UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

August 10, 2016

Mr. Bryan Hanson
Senior Vice President, Exelon Generation, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Rd.
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND STATION, UNIT 1 – INTEGRATED INSPECTION REPORT 5000289/2016002

Dear Mr. Hanson:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Three Mile Island, Unit 1 (TMI) facility. The enclosed inspection report documents the inspection results, which were discussed on August 10, 2016, with Mr. Thomas Haaf, Plant Manager, and other members of your staff.

NRC inspectors 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 were identified.

In accordance with 10 CFR 2.390 of the NRCs "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's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC'S website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Silas R. Kennedy, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket No. 50-289
License No. DPR-50

Enclosure:
Inspection Report 05000289/2016002
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-289
License No:	DPR-50
Report No:	05000289/2016002
Licensee:	Exelon Generation Company
Facility:	Three Mile Island Station, Unit 1
Location:	Middletown, PA 17057
Dates:	April 1 through June 30, 2016
Inspectors:	D. Werkheiser, Senior Resident Inspector B. Lin, Resident Inspector L. Cruz, Project Engineer L. Dumont, Resident Inspector R. Rolph, Health Physicist T. Setzer, Senior Operations Engineer
Approved by:	S. Kennedy, Chief Projects Branch 6 Division of Reactor Projects

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SUMMARY

Inspection Report 05000289/2016002, 04/01/2016-06/31/2016; Three Mile Island, Unit 1.

This report covered a three-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

No findings were identified.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power. On May 28, 2016, operators reduced power to 89 percent for planned turbine valve and control rod testing and to isolate the 'J' feedwater heater to facilitate repairs due to an apparent feedwater heater tube leak. The operators returned the unit to 100 percent power on May 29. Following feedwater heater repairs, operators reduced power on June 14 to approximately 89 percent power to restore the 'J' feedwater heater. Operators returned the unit to 100 percent power on June 15. The unit remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 2 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Exelon's readiness for the onset of seasonal high temperatures. The review focused on the control building ventilation system and reactor building cooling systems. The inspectors reviewed the updated final safety analysis report (UFSAR), technical specifications (TS), control room logs and the corrective action program to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Exelon personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Exelon's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions. Documents reviewed for each section of this inspection report are listed in the attachment.

b. Findings

No findings were identified.

.2 Summer Readiness of Offsite and Alternate Alternating Current Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternating current (AC) power system to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Exelon's procedures affecting these areas and the communications protocols between the transmission system operator and Exelon. This review focused on changes to the established program and material condition of the offsite and alternate ac power equipment. The inspectors assessed whether Exelon established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite ac power system and the onsite alternate AC power system.

The inspectors evaluated the material condition of the associated equipment by interviewing the responsible system manager, reviewing issue reports and open work orders, and walking down portions of the offsite and ac power systems including the 500 kilovolt (kV) and 230 kV switchyards.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Train 'A' intermediate closed cooling water system during train 'B' maintenance, on April 14, 2016
- Protected train of 'B' spent fuel pool cooling while spent fuel pool temperature's time to boil was less than 72 hours, on June 10, 2016.
- Train 'A' and 'B' of nuclear services closed cooling system during the replacement of the coupling oil seal on the 'C' nuclear services closed cooling pump on June 17, 2016

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, work orders, issue reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Exelon staff had properly identified equipment issues and entered them into the corrective action program for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

On June 23 and 24, 2016, the inspectors performed a complete system walkdown of accessible portions of the emergency feedwater (EFW) system to verify the existing equipment lineup was correct at the conclusion of in-service testing of the turbine-driven EFW pump and EFW valves 4 and 5 (reactor river system cross connection valves). The inspectors reviewed operating procedures, surveillance tests, drawings, equipment line-up check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions.

The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hangar and support functionality and operability of support systems. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related issue reports and work orders to ensure Exelon appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Exelon controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Auxiliary building shield wall area (AB-FZ-4), on April 1, 2016
- Intermediate building elevation 322' (IB-FZ-06), on May 4, 2016
- Intermediate building elevation 305' (IB-FZ-05), on May 13, 2016
- Intake screen pump house 308', (ISPH-FZ-1 and 2), on May 20, 2016
- Intake screen pump house 308', (ISPH-FZ-3), on May 20, 2016

b. Findings

No findings were identified.

.2 Fire Protection – Drill Observation (71111.05A – 1 sample)

a. Inspection Scope

The inspectors reviewed station response to an actual fire in the main control room as a result of a plant computer multiplexer card failure on April 4, 2016. An acrid odor was detected by the min control room crew. Upon investigation, a candle flame initiated on a multiplexer card within an enclosed multiplexer cabinet (MUX no. 7). The fire was extinguished within 30 seconds by the crew with a carbon dioxide fire extinguisher and the affected multiplexer cabinet was de-energized. The inspectors evaluated the response of the crew and fire brigade to the fire and subsequent restoration. The inspectors verified that Exelon personnel identified deficiencies, discussed them in a self-critical manner and documented issues in the corrective action program.

