 1R18) as interim measures to address missing flood seals. Operators concluded the HPI, DH, and BS functions remained operable.

- Operability evaluation OPE-10-002, MS-PT-1183, 'B' once through steam generator (OTSG) Steam Pressure Transmitter, Rev. 0 evaluated the continued operability of the heat sink protection system (HSPS) when MS-PT-1183 was discovered to be in operation beyond its qualified service life of 10 years (IR 1092981). The evaluation concluded that continued use of the existing MS-PT-1183 pressure transmitter would support HSPS operability through May 15, 2011. Corrective actions to replace MS-PT-1183 before this date were established.

- On September 10, the reactor building (RB) equipment hatch emergency airlock failed 1303-11.17A, RB Local Leak Rate Testing – RB Access Hatches, Rev. 3 (IR 1111550). Operators declared the emergency airlock inoperable, entered a 24 hour plant shutdown limiting condition of operation (LCO), immediately initiated a detailed evaluation of containment operability, verified both emergency airlock doors closed, and began visual inspections of the emergency airlock pressure boundary including all test fittings. Station personnel subsequently determined the cumulative Type B and C containment leakage, including the measured airlock leakage (83,184 standard cubic centimeters per minute) did not exceed the TS 6.8.5 allowable leakage. Operators declared the airlock and reactor building containment operable and exited the associated TS LCO. Station personnel also identified the leak path was from the emergency airlock into the RB containment via the airlock pressure equalizing valve. The leak was repaired on September 11.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

a. Inspection Scope

The inspectors reviewed the following modifications to determine whether they were designed and/or implemented as required by Exelon documents CC-AA-102, Design Input and Configuration Change Impact Screening, Rev. 19 and CC-AA-103, Configuration Change Control, Rev. 20. The inspectors verified the modification supported plant operation as described in the Updated Final Safety Analysis Report (UFSAR) and complied with associated TS requirements. The inspectors reviewed the function of the changed component, the change description and scope, and the associated 10 CFR 50.59 screening evaluation. Both modifications listed below were implemented as corrective actions associated with NRC Unresolved Item

05000289/2010009-04 – Potential Concern Regarding TMI's Internal and External Flood Protection Barriers and Mitigation Strategies.

- Engineering Change Request (ECR) TM-10-480, Plug Air Intake Tunnel Drain Line, Rev. 0, installed a temporary mechanical plug to seal a 6 inch drain line in the air intake tunnel that did not have a backwater prevention type check valve. The check valve is required to prevent water from entering into safety related areas of the plant. Without the check valve, in the event of a probable maximum flood, flood water could flow back through the 6 inch drain line into the air intake tunnel and eventually into the auxiliary building which houses multiple safe shutdown components. The purpose of this temporary modification is to isolate the drain line until a permanent solution for this issue is developed and implemented (IR 1095333); and

- OP-TM-AOP-002, Flood, Rev. 2A, provided guidance on the installation and removal of a temporary plug for a 2 inch penetration between the AIT and an electrical conduit vault. The penetration was originally installed to permit water inleakage to the vault to drain to the AIT where it could be removed by the AIT sump pumps. However, the wall between the AIT and the vault is designed to function as a flood barrier. The 2 inch penetration violates the flood barrier, which is required to prevent water from entering into safety related areas of the plant. Without the flood barrier, in the event of a probable maximum flood, flood water could flow back through the 2 inch drain line into the air intake tunnel and eventually into the auxiliary building which houses multiple safe shutdown components. The purpose of this temporary modification is to provide a means to isolate the 2 inch drain line until a permanent solution for this issue is developed and implemented (IR 1102568).

b. <u>Findings</u>

No findings of significance were identified.

1R19 Post Maintenance Testing (PMT) (71111.19 – 5 samples)

a. <u>Inspection Scope</u>

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 during this inspection are listed in the attachment.

- On July 29, operators performed visual pressure integrity inspections at HD-LC-1B, the level controller for feedwater heater FW-J-1B, following leak injection repairs to stop a steam leak. Repairs and the PMT were performed in accordance with work order M2253773;

- On August 25, operators performed OP-TM-622-451, Transferring Rods to Aux Power Supply, Rev. 1, following maintenance to the group 6 control rods transfer switch (work order C2024121);

- On September 11, maintenance personnel replaced the RB emergency hatch pressure equalization line ball valve. On September 11-12, PMT was successfully performed in accordance with 1303-11.17A (work order R2126925);

- On September 15, operators performed 3303-M1, Fire Pump Periodic Operation, Rev. 40 (work order R2153495), as a PMT following a cooling system coupler failure on the FS-P-3; and

- On September 30, operators performed 1303-4.16, Emergency Power System, Rev. 124A as PMT following a maintenance outage on the 'A' EDG (work order R2168746).

