

## LimerickNPem Resource

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**From:** Christopher.Wilson2@exeloncorp.com  
**Sent:** Thursday, June 14, 2012 11:36 AM  
**To:** Kuntz, Robert  
**Subject:** letters transmitted to DCC  
**Attachments:** 6.14.12 - LIM - Response to NRC RAI dated 6.5.12 re LGS LRA-a.pdf; 6.14.12 - LIM - 10CFR54.21(b) Annual Amendment to LRA.PDF

Rob

These two letters were just sent to DCC...advance copy for your review

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**Email Number:** 1189

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**Subject:** letters transmitted to DCC  
**Sent Date:** 6/14/2012 11:36:29 AM  
**Received Date:** 6/14/2012 11:36:44 AM  
**From:** Christopher.Wilson2@exeloncorp.com

**Created By:** Christopher.Wilson2@exeloncorp.com

**Recipients:**  
"Kuntz, Robert" <Robert.Kuntz@nrc.gov>  
Tracking Status: None

**Post Office:** cccmsxch12.energy.power.corp

Files	Size	Date & Time	
MESSAGE	920	6/14/2012 11:36:44 AM	
6.14.12 - LIM - Response to NRC RAI dated 6.5.12 re LGS LRA-a.pdf			370438
6.14.12 - LIM - 10CFR54.21(b) Annual Amendment to LRA.PDF			399729

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**Recipients Received:**



Exelon Generation®

**Michael P. Gallagher**  
Vice President, License Renewal  
Exelon Nuclear

200 Exelon Way  
Kennett Square, PA 19348

610 765 5958 Office  
610 765 5956 Fax  
www.exeloncorp.com

michaelp.gallagher@exeloncorp.com

10 CFR 50  
10 CFR 51  
10 CFR 54

June 14, 2012

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

Limerick Generating Station, Units 1 and 2  
Facility Operating License Nos. NPF-39 and NPF-85  
NRC Docket Nos. 50-352 and 50-353

**Subject:** Response to NRC Request for Additional Information, dated June 5, 2012, related to the Limerick Generating Station License Renewal Application

**Reference:** 1. Exelon Generation Company, LLC letter from Michael P. Gallagher to NRC Document Control Desk, "Application for Renewed Operating Licenses", dated June 22, 2011  
2. Letter from Robert F. Kuntz (NRC) to Michael P. Gallagher (Exelon), "Requests for Additional Information for the review of the Limerick Generating Station, Units 1 and 2, License Renewal Application (TAC Nos. ME6555, ME6556)", dated June 5, 2012

In the Reference 1 letter, Exelon Generation Company, LLC (Exelon) submitted the License Renewal Application (LRA) for the Limerick Generating Station, Units 1 and 2 (LGS). In the Reference 2 letter, the NRC requested additional information to support the staffs' review of the LRA.

Enclosed are the responses to these requests for additional information.

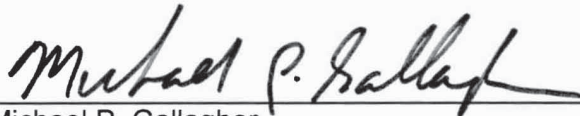
This letter and its enclosure contain no new or revised regulatory commitments.

If you have any questions, please contact Mr. Al Fulvio, Manager, Exelon License Renewal, at 610-765-5936.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 06-14-2012

Respectfully,

A handwritten signature in black ink, reading "Michael P. Gallagher", written over a horizontal line.

Michael P. Gallagher  
Vice President - License Renewal Projects  
Exelon Generation Company, LLC

Enclosure:    Response to Request for Additional Information

cc:    Regional Administrator – NRC Region I  
      NRC Project Manager (Safety Review), NRR-DLR  
      NRC Project Manager (Environmental Review), NRR-DLR  
      NRC Project Manager, NRR- DORL Limerick Generating Station  
      NRC Senior Resident Inspector, Limerick Generating Station  
      R. R. Janati, Commonwealth of Pennsylvania

**Enclosure**

**Response to Requests for Additional Information related to various sections of the LGS  
License Renewal Application (LRA)**

RAI B.2.1.32-2.1

### **RAI B.2.1.32-2.1**

#### **Background**

The Limerick Generating Station (LGS) license renewal application (LRA) section B.2.1.32 states that the ASME Section XI, Subsection IWF program, with enhancement, will be consistent with GALL Report AMP XI.S3. The response to RAI B.2.1.32-2, provided by letter dated February 28, 2012, stated that there are no ASTM A325, F1852, or A490 bolts within the scope of the ASME Section XI, Subsection IWF program. Therefore, the response stated that the GALL Report recommended preventive actions in Section 2 of Research Council for Structural Connections (RCSC) publication "Specification for Structural Joints Using ASTM A325 or A490 Bolts" do not apply.