The inspectors evaluated specific attributes as follows:

- Proper wearing of turnout gear and self-contained breathing apparatus
- Proper use and layout of fire hoses
- Employment of appropriate fire-fighting techniques
- Sufficient fire-fighting equipment brought to the scene
- Effectiveness of command and control
- Utilization of pre-planned strategies

The inspectors also evaluated the fire brigade's actions to determine whether these actions were in accordance with Exelon's fire-fighting strategies.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

Annual Review of Cables Located in Underground Manholes

a. Inspection Scope

The inspectors conducted an inspection of underground manholes subject to flooding that contain cables whose failure could affect risk-significant equipment. The inspectors performed walkdowns or review of risk-significant areas, including manhole T-5 and T-9 which contain communication cables important to safety, to verify that the cables were not submerged in water, that cables and/or splices appeared intact, and to observe the condition of cable support structures. The inspectors also ensured that drainage was provided and functioning properly in areas where dewatering devices were not installed.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on May 3, 2016, which was also a planned emergency preparedness drill. Scenario included a turbine trip without reactor trip, steam generator tube rupture, loss of decay heat, loss of coolant accident, and reactor plant super-heat conditions. The inspectors evaluated operator performance during the simulated event and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the shift technical advisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed control room operations in support of train 'B' reactor protection system testing and as well as routine plant operations conducted on April 14, 2016, and April 15, 2016. The inspectors observed licensed operators performance to verify that procedure use, crew communications and coordination of activities between work groups met the criteria specified in Exelon's OP-AA-1, "Conduct of Operations," Revision 001. In addition, the inspectors verified that licensee supervision and management were adequately engaged in plant operations oversight and appropriately assessed control room operator performance and similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with Title 10 of the Code of Federal Regulations (CFR) 50.65 and verified that the (a)(2) performance criteria established by Exelon staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Exelon staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Nuclear instrument power supply (NI-YY-12) issue and functional failure determination documented in issue report 26000410 on April 11, 2016
- System 733 (480 volt alternating current) exceeding maintenance rule reliability criteria as documented in issue reports 2658947 and 2673109 on May 25, 2016

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Exelon performed the appropriate risk assessments prior to removing equipment for work. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Exelon personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Exelon performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Reactor protection system testing and nuclear instrumentation protection as documented in issue report 2655920 on April 15, 2016
- Planned Yellow station risk during 'A' emergency diesel engine system outage on April 18, 2016
- Planned Yellow station risk and specified compensatory actions during intake bay area 4 desilting which affected 'A' reactor river pump (RR-P-1A) and 'C' nuclear river water pump (NR-P-1C) on April 28, 2016
- Planned Yellow station risk and specified compensatory actions during intake bay area 5 desilting which affected 'B' decay river pump (DR-P-1B) and 'B' nuclear river water pump (NR-P-1B) on May 2, 2016
- Planned work week 1625 station risk plan on June 13, 2016

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 5 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- 'A' screen wash pump breaker (SW-P-1A-BK) overcurrent trip setpoint issues, as documented in issue report 2648576, on April 1, 2016
- Heat sink protection system temperature signal degraded and bistable out of tolerance, as documented in issue reports 2655602 and 2655174, on April 14, 2016
- 'A' train emergency diesel generator voltmeter calibration issue, as documented in issue report 2657567, on April 19, 2016
- FW-LT-1047 'A' once through steam generator start up range level out of tolerance issue, as documented in issue report 2676690, on June 2, 2016
- EFW train 'B' actuation time delay issues, as documented in issue report 2679141, on June 8, 2016

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Exelon's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Exelon. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify the procedure adequately tested the safety functions that may have been affected by the maintenance activity and that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test and/or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Overhaul of 'A' train nuclear river water pump (NR-P-1A) under work order R21994520 on April 1, 2016
- 'A' EFW pump discharge valve (EF-V-2A) after motor-operator maintenance on April 5, 2016
- 'A' emergency diesel generator engine system outage and major maintenance activities on April 21, 2016
- Atmospheric dump valve (MS-V-4B) air regulator replacement on May 3, 2016
- Valve leakage testing and stroke time testing (work orders R2237319 and R2156425) after air-operator rebuild of the reactor building purge supply valve (AH-V-1D) on June 14, 2016 (containment isolation valve)
- 'C' nuclear service closed cooling water pump (NS-P-1C) planned maintenance on May 20, 2016

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Exelon procedure requirements. The inspectors verified that test acceptance criteria were clear. The tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application. All tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- OP-TM-861-202, EG-Y-1B Fast Start Test, under work order R2272132, on April 7, 2016
- 1303-4.1B, Reactor Protection System Channel B Test, on April 15, 2016
- OP-TM-642-241, Engineered Safeguards 480 volt under voltage trip testing, on April 19, 2016
- OP-TM-424-214, In Service Test for EF-V-4 and 5 under work order R2271864, on June 1, 2016
- OP-TM-534-201, In Service Test of the 'A' Reactor River Water Pump (RR-P-1A) and valves under work order R2271478, on June 1, 2016

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 – 1 sample)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine Exelon emergency drill on May 3, 2016, to identify any weaknesses and deficiencies in the classification, notification and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator, technical support center, and operations support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the station drill critique to compare inspector observations with those identified by Exelon staff in order to evaluate Exelon's critique and to verify whether the Exelon staff was properly identifying weaknesses and entering them into the corrective action program.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 - 7 samples)

a. Inspection Scope

The inspectors reviewed Exelon's performance in assessing and controlling radiological hazards in the workplace. The inspectors used the requirements contained in 10 CFR 20, TSs, applicable regulatory guides (RGs), and the procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed the performance indicators for the occupational exposure cornerstone, radiation protection program audits, and reports of operational occurrences in occupational radiation safety since the last inspection.

