



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

August 1, 2016

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

**SUBJECT: LIMERICK GENERATING STATION - INTEGRATED INSPECTION REPORT
05000352/2016002 AND 05000353/2016002**

Dear Mr. Hanson:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Limerick Generating Station (LGS), Units 1 and 2. The enclosed report documents the inspection results, which were discussed on July 27, 2016 with Mr. Rick Libra, Site Vice President, 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.

No NRC-identified or self-revealing findings were identified during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* (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's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management 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/

Daniel L. Schroeder, Chief
Reactor Projects Branch 4
Division of Reactor Projects

Docket Nos. 50-352 and 50-353
License Nos. NPF-39 and NPF-85

B. Hanson

-2-

Enclosure:

Inspection Report 05000352/2016002 and 05000353/2016002
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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 Senior Vice President, Exelon Generation Company, LLC
 President and Chief Nuclear Officer, Exelon Nuclear
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.: 50-352 and 50-353

License Nos.: NPF-39 and NPF-85

Report No.: 05000352/2016002 and 05000353/2016002

Licensee: Exelon Generation Company, LLC

Facility: Limerick Generating Station, Units 1 & 2

Location: Sanatoga, PA 19464

Dates: April 1, 2016 through June 30, 2016

Inspectors: S. Rutenkroger, PhD, Senior Resident Inspector
M. Fannon, Resident Inspector
J. Kulp, Senior Reactor Inspector
M. Modes, Senior Reactor Inspector
J. Schussler, Project Engineer

Approved By: Daniel L. Schroeder, Chief
Reactor Projects Branch 4
Division of Reactor Projects

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SUMMARY

IR 05000352/2016002 and 05000353/2016002; 4/1/2016 – 6/30/16; Limerick Generating Station (LGS); Routine Integrated Inspection Report.

This report covered a three-month period of inspection by resident inspectors and announced baseline inspections performed by regional inspectors. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period in Operational Condition 5 (Refueling) with the reactor cavity flooded in refueling outage 1R16. Following the completion of outage activities, operators commenced a reactor startup on April 15 and on April 17, operators synchronized the main generator to the electrical grid. The unit reached 100 percent on April 18, and the unit remained at or near 100 percent for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power. On May 20, operators reduced power to approximately 63 percent for a rod pattern adjustment and waterbox cleaning. Operators returned the unit to 100 percent power on May 22. On June 1, operators conducted a rapid plant shutdown and manually scrammed the reactor per procedure following the loss of both reactor recirculation pumps. Operators commenced a normal reactor startup on June 2, and the unit reached 100 percent on June 3. The unit remained at or near 100 percent for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

.1 Summer Readiness of Offsite and Alternate Alternating Current (AC) 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 alternate 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 and reviewing condition reports and open work orders.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04 – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Unit 1 'A' residual heat removal (RHR) while in alternate decay heat removal mode on April 6, 2016
- Unit common 'A' control enclosure chiller during 'B' control enclosure chiller maintenance on May 10, 2016
- Unit common 'A' standby gas treatment system (SGTS) during the 'B' SGTS system outage window on May 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 updated final safety analysis report (UFSAR), technical specifications, work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted the system's performance of its 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.

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.

- Fire area 30, Unit 1 drywell, elevation 253', on April 11, 2016
- Fire area 31, Unit 1 'B' and 'D' RHR heat exchanger and pump rooms, elevation 177' and 201', on April 12, 2016

- Fire area 89 and 102, Unit 1 and Unit 2 control rod drive pump areas, elevation 200', on May 4, 2016
- Fire area 58, Unit 2 'B' core spray pump room, elevation 177', on May 18, 2016
- Fire areas 1, 22, 23, 25, 26, 27, and 28, Unit common control enclosure, on June 21, 2016

b. Findings

No findings were identified.

1R07 Heat Sink Performance (711111.07A – 1 sample)

a. Inspection Scope

The inspectors reviewed the Unit 1 reactor core isolation cooling (RCIC) lube oil cooler heat exchanger readiness and availability to perform its safety functions. The inspectors reviewed the design basis for the component and verified Exelon's commitments to NRC Generic Letter 89-13, "Service Water System Requirements Affecting Safety-Related Equipment." The inspectors observed actual performance tests for the heat exchangers and/or reviewed the results of previous inspections of the Unit 1 RCIC lube oil cooler. The inspectors discussed the results of the most recent inspection with engineering staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that Exelon initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the heat exchanger did not exceed the maximum amount allowed.

b. Findings

No findings were identified.

1R08 In-Service Inspection (71111.08B – 1 sample)

a. Inspection Scope

From March 28 – 31, and April 6, 2016, the inspectors conducted an inspection and review of in-service inspection program activities in order to assess the effectiveness of Exelon's program at Limerick Generating Station, Unit 1 for monitoring degradation of the reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary.

