July 27, 2001

MEMORANDUM TO: James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Christopher Gratton, Sr. Project Manager, Section 2 **/RA/**
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF REQUESTS RR-6, RR-07, RR-12, AND RR-13, LIMERICK GENERATING STATION (LGS), UNITS 1 AND 2 (TAC NOS. MB1018 AND MB1019)

The Nuclear Regulatory Commission (NRC) staff is currently reviewing PECO Energy Company's (PECO's) submittal of proposed alternatives to the requirements of Section 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR 50.55a) dated January 9, 2001. The purpose of this memorandum is to document questions to the licensee regarding the subject relief requests. The attached questions were discussed with the licensee during a teleconference on May 10, 2001. A draft version of the questions was transmitted to the licensee prior to the teleconference.

PECO was succeeded by Exelon Generation Company (EGC) as the licensed operator of LGS on January 12, 2001. By letter dated January 30, 2001, EGC requested that the NRC staff continue to process and disposition licensing actions previously docketed and requested by PECO.

Mr. Tom Loomis of the Exelon staff agreed to respond in writing to the questions by July 31, 2001 so that current review schedules can be met.

Docket Nos. 50-352 and 50-353

Attachment: As stated

CONTACT: C. Gratton, NRR
(301) 415-1055

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TECHNICAL LETTER REPORT
REQUESTS FOR ADDITIONAL INFORMATION
ON SECOND 10-YEAR INSERVICE INSPECTION INTERVAL
REQUEST FOR RELIEF
FOR
EXELON GENERATION COMPANY
LIMERICK GENERATING STATION, UNITS 1 AND 2
DOCKET NUMBERS: 50-352 AND 50-353

1.01 SCOPE

By letter dated January 9, 2001, the licensee, PECO Energy Company, submitted multiple requests for relief from the requirements of the ASME Code, Section XI, for the Limerick Generating Station (LGS), Units 1 and 2. Exelon Generation Company has since succeeded PECO as the licensee for LGS. These relief requests are for the second 10-year inservice inspection (ISI) interval. Brookhaven National Laboratory (BNL) reviewed the information submitted by the licensee and based on this review, the following information for each relief request is required to complete this evaluation.

1.02 REQUESTS FOR ADDITIONAL INFORMATION

2.1 **Request for Relief No. RR-06, Revision 1** - Pursuant to 10 CFR 50.55a(g)(6)(i), the licensee requested relief from complete examination of the shell to flange weld on all heat exchangers in both Units due to limited access resulting from component design. The licensee proposed to perform the ultrasonic examination to the maximum extent practical (i.e., approximately 87.5%).

The licensee did not provide documentation, including photos, sketches, or calculations, to justify why the Code requirements are impractical. In addition, the licensee indicated that the limitations to complete volumetric examinations are also applicable to surface examination techniques. In order for the proposed relief to be acceptable, please provide the following:

2.01 For each of the four RHR heat exchangers (i.e., two in each Unit), demonstrate how the transverse scans using ultrasonic examination will achieve the maximum extent possible of 87.5% of the Code volume requirement. Include photos, sketches, drawings, or calculations as appropriate.

2.02 Justify why the access restrictions from the flange bolting are applicable to surface examinations for each of the four RHR heat exchangers.

2.2 **Request for Relief No. RR-07, Revision 1** - Pursuant to 10 CFR 50.55a(g)(6)(i), the licensee requested relief from the examination of inaccessible pressure retaining pump casing welds on the RHR and Core Spray (CS) pumps due to plant/component design. The licensee's proposed alternative includes performing surface examination from inside of the pump casing when accessible, taking credit for visual examinations performed during system leakage and hydrostatic tests, and taking credit for functional tests.

The licensee proposed that in the event of the subject welds become accessible upon disassembly of any one of the pumps, the welds will be surface examined from the inside surface or a VT-1 visual examination will be performed for that particular pump group to the

Attachment

maximum extent practicable. The examination method will be determined based on radiation environment data at the time access is enabled. In addition, all pumps are subject to the visual

examination (VT-2) requirements during the system leakage test and the hydrostatic test of the Examination Category C-H, and the functional test of Section IWP, thereby, providing assurance of pump structural integrity. In order for the proposed alternative to be acceptable, please provide the following:

1.01 For all 8 RHR and 8 CS pumps, demonstrate with photos, sketches, and/or drawings that none of the subject pump casing outside surfaces are accessible for surface examination.