Radiological Hazard Assessment (1 sample)

The inspectors conducted independent radiation measurements during walk-downs of the facility and reviewed the radiological survey program, air sampling and analysis, continuous air monitor use, recent plant radiation surveys for radiological work activities, and any changes to plant operations since the last inspection to verify survey adequacy of any new radiological hazards for onsite workers or members of the public.

Instructions to Workers (1 sample)

The inspectors reviewed high radiation area (HRA) work permit controls and use; observed containers of radioactive materials and assessed whether the containers were labeled and controlled in accordance with requirements.

The inspectors reviewed several occurrences where a worker's electronic personal dosimeter alarmed. The inspectors reviewed Exelon's evaluation of the incidents, documentation in the corrective action program, and whether compensatory dose evaluations were conducted when appropriate. The inspectors verified follow-up investigations of actual radiological conditions for unexpected radiological hazards were performed.

Contamination and Radioactive Material Control (1 sample)

The inspectors observed the monitoring of potentially contaminated material leaving the radiological controlled area and inspected the methods and radiation monitoring instrumentation used for control, survey, and release of that material. The inspectors selected several sealed sources from inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination. The inspectors evaluated whether any recent transactions involving nationally tracked sources were reported in accordance with requirements.

Radiological Hazards Control and Work Coverage (1 sample)

The inspectors evaluated in-plant radiological conditions and performed independent radiation measurements during facility walk-downs and observation of radiological work activities. The inspectors assessed whether posted surveys; radiation work permits; worker radiological briefings and radiation protection job coverage; the use of continuous air monitoring, air sampling and engineering controls; and dosimetry monitoring were consistent with the present conditions. The inspectors examined the control of highly activated or contaminated materials stored within the spent fuel pools and the posting and physical controls for selected HRAs, locked HRAs and very high radiation areas (VHRA) to verify conformance with the occupational performance indicator.

Risk-Significant HRA and VHRA Controls (1 sample)
The inspectors reviewed the procedures and controls for HRAs, VHRAs, and radiological transient areas in the plant.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 sample)

The inspectors evaluated radiation worker performance with respect to radiation protection work requirements. The inspectors evaluated radiation protection technicians in performance of radiation surveys and in providing radiological job coverage.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with radiation monitoring and exposure control (including operating experience) were identified at an appropriate threshold and properly addressed in the corrective action program.

b. Findings

No finding identified.

2RS2 Occupational ALARA Planning and Controls (71124.02 - 3 samples)

a. Inspection Scope

The inspectors assessed Exelon's performance with respect to maintaining occupational individual and collective radiation exposures as low as reasonably achievable (ALARA). The inspectors used the requirements contained in 10 CFR 20, applicable RGs, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted a review of the collective dose history and trends of Three Mile Island Unit 1; ongoing and planned radiological work activities; previous post-outage ALARA reviews; radiological source term history and trends; and ALARA dose estimating and tracking procedures.

Radiological Work Planning (1 sample)

The inspectors selected the following radiological work activities based on exposure significance for review:

- TM-1-15-00633, RCP Seal Replacement
- TM-1-15-00605, Containment Outage Scaffold
- TM-1-15-00632, MSIP (Mechanical Stress Improvement Process) in reactor building
- TM-1-15-00634, Pressurizer Insulation

For each of these activities, the inspectors reviewed: ALARA work activity evaluations, exposure estimates, exposure reduction requirements, results achieved (dose rate reductions, actual dose), person-hour estimates and results achieved, and post-job reviews that were conducted to identify lessons learned.

Source Term Reduction and Control (1 sample)

The inspectors reviewed the current plant radiological source term and historical trend, plans for plant source term reduction, and contingency plans for changes in the source term as the result of changes in plant fuel performance or changes in plant primary chemistry.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with ALARA planning and controls were identified at an appropriate threshold and properly addressed in the corrective action program.

b. Findings

No finding identified.

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03 - 2 samples)

a. Inspection Scope

The inspectors reviewed the control of in-plant airborne radioactivity and the use of respiratory protection devices in these areas. The inspectors used the requirements in 10 CFR 20, RG 8.15, RG 8.25, NUREG/CR-0041, TS, and procedures required by TS as criteria for determining compliance.

Inspection Planning

The inspectors reviewed the UFSAR to identify ventilation and radiation monitoring systems associated with airborne radioactivity controls and respiratory protection equipment staged for emergency use. The inspectors also reviewed respiratory protection program procedures and current performance indicators for unintended internal exposure incidents.