Nondestructive Examination and Welding Activities (IMC Section 02.01)

The inspectors reviewed the nondestructive evaluation of five risk-significant welds in the residual heat removal system. The welds reviewed were ISI-51RM400 UT-E RHA-001, 004, 005 and 009, and weld DW295 UT-E RHA-005A. The inspectors review entailed direct observation and record reviews. The inspectors verified the risk-significant welds were chosen for examination by Limerick staff based on EPRI TR-112657 "Revised Risk-Informed Inservice Inspection Evaluation Procedure," Revision B-A (ADAMS Accession No. ML013470102) with Code Case N-578-1, or Code Case N-716-1.

For each evaluation the inspectors verified that that nondestructive evaluation activities were performed in accordance with the 2001 Edition, Addenda 2003 with errata, of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code requirements. The inspectors verified the nondestructive test met the requirements contained in ASME Section XI, Mandatory Appendix VIII, Article VIII-2000 and the examination personnel were qualified in accordance with ASME Section XI, Mandatory Appendix VII. The inspectors verified that indications and defects, if present, were dispositioned in accordance with the ASME Code and verified that relevant indications were compared to previous examinations to determine if any changes had occurred.

No relevant indications were accepted, by table or analysis, during the prior outage and returned to service.

Welding on Pressure Boundary Systems

The inspectors reviewed the pressure boundary risk significant welding activity, including associated nondestructive examination, of the replacement of a section of leaking $\frac{3}{4}$ inch schedule 160 pressure boundary equalizing pipe attached to check valve HV-051-1F050A. The inspectors verified that the welding, nondestructive evaluation, and acceptance were performed in accordance with 2001 Edition, Addenda 2003 with errata of the ASME Boiler and Pressure Vessel Code requirements, where applicable, as part of the Exelon Repair and Replacement program. The inspectors verified the following features of the welding evolution:

1. The Welding Procedure Specification contained the essential, and where applicable the supplemental essential variables, in conformance with ASME Section IX, QW-200.
2. The Welding Procedure Specification essential and supplemental essential weld variables were within the range qualified by the supporting Procedure Qualification Record as required by ASME Code Section IX, QW-250.
3. Reviewed weld records to determine if they were performed with the base and weld filler materials listed in the Welding Procedure Specification.
4. Reviewed the records of final acceptance Nondestructive Evaluation to determine if the ASME Section XI repair and replacement program were applied.

Identification and Resolution of Problems (IMC 02.05)

The inspectors verified that Limerick staff were identifying inservice inspection problems at an appropriate threshold and entering them in the corrective action program. The inspectors selected a sample of problems associated with inservice inspection documented by Limerick staff and verified the appropriateness of the corrective actions. The inspectors used the guidance in NRC inspection procedure 71152, "Identification and Resolution of Problems," to evaluate the corrective actions. The inspector also determined if Limerick staff was assessing the applicability of operating experience in this area to their plant.

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Requalification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training scenarios on June 20, 2016. The scenarios included loss of turbine enclosure cooling water, loss of the 'A' recirculation pump adjustable speed drive, and a reactor coolant system leak. The scenarios were complicated by a loss of the 'A' narrow range reactor vessel level instrumentation, failure of the 'C' reactor feed pump discharge valve, and failure of the 'K' safety relief valve to open. The inspectors evaluated operator performance during the simulated events 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 classifications 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 and reviewed licensed operator performance in the main control room during the performance of the Unit 1 startup on April 15, 2016 and Unit 2 startup on June 2, 2016. The inspectors observed infrequently performed test or evolution briefings and reactivity control briefings to verify that the briefings met the criteria specified in Exelon's Operations and Administrative Procedures. Additionally, the inspectors observed test performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)a. Inspection Scope

The inspectors reviewed the sample listed below to assess the effectiveness of maintenance activities on structure, system, and component 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 structure, system, or component was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Exelon staff was reasonable. As applicable, for structures, systems, and components classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these structures, systems, and components 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.

- Unit 2 D23 emergency diesel generator (EDG) maintenance outage quality control review on June 30, 2016

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 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 technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Unit 1 RCIC functional testing and calibration of steam supply pressure low trip, division 3, channel 'C', on April 27, 2016
- Unit 1 'B' RHR maintenance outage on May 3, 2016
- Unit common 'B' SGTS maintenance outage on May 17, 2016
- Unit 2 'B' RHR and RCIC maintenance outages on May 23 and 24, 2016

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 7 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions based on the risk significance of the associated components and systems:

- Unit 1 RHR low pressure coolant injection header high point vent valve leakby on April 13, 2016
- Unit 1 'D' outboard main steam isolation valve (MSIV) slow stroke time on April 6, 2016
- Unit 1 Snubber DLA-108-H012 found with high drag values on April 6, 2016
- Unit 2 'A' standby liquid control pump did not produce the required flow rate on April 27, 2016
- Unit 1 D12 and Unit 2 D23 EDGs heat exchanger outlet expansion joint alignments on June 27, 2016
- Unit 2 D23 EDG heat exchanger inlet expansion joint bulge on June 29, 2016
- Unit 2 main steam drain isolation, primary containment isolation valve, HV-041-2F019, pressure seal leak on June 29, 2016

The inspectors evaluated the technical adequacy of the operability determinations to assess whether technical specification 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 technical specifications and UFSAR to Exelon's evaluations to determine whether the components or systems were operable. The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations. 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.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 8 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the test results were properly reviewed and accepted and problems were appropriately documented.