The response to RAI 3.5.2.1.1-1, provided by letter dated February 16, 2012, regarded stress corrosion cracking (SCC) in high strength bolts. The response stated that A325 or A490 bolts are used for high strength structural bolts and that structural bolting is within the scope of license renewal and is managed by the Structures Monitoring Program. The response further stated that SCC potential need not be evaluated for these bolts based on guidance in SRP-LR Table 3.5-1, ID 69.

#### **Issue**

The staff agrees that SCC potential need not be evaluated for ASTM A325 and A490 structural bolts; however, the preventive actions discussed in Section 2 of RCSC publication "Specification for Structural Joints Using ASTM A325 or A490 Bolts," should still be addressed if A325 or A490 bolts are in the scope of a program.

The staff reviewed Table 3.9-6, "Loading Combinations, Stress Limits, and Allowable Stresses," in the LGS UFSAR and noted several components which appear to be within the scope of ASME Section XI, Subsection IWF that either called out SA325 bolts, which are equivalent to ASTM A325 bolts, or referenced ASME Division III, Subsection NF, which allows the use of SA325 bolts. It appears to the staff that there may be a discrepancy between the information in the UFSAR, and the information provided in the response to RAI B.2.1.32-2. The UFSAR appears to allow the use of SA325 bolts, and in at least one instance calls out SA325 bolts, while the RAI B.2.1.32-2 response claims there are no ASTM A325 bolts within the scope of the program. Based on the information in the UFSAR, along with the RAI responses, it is not clear to that staff whether or not there are A325 or A490 bolts within the scope of the ASME Section XI, Subsection IWF program.

#### **Request**

Verify that there are no ASTM A325, F1852, or A490, or ASME equivalent, bolts in the scope of the ASME Section XI, Subsection IWF program. If there are no ASTM A325, F1852, or A490 bolts within the scope of the program, explain the discrepancy in the UFSAR. If the bolts are within the scope of the ASME Section XI, Subsection IWF program, explain how the preventive actions discussed in Section 2 of "Specification for Structural Joints Using ASTM A325 or A490 Bolts" are addressed, or why they are unnecessary. If ASTM A325, F1852, or A490 bolts typically within the scope of ASME Section XI, Subsection IWF program are being managed by a different program (e.g. Structures Monitoring) explain how that program addresses the recommendations of the GALL Report ASME Section XI, Subsection IWF program.

### **Exelon Response**

UFSAR Table 3.9-6 contains only one entry for SA325 bolting which indicates that the RCIC (Reactor Core Isolation Cooling) Pump hold down bolting is SA325 material. The vendor documents and a walkdown in LGS Unit 2 identify hold down bolts which mount the RCIC pump to the base plate support as ASTM A449 bolts, with bolt head markings consistent with ASTM A449 material, rather than ASTM A325 bolts. These bolts are within the scope of ASME Section XI, Subsection IWF.

Corrective Action Program issue report 01375064 was initiated to identify and resolve this discrepancy. UFSAR Table 3.9-6 "Loading Combinations, Stress Limits, and Allowable Stresses" is not intended to identify the materials of construction but rather loads and stresses.

Vendor supplied equipment supports, such as for the RCIC pump, utilize material that is equivalent to ASTM A325 (i.e., ASTM A449). ASTM A325 or ASTM equivalent bolting material is not prohibited for future installations or maintenance by the ASME B&PV Code Section III, Division I, Subsection NF or LGS procedures. Therefore, ASTM A325, F1852, A490 and ASME equivalent bolts are in the scope of the ASME Section XI, Subsection IWF program.

Appendix A, Table A.5, Commitment 35 for the Structures Monitoring program regarding bolting, addresses the preventive actions discussed in RCSC "Specification for Structural Joints Using ASTM A325 or A490 Bolts", Section 2. The storage and handling requirements for high strength bolts in Commitment 35 applies to all carbon steel high strength structural bolting. These bolts may be used for applications that are within the scope of the Structures Monitoring program or the ASME Section XI, Subsection IWF program. Therefore, Commitment 35 is adequate to address the storage and handling requirements for carbon steel high strength structural bolting identified by RCSC, irrespective of the ultimate use of the bolting material, and a new commitment for the ASME section XI, Subsection IWF program is not necessary.