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope (2 Inservice Testing [IST] Samples and 3 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. 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.

- On July 11, OP-TM-541-201, IST of Nuclear Service River Water Pumps and Valves, Rev. 6;
- On August 24, OP-TM-534-207, IST of RR-V-3A/B/C and RR-V-4A/B/C/D, Rev. 0;
- On August 31, 1302-5.15A.1, CF1-PT1 Pressure Channel Calibration, Rev. 0;
- On September 3, 1303-4.2c, RPS Channel C CRD Breaker and Test Module Testing, Rev. 18; and
- On September 30, 1303-4.16 Emergency Power System, Rev. 124A as the quarterly in-service test of the 'A' EDG fuel oil transfer pumps.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

a. Inspection Scope

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

The inspectors performed a daily screening of items entered into the licensee's corrective action program in accordance with LS-AA-125, Corrective Action Program, Rev. 14. 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.

4OA3 Event Follow-up (71153 – 2 samples)

.1 Group 6 Control Rods Ratchet Trip

a. Inspection Scope

At 11:16 a.m. on August 16, during quarterly reactor protection system (RPS) testing, Group 6 control rods experienced a ratchet trip from the full out position, leaving the control rods misaligned (IR 1102069). Control rod 6-5 dropped to the 51 percent withdrawn position and the other seven Group 6 control rods stopped between the 91 and 96 percent withdrawn positions. Reactor power decreased to 99.5 percent in response to the event. Operators promptly declared control rod 6-5 inoperable due to its position deviating from the Group 6 average control rod position by more than 9 inches and implemented OP-TM-AOP-062, Inoperable Rod, Rev. 2. In accordance with TS 3.5.2.2, operators promptly verified adequate hot shutdown margin, reduced power to $\leq$ 60 percent thermal power within 2 hours, reduced RPS overpower trip setpoints to <70 percent within 10 hours, and exercised all control rods within 24 hours. Operators stabilized the plant at 55 percent power while station personnel evaluated the cause of the event. The inspectors observed operator and technician response to the event, reviewed various records, interviewed operators and technicians, and performed post event plant walkdowns to verify station personnel responded in accordance with TS requirements and station procedures. The inspectors also monitored Group 6 rod control troubleshooting to verify plant safety systems were not adversely affected.

Station personnel staffed the outage control center, consulted with rod control experts, and developed a troubleshooting plan in accordance with MA-AA-716-004 to diagnose the cause of the Group 6 control rod malfunction and support restoration of normal control rod configuration. Technicians localized the malfunction to the Group 6 control rod power supply programmer. On August 17, operators successfully withdrew control rod 6-5 to the 96 percent withdrawn position which matched the Group 6 average rod position. Operators declared control rod 6-5 operable and began power ascension to full power. On August 25, operators transferred all Group 6 control rods to the auxiliary power supply and withdrew them to the full out position. On September 3, technicians successfully completed the 'C' RPS functional surveillance test to verify the RPS trip function was operable. Further troubleshooting and corrective actions to repair the Group 6 control rod programmer were planned and scheduled in accordance with IR 1102069.

b. Findings

No findings of significance were identified.

.2 Turbine Runback From Full Power and Turbine Trip

a. Inspection Scope

On September 19, at 11:26 p.m., the turbine unexpectedly ran back from 100 to 26 percent output over a five minute period. Operators responded properly by taking manual control of pressurizer spray to control reactor coolant system pressure and implemented OP-TM-AOP-70, Primary to Secondary Heat Transfer Upset, Rev. 2. The turbine then tripped off-line from 26 percent reactor power due to a generator reverse power protective trip signal (IR 1115086). Operators stabilized the plant at 14 percent reactor power. Both steam generator atmospheric steam relief valves and one main steam safety valve briefly lifted as designed to mitigate elevated main steam system pressure during the event.