The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold point were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

- Unit 1 electrical panel 10Y-163 feeder breaker replacement due to a loosened connection causing overheating on April 4, 2016
- Unit common 'B' emergency service water discharge piping return to 'A' residual heat removal service water blank flange plate removal on April 7, 2016
- Unit 1 control rod scram time testing following maintenance during 1R16 on April 10, 2016
- Unit 1 high pressure coolant injection following maintenance during 1R16 on April 16, 17, and 18, 2016
- Unit 1 RCIC comprehensive test following maintenance outage on April 16, 2016
- Unit 2 D14 blower inspection plate bolting replacement on April 28, 2016
- Unit 2 RCIC remote shutdown instrumentation inverter replacement on June 1, 2016
- Unit 2 turbine control valve R-line valve positioner circuit card replacement on June 14, 2016

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 1 sample)

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the Unit 1 maintenance and refueling outage 1R16, conducted March 20 through April 17, 2016. The inspectors reviewed Exelon's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable technical specifications when taking equipment out of service
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication and instrument error accounting
- Status and configuration of electrical systems and switchyard activities to ensure that technical specifications were met
- Monitoring of decay heat removal operations
- Impact of outage work on the ability of the operators to operate the spent fuel pool cooling system
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss

- Activities that could affect reactivity
- Maintenance of secondary containment as required by technical specifications
- Refueling activities, including fuel handling and fuel receipt inspections
- Fatigue management
- Tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block the emergency core cooling system suction strainers, and startup and ascension to full power operation
- Identification and resolution of problems related to refueling outage activities

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 structures, systems, and components to assess whether test results satisfied technical specifications, the UFSAR, and Exelon procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, 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:

- ST-6-092-117-1, D13 EDG loss of offsite power and loss of coolant accident logic system functional test on April 1, 2016
- ST-2-042-932-2, Unit 2 reactor vessel water level low – level 3; division ‘1A’, channel ‘A’ response time test on April 26, 2016
- ST-6-052-232-2, Unit 2 ‘B’ loop core spray pump, valve, and flow test on April 26, 2016
- ST-6-107-790-2, Unit 2 control rod scram timing on June 1, 2016
- ST-6-051-231-1, Unit 1 ‘A’ RHR pump, valve, and flow test on June 28, 2016

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness1EP6 Drill Evaluation (71114.06 – 1 sample).1 Emergency Preparedness Drill Observationa. Inspection Scope

The inspectors evaluated the conduct of a routine Exelon emergency drill on June 27, 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 and technical 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.

4. OTHER ACTIVITIES4OA1 Performance Indicator Verification (71151 – 4 samples).1 Safety System Functional Failures (2 samples)a. Inspection Scope

The inspectors sampled Exelon's submittals for the Safety System Functional Failures performance indicator for both Unit 1 and Unit 2 for the period of April 1, 2015, through March 31, 2016. To determine the accuracy of the performance indicator data reported during those periods, inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed Exelon's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, event reports and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index (2 samples)

a. Inspection Scope

The inspectors reviewed Exelon's submittal of the Mitigating Systems Performance Index for the following systems for the period of April 1, 2015, through March 31, 2016:

- Unit 1 Emergency AC Power System
- Unit 2 Emergency AC Power System

To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors also reviewed Exelon's operator narrative logs, condition reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

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 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 condition report screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, Exelon performed an evaluation in accordance with 10 CFR Part 21.

b. Findings

No findings were identified.

.2 Semi-Annual Trend Review (1 sample)

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 condition 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 Exelon's trending information conducted under PI-AA-1001 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 review did not reveal any new trends that could indicate a more significant safety issue. The inspectors determined that Exelon personnel were identifying issues at a low threshold and entering issues into the corrective action program for resolution and appropriately prioritizing investigation reviews. The inspectors specifically evaluated a trend in defective Ametek annunciator cans identified by Exelon and reviewed the applicable condition reports. The inspectors noted six different occurrences where a defective annunciator can resulted in loss of an annunciator panel. The defective cans were identified to be from two manufacturer date batches. These cans were replaced, retested, and returned to service. Exelon initiated corrective actions to assess the current stock of replacement annunciator cans, identify any potential cans from the defective batches, and determine if other batches had similar deficiencies.

The inspectors also noted and evaluated a declining trend in human performance identified by Exelon and reviewed the applicable condition reports. For example, there were human performance issues involving a fuse installed in the incorrect location, a missed step in a chemistry procedure, and a partial MSIV isolation during a relay replacement. These issues in aggregate represent a negative trend in configuration control performance. Exelon performed causal evaluations for the configuration control events and is working to implement a site wide configuration control intervention plan. The inspectors determined that the issues were of minor safety significance and that Exelon's identification of a declining trend was appropriate.