Engineering Controls (1 sample)

The inspectors reviewed operability and use of both permanent and temporary ventilation systems, and the adequacy of airborne radioactivity radiation monitoring in the plant based on location, sensitivity, and alarm set-points.

Self-Contained Breathing Apparatus for Emergency Use (1 sample)

The inspectors reviewed the following: the status and surveillance records for three self-contained breathing apparatuses (SCBAs) staged in-plant for use during emergencies, Exelon's SCBA procedures and maintenance and test records, the refilling and transporting of SCBA air bottles, SCBA mask size availability, and the qualifications of personnel performing service and repair of this equipment.

b. Findings

No finding identified.

2RS4 Occupational Dose Assessment (71124.04) (1 sample)

a. Inspection Scope

The inspectors reviewed the monitoring, assessment, and reporting of occupational dose. The inspectors used the requirements in 10 CFR 20, RGs, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed: radiation protection program audits; National Voluntary Laboratory Accreditation Program dosimetry testing reports; and procedures associated with dosimetry operations.

Internal Dosimetry (1 sample)

The inspectors reviewed: internal dosimetry procedures; whole body counter measurement sensitivity and use; adequacy of the program for whole body count monitoring of plant radionuclides or other bioassay technique; adequacy of the program for dose assessments based on air sample monitoring and the use of respiratory protection; and internal dose assessments for any actual internal exposure.

b. Findings

No finding identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 – 2 samples)

.1 Reactor Coolant System Specific Activity and Reactor Coolant System Leak Rate

a. Inspection Scope

The inspectors reviewed Exelon's submittal for the reactor coolant system (RCS) specific activity (BI01) and RCS leak rate (BI02) performance indicators for the period of April 1, 2015, through March 31, 2016, to determine the accuracy of the performance indicator data reported during those periods. The inspectors used definitions and guidance contained in the Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed RCS sample analysis and control room logs of daily measurements of RCS leakage, and compared that information to the data reported by the performance indicator. Additionally, the inspectors observed surveillance activities that determined the RCS identified leakage rate.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Exelon entered issues into the corrective action program at an appropriate threshold, gave adequate attention to timely corrective actions and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the corrective action program and periodically attended issue report screening and management meetings.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, "Problem Identification and Resolution," to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely related issues that may have been documented by Exelon outside of the corrective action program, such as trend reports, performance indicators, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or corrective action program backlogs. The inspectors also reviewed

Exelon's corrective action program database for the first and second quarters of 2016 to assess issue reports written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRCs daily condition report review (Section 4OA2.1). The inspectors reviewed the Exelon quarterly trend report for the past two quarters to verify that Exelon personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The station identified an adverse trend in clearance and tagging performance (issue report 2602350), and conducted an apparent cause evaluation, which identified work group coordination and work order quality as primary causes. Actions taken were primarily to clarify specific inter-group guidance documents and tagging guides. Also, a trend was identified in station risk reviews, alignment, and mitigation prior to work execution (issue report 2621889). This was specific to on-line risk reviews and was considered an early indicator prior to any consequential impact. The inspectors reviewed the issue report trends and determined that the trends were substantiated and that the licensee implemented additional oversight and enforced accountability to arrest the trend.

.3 Annual Sample: Fire Detection Spurious Alarms

a. Inspection Scope

On April 21, 2016, the inspectors completed an in-depth review of fire detection alarms as documented in issue reports dated January 2014 through April 2016. This included a sampling review of the completed and proposed corrective actions for the fire detectors and fire alarm panels located in the Intermediate Building (FS-PNL-IB1) and Control Building (FS-PNL-CB3/6/7). These fire detection panels have been documented to have performance issues since January 2014. The prioritization and timeliness of corrective actions was reviewed to evaluate whether the corrective actions were appropriate and commensurate with the safety significance of the issue. The inspectors reviewed station procedures to determine whether site personnel adhered to requirements for responding to the fire detector alarms, as well as evaluating and resolving the conditions. The inspectors interviewed management and staff personnel responsible for evaluating and resolving the fire detector alarms. The inspectors completed a plant walkdown of fire detection panels FS-PNL-1B1, FS-PNL-CB3/6/7, and the respective detectors in each of the areas that are monitored by this fire protection system. Finally, a sample of fire service impairments and firewatch logs were reviewed to verify that the requirements of the fire protection program were appropriately followed.

b. Findings and Observations

No findings were identified.

