



10 CFR 50.54(q)(5)  
10 CFR 50.4  
10 CFR 72.44(f)

RS-16-059

March 28, 2016

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

Quad Cities Nuclear Power Station, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-29 and DPR-30  
NRC Docket Nos. 50-254, 50-265, and 72-53

Subject: Exelon Nuclear Radiological Emergency Plan Addendum Revision

In accordance with 10 CFR 50.4(b)(5), "Emergency Plan and related submissions," Exelon Generation Company, LLC (EGC) is submitting an Emergency Plan Addendum revision for Quad Cities Nuclear Power Station (Quad Cities) as listed in the table below.

Document	Revision	Title
EP-AA-1006, Addendum 3	2	Emergency Action Levels for Quad Cities Station

The change to the Emergency Plan Addendum was evaluated under the requirements of 10 CFR 50.54(q) and was determined not to result in a reduction in the effectiveness of the Emergency Plan for Quad Cities. This notification is being submitted within 30 days of implementation of the changes as required by 10 CFR 50.4(b)(5). The changes continue to meet the applicable planning standards established in 10 CFR 50.47(b) and 10 CFR 50, Appendix E.

Furthermore, the Emergency Plan Addendum identified in Attachment 3 of this letter is proprietary and confidential and contains trade secrets and commercial or financial information. EGC maintains this information on a confidential basis and protects it from disclosure to the general public or unauthorized individuals. EGC requests that the Emergency Plan Addendum contained in Attachment 3 be withheld from public disclosure pursuant to 10 CFR 2.390(a)(4), and has attached an affidavit for this purpose (Attachment 2). However, if the NRC intends to place any of this information in the Public Document Room or on the Agencywide Documents Access and Management System or produce it in response to a Freedom of Information Act (FOIA) request, EGC requests the opportunity to redact the materials consistent with established FOIA exemptions and precedent.

In addition, as required by 10 CFR 50.54(q)(5), this submittal includes a summary analysis of the changes to the Emergency Plan Addendum (Attachment 1).

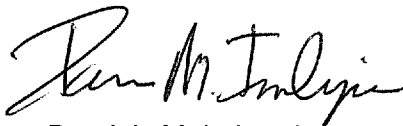
This submittal also satisfies the reporting requirements associated with 10 CFR 72.44(f), which stipulates that within six months after any change is made to the Emergency Plan, the licensee shall submit a report containing a description of the changes to the Director, Division of Spent Fuel Storage and Transportation.

A copy of the revised Emergency Plan Addendum and supporting change summary analysis are included in the attachments to this letter.

There are no regulatory commitments in this submittal.

If you have any questions or require additional information, please contact Amy Hambly at (630) 657-2808.

Respectfully,



Dominic M. Imburgia  
Manager, Licensing Programs  
Exelon Generation Company, LLC

Attachments:

1. 10 CFR 50.54(q)(5) Procedure Change Summary Analysis
2. Affidavit
3. EP-AA-1006, Addendum 3, Revision 2, Emergency Action Levels for Quad Cities Station

cc: Regional Administrator - NRC Region III  
Director, NRC Division of Spent Fuel Storage and Transportation, ONMSS  
NRC Senior Resident Inspector – Quad Cities Station  
NRC Project Manager, NRR – Quad Cities Station

## **ATTACHMENT 1**

**10 CFR 50.54(q)(5) Procedure Change Summary Analysis**

## **10 CFR 50.54(q)(5) Procedure Change Summary Analysis**

### **Procedure title**

Exelon Generation Company, LLC (EGC) is submitting the following Emergency Plan Addendum revision for Quad Cities Nuclear Power Station (Quad Cities):

- EP-AA-1006, Addendum 3, Revision 2, "Emergency Action Levels for Quad Cities Station"

This document contains Exelon Confidential/Proprietary Information and is requested to be withheld from public disclosure pursuant to 10 CFR 2.390.