The inspectors reviewed operator logs, plant process computer data for pertinent plant parameters, interviewed station personnel, and performed plant walkdowns to verify operators responded in accordance with station procedures and that the plant responded as designed to the event. The inspectors reviewed plant drawings, vendor information, and work order instructions and monitored troubleshooting activities. Technicians determined the event was caused by a failed signal converter module which communicates the integrated control system demand to the digital turbine control system. The converter failed low, instantaneously reducing the turbine demand signal from 100 percent to negative 25 percent. The cause of the signal converter failure remained under evaluation at the close of the inspection period. By design, since the turbine remained on-line until the reactor was below 45 percent power, no reactor trip occurred. Technicians successfully replaced the failed signal converter and performed post-maintenance testing. Operators synchronized the turbine to the grid on September 20 and returned the plant to full power on September 21.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On October 7, 2010, the resident inspectors presented the inspection results to Mr. William Noll and other members of the TMI staff who acknowledged the findings. The inspectors confirmed that proprietary information was not retained at the conclusion of the inspection period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Atherholt	Manager, Regulatory Assurance
J. Bashista	System Engineer
K. Boring	NSSS Branch Manager
B. Carsky	Director, Engineering
G. Chevalier	Chemist
D. DeBoer	Director, Operations
D. Divittore	Manager, Radiation Protection
J. Dullinger	Senior Manager, Operations Support
M. Fitzwater	Senior Engineer, Regulatory Assurance
R. Green	Program Engineer, Buried Pipe
C. Incorvati	Director, Maintenance
J. Karkoska	Manager, Site Security
M. Krause	Component Monitoring Engineer
R. Libra	Plant Manager
D. Neff	Manager, Emergency Preparedness
M. Newcomer	Director, Work Management
J. Newmann	Emergency Preparedness Coordinator
W. Noll	Site Vice President
T. Orth	Manager, Chemistry
J. Piazza	Senior Manager, Engineering
T. Roberts	Supervisor, Radiation Protection
K. Robles	System Engineer
R. Rogers	EP Siren Coordinator
J. Schork	Lead LORT Instructor
L. Weber	Chemist
L. Weir	Manager, Nuclear Oversight Services

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

05000289/20100-01	NCV	Deficient Control of Transient Material in Seismic Class I Buildings (Section 1R05.2)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures
OP-TM-411-000, Main Steam / OTSG, Rev. 12
OP-TM-424-000, Emergency Feedwater System, Rev. 10
OP-TM-541-000, Primary Component Cooling, Rev. 12

Drawings
302-011, Main Steam Flow Diagram, Rev. 72
302-082, Emergency Feedwater Flow Diagram, Rev. 24
302-202, Nuclear Services River Water System, Rev. 77

Section 1R05: Fire Protection

Procedures
104-45E, Fire Service Pre-action System, Rev. 13
OP-TM-AOP-001, Fire, Rev. 7
OP-TM-PLA-8-4, Feedwater Pump Turbine Bearing Fire Detection System Trouble, Rev. 7

Drawings
E-216-021, TMI Electrical Manholes & Underground Ducts Turbine Building to Circulating Water Pump House Area, Rev. 10
E-216-022, TMI Electrical Manholes & Underground Ducts Auxiliary Building to Screen House Area, Rev. 17

Other
TMI Unit 1 Fire Hazards Analysis Report, Rev. 23
TMI Unit 1 Fire Pre-Plan & Strategies dated July 12, 2010.
TMI Unannounced Fire Drill Scenarios conducted March 14, 2008 through September 1, 2010
IRs 1043638, 1044859, 1046016, 1080570

Section 1R07: Triennial Heat Sink Performance

Procedures
1041, IST Program Requirements, Rev. 43
1301-6.7, Monitoring of Silt Buildup in River Water Screen House, Rev. 22
ER-AA-340, GL 89-13 Program Implementing Procedure, Rev. 6
ER-AA-340-1001, GL 89-13 Program Implementation Instructional Guide, Rev. 7
ER-TM-340-1001, GL 89-13 Program Basis Document, Rev. 0
OP-TM-211-901, Emergency Injection, Rev. 5
OP-TM-541-000, Primary Component Cooling, Rev. 12
OP-TM-541-202, IST of NS Pumps and Valves during Refuelings, Rev. 2b
OP-TM-541-208, IST of NS-P-1A/B/C, Rev. 7
OP-TM-541-461, Intermediate Cooling and NS Temperature Control, Rev. 6
OP-TM-642-901, 1600 Psig ESAS Actuation, Rev. 2
OP-TM-AOP-005, River Water Systems Failures, Rev. 9
OP-TM-1104-65, River and Circulating Water System Macrofouling Treatment, Rev 25
OP-TM-533-401, Operating DR-P-1A for Other Than Decay Heat Removal Operations, Rev. 5
OP-TM-533-471, Backwashing DC-C-2A, Rev. 6