Exelon's fire detection system includes both smoke and incipient fire detection as monitored by the following panels in the respective areas:

FS-PNL-CB3 – Control Building Pyrotronics XL3 Smoke Detection System

FS-PNL-CB6 – Control Building Cirrus Four Incipient Fire Detection System

Zone 1 – Remote Shutdown and old TSC areas
Zone 2 – 1S 480 Volt Switchgear rooms
Zone 3 – West Inverter Room
Zone 4 – West Battery Room

FS-PNL-CB7 – Control Building Cirrus Four Incipient Fire Detection System

Zone 1 – East Battery Room
Zone 2 – East Inverter Room
Zone 3 – 4160 Volt Room – East
Zone 4 – 4160 Volt Room – West

FS-PNL-IB1 – System 240 Fire Detection System

Zone 1 – EF-P-2A/2B and 1A-P-1A pump area
Zone 2 – 1A-P-1B and adjacent cubicle area
Zone 3 – EF-U-1 and MS-V-2B area
Zone 4 – RR-V-4A, B, C, D area
Zone 5 – Leak Rate Test Air Dryer area
Zone 6 – Hallway 285'

The inspectors performed a walkdown of the areas and panels listed above and determined that there were no "Trouble" or "Fire" alarms displayed. There were no obvious deficiencies with the physical condition of each panel or their respective tubing and filter units. As reported to the inspectors by the Exelon personnel during interviews, all the panels and their associated components were in service and fully operable at the time of the inspection. There were no temporary or permanent modifications installed on any of the panels inspected.

Approximately 90 issue reports have been written for fire detection alarms since January 2014. These include both "Trouble" and "Fire" alarms as displayed on the fire alarm panels. The alarms have been caused by a variety of reasons, including battery or power supply faults, cloud chamber failures, capacitor failures, detector failures, and dirty or loose contacts. In each of the cases reviewed by the inspectors, the panel alarm appropriately caused the Control Room alarm to annunciate and alert the operators of the issue. In all cases, operators responded to the fire panel and investigated the detector areas to determine if there was an actual fire. There were no cases where an actual fire had occurred. Operators would then write an issue report to generate a work order for the maintenance department to troubleshoot and repair the issue. The inspectors determined that Exelon's operator response to each of the fire alarms was both timely and appropriate. Fire service impairments and fire watch logs were implemented in accordance with station procedures for situations where the fire panels were declared inoperable. Additionally, the troubleshooting and repair efforts by the Maintenance department have been effective, as the fire panel alarms have significantly decreased. No alarms have been received on the panels associated with this inspection since late December 2015 (issue report 2604898).

Exelon's long term plan is to upgrade the fire protection panels with a more current technology. The project for fire panel upgrades in both the Intermediate Building and Control Building has been approved by the Plant Health Committee. Engineering Change Requests have been generated (issue report 2655029) to proceed with the design and installation of the upgraded fire panels (TM-15-0079/80).

Since January 2014, in a majority of cases the fire detection panel alarms would be generated when the system detected a fire condition, but would then clear almost immediately. However, some issue reports documented that the alarm would lock in, and that there could be more than ten re-flashes of the same alarm over the shift (issue report 1697294). The inspectors determined through interviews and document review that this had become a distraction and a nuisance for the operators, and had the potential to reduce operator sensitivity to the fire alarms if the issue was not resolved. In June 2015, Exelon generated an issue report to identify the aggregate impact upon the operations department, and to develop a strategy to eliminate the nuisance fire alarms (issue report 2519608). The evaluation generated an action to present the upgrade project to the plant health committee; however, there was no evaluation of the potential impact the nuisance alarms had on the operations department to determine if this distraction had resulted in any differences in response by the various operating crews. The inspectors shared this observation with Exelon since a potential difference in fire alarm response across operating crews was found during the issue report review (issue reports 2445409, 2558776). Specifically, based upon the documentation found in each issue report, it was not clear what additional actions were taken by the various operating crews, such as whether the alarm was validated within 15 minutes; whether the alarm could be reset and verified functional; or whether procedure AP 1038 was reviewed and a fire watch established as required. Exelon entered this observation into the corrective action program (issue report 2658361).

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 - 1 sample)

Plant Events

a. Inspection Scope

On June 28, 2016, the inspectors responded to Exelon's identification of gas voids in the high pressure injection suction header (event notification #52049). The inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in Inspection Manual chapter 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that Exelon made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed Exelon's follow-up actions related to the events to assure that Exelon implemented appropriate corrective actions commensurate with their safety significance.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Quarterly Inspection Report Exit

On August 10, 2016, the inspectors presented the inspection results to Mr. Thomas Haaf, Plant Manager, and other members of the Three Mile Island staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

E. Callan	Site Vice President
T. Haaf	Plant Manager
T. Alvey	Manager, Chemistry
D. Atherholt	Manager, Regulatory Assurance
J. Campanella	Radiation Protection Technician
R. Campbell	Manager, Site Security
D. Divittore	Manager, Radiological Engineering
M. Fitzwater	Senior Regulatory Assurance Engineer
J. Kulasinsky	Shift Manager
R. Myers	Fire Marshall
J. Piazza	Senior Manager, Design Engineering
C. Smith	Operations Support
G. Smith	Director, Maintenance
L. Strayer	FIN Maintenance
B. Shumaker	Manager, Emergency Preparedness
M. Torberg	Manager, Engineering
J. Valent	Engineering Manager