### **Description of procedure**

EP-AA-1006, Addendum 3 describes the Emergency Action Levels (EALs) implemented at Quad Cities for entering Emergency Classification Levels (ECLs).

### **Description of change**

This revision to EP-AA-1006, Addendum 3 for Quad Cities Station incorporates the following changes:

1. Implementation of NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors," which involved a complete rewrite/formatting of the document.
2. Establishes EAL thresholds for the NRC pre-approved EALs RG2 and RS2 and an additional threshold for RA2 based on Spent Fuel Pool (SFP) levels.
3. Revised EAL MU3 (ATWS) to provide clarity regarding a successful reactor shutdown.
4. Revised EAL RG1.1, RS1.1, RA1.1, and RU1.2 (Radiological Effluents) to reflect the correct reference.

A more detailed description of the changes is provided below.

1. The revised EAL schemes based on NEI 99-01, Revision 6 were submitted to the NRC in a License Amendment Request (LAR) dated May 30, 2014. The NRC approved the LAR as documented in a letter and supporting Safety Evaluation (SE) dated July 28, 2015. Training was satisfactorily completed for the Quad Cities Station and supporting Corporate Emergency Response Organization (ERO) personnel on the revised EAL schemes during the fourth quarter of 2015. As a result, the NRC-approved EAL schemes based on NEI 99-01 Rev 6 were implemented and this revision to EP-AA-1006 Addendum 3 reflects the changes.
2. As part of the NRC approval of the new EAL Scheme, three new thresholds were approved generically without specific levels associated with them. The levels are based on enhanced SFP level devices to be placed in service in accordance with the information provided in Section 1.4 of NRC Order EA-12-051. NEI 99-01, Revision 6, recommended that these EAL thresholds be implemented when the enhanced SPF level instrumentation is available for use.

At Quad Cities Station, the enhanced SFP level instruments were placed in service in accordance with site-approved design change package. For the new EALs RG2 and RS2 a "site specific level 3" threshold value is used and for RA2 there is a third threshold that uses a "site specific level 2" value. Based on the site-approved design change package the following thresholds were used for each of the site-specific values:

A supporting site-approved calculation was used to document the logic and assumptions for establishing the EAL thresholds for SFP "site specific level 3" and "site specific level 2."

- For EAL thresholds RG2 and RS2 the value of 0.60 ft. was calculated for "site specific level 3" value.
- For EAL threshold RA2.3 the value of 10.20 ft. was calculated for "site specific level 2" value.

For EALs RG2 and RS2 the value of 0.60 foot as indicated on applicable instrumentation was chosen as being indicative of the immediate need to restore SPF level. For EAL threshold RA2.3 the value of 10.20 feet as indicated applicable instrumentation was chosen as being the SFP level that is adequate to provide substantial radiation shielding for a person standing on the SFP operating deck.

The site-specific levels are determined in accordance with NRC Order EA-12-051 and NEI 12-02, "Industry Guidance for Compliance with NRC Order EA-12-051, 'To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation,'" and applicable owner's group guidance, and have been modified to reflect site-specific constraints and limitations associated with the design and operation of the applicable instrumentation as required by the developer guidance in the NRC-endorsed NEI 99-01, Revision 6 guidance.

Updating the EAL threshold values based on an NRC-accepted methodology and the resulting approved design change and supporting calculation does not alter the meaning or intent of the basis of the EAL provided in the NRC's SE approving the EALs.

3. A change is being made to EAL MU3 (ATWS) to provide further clarification regarding a successful reactor shutdown in order to avoid confusion when making the assessment. The following clarifying statement has been added to three places in the EAL.

"as indicated by Reactor Power  $\leq$  5%"

This will ensure that the same indication that is being used within EAL MU3 to determine that the reactor is not shutdown is also being used to determine a successful reactor shutdown. This is also in keeping with the escalation path EAL MA3 and MS3 determination of reactor shutdown.