1.02 Clarify the statement in the alternate provisions, "The examination method will be determined based on radiation environment data at the time access is enabled." Explain how the examination method to be chosen based on the radiation environment covers the Code required surface of the inside pump casing. Include the maximum and minimum Code-required surfaces that could be examined.

2.3 **Request for Relief No. RR-12, Revision 3 (Table RR-12-8)** - Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee requested relief from the preparation of Inservice Inspection (ISI) Summary Reports, which contain completed Form NIS-1, "Owner's Report for Inservice Inspection" and Form NIS-2, "Owner's Report for Repair or Replacement." Alternatively, the licensee proposes to implement the provisions of ASME Section XI Code Case N-532, "Alternative Requirements to Repair and Replacement Documentation Requirements and Inservice Summary Report Preparation and Submission as Required by IWA-4000 and IWA-6000," including replacement activities per IWA-7000, which is not yet approved by reference in Regulatory Guide 1.147. In order for the proposed alternative to be acceptable, please provide the following:

2.01 In section III, fourth paragraph, fourth sentence of the relief request, its is stated "The other use of the term, as found in IWX-3000, involves maintenance activities that do not involve repairs or replacements." Clarify if Subsection IWX represents Subsection IWB, IWC, IWD, IWE, IWF, or IWL.

2.02 The alternate provisions by the licensee include the use of the Code Case N-532 in its entirety with the clarification stated in the 'Basis for Alternative' regarding the provisions in paragraph 2(c) of the Code Case for reporting corrective measures. Clarify how the provisions in paragraph 2(c) of the Code Case exclude the routine maintenance activities from reporting.

2.4 **Request for Relief No. RR-13, Revision 3** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the subject pressure test requirements for specific components listed in Tables RR-13-1 through RR-13-8 due to hardship imposed by plant design and/or redundant testing. Other tests that are proposed as alternative to the pressure tests for these specific components are also addressed in these Tables. In order for the proposed alternative to be considered, please provide the following:

2.01 The specific Class 2 and 3 components covered by this relief request are detailed in Tables RR-13-1 through RR-13-8. This particular relief request is just a summary statement for the eight specific relief requests detailed in these tables. Please clarify the intention of this relief request.

2.02 In accordance with the 1989 ASME Code, Examination Category C-H (Item Numbers C7.10 through C.80) for Class 2, and Examination Categories D-A (Item Number D1.10), Examination Categories D-B (Item Number D2.10) and Examination Categories D-C (Item Number D3.10) for Class 3, all pressure retaining components are subject to VT-2 visual examinations during both the system leakage test every inspection period and the system hydrostatic test every inspection interval. Clarify why the system hydrostatic test requirement has not been identified under the Code requirements.

2.03 Under Section IV, second paragraph of the relief request it is stated, “PECO Energy shall perform the required leakage tests at the peak calculated containment pressure using a test procedure that provides for the detection and location of through-wall leakage in the pipe segments being tested. CM-7". Clarify the meaning of this statement. Specifically, discuss what is the meaning of CM-7.

2.04 Regarding Request for Relief No. RR-13 in general, please justify that the proposed alternatives provide reasonable assurance of structural integrity, and that compliance of the code requirements results in hardship without any increase in safety.

2.5 **Request for Relief No. RR-13, Revision 3 (Table RR-13-1)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system inservice test and system hydrostatic test requirements for the nuclear boiler vessel instrumentation tubing to drywell pressure instrumentation outboard due to hardship imposed by plant design and/or redundant testing. Alternatively, LGS Technical Specification operability checks and Integrated Leak Rate Testing (ILRT) will provide assurance of component integrity and will be utilized to satisfy ASME Section XI requirements. In order for the proposed alternative to be acceptable, please provide the following:

(1) Technical Specifications for channel checks to verify drywell pressure instrumentation operability. Demonstrate that the subject instrumentation tubing and components are specifically included in channel checks.

(2) Integrated Leak Rate Testing (ILRT) plan and its frequency for the LGS Units. Demonstrate that the tubing and components are included in the ILRT.

(3) Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

(4) Examination Category and Item Number applicable to subject tubing and components.