Other Personnel

S. Martin	Nuclear Safety Specialist Pennsylvania Department of Environmental Protection Bureau of Radiation Protection

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

None

LIST OF DOCUMENTS REVIEWED

* Issue report generated based on inspection activities

Section 1R01: Adverse Weather Protection

Procedures
OP-AA-108-107, Switchyard Control, Revision 4
OP-AA-108-107-1001, Station Response to Grid Capacity Conditions, Revision 6
OP-TM-108-107-1002, TMI Transmission Interactions That Impact Operations, Engineering, Work Management, and Maintenance That Includes First Energy Interface Agreement and NERC Standards, Revision 9
WC-AA-107, Seasonal Readiness, Revision 16

Miscellaneous
Certification of 2016 Three Mile Island Generating Station Summer Readiness Memorandum, May 15, 2016

Issue Report
2661253

Section 1R04: Equipment Alignment

Procedures
OP-TM-108-117-1001, Protected Equipment Program, Revision 1A
OP-TM-541-000, Primary Component Cooling, Revision 21A
OP-TM-424-000, Emergency Feedwater System, Revision 13
OP-TM-424-901, Emergency Feedwater, Revision 4
OP-TM-541-272, Operating Mode Lineup Verification, Revision 8
1104-6, Spent Fuel Pool Cooling System, Revision 47

Drawings
302-082, Emergency Feedwater, Revision 25
302-032, Main Steam and Feedwater Instrumentation, Revision 25
302-610, Nuclear Services Closed Cycle Cooling Water, Revision 82
302-620, Intermediate Cooling, Revision 51
302-630, Spent Fuel Pool Cooling, Revision 34

Miscellaneous
Attachment 7.2 of OP-TM-108-117-1001, Protective Equipment Worksheet for 'B' Spent Fuel Pool Cooling
Attachment 7.2 of OP-TM-108-117-1001, Protective Equipment Worksheet for 'A' and 'B' NSCCW systems

Issue Reports
2679141
2655174
2634912
2682223
0133055
2670867

Work Order
R2248064

Section 1R05: Fire Protection

Procedures
990-1745, Three Mile Island Unit No.1 Fire Hazard Analysis Reports, Revision 26
1301-1, Shift and Daily Checks, Revision 175
1303-12.22, Fire Door Inspection-Screen House, Revision 15
AOP-1, Fire, Revision 13
AP 1038, Administrative Controls-Fire Protection Program, Revision 76
AP 1038, Administrative Controls-Fire Protection Program, Revision 82
CC-MA-209-1002, Combustible Loading Control for Oyster Creek and Three Mile Island, Revision 1
OP-AA-201-009, Control of Transient Combustible Material, Revision 17
OP-MA-201-007, Fire Protection System Impairment Control, Revision 6

Miscellaneous
2425505-06, Technical Evaluation of Transient Combustible Loading for Various Plant areas, dated March 24, 2016
CC-AA-309-101, Engineering Technical Evaluations, Revision 11
Combustible Load report for fire Zone AB-FZ-04, dated April, 7, 2016
Emergency Action Levels MA5 and HU3
ISPH-FZ-1 Pre-Fire Plan, Intake Screen Pump House Elev. 308', 1R Switchgear and Pump Area, Revision 6
ISPH-FZ-2 Pre-Fire Plan, Intake Screen Pump House Elev. 308', 1T Switchgear and Pump Area, Revision 6
ISPH-FZ-1 Pre-Fire Plan, Intake Screen Pump House Elev. 308', Trash Rake and Screen Area Revision 4
IB-FZ-05, Pre-Fire Plan, Intermediate Building Elev. 305', IB 305' Corridors, Revision 3
Prompt investigation #2650732 – Fire in MUX Cabinet 7
Post-Fire Critique #2651406 - MUX #7 Fire
Outage Control Central Priority Work List, dated April 6, 2016
Shift Operations Logs, dated April 4, 2016
Three Mile Island Nuclear Station Pre-Fire Plan Index, Revision 2
Transient combustible permits open greater than 30 days (report), dated March 14, 2016
Transient Combustible Permit Number 102 for IB-FZ-05, dated May 11, 2016

Issue Reports
2425505
2651234*
2650732
2650832
2669050*
1351712
0371907
0676216
1102164
2684143*

Work Orders
C2011256
A2123635

Section 1R06: Flood Protection Measures

Procedures
ER-AA-300-150, Cable Condition Monitoring Program, Revision 3
MA-TM-153-001, Inspection and Maintenance of TMI-1 Electrical and Telephone Manholes, Revision 7

Drawings
1E-133-07-010, Sheet 2, Site Composite Underground Facilities, Revision 10
Electrical, Manholes, Hand holes, Telephone, and Underground Duct Run Location diagram

Issue Reports
2676416
2676421

Section 1R11: Licensed Operator Requalification Program

Procedures
OP-AA-1, Conduct of Operations, Revision 1
OP-AA-111-101, Operating Narrative Logs & Records, Revision 10
OP-AA-112-101, Shift Turnover and Relief, Revision 12
OP-AA-101-1001, Event Response Guidelines, Revision 24
OP-AA-103-101, Control Room Access Control, Revision 1
OP-AA-101-111, Roles & Responsibilities of On-Shift Personnel, Revision 9
OP-AA-102-103, Operator Work-Around Program, Revision 4
OP-AA-102-106. Operator Response Time Program, Revision 3
OP-AA-101-113, Operator Fundamentals, Revision 9
OP-AA-106-101, Significant Event Reporting, Revision 19
TQ-TM-104EP-2015-1, EP Drill 2015-1, dated April 18, 2016 (used May 3, 2016)