Based on the overall results of the semi-annual trend review, the inspectors determined that Exelon was appropriately identifying and entering issues into the corrective action program, adequately evaluating the issues, and properly identifying adverse trends before they became more safety significant problems.

.3 Annual Sample: Review of the Repair of Steam Leak in EBD-208-2 downstream of HV-041-2F021 (1 sample)

a. Inspection Scope

The inspectors reviewed corrective actions associated with work order C0257090, describing the repair of the steam leak in EBD-208-2 downstream of HV-041-2F021. EBD-208-2 is the alternate MSIV drain pathway designed to divert fission products that could leak past the closed MSIVs after a loss of coolant accident as described in the UFSAR at 6.7.2. The possible leakage is diverted to a hold-up volume in the high pressure shell of the main condenser. As a consequence of its alternative function, this line is classified as ASME Boiler and Pressure Vessel Code Section III “no-class”. This classification gives the licensee wider latitude in designing and implementing a repair for the through-wall leak.

The inspectors determined if the documentation was complete and accurate and entered in timely manner. The corrective action, which involved installation of an engineered welded plate followed by longer term component replacement plans, was reviewed for its evaluation and disposition of operability and reportability issues, consideration of extent of condition and cause, generic implications, common cause, and previous occurrences. The corrective action was further reviewed to determine if the classification and prioritization of the problem’s resolution was commensurate with the safety significance.

The inspectors reviewed various related documents and interviewed station personnel. The derived information was compared with the corrective action’s contributing causes of the problem. The comparison focused on the identification of the condition and the corrective action taken. The inspectors ascertained if the documented information was reported to appropriate levels of management. The inspectors reviewed the corrective action to determine if the corrective action was appropriately focused to correct the problem (and to address the root and contributing causes for significant conditions adverse to quality).

The inspectors then determined if the completion of corrective actions was in a timely manner commensurate with the safety significance of the issue. The inspectors considered if any delays in implementation were justified based on the safety significance of the issue. The inspectors considered if any permanent corrective actions required significant time to implement and if interim corrective actions and/or compensatory actions were identified and implemented to minimize the problem and/or mitigate its effects until the permanent action could be implemented.

The inspectors reviewed the actions taken to determine if the actions resulted in the correction of the identified problem. In the case of this significant condition adverse to quality, the inspectors determined if the corrective action taken would preclude repetition. In addition, the inspectors compared the corrective action against related negative trends associated with human or equipment performance to determine if the corrective action can potentially impact nuclear safety.

Finally, the inspectors reviewed operating experience to determine if it was adequately evaluated for applicability, and applicable lessons learned were communicated to appropriate organizations and implemented.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 2 samples)

.1 Plant Events

a. Inspection Scope

For the plant events listed below, 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 IMC 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.

- Unit 2 manual scram due to unexpected core flow changes on June 1, 2016 (Event Number 51968)

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report (LER) 05000352/2016-001-00: Condition That Could Have Prevented the Fulfillment of the Reactor Enclosure Secondary Containment Integrity Safety Function

On January 25, 2016, the main control room was notified that the local airlock open door alarm was activated when a worker in the residual heat removal service water/emergency service water pipe tunnel opened the airlock outboard door. The investigation determined that the worker using the airlock properly verified that the door open blue light indication was not lit and then opened the outboard airlock door which activated the local airlock alarm. The cause was a degraded inboard door closing mechanism that resulted in the inboard door opening enough to activate the alarm when the outboard door was opened. The door closing mechanism was adjusted. TS 3.6.5.1.1. “Reactor Enclosure Secondary Containment Integrity,” Surveillance Requirement 4.6.5.1.1.b, requires at least one door in each access to the reactor enclosure be closed. The airlock doors were re-closed within 10 seconds, well within the Limiting Condition of Operation 3.6.5.1.1 action time limit of four hours. As a result, a violation of plant TS did not occur. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

4OA6 Meetings, Including Exit

On July 27, 2016, the inspectors presented the inspection results to Mr. Rick Libra, Site Vice President, and other members of the Exelon 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

R. Libra, Site Vice President
 D. Lewis, Plant Manager
 M. Herr, Director of Operations
 F. Sturniolo, Director of Engineering
 D. Palena, Director of Maintenance
 J. Hunter, Director of Work Management
 K. Kemper, Security Manager
 R. Dickinson, Manager, Regulatory Assurance
 R. Ruffe, Training Director
 H. Weissinger, Shift Operations Superintendent
 A. Hightower, Emergency Preparedness Manager
 G. Budock, Regulatory Assurance Engineer
 D. Molteni, Manager Operations Training
 M. DiRado, Manager, Engineering Programs
 D. Merchant, Radiation Protection Manager
 C. Gerdes, Manager, Chemistry, Environmental and Radioactive Waste
 B. Bielecki, Assistant Director of Engineering
 T. Ryan, Manager Engineering Programs
 J. O'Neil, Manager NDE
 C. Hawkins, NDE Level III
 M. Weis, ISI Program Engineer
 K. Moore, Main Steam Piping, Valves and ADS System Engineer
 M. Karasek, Snubber Program Manager
 N. Lampe, EDG System Engineer
 L. Cheung, Maintenance Planner
 M. Arnosky, Operations Shift Manger