**Michael P. Gallagher**  
Vice President, License Renewal  
Exelon Nuclear

200 Exelon Way  
Kennett Square, PA 19348

610 765 5958 Office  
610 765 5956 Fax  
[www.exeloncorp.com](http://www.exeloncorp.com)

[michaelp.gallagher@exeloncorp.com](mailto:michaelp.gallagher@exeloncorp.com)

10 CFR 50  
10 CFR 51  
10 CFR 54

June 14, 2012

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

Limerick Generating Station, Units 1 and 2  
Facility Operating License Nos. NPF-39 and NPF-85  
NRC Docket Nos. 50-352 and 50-353

Subject: 10 CFR 54.21(b) Annual Amendment to the Limerick Generating Station License  
Renewal Application

Reference: Exelon Generation Company, LLC letter from Michael P. Gallagher to NRC  
Document Control Desk, "Application for Renewed Operating Licenses", dated  
June 22, 2011

In the Referenced letter, Exelon Generation Company, LLC (Exelon) submitted the License Renewal Application (LRA) for the Limerick Generating Station, Units 1 and 2 (LGS). The Enclosure to this letter provides the annual amendment to the LGS LRA in accordance with 10 CFR 54.21(b). This amendment identifies changes to the current licensing basis (CLB) that materially affect the contents of the LGS LRA. This amendment is required to be submitted each year following submittal of the LRA and at least three months before scheduled completion of NRC review of the LRA.

This letter and its enclosure contain no new or revised regulatory commitments.

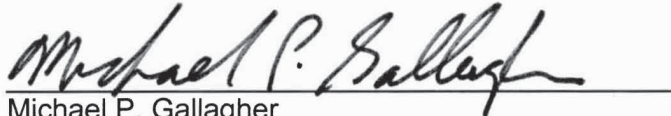
If you have any questions, please contact Mr. Al Fulvio, Manager, Exelon License Renewal, at 610-765-5936.



I declare under penalty of perjury that the foregoing is true and correct.

Executed on 06-14-2012

Respectfully,

A handwritten signature in black ink, reading "Michael P. Gallagher", is written over a horizontal line.

Michael P. Gallagher  
Vice President - License Renewal Projects  
Exelon Generation Company, LLC

Enclosure: 10 CFR 54.21(b) Update - Amendment to Limerick Generating Station LRA

cc: Regional Administrator – NRC Region I  
NRC Project Manager (Safety Review), NRR-DLR  
NRC Project Manager (Environmental Review), NRR-DLR  
NRC Project Manager, NRR- DORL Limerick Generating Station  
NRC Senior Resident Inspector, Limerick Generating Station  
R. R. Janati, Commonwealth of Pennsylvania

ENCLOSURE

10 CFR 54.21(b) Update

Amendment to License Renewal Application for Limerick Generating Station

## **Introduction**

The License Renewal Rule, 10 CFR 54.21(b), requires that each year following submittal of a License Renewal Application (LRA), an amendment must be submitted to identify changes to the facility current licensing basis (CLB) that materially impact the content of the LRA. In accordance with this requirement, Exelon Generation Company, LLC (Exelon) has completed the review of the Limerick Generating Station CLB changes since the submittal of the LRA. This Enclosure provides its results and identifies the section of the LRA that is impacted by the CLB changes.

## **Review Process**

The annual update review is a procedurally controlled process to satisfy the requirements of 10 CFR 54.21(b). Specifically, the process is used to identify and evaluate changes to the plant CLB by reviewing plant documents, which include but are not limited to the following:

Design Change Packages (DCPs)  
UFSAR Updates  
Licensing Correspondence  
Piping & Instrumentation Drawings (P&IDs)/Boundary Drawings  
Generic Safety Issues  
TLAAs

Changes to the text or supporting license renewal boundary drawings of the LRA as submitted on June 22, 2011 are identified as part of the review. These changes are then reviewed by a technical verification team to determine those changes to the CLB that materially affect the LRA for inclusion in this Enclosure. Changes to the LRA described in formal Exelon correspondence to the NRC, including RAI responses, are not included in the annual update because 1) these changes were not initiated due to changes in the Limerick CLB, and 2) this information has already been incorporated into the NRC's LRA review.

## **Review Results**

The review identified one (1) design change that impacts the LRA. This design change resulted in a new material being added to the High Pressure Coolant Injection System (HPCI). The change and its impact on the LRA are discussed below.