Miscellaneous
EP-MA-114-100-F-01, State/Local Event Notification Form, Revision 0
TMI Degraded Equipment Log, Dated April 14, 2016
TMI Control Room Logbook, Dated April 14, 2016
TMI CRS/IP Shift Turnover Meeting Checklist, Dated April 14, 2016

Issue Reports
2655920*
2655893
2655891
2655892

Section 1R12: Maintenance Effectiveness

Procedures
ER-AA-310, Implementation of the Maintenance Rule, Revision 9
ER-AA-310-1005, Maintenance Rule – Dispositioning between (a)(1) and (a)(2), Revision 7
ER-TM-310-1001, TMI Guidance for Maintenance Rule Unavailability Monitoring, Revision 5

Issue Reports
2673109
2600410

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
1082.1, TMI Risk Management Program, Revision 8
1301-9.7, Intake Pump House Floor, Silt Accumulation and Inspections, Revision 29
OP-AA-108-117, Projected Equipment Program, Revision 4
OP-TM-108-117-1001, Three Mile Island Protected Equipment Program, Revision 1
WC-AA-101, On-Line Work Control Process, Revision 18

Miscellaneous
Technical Rigor Certification – Work Week 1625, dated June 13, 2016

Issue Report
2655920*

Work Order
R2260874

Section 1R15: Operability Evaluations

Procedures
E 5.1, Westinghouse 480V DB-25 Circuit Breaker Maintenance and Testing, Revision 9
1107-4.1, 480V Breakers Overcurrent tripping Device Setpoints, Revision 22
OP-AA-108-115, Operability Determinations, Revision 10
OP-AA-108-115-1002, Supplemental Consideration for On-Shift Immediate Operability Determinations, Revision 2
OP-TM-424-000, Emergency Feedwater System, Revision 13
1105-19, Heat Sink Protection System, Revision 29
1301-1, Shift and Daily Checks, Revision 175
1303-11.39A, Heat Sink Protection System – Emergency Feedwater Auto Initiation, Revision 46A
Unit 1 Technical Specification, Revision 272

Issue Reports
2679141
2676690

Work Order
A2405258

Section 1R19: Post-Maintenance Testing

Procedures
OP-TM-424-203, IST of EF-P-1 and Valves, Revision 16A
OP-TM-823-204, Stroke Time Testing of AH-V-1D, Revision 3
OP-TM-823-252, Local Leak Rate Testing of Purge Supply Penetration Valves, Revision 7
OP-TM-541-208, IST of NS-P-1A, Revision 11

Drawings
302-831, Reactor, Auxiliary and Fuel Handling Bldgs. Ventilation and Flow Diagrams, Revision 57

Miscellaneous
Generic Letter (NRC) 96-05, Periodic Verification of Design-Basis Capability of Safety-Related MOVs
TMI-1 95 Degree River Water Issue, NR and NSCCW Systems, dated July 1, 1992

Issue Reports
2681188
2670867
2671806

Work Orders

R2187894	R2118877	R2270248
R2178947	R2238970	R2275186
R2237319	R2242736	
R2156425	M2377252	

Section 1R22: Surveillance Testing

Procedures

1303-4.1B, RPS Channel B Test, Revision 27
OP-TM-642-241, ES 480V Under Voltage Trip Test, Revision 002
OP-TM-861-202, EG-Y-1B Fast Start Test, Revision 0A
OP-TM-424-214, IST of EF-V-4 and EF-V-5, Revision 4
OP-Tm-534-201, IST of RR-P-1A and Valves, Revision 7
WC-TM-430, Surveillance Testing Program, Revision 0
WC-TM-430-1001, Surveillance Testing Program Database Interface and Maintenance, Revision 1

Miscellaneous

C-1101-823-5450-001, Calculation for Maximum Valve Stroke Time, Revision 9D

Issue Reports

2652491	2652441	2654966
2652378	2652693	2655893
2652308	2653006	

Work Orders

R2272132	R2271864
R2264872	R2271478

Section 2RS1: Radiological Hazard Assessment and Exposure Control

Procedures

RP-AA-203, “Exposure Control and Authorization”, Revision 3
RP-AA-376, “Radiological Postings, Labeling, and Markings”, Revision 8
RP-AA-376-1001, “Radiological Posting, Labeling, and Marking Standard”, Revision 13
RP-AA-460, “Controls for High and Locked High Radiation Areas”, Revision 28
RP-AA-500, “Radioactive Material (RAM) Control”, Revision 17
RP-AA-503, “Unconditional Release Survey Method”, Revision 10

Miscellaneous

NOSA-TMI-15-06 (AR 2496445), “Radiation Protection Audit Report”, July 20, 2015 to July 30, 2015

