



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

March 2, 2016

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

**SUBJECT: ANNUAL ASSESSMENT LETTER FOR LIMERICK GENERATING STATION,
UNITS 1 AND 2 (REPORT 05000352/2015006 AND 05000353/2015006)**

Dear Mr. Hanson:

On February 11, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed its end-of-cycle performance review of Limerick Generating Station (LGS) Units 1 and 2. The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from January 1, 2015 through December 31, 2015. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined that overall, LGS Units 1 and 2 operated in a manner that preserved public health and safety and met all cornerstone objectives. The NRC determined the performance at LGS Units 1 and 2 during the most recent quarter was within the Licensee Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," because all inspection findings had very low (i.e., green) safety significance, and all PIs indicated that your performance was within the nominal, expected range (i.e., green). Limerick Generating Station Units 1 and 2 had been in the Regulatory Response Column of the NRC's Reactor Oversight Process Action Matrix until the end of the first quarter in 2015, due to one or more Greater-than-Green finding(s) that resulted in an Action Matrix input to the security cornerstone beginning in the second quarter of 2014. Units 1 and 2 transitioned to the Licensee Response Column at the beginning of the second quarter 2015 after a supplemental inspection for the Greater-than-Green finding was successfully completed on March 20, 2015. The results for this inspection are documented in NRC Supplemental Inspection Report Numbers 05000352/2015405 and 05000353/2015405 (ADAMS Accession No. ML15114A074¹), and Assessment Follow-Up Letter (ML15114A092). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

¹ The designation in parenthesis refers to an Agencywide Documents Access and Management System (ADAMS) Accession Number. The document referenced in this letter is publicly available using the Accession Number in ADAMS.

The enclosed inspection plan lists the inspections scheduled through December 31, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. In addition to ROP baseline inspections, the NRC will perform Inspection Procedure (IP) 60855.1, "Operation of an ISFSI Independent Spent Fuel Storage Installation at Operating Plants." The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security related inspections, which will be sent via separate, non-publicly available correspondence.

In response to the accident at Fukushima, the Commission issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events." This Order requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation." This Order requires licensees to have a reliable means of remotely monitoring wide-range Spent Fuel Pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC is conducting audits of licensee efforts towards compliance with these Orders. The audit was completed for LGS Units 1 and 2, and the information gathered will aid staff in development of the Final Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above by performing TI 2515-191, "Inspection of the Implementation of Mitigating Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communications/Staffing/Multi-Unit Dose Assessment Plans."

During the assessment period, the NRC issued one Severity Level IV traditional enforcement violation to LGS, related to spent fuel canister activities. However, in accordance with IMC 0305, Section 13.02.b, the NRC will not conduct Inspection Procedure 92702, "Follow-up on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmatory Orders," because the issue has already been reviewed in a previous inspection.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Please contact Daniel Schroeder at 610-337-5262 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director
Division of Reactor Projects

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

Enclosure: Limerick Inspection/Activity Plan

cc w/encl: Distribution via ListServ

Please contact Daniel Schroeder at 610-337-5262 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director
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License Nos. NPF-39 and NPF-85

Enclosure: Limerick Inspection/Activity Plan
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ADAMS Accession No. **ML16061A399**

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| OFFICE | RI/DRP | RI/DRP | RI/DRP | RI/DRP | |
| NAME | ATurilin/ AT | SRutenkroger/ DS for by telecon | DSchroeder/ DLS | MScott/ MLS | |
| DATE | 02/ 25/16 | 02/29/16 | 02/29 /16 | 03/01/16 | |