Drawings
302-202, River Water (NR) System P&ID, Rev. 72
302-202, Nuclear Services River Water System, Rev 77
302-610, Closed Cycle Cooling Water (NS) P&ID, Rev. 77
990-1536, Pump Head Curve Book, Rev. 17

Design and Licensing Basis
DBD-T1-531, System Design Basis for NR, NS, and IC Systems, Rev. 5
Letter C311-88-2087, TMI to NRC, Response to Bulletin 88-04, dated 7/08/1988
Letter LAI 85-9325, TMI to NRC, Potential Loss of Minimum Flow Paths Leading to ECCS Pump Damage, dated 5/30/1986
UFSAR Section 9.6.1, Cooling Water Systems, Rev. 20

Engineering Calculations, Analyses, Specifications, and Design Changes
C-1101-531-5310-010, Nuclear River Water System Performance, Rev. 2
C-1101-531-E310-015, Low Intake Level with Silt Accumulation, Rev. 1
C-1101-531-E510-016, Nuclear Service Water Pump IST Instrument Error, Rev. 0
C-1101-532-E410-006, Intake Pump House Stop Log Seismic Evaluation, Rev. 0
C-1101-541-5310-024, NS hydraulic Analysis, Rev. 1
EC-ECR A2134734-05, Evaluation of NR Potential NR Pump Cycling, dated 12/04/2006

Issue Reports (IRs)
* = IRs written as a result of the NRC inspection

0222404	0751235	0814352	0986838	1073078	1094330
0344644	0751237	0818960	0992549	1073721	1094330
0369991	0764836	0896394	0993199	1073725	1106210*
0431999	0784928	0956323	1016707	1084254	1106362*
0467760	0792935	0965937	1060168	1084258	1106364*
0467760	0797957	0966005	1060168	1089599	1106397*
0733018	0799688	0974753	1072167	1090306	1106571*
					1111215

Work Orders
R2082152
R2116457

Completed Tests, Surveillances, and Inspections
1301-9.7, Intake Pump House Silt Accumulation and Inspections, performed 6/04/2010
OP-TM-541-201, Quarterly IST of NR Pumps and Valves, performed 3/26/2010
OP-TM-541-201Quarterly IST of NR Pumps and Valves, performed 7/11/2010
OP-TM-541-201, Quarterly IST of NR Pumps and Valves, performed 7/14/2010
OP-TM-541-202, 2-year IST of NR Pumps and Valves, performed 12/23/2009
OP-TM-541-208, Quarterly IST of NS Pumps and Valves, performed 6/17/2010
OP-TM-541-209, 2-year IST of NS Pumps and Valves, performed 11/19/2009
OP-TM-541-251, Leakage Exam of NR Underground Piping, performed 12/15/2009
OP-TM-541-252, Leakage Exam of NR System [above ground], performed 11/23/2009

Miscellaneous Documents
Action Request A2245372
Equipment Storage Data Sheet 1995003, Jib Cranes in Heat Exchanger Vault, dated 1/17/2010
IR 01054619, GL 89-13 Functional Area Self Assessment, performed 4/2010
IST Evaluation 185, NS-P-1A Test Results in Required Action Range, dated 12/03/2009
IST Evaluation 186, NS-P-1B Test Results in Required Action Range, dated 12/03/2009
IST Tend Logs of Quarterly NS Pump Flow Rates, 9/2005 to 7/2010
System Health Report, Nuclear River Water System, 2nd Quarter 2010
System Health Report, Nuclear Services Closed Cooling Water System, 2nd Quarter 2010
Nuclear River Water Piping Through Wall Leakage Logs for the past 3 years
Nuclear Services System Head Tank Level Log, June-September 2009
Nuclear Services System Head Tank Level Log, June-August 2010
OPXR 1076056-10, Operating Experience Review of Air or Gas Intrusion into Component Cooling Water, dated 7/20/2010
TMI NPDES - Permit PA 0009920
Trouble Shooting Data Sheet 1089599, NR-P-1A Not Operable or Available, dated 7/16/2010

NRC Documents
NRC Bulletin 1988-04, Potential Safety Related Pump Loss
NRC Generic Letter 1989-13, Service Water System Problems Affecting Safety Related Equipment
NRC Approved TMI Relief Requests for the Inservice Testing Program (ML051530406), dated 7/07/2005

Industry Documents
ASME OM Code-1998, ISTB-1000, Inservice Testing of Pumps

Section 1R15: Operability Evaluations
Drawings
1E-122-01-1000, TMI Flood Barrier System, Rev. 0
D-215-160, Electrical Conduit Diesel Generator Building, Rev. 10