2.6 **Request for Relief No. RR-13, Revision 3 (Table RR-13-2)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during system functional/inservice tests and system hydrostatic test requirements for the RCIC turbine exhaust vacuum breaker lines and RCIC vacuum pump exhaust to suppression pool lines due to hardship imposed by plant design and/or redundant testing. Alternatively, 10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-

5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Local Leak Rate Testing (LLRT) plan for the LGS Units. Demonstrate that the subject vacuum breaker and vacuum exhaust lines are included in the LLRT.

0.02 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.03 Item Number for the Examination Category applicable to subject components.

2.7 **Request for Relief No. RR-13, Revision 3 (Table RR-13-3)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during system functional/inservice tests and system hydrostatic test requirements for the HPCI turbine exhaust vacuum breaker lines due to hardship imposed by plant design and/or redundant testing. Alternatively, 10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Local Leak Rate Testing (LLRT) plan for the LGS Units. Demonstrate that the subject vacuum breaker are included in the LLRT.

0.02 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.03 Item Number for the Examination Category applicable to subject components.

2.8 **Request for Relief No. RR-13, Revision 3 (Table RR-13-4)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system inservice tests and system hydrostatic test requirements for the containment atmospheric control tubing to suppression pool pressure and level instrumentation outboard due to hardship imposed by plant design and/or redundant testing. Alternatively, LGS Technical Specification suppression pool instrumentation operability checks and Integrated Leak Rate Test (ILRT) provide assurance of component integrity and will be utilized to satisfy ASME Section XI requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Technical Specifications for channel checks to verify suppression pool pressure instrumentation operability. Demonstrate that the subject instrumentation tubing and components are specifically included in channel checks.

0.02 Integrated Leak Rate Testing (ILRT) plan and its frequency for the LGS Units. Demonstrate that the tubing and components are included in the ILRT.

0.03 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.04 Examination Category and Item Number applicable to subject tubing and components.

2.9 **Request for Relief No. RR-13, Revision 3 (Table RR-13-5)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during

system functional/inservice tests and system hydrostatic test requirements for the post-LOCA recombiner piping and hydrogen/oxygen sampling lines due to hardship imposed by plant design and/or redundant testing. Alternatively, System Contaminated Pipe Inspection (CPI) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Contaminated Pipe Inspection (CPI) plan for the LGS Units. Demonstrate that the subject lines are included in the CPI program. Explain the CPI testing associated with the Leak Reduction Program (UFSAR 6.2.8).

0.02 Clarify if sampling lines are included in the CPI program.

0.03 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.04 Item Number for the Examination Category applicable to subject components.

2.10 **Request for Relief No. RR-13, Revision 3 (Table RR-13-6)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during system functional/inservice tests and system hydrostatic test requirements for the primary containment atmospheric control piping due to hardship imposed by plant design and/or redundant testing. Alternatively, 10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Local Leak Rate Testing (LLRT) plan for the LGS Units. Demonstrate that the subject lines are included in the LLRT.

0.02 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.03 Item Number for the Examination Category applicable to subject components.

2.11 **Request for Relief No. RR-13, Revision 3 (Table RR-13-7)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during system functional/inservice tests and system hydrostatic test requirements for the plant process radiation monitoring system piping due to hardship imposed by plant design and/or redundant testing. Alternatively, 10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Local Leak Rate Testing (LLRT) plan for the LGS Units. Demonstrate that the subject lines are included in the LLRT.

0.02 What is the normal pressure of these lines ?

0.03 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.04 Item Number for the Examination Category applicable to subject components.

2.12 **Request for Relief No. RR-13, Revision 3 (Table RR-13-8)** - Pursuant to 10 CFR 50.55a(a)(3)(ii), the licensee requested relief from meeting the system pressure test during system functional/inservice tests and system hydrostatic test requirements for the primary containment instrument gas system piping due to hardship imposed by plant design and/or redundant testing. Alternatively, 10CFR50 Appendix J Local Leak Rate Testing (LLRT) will be utilized to meet the ASME Section XI IWC-5000 pressure testing requirements. In order for the proposed alternative to be acceptable, please provide the following:

0.01 Local Leak Rate Testing (LLRT) plan for the LGS Units. Demonstrate that the subject lines are included in the LLRT.

0.02 What is the normal pressure for the Containment Instrument Gas ? Also, since the LLRT pressure is lower than the normal system pressure, justify why monitoring at this lower pressure is adequate and conservative.

0.03 Clarify what sort of hardship has been imposed by plant design and/or redundant testing.

0.04 Item Number for the Examination Category applicable to subject components.