4. Upon review of the NRC approved EAL scheme based on NEI 99-01 Revision 6, being implemented as EP-AA-1006 Addendum 3 Revision 2, it was found that an incorrect reference was being used in the quick reference cold matrix EAL RG1.1, RS1.1, RA1.1, and RU1.2. The EALs have been corrected to reflect the correct reference.

### **Description of how the change still complies with regulations**

This revision to the EP-AA-1006, Addendum 3 continues to satisfy the applicable Emergency Planning requirements established in 10 CFR 50.47(b)(4) and the Program Element guidance specified in NUREG-0654, Section II.D as noted below.

1. This revision to EP-AA-1006, Addendum 3 implements the EAL scheme changes reviewed and approved by the NRC as documented in its letter dated July 28, 2015. As such, the NRC has determined that this revision to the Emergency Plan Addendum is acceptable and the changes satisfy regulatory requirements and commitments.
2. Updating the threshold values for EALs RG2, RS2 and RA2 based on NRC-accepted methodology and site-approved design change documentation does not alter the meaning or intent of the basis for the approved EALs. The applicable emergency planning regulations and commitments continue to be met.
3. Updating the threshold value for MU3 to provide further clarification regarding the assessment for determining a successful reactor shutdown does not alter the meaning or intent of the basis of the approved EAL. The applicable emergency planning regulations and commitments continue to be met.
4. Updating the quick reference cold matrix section for EALs RG1.1, RS1.1, RA1.1, and RU1.2 to properly reflect the Technical Basis section of the same EALs based on the NRC-approved technical basis does not alter the meaning or intent of the basis of the approved EAL. The revised EALs continue to meet the applicable program requirements and commitments and are consistent with the guidance in NEI 99-01, Revision 6.

**Description of why the change is not a reduction in effectiveness (RIE)**

1. The change to the Quad Cities EAL schemes reflect the NRC's approval of the LAR as documented in its letter and support SE dated July 28, 2015 (i.e., Quad Cities Amendment No. 258 to Renewed Facility Operating License No. DPR-29 and Amendment No. 253 to Renewed Facility Operating License No. DPR-30 Units 1 and 2, respectively).

The applicable emergency planning regulations and commitments continue to be met. Therefore, this change does not result in a reduction of effectiveness of the Quad Cities Emergency Plan.

2. The site-specific levels are determined in accordance with NRC Order EA-12-051 and NEI 12-02, and applicable owner's group guidance, and have been modified to reflect site-specific constraints and limitations associated with the design and operation of instrumentation as required by the developer guidance in the NRC endorsed NEI 99-01 Revision 6.

Updating the EAL threshold values based on an approved technical analysis NRC accepted methodology and the resulting approved calculation does not alter the meaning or intent of the basis of the EAL provided in the NRC Safety Evaluation. The applicable emergency planning regulations and commitments continue to be met. Therefore, this change does not result in a reduction in effectiveness of the Quad Cities Emergency Plan.

3. The change to EAL MU3 (ATWS) is being made to provide clarity regarding a successful reactor shutdown. This clarification will help to avoid confusion when assessing a successful reactor shutdown. The addition of "as indicated by Reactor Power < 5%", to EAL MU3, as the criteria to determine a successful reactor shutdown clarifies the indication to be used for this determination and will eliminate any potential confusion. This ensures consistency is applied within EAL MU3 to determine that the reactor is not shutdown and also being used to determine a successful reactor shutdown. This change is also in keeping with the escalation path EAL MA3 and MS3 regarding determination of reactor shutdown.

Updating the EAL threshold to include the additional clarification does not alter the meaning or intent of the basis of the approved EAL. The applicable emergency planning regulations and commitments continue to be met. Therefore, this change does not result in a reduction in effectiveness of the Quad Cities Emergency Plan.

4. Updating the quick reference cold matrix section for EALs RG1.1, RS1.1, RA1.1, and RU1.2 to properly reflect the Technical Basis section of the same EALs based on the NRC-Approved technical basis does not alter the meaning or intent of the basis of the approved EAL. The revised EALs continue to meet the applicable program requirements and commitments and are consistent with the guidance in NEI 99-01, Revision 6. Therefore this change does not reduce the effectiveness of the Emergency Plan.