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDClosed

05000352/2016-001-00	LER	Condition That Could Have Prevented the Fulfillment of the Reactor Enclosure Secondary Containment Integrity Safety Function (Section 4OA3.2)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

E-5, Grid Emergency, Revision 22
 OP-AA-108-107, Switchyard Control, Revision 4
 OP-AA-108-107-1001, Station Response to Grid Capacity Conditions, Revision 6
 OP-AA-108-107-1002, Interface Procedure Between COMED/PECO and Exelon Generation
 (Nuclear Power) for Transmission Operations, Revision 9
 WC-AA-8000, Interface Procedure between CCOMED/PECO and Exelon Generation
 (Nuclear Power) for Construction and Maintenance, Revision 8

Condition Reports

2510383	2586986	2610389
2514045	2593032	2649635
2581992	2603456	2672292

Section 1R04: Equipment Alignment

Procedures

0S78.1.D (COL), Valve Alignment for Normal Operation of Standby Gas Treatment Room
 Ventilation, Revision 5
 0S90.1.A, Equipment Alignment for Startup of the Control Enclosure Chilled Water System,
 Revision 11
 M-090-005, Limerick Generating station Reassembly of Control Room Chiller, Revision 22
 S51.5.H, RHR Alternate Decay Heat Removal, Revision 0
 S51.6.B, Swapping RHR Pumps in RHR-ADHR Method, Revision 16
 S51.7.C, Defeating the RHR Pump/Suction Valve Interlock to Support RHR-ADHR Operation,
 Revision 6
 S51.8.L, RHR Alternate Decay Heat Removal Startup and Shutdown, Revision 21
 S76.1.C, SGTS and RERS Setup for Automatic Initiation, Revision 15
 S90.1.A, Start Up of the Control Enclosure Chilled Water System, Revision 56
 S90.9.A, Routine Inspection of the Control Enclosure Chilled Water System, Revision 46

Condition Reports:

2670195

Section 1R05: Fire Protection

Procedures

F-R-103, Pre-Fire Plan, Unit 1 B and D RHR Heat Exchanger and Pump Rooms 103 and 204,
 Revision 8
 F-R-181, Unit 2, Core Spray Pump Room B (EI 177), Revision 8
 F-R-182, Unit 2, Corridor Room 182 (EI 177), Revision 6
 F-R-400, Pre-Fire Plan, Unit 1 Drywell Area Room 400, Revision 9
 F-T-252, Pre-Fire Plan, Unit 1 CRD Water Pump Area, Revision 7
 F-T-270, Pre-Fire Plan, Unit 2 CRD Water Pump Area, Revision 9

OP-AA-201-008, Pre-Fire Plan Manual, Revision 3
OP-LG-201-008, Limerick Generating Station Fire Protection (F) Pre-Fire Plan Strategies,
Revision 5
OP-MA-201-007, Fire Protection System Impairment Control, Revision 6
ST-4-022-921-0, Fire Damper Inspection/Functional Test, Revision 6

Condition Reports

2683457
2684097

Maintenance Orders/Work Orders

A1937134
R1279143

Section 1R07: Heat Sink Performance

Condition Reports:

1197319
2649662

Work Orders

A0770896
R1101263

Miscellaneous

A0770896, Heat Exchanger Plugging Criteria, dated January 3, 1993
ECR LG-11-00188, RCIC Oil Cooler Tubes Need Plugging, Revision 0
LM-00668, Validation and Verification of EXCEL Spreadsheet to Analyze Shell and Tube Heat
Exchangers – Shell and Tube HX.xls, Revision 2

Section 1R08B: In-Service Inspection

Procedures

CC-AA-501-1025, Exelon Nuclear Welding Program – Joint Weld End Preparation and Joint
Details, Revision 5
ER-AA-335-025, Oversight of Vendor NDE Activities, Revision 9
ER-LG-330-1001, April 8, 2014, ISI Program, Revision 10

Maintenance Orders/Work Orders

A2038057 Rework Leak @ ¾ Bypass Line
C025776902, Strut is misaligned per spec.
C025784203, 3 loose lock nuts
C025788901, The detail drawing is incorrect for hanger 142
C025793505, Recordable indication found during a UT examination
C025801704, 2 PT indications exceed the acceptance criteria. Procedure ER-AA-335-02
R122858601, Rust on Subpile Room floor
R122858602, Cracked/linear indications extending from a base plate
R122858606, A wet unknown substance is leaking out from the Bio-shield wall
R122858609, Linear concrete indication

Miscellaneous

BOP-PT-16-044/NDE 37

GE Hitachi Nuclear Energy GEH-PDI-UT-2, Version 8, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds, Accepted by Exelon
September 26, 2015, Including PDI Protocol PDI-UT-2, Table 1, Revision 37 and Table 2, September 26, 2014