OFFICIAL RECORD COPY

Limerick
Inspection / Activity Plan
01/01/2016 - 12/31/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|--|---|----------------------|
| | Start | End | | | |
| | | | 1/18EXAM - INITIAL OL EXAM | | 4 |
| 1 | 01/18/2016 | 01/22/2016 | U01912 | FY16 - LIMERICK INITIAL OPERATOR LICENSING EXAM | |
| | | | 71124.08 - RADWASTE | | 1 |
| 1,2 | 01/11/2016 | 01/15/2016 | IP 71124.08 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1 | 02/22/2016 | 02/26/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 02/22/2016 | 02/26/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 02/22/2016 | 02/26/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 02/22/2016 | 02/26/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 02/22/2016 | 02/26/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | ISI - U1 INSERVICE INSPECTION | | 1 |
| 1 | 03/28/2016 | 04/01/2016 | IP 7111108G | Inservice Inspection Activities - BWR | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1,2 | 03/28/2016 | 04/01/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1,2 | 03/28/2016 | 04/01/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 03/28/2016 | 04/01/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 03/28/2016 | 04/01/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 03/28/2016 | 04/01/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | ISFSI - ISFSI LOADING CAMPAIGN INSPECTION | | 3 |
| 1,2 | 07/18/2016 | 07/22/2016 | IP 60855 | Operation Of An ISFSI | |
| 1,2 | 07/18/2016 | 07/22/2016 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | | 2/6EXAM - LIMERICK INITIAL EXAM | | 4 |
| 1 | 01/09/2017 | 01/13/2017 | U01940 | FY17-LIMERICK INITIAL OPERATOR LICENSING EXAM | |
| 1 | 02/06/2017 | 02/10/2017 | U01940 | FY17-LIMERICK INITIAL OPERATOR LICENSING EXAM | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1,2 | 08/29/2016 | 09/02/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 1,2 | 08/29/2016 | 09/02/2016 | IP 71124.06 | Radioactive Gaseous and Liquid Effluent Treatment | |
| | | | TRI FI - TRIENNIAL FIRE PROTECTION | | 4 |
| 1,2 | 10/31/2016 | 11/04/2016 | IP 7111105T | Fire Protection [Triennial] | |
| 1,2 | 11/14/2016 | 11/18/2016 | IP 7111105T | Fire Protection [Triennial] | |
| | | | 71152B - BIENNIAL PI&R | | 6 |
| 1,2 | 11/28/2016 | 12/02/2016 | IP 71152B | Problem Identification and Resolution | |
| 1,2 | 12/12/2016 | 12/16/2016 | IP 71152B | Problem Identification and Resolution | |

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

Limerick
Inspection / Activity Plan
01/01/2016 - 12/31/2017

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|-------------|---------------|------------|---------------------|---|----------------------|
| | Start | End | | | |
| | | | EP | - EP PROGRAM INSPECTION | 1 |
| 1,2 | 11/28/2016 | 12/02/2016 | IP 7111402 | Alert and Notification System Testing | |
| 1,2 | 11/28/2016 | 12/02/2016 | IP 7111403 | Emergency Preparedness Organization Staffing and Augmentation System | |
| 1,2 | 11/28/2016 | 12/02/2016 | IP 7111405 | Correction of Emergency Preparedness Weaknesses and Deficiencies | |
| | | | 7124 | - RADIATION PROTECTION | 1 |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 1,2 | 12/05/2016 | 12/09/2016 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| | | | 71124 | - RADIATION PROTECTION | 1 |
| 1,2 | 03/06/2017 | 03/10/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1,2 | 03/06/2017 | 03/10/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 03/06/2017 | 03/10/2017 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 03/06/2017 | 03/10/2017 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 03/06/2017 | 03/10/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | 7111108G | - U2 INSERVICE INSPECTION | 1 |
| 2 | 04/24/2017 | 04/28/2017 | IP 7111108G | Inservice Inspection Activities - BWR | |
| | | | 71124 | - RADIATION PROTECTION | 1 |
| 1,2 | 04/24/2017 | 04/28/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1,2 | 04/24/2017 | 04/28/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 04/24/2017 | 04/28/2017 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 04/24/2017 | 04/28/2017 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 04/24/2017 | 04/28/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | ISFSI | - ISFSI LOADING CAMPAIGN INSPECTION | 1 |
| 1,2 | 07/10/2017 | 07/14/2017 | IP 60855 | Operation Of An ISFSI | |
| 1,2 | 07/10/2017 | 07/14/2017 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | | 7111107T | - TRIENNIAL HEAT SINK | 1 |
| 1,2 | 07/17/2017 | 07/21/2017 | IP 7111107T | Heat Sink Performance | |
| | | | 7111111B | - LIMERICK REQUAL INSP W/ P/F RESULTS | 2 |
| 1,2 | 10/23/2017 | 10/27/2017 | IP 7111111B | Licensed Operator Requalification Program | |
| | | | 71124 | - REMP | 1 |
| 1,2 | 09/11/2017 | 09/15/2017 | IP 71124.07 | Radiological Environmental Monitoring Program | |

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01/01/2016 - 12/31/2017

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|--|---------------|------------|---------------------|--|----------------------|
| | Start | End | | | |
| EP - EP EXERCISE EVALUATION | | | | | 4 |
| 1,2 | 11/13/2017 | 11/17/2017 | IP 7111401 | Exercise Evaluation | |
| 1,2 | 11/13/2017 | 11/17/2017 | IP 71151 | Performance Indicator Verification | |
| 7111117 - PERMANENT PLANT MODIFICATIONS | | | | | 3 |
| 1,2 | 10/30/2017 | 11/03/2017 | IP 7111117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| 1,2 | 11/13/2017 | 11/17/2017 | IP 7111117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71124.04 | Occupational Dose Assessment | |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 1,2 | 11/06/2017 | 11/10/2017 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |

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