Issue Reports

2595605	2627888	2666224
2609139	2628217	
2623446	2664140	

Section 2RS2: Occupational ALARA Planning and Controls

Procedures
RP-AA-400, “ALARA Program”, Revision 13
RP-AA-400-1001, “Establishing Collective Radiation Exposure Annual Business Plan Goals”, Revision 4
RP-AA-401, “Operational ALARA Planning and Controls”, Revision 21
RP-AA-402, “Radiation Protection Dose Excellence Planning Process”, Revision 6

Issue Reports
2615916
2625538

Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation

Procedures
RP-AA-301, “Radiological Air Sampling Program”, Revision 8
RP-AA-825, “Maintenance, Care and Inspection of Respiratory Protective Equipment”, Revision 8
RP-AA-825-1035, “Issue and Control of Respirators”, Revision 2
RP-TM-825-001, “Monthly Inspection and Maintenance of MSA FIREHAWK Mounted Regulator SCBAS”, Revision 2

Issue Reports
2490544
2665938

Section 2RS4: Occupational Dose Assessment

Procedures
RP-AA-203, “Exposure Control and Authorization”, Revision 3
RP-AA-203-1001, “Personnel Exposure Investigations”, Revision 9
RP-AA-203-1002, “Response to Electronic Dosimeter (EPD) Reset Alarms (REMS Error Message #795)”, Revision 1
RP-AA-210, “Dosimetry Issue, Usage, and Control”, Revision 25
RP-AA-210-1001, “Dosimetry Logs and Forms”, Revision 9
RP-AA-215, “Calculating and Crediting Dose from Noble Gas Exposure”, Revision 1
RP-AA-220, “Bioassay Program”, Revision 11
RP-AA-222, “Methods for Estimating Internal Exposure from In Vivo and In Vitro Bioassay Data”, Revision 5
RP-AA-224, “CEDE Dose Tracking Using Lapel Air Samplers”, Revision 1
RP-AA-250, “External Dose Assessments from Contamination”, Revision 6

Miscellaneous
NVLAP (National Voluntary Laboratory Accreditation Program), Landauer, Inc., 2015
Action Requests/Issue Reports:

02580055	02583986	02587683
02581051	02585881	02616276

Section 1EP6: Drill Evaluation

Procedures
TQ-TM-104EP-2015-1, EP Drill 2015-1, dated April 18, 2016 (used May 3, 2016)

Miscellaneous
EP-MA-114-100-F-01, State/Local Event Notification Form, Revision 0

Section 4OA1: Performance Indicator Verification

Procedures
OP-TM-220-251, Leak Rate Determination, Revision 13
LS-AA-2100, Monthly Data Element for NRC Reactor Coolant System Leakage, Revision 5
LS-AA-2090, Monthly Data Element for NRC Reactor Coolant System Specific Activity, Revision 4

Miscellaneous
TMI Leak Rate and activity database to PI indicator, April 12, 2016

Section 4OA2: Problem Identification and Resolution

Procedures
1303-12.8J, Incipient Fire Detector (IFD) Instrumentation Functional Test, Revision 7
6610-ADM-4250.10, Radiation Protection / Chemistry Actions When RMS Malfunctions, Revision 017
AP1038, Fire Protection Program, Revision 82
CY-TM-170-300, Offsite Dose Calculation Manual, Revision 3
OP-AA-103-102, Watch Standing Practices, Revision 16
OP-MA-201-007, Fire Protection System Impairment Control, Revision 6
RP-TM-905-001, Chem Cleaning Building Vent Sampling, Revision 006

Miscellaneous
ALC-RMI-18 Calibration Work Order R2248221
CCB Effluent Bounding Evaluation under 2663055-04, dated May 18, 2016
Operations Priority Work List April – June 2016
Shift Operations Logs April 11 – 28, 2016
TMI-1 Technical Specification 6.8.4, Amendment 197
Work Group Evaluation 2663055

Issue Reports:

2653829	2519608	1666521
2663663	2655029	2531333
2658361*	2445409	1697294
2518708	2558776	2437594
2520560	2402033	2451933
2554469	2558852	2402033
2555317	2502667	1678316
2555348	2578150	2602079
2555820	2457002	2604898

Section 4OA3: Followup of Events and Notices of Enforcement Discretion

Drawings
1D-ISI-MU-035, Make-up System Isometric – Suction, Revision 1

Miscellaneous
BOP-UT-2016-040, Makup-up System ‘B’ Train, dated June 29, 2016
NDE Work Order R2276083-01
Shift Operations Logs, dated June 28, 2016

Issue Reports
2686803
2686804
2686946

Work Orders
R2275688
A2385013
A2381488
A2374543
A2376047
A2377897

LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
CFR	Code of Federal Regulations
EFW	emergency feedwater
HRA	high radiation area
kV	kilovolt
NRC	Nuclear Regulatory Commission
RCS	reactor coolant system
RG	Regulatory Guide
SCBA	self-contained breathing apparatus
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
VHRA	very high radiation area