Personnel NDE Certification 1900

Personnel NDE Certification 1059

UT-16-035 RHA 005, 15C, 295, 400/237

UT-16-036 RHA 009, 15C, 295, 400/265

UT-16-037 RHA 004, 15C, 295, 400/234

UT-16-038 RHA 001, 15C, 295, 400/225

Section 1R11: Licensed Operator Regualification Program

Procedures

GP-2 Appendix 1, Reactor Start-up and Heat-up, Revision 53

GP-2, Normal Plant Startup, Revision 160

OP-AA-103-102, Watch-Standing Practices, Revision 14

OP-AA-104-101, Communications, Revision 3

Miscellaneous

Simulator Evaluation Guide 3006E

Section 1R12: Maintenance Effectiveness

Procedures

M-011-001, Preventive Maintenance Procedure for Diesel Generator Heat Exchanger Cleaning and Examination, Revision 17

MA-AA-716-001, Quality Material/Components Control, Revision 8

NO-LG-100, Quality Verification Program, Revision 4

SM-AA-3019, Parts Quality Process, Revision 2

Condition Reports

2673911

2673960

2685518

2685525

Maintenance Orders/Work Orders

A2031637

C0260141

R1174656

Drawings

DWG No. 12994171, Sheet 1

Miscellaneous

Colt Industries Vendor Bulletin No. AD-330
Fairbanks Morse Service Information Letter A-27
Garlock Expansion Joints Technical Manual

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

OP-AA-108-117, Protected Equipment Program, Revision 4
OP-LG-108-117-1000, Limerick Protected Equipment Program, Revision 5
ST-2-049-406-1, NSSSS – RCIC Steam Supply Pressure – Low; Division 3, Channel C,
Calibration/Functional Test (PT-49-1N058C, PIS-49-1N658C, Revision 13
WC-AA-101, Online Work Control Process, Revision 26
WC-AA-101, Online Work Control Process, Revision 26
WC-AA-101-1006, On-Line Risk Management and Assessment, Revision 2
WC-AA-101-1006, On-Line Risk Management and Assessment, Revision 2
WC-LG-101-1001, Guideline for the Performance of On Line Work, Revision 23

Maintenance Orders/Work Orders

R1277646

Miscellaneous

Clearance #16000272
Clearance #16000553
Clearance #16000564
Clearance #16000577
Clearance #16000642
Online Risk Status Sheet
Operations Logs
Operations Protected Equipment Log 5/17/2016
Operations Protected Equipment Log 5/2/2016
Operations Protected Equipment Log 5/23/2016

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

IC-11-00929, Installation of Ultrasonic Flow Equipment, Revision 5
M-011-001, Preventive Maintenance Procedure for Diesel Generator Heat Exchanger Cleaning
and Examination, Revision 17
M-200-053, Snubber Functional Test, Revision 30
OP-AA-108-115, Operability Determinations, Revision 17
OP-AA-108-115, Operability Determinations, Revision 17
OP-AA-108-115-1002, Supplemental Consideration for On-Shift Immediate Operability
Determinations, Revision 3
OP-AA-108-115-1002, Supplemental Consideration for On-Shift Immediate Operability
Determinations, Revision 3
S51.1.A, Setup of RHR System for Automatic Operation in LPCI Mode , Revision 55
SE-10, Loss of Cooling Accident, Revision 59

ST-1-103-300-1, 24 Month Snubber Functional Test Program, Revision 5
 ST-1-103-990-1, Snubber Service Life Monitoring, Revision 5
 ST-6-041-200-2, Reactor Vessel Quarterly Valve Test, Revision 42
 ST-6-041-202-1, MSIV Cold Shutdown Valve Test, Revision 25
 ST-6-048-230-2, SLC Pump, Valve, and Flow Test, Revision 46

Condition Reports

0157263	2646380	2673960
0164391	2644582	2685525
1146111	2661523	
2643205	2672202	

Maintenance Orders/Work Orders

A1817687	R1095226	R1310341
A1826404	R1174656	R1325531
A2031637	R1221516	R1331487
C0258068	R1222898	R1340536
C0260141	R1223988	

Drawings

8031-M-041 Sheet 2 Rev 63 "P&ID Nuclear Boiler"
 8031-M-41, Sheet 1, Nuclear Boiler, Revision 47
 8031-M-48, Sheet 2, P&ID Standby Liquid Control (Unit 2), Revision 13
 CPVB-M-48, Sheet 2, Primary Containment Pipe & Valve Boundary Standby Liquid Control (Unit 2), Revision 0
 DLA-108-1, Plan & Sections – Reactor Bldg. Feedwater Inside Drywell – Unit 1, Revision 22
 SK-M-1553, Isometric – Reactor Building (Drywell) Feedwater – Unit #1, Revision H