### **High Pressure Coolant Injection System (HPCI) Engineering Change**

Subsequent to the June 22, 2011, submittal of the LRA, Limerick implemented a design change that impacts the content of Table 3.2.2-3, High Pressure Coolant Injection System (HPCI). As a result of the addition of stainless steel high point vents and ball valves on the HPCI header, LRA Table 3.2.2-3 has been modified as shown below.

There were no other impacts to the LRA identified during this review.

As a result of the annual update review, LRA Table 3.2.2-3, pages 3.2-44 and 3.2-50, are revised as shown below with inserted text shown in bold italics:

**Table 3.2.2-3 High Pressure Coolant Injection System**

(Continued)

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Item	Table 1 Item	Notes
Piping, piping components, and piping elements	Leakage Boundary	Carbon Steel	Air - Indoor, Uncontrolled (External)	Loss of Material	External Surfaces Monitoring of Mechanical Components (B.2.1.25)	V.D2.E-26	3.2.1-40	A
			Air/Gas - Wetted (Internal)	Loss of Material	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.1.26)	V.D2.E-27	3.2.1-46	A
			Steam (Internal)	Loss of Material	One-Time Inspection (B.2.1.22)	V.D2.EP-60	3.2.1-16	A
					Water Chemistry (B.2.1.2)	V.D2.EP-60	3.2.1-16	A
			Treated Water (Internal)	Loss of Material	Flow-Accelerated Corrosion (B.2.1.10)	V.D2.E-07	3.2.1-11	A, 3
					One-Time Inspection (B.2.1.22)	V.D2.EP-60	3.2.1-16	A
	Pressure Boundary	Stainless Steel	Air - Indoor, Uncontrolled (External)	None	Water Chemistry (B.2.1.2)	V.D2.EP-60	3.2.1-16	A
					<b><i>None</i></b>	<b><i>V.F.EP-18</i></b>	<b><i>3.2.1-63</i></b>	<b><i>A</i></b>
			Treated Water (Internal)	Loss of Material	<b><i>One-Time Inspection (B.2.1.22)</i></b>	<b><i>V.D2.EP-73</i></b>	<b><i>3.2.1-17</i></b>	<b><i>A</i></b>
					<b><i>Water Chemistry (B.2.1.2)</i></b>	<b><i>V.D2.EP-73</i></b>	<b><i>3.2.1-17</i></b>	<b><i>A</i></b>
			Air - Indoor, Uncontrolled (External)	Loss of Material	External Surfaces Monitoring of Mechanical Components (B.2.1.25)	V.D2.E-26	3.2.1-40	A
					Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.1.26)	V.D2.E-27	3.2.1-46	A
			Air - Indoor, Uncontrolled (External)	Loss of Material	External Surfaces Monitoring of Mechanical Components (B.2.1.25)	V.D2.E-26	3.2.1-40	A

**Table 3.2.2-3 High Pressure Coolant Injection System (Continued)**

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Item	Table 1 Item	Notes
Valve Body	Pressure Boundary	Carbon Steel	Lubricating Oil (Internal)	Loss of Material	One-Time Inspection (B.2.1.22)	V.D2.EP-77	3.2.1-49	A
			Steam (Internal)	Loss of Material	One-Time Inspection (B.2.1.22)	V.D2.EP-60	3.2.1-16	A
				Wall Thinning	Water Chemistry (B.2.1.2)	V.D2.EP-60	3.2.1-16	A
					Flow-Accelerated Corrosion (B.2.1.10)	V.D2.E-07	3.2.1-11	A, 3
			Treated Water (External)	Loss of Material	One-Time Inspection (B.2.1.22)	V.D2.EP-60	3.2.1-16	A
			Treated Water (Internal)	Loss of Material	Water Chemistry (B.2.1.2)	V.D2.EP-60	3.2.1-16	A
				Loss of Material	One-Time Inspection (B.2.1.22)	V.D2.EP-60	3.2.1-16	A
				Loss of Material	Water Chemistry (B.2.1.2)	V.D2.EP-60	3.2.1-16	A
		Stainless Steel	Air - Indoor, Uncontrolled (External)	None	None	V.F.EP-18	3.2.1-63	A
					One-Time Inspection (B.2.1.22)	V.D2.EP-73	3.2.1-17	A
					Water Chemistry (B.2.1.2)	V.D2.EP-73	3.2.1-17	A
	Structural Support	Carbon Steel	Air - Indoor, Uncontrolled (External)	Loss of Material	External Surfaces Monitoring of Mechanical Components (B.2.1.25)	V.D2.E-26	3.2.1-40	A
				Loss of Material	Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components (B.2.1.26)	V.D2.E-27	3.2.1-46	A