Other
10 CFR 50, Appendix J, Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors
B&W Letter 51-1171907, History of CRDM Ratchet Trips dated April, 14, 1988
B&W Standard Technical Specifications, Rev. 3
C-1101-862-5360-002, TMI-1 EDG Fuel Requirement, Rev. 4
ECR 07-00310, Configuration Change for Conversion to S15 ULSD Fuel Oil
Exelon Letter LTR-0080-0903-02, Review of Internal Flooding Licensing and Design Basis for TMI Unit 1
Issue Reports 1095297, 1102069, 1102663
Nuclear Energy Institute 94-01, Industry Guideline for Implementing Performance Based Option of 10 CFR 50, Appendix J
Power Labs Diesel Fuel Oil Chemical Testing Reports, dated 3/22/10, 6/3/10, 6/8/10, 8/18/10
Shift Operator Logs Dated September 9 through September 13, 2010
SP-1101-38-016, Specification for Diesel Fuel Oil No. 2, Rev. 8
TS 3.5.2, 3.6.12, 4.7.1, and 6.8.5
TMI Unit 1 TS Amendment 211, dated June 15, 1999
Work Order R2163419

Section IR19: Post Maintenance Testing

Procedures

OP-TM-622-451, Transferring Rods to Aux Power Supply, Rev. 1A
OP-TM-3303-M1, Fire Pump Periodic Operation, Rev. 40

Issue Reports

1093238, 1094452, 1110970, 1111749, 1113503

Other

Action Requests A2255749, A2257463
Topical Report Number 171, Maintenance Rule Structures IN0Scope Inspection Report for Diesel Fire Pump House
Work Order C2024121
10 CFR 50.59 Screened-out Evaluations
IC-29600, Transferring Rods (6-5) to Aux Power Supply, Rev. 3

Section IR22: Surveillance Testing

Completed Tests, Surveillances, and Inspections

OP-TM-534-207, IST of RR-V-3A/B/C and RR-V-4A/B/C/D, performed 8/24/10
OP-TM-234-210, IST of RR-V-5 and RR-V-6, performed 8/24/10
OP-TM-534-000, Reactor Building Emergency Cooling Water System, Rev 1.
1303-4.2c, RPS Channel C CRD Breaker and Test Module Testing, performed 9/3/10

Work Orders

R2163419, R2163715, R2163716

Drawings

302-611, Reactor Building Normal and Emergency Cooling Water System, Rev. 13

Section 4OA2: Identification and Resolution of Problems

Procedures

LS-AA-125, Corrective Action Program, Rev. 14

Section 4OA3: Event Follow-Up

Procedures

1102-4, Power Operation, Rev. 118
OP-AA-108-114, Post Transient Review, Rev. 5
OP-AA-108-115, Operability Determinations, Rev. 9
OP-AA-108-115-1002, Supplemental Consideration for On-Shift Immediate Operability Determinations, Rev. 2
OP-TM-MAP-H0201, Integrated Control System in Track, Rev. 1
OP-TM-MAP-H0202, Large Megawatt Error in Track, Rev. 1
OP-TM-MAP-H0203, Main Turbine Header Pressure Hi/Low, Rev. 1
OP-TM-MAP-H0303, Main Turbine on Manual, Rev. 1

Other

Issue Reports 1102069, 1102663, 1115086, 1115131, 1115140, 1115334
Work Order R2163419
Operator logs and Plant Process Computer Printouts for August 16-18, 2010

LIST OF ACRONYMS

ADAMS	Agencywide Documents and Management System
AIT	Air Intake Tunnel
BS	Building Spray
CFR	Code of Federal Regulations
CRDM	Control Rod Drive Mechanism
DH	Decay Heat Removal
DRP	Division of Reactor Projects
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
HHV	High Heating Value
HPI	High Pressure Injection
HSPS	Heat Sink Protection System
IMC	Inspection Manual Chapter
IR	Issue Report
IST	Inservice Testing
LCO	Limiting Condition of Operation
MR	Maintenance Rule
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NR	Nuclear River
NRC	Nuclear Regulatory Commission
NS	Nuclear Service
OTSG	Once Through Steam Generator
PADEP	Pennsylvania Department of Environmental Protection
PARS	Publicly Available Records
PI	Performance Indicator
PMT	Post Maintenance Test
RB	Reactor Building
RCP	Reactor Coolant Pump
RPS	Reactor Protection System
SDP	Significance Determination Process
SFP	Spent Fuel Pump
SSC	Structures, Systems and Components
TMI	Three Mile Island, Unit 1
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report