Miscellaneous

ASME OM-2015, Operation and Maintenance of Nuclear Power Plants, Section ISTD, Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers in Light-Water Reactor Nuclear Power Plants
 Certificate of Calibration, Certificate #: 0010870542
 Colt Industries Vendor Bulletin No. AD-330
 DWG No. 12994171, Sheet 1
 Fairbanks Morse Email Response
 Fairbanks Morse Service Information Letter A-27
 Garlock Expansion Joints Technical Manual
 Limerick Generating Station Technical Specification 4.7.4, Snubbers, Amendment 51
 Limerick Generating Station UFSAR, Section 15.2.4, MSIV Closures, Revision 17
 Limerick Generating Station UFSAR, Section 15.6.4, Steam System Piping Break Outside Primary Containment, Revision 17
 Limerick Generating Station UFSAR, Section 5.4.5, Main Steam Line Isolation System, Revision 17
 Limerick Generating Station UFSAR, Section 5.4.5, Main Steam Line Isolation System, Revision 17
 Limerick Generating Station UFSAR, Table 15.6-8, Sequence of Events for Steam Line Break Outside Primary Containment, Revision 17
 RCIC System Basis Document

Section 1R19: Post-Maintenance TestingProcedures

GP-5, Steady State Operations, Revision 177
M-020-002, Fairbanks Morse Opposed Piston Diesel Engine Examination and General Maintenance, Revision 12
MA-AA-716-012, Post Maintenance Testing, Revision 20
OP-AA-101-113-1004 Attachment 2, Equipment Issue Report, Revision 33
OT-102, Reactor High Pressure, Revision 26
RT-6-049-703-1, RCIC Pump Contaminated Piping Inspection, Revision 3
RT-6-055-703-1, HPCI Pump Contaminated Piping Inspection – Normally Inaccessible, Revision 4
ST-6-001-765-2, Main Turbine Control Valve Exercise and RPS Channel Functional Test, Revision 48
ST-6-011-232-0, B Loop ESW Pump, Valve & Flow Test, Revision 86
ST-6-049-230-2, RCIC Pump, Valve, and Flow Test, Revision 76
ST-6-049-231-1, RCIC Comprehensive Test, Revision 8
ST-6-055-230-1, HPCI Pump, Valve and Flow Test, Revision 81
ST-6-055-321-1, HPCI Operability Verification, Revision 24
ST-6-094-450-0, 120 Vac Safeguard Power Distribution Alignment and Voltage Check, Revision 14
ST-6-107-792-1, Control Rod SCRAM Timing During GP-10, Revision 0

Condition Reports:

0536313	2608966	2646179	2646246	2646265	2646637
2647434	2649662	2653906	2653948	2653961	2653967
2653992	2654006	2654021	2654028	2654029	2656660
2656686	2656687	2656714	2656717	2661584	2680582
2680617					

Work Orders

A1586009	A1942329	A2049431	C0254987	C0255037	C0257010
C0261080	C0261720	C0261327	R0967901	R0847050	R1042403
R1094839	R1101263	R1224324	R1263270	R1279035	R1282361
R1287131	R1287137	R1339862	R1342889	R1346779	

Drawing

E-26, Sheet 1, Single Line Diagram, 120V AC Power Supply HVAC Safeguard Motor Operated Valves & Dampers – Unit 1 & Common, Revision 19

Calculations

M-55-04, HPCI Pump Suction Line (Condensate Storage) Pressure Losses, Revision 3
M-55-22, HPCI Pump Suction NPSH and Pipe Volumes, Revision 12
MEL-0128, Determination of the Vortex Limits for LPCI, HPCI, and RCIC, Revision 0

Miscellaneous

8031-71-387, Fairbanks Morse Engine Division, Operation and maintenance Manual for Limerick Generating Station Units 1&2 Emergency Diesel Generators, dated May 8, 1981
Clearance #16000614
RCIC System Basis Document
RCIC System Basis Document

Section 1R20: Refueling and Other Outage ActivitiesProcedures

GP-2 Appendix 1, Reactor Start-up and Heat-up, Revision 53
 GP-2, Normal Plant Startup, Revision 160
 GP-3, Appendix 1, Establishing Cold Shutdown, Revision 56
 GP-3, Normal Plant Shutdown, Revision 158
 LS-AA-119, Fatigue Management and Work Hour Limits, Revision 12
 NF-AA-330-1001, Core Verification Guidelines, Revision 11
 ON-121, Loss of Shutdown Cooling, Revision 30
 OP-AA-103-102, Watch-Standing Practices, Revision 14
 OP-AA-104-101, Communications, Revision 3
 OP-AA-108-117, Protected Equipment Program, Revision 4
 OP-AA-108-117-1001, Spent Fuel Storage Pools Heat-Up Rate with Loss of Normal Cooling, Revision 00
 OP-MA-109-101, Clearance and Tagging, Revision 20
 OU-AA-103, Shutdown Safety Management Program, Revision 15
 S51.6.C, Swapping an Operating RHR Pump between RHR-SDC and RHR-ADHR, Revision 13
 S51.8.B, Shutdown Cooling/Reactor Coolant Circulation Operation Startup and Shutdown, Revision 79
 S51.8.L, RHR Alternate Decay Heat Removal Startup and Shutdown, Revision 21