**ATTACHMENT 2**

**Affidavit**



## AFFIDAVIT OF DOMINIC M. IMBURGIA

DOCKET NO. 50-254, 50-265, and 72-53

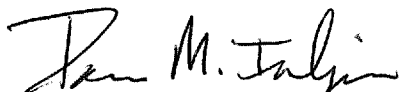
I, Dominic M. Imburgia, Manager - Licensing Programs, Exelon Generation Company, LLC, do hereby affirm and state:

1. I am Manager, Licensing Programs for Exelon Generation Company, LLC (EGC), and I am authorized to execute this affidavit on behalf of EGC.
2. I am further authorized to review the documents sought to be withheld from public disclosure in connection with submittals to the Nuclear Regulatory Commission ("NRC"):
  - EP-AA-1006, Addendum 3, Revision 2, "Emergency Action Levels for Quad Cities Station"
3. I am also authorized to apply to the NRC for the withholding of the aforementioned documents from public disclosure under 10 CFR 2.390(a)(4) and 9.17(a)(4) on the grounds that the documents contain privileged or confidential or proprietary commercial information. The documents EGC seeks to withhold from public disclosure have been marked "Proprietary" and are summarized in the attachment to my Affidavit.
4. On behalf of EGC, I request that the documents marked by EGC as "Proprietary" and described in the attached list (Appendix 1) be withheld, in their entirety, by the NRC from public disclosure.
5. In making this application for withholding of proprietary and confidential information of which EGC is the owner, EGC relies on 10 CFR 2.390(a)(4) and 10 CFR 9.17(a)(4). The proprietary documents contain privileged or confidential or proprietary commercial information.
6. The proprietary information described in Appendix 1 should be withheld from disclosure by the NRC pursuant to the policy reflected in 10 CFR 2.390(a)(4), and for the following reasons to be considered pursuant to 10 CFR 2.390(b)(4):
  - i.. The documents are each either a policy, procedure, process, technical requirements document, or other document that forms part of the Exelon Nuclear Management Model ("ENMM").
  - ii. The ENMM is a set of confidential policies and procedures that enable EGC to consistently achieve excellence in all key dimensions of its business. It documents proven ways of achieving excellence and defines how EGC executes and manages performance and assesses results. EGC expended significant resources, in terms of time and money, to develop, implement, and update the ENMM. EGC derives economic benefit from the ENMM in terms of increased efficiency and improved results as well as revenue generated from EGC's sale or licensing of the ENMM.
  - iii. The documents are now, and have been, held in confidence by EGC. EGC does not customarily make these documents available to the public. EGC has not authorized making the documents available through public sources.
  - iv. EGC is providing the NRC with the documents and information in confidence.

v. Economic harm would come to EGC with the publication of the individual documents that form the ENMM, as it would reduce or eliminate the need for any third party to purchase or license the ENMM from EGC, and would reduce the competitive position of EGC based on the benefits that the ENMM provides to EGC in the management of its own nuclear plants. The ENMM is considered by EGC to be a very valuable part of our intellectual property and it would be very difficult, costly and time-consuming for another to duplicate it without access to these documents.

7. EGC requests that the document listed in Appendix 1 be withheld from public disclosure based on the reasons stated above in paragraph 6.i. through 6.v.

I declare under penalty of perjury that the foregoing affidavit and statements therein are true and correct to the best of my knowledge, information, and belief.



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Dominic M. Imburgia  
Manager - Licensing Programs  
Exelon Generation Company, LLC

Date: March 28, 2016

## Appendix 1: Information that Should Be Withheld from Public Disclosure

Date or Revision	Description of Document	Reason(s) to Withhold
Revision 2	EP-AA-1006, Addendum 3	Entire document exempt from disclosure under 10 CFR 2.390(a)(4) and 9.17(a)(4) based on paragraph 6 of the affidavit to which this Appendix 1 is attached.