Condition Reports

2638143	2642852	2646325	2643640	2646392	2646411
2646443	2646993	2648392	2649436	2649639	2649933
2653383	2656433				

Miscellaneous

Clearance #15000960
 Clearance #15001437
 Limerick Generating Station Shutdown Safety Plan

Section 1R22: Surveillance TestingProcedures

RT-6-092-453-1, Procedure for De-energizing and Re-energizing the D13 Safeguard Bus During a Refuel Outage, Revision 7
 ST-2-042-932-2, Unit 2 Reactor Vessel Water Level Low – Level 3; Division IA, Channel A Response Time Test, Revision 11
 ST-6-047-471-2, Pre-Control Rod Withdrawal Check and CRD Exercise OPCONS 3,4 with No Core Alterations, Revision 19
 ST-6-051-231-1, A RHR Pump, Valve and Flow Test, Revision 83
 ST-6-052-232-2, B Loop Core Spray Pump, Valve and Flow Test, Revision 56
 ST-6-088-323-1, Remote Shutdown System D13 Safeguard Breaker Operability Test, Revision 6
 ST-6-092-117-1, D13 Diesel Generator 4kV SFGD Loss of Power LSF/SAA and Outage Testing, Revision 23
 ST-6-107-790-2, Control Rod Scram Timing, Revision 32

Condition Reports

2482209	2676748
2649486	2687710

Maintenance Orders/Work Orders

A1815339	R1336757	R1341777
R1286765	R1345133	R1348960
	R1301545	

Drawings

0831-M-051 Sheet 001 Revision 66, "P&ID Residual Heat Removal Unit 1"

Miscellaneous

Limerick Generating Station Technical Specification 4.3.1, Reactor Protection System Instrumentation, Amendment 181
 Limerick Generating Station Technical Specification 4.5.1, Emergency Core Cooling System, Amendment 153
 Limerick Generating Station UFSAR, Section 6.3.2.2.3, Core Spray System, Revision 17
 Limerick Generating Station UFSAR, Table 7.3-26, Level Sensor Connections, Revision 7
 M-52-5, Delta-P for CS Pump Discharge Line; Mode D, Revision 1
 ST-2-042-932-2, Unit 2 Reactor Vessel Water Level Low – Level 3; Division IA, Channel A Response Time Test, dated April 25, 2016
 ST-6-052-232-2, B Loop Core Spray Pump, Valve and Flow Test, dated April 26, 2016

Section 1EP6: Drill EvaluationCondition Reports

2686807

Section 4OA1: Performance Indicator VerificationProcedures

LS-AA-2200 Attachment 5, Emergency AC Power Function, Revision 5
 LS-AA-2200, Mitigating System Performance Index Data Acquisition and Reporting, Revision 5
 LS-AA-2200, Mitigating System Performance Index Data Acquisition and Reporting, Revision 5
 LS-MA-1251, Reportability Reference Manual – Mid-Atlantic Plant Specific – LG (Limerick), Revision 19
 OP-LG-108-104-1000, ST/RT Status Log (Short Duration Time Clock Log), Revision 1

Condition Reports

2477966	2495100	2539394
2482269	2534144	2542598

Miscellaneous

LER Unit 1 2015-001-00
 LER Unit 1 2015-002-00
 LER Unit 2 2015-001-00
 LER Unit 2 2015-002-00
 LER Unit 2 2015-005-00
 LER Unit 2 2015-007-00
 LER Unit 2 2015-008-00
 Operations Narrative Logs

Section 4OA2: Problem Identification and Resolution

Procedures

ON-122, Loss of Main Control Room Annunciators, Revision 19

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2630690	2649070	2674478
2645757	2661722	2680421
2645854	2670996	2686345
2645910	2672406	
2646967	2673741	

Maintenance Orders/Work Orders

A2039070	M2039598
C0257090	M2047088

Miscellaneous

Operations Narrative Logs

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

GP-11, Reactor Protection System – Scram Reset, Revision 29
GP-18, Scram/ATWS Event Review, Revision 70
OT-112, Unexpected/Unexplained Change in Core Flow, Revision 53
T-100, Scram/Scram Recovery, Revision 17

Condition Reports

2616867	2676567	2676711
2676334	2676583	2676712
2676418	2676693	

Miscellaneous

EN #51968
Operations Narrative Logs

LIST OF ACRONYMS

AC	alternating current
ADAMS	Agencywide Documents Access and Management System
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
EDG	emergency diesel generator
IMC	Inspection Manual Chapter
LER	licensee event report
LGS	Limerick Generating Station
NEI	Nuclear Energy Institute
MSIV	main steam isolation valve
NRC	Nuclear Regulatory Commission
RCIC	reactor core isolation cooling
RHR	residual heat removal
SGTS	standby gas treatment system
UFSAR	updated final safety analysis report