



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

TMI-17-018

February 13, 2017

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

Three Mile Island Nuclear Station, Unit 1  
Renewed Facility Operating License No. DPR-50  
NRC Docket No. 50-289

Three Mile Island Nuclear Station, Unit 2  
Facility Possession-Only License No. DPR-73  
NRC Docket No. 50-320

Subject: Exelon Generation Company 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 Three Mile Island Nuclear Station (TMI) as listed in the table below.

Procedure No.	Revision	Title
EP-AA-1009, Addendum 3	2	Emergency Action Levels for Three Mile Island (TMI) Station

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

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).

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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.

There are no regulatory commitments in this submittal.

If you have any questions or require additional information, please contact Richard Gropp at (610) 765-5557.

Respectfully,



David P. Helker  
Manager, Licensing and Regulatory Affairs  
Exelon Generation Company, LLC

Attachments:

1. 10 CFR 50.54(q)(5) Procedure Change Summary Analysis
2. EP-AA-1009, Addendum 3, Revision 2, "*Emergency Action Levels for Three Mile Island (TMI) Station*"

cc: w/ Attachments 1 only

Regional Administrator - NRC Region I  
Director, NRC Division of Spent Fuel Storage and Transportation, ONMSS  
NRC Senior Resident Inspector - Three Mile Island Nuclear Station, Unit 1  
NRC Project Manager, NRR - Three Mile Island Nuclear Station, Unit 1  
Director, Bureau of Radiation Protection - Pennsylvania Department of Environmental Resources  
Chairman, Board of County Commissioners of Dauphin County, PA  
Chairman, Board of Supervisors of Londonderry Township, PA  
R. R. Janati, Commonwealth of Pennsylvania

**ATTACHMENT 1**

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

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**Document Title**

The following Exelon Generation Company, LLC (EGC) Emergency Plan Addendum revision is provided for Three Mile Island Nuclear Station (TMI):

- EP-AA-1009, Addendum 3, Revision 2, "*Emergency Action Levels for Three Mile Island (TMI) Station*"

**Description of Procedure**

EP-AA-1009, Addendum 3 describes the Emergency Action Levels (EALs) implemented at TMI for entering Emergency Classification Levels (ECLs).

**Description of Changes**

The following changes are addressed in this TMI Emergency Plan Addendum revision:

1. The TMI Offsite Dose Calculation Manual (ODCM) contains the dose calculation methodology used in calculating EAL threshold values for EALs RG1.1, RS1.1, RA1.1, and RU1.2. One of the factors in this computation is the X/Q values, which are the highest sector annual average gaseous atmospheric dispersion factors in  $\text{sec}/\text{m}^3$ . The threshold values for EALs RG1.1, RS1.1, RA1.1, and RU1.2 are determined by a computation (i.e., EP-EAL-0609, "*Criteria for Choosing Radiological Gaseous Effluent EAL Threshold Values Three Mile Island, Unit 1 (TMI-1)*"), using the methodology of the TMI ODCM. The new revision to computation EP-EAL-0609 changed the EAL threshold values for RG1.1, RS1.1, RA1.1, and RU1.2 based on the TMI ODCM revised X/Q factors. The revised computation is consistent with the U.S. Nuclear Regulatory Commission's (NRC's) supporting Safety Evaluation Report (SER) approving the methodology to satisfy the guidance as specified in NEI 99-01, Revision 6, "*Development of Emergency Action Levels for Non-Passive Reactors.*"

Table R-1, "*Effluent Monitor Thresholds,*" in the Hot Matrix, Cold Matrix, and the Basis section of EP-AA-1009, Addendum 3 related to EALs RG1.1, RS1.1, RA1.1 and RU1.2, was revised to reflect the new threshold values determined in the updated computation EP-EAL-0609.

2. This revision also included the changes described below.
  - a. The Hot and Cold Reference Matrix for EAL RA3.2 was revised to remove the word "An" at the beginning of the sentence, since this is consistent with the EAL Basis and the NRC SER.
  - b. The Note in the Hot and Cold Reference Matrix for EAL RA3 was revised to state the following:
    - *If the equipment in the room or area listed in Table R4 was already inoperable, or out of service, before the event occurred, then no emergency classification is warranted.*

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- *If the equipment in the listed room or area was already inoperable, or out of service, before the event occurred, then no emergency classification is warranted.*
  
- c. The Cold Reference Matrix for EAL CU3 was revised to add the word "Indicated" to the beginning of the EAL, since this is consistent with the EAL Basis and the NRC SER.
  
- d. The CA5.2 Cold Reference Matrix for EAL CA5.2 was revised to state: "(This EAL does not apply in solid plant conditions.)" versus "(This EAL threshold does not apply during water-solid plant conditions.)," since this is consistent with the EAL Basis and the NRC SER.
  
- e. The second bullet Cold Reference Matrix for EAL CU5.2 was revised to state "RCS" vice "RPV," since this is consistent with the EAL Basis and the NRC SER.
  
- f. The Cold Reference Matrix for EAL CS6.1 was revised to state: "Reactor vessel/RCS level" versus "Reactor vessel level," since this is consistent with the EAL Basis and the NRC SER.
  
- g. The changes listed below are editorial in nature and will not be listed separately in the Change Comparison section. This change corrects the following editorial items in the Hot and Cold Reference Matrix and Basis section to be consistent with the EAL Basis and the NRC SER.
  - *EALs RG1.3.a and RS1.3.a were revised to state "mR/hr" versus "mRem/hr" in the Hot and Cold Reference Matrix.*
  - *EAL RA3.1 was revised to state ">" versus "greater than" in the Hot and Cold Reference Matrix.*
  - *EAL RU3.2 was revised to change lettering designations from "a" and "b" versus "b" and "c" in the Basis section.*
  - *The references in the Basis section for EALs RG1, RS1, RA1, and RU1 were revised to remove the revision number from the computation references.*
  - *The Basis sections for EALs RG2, RS2, and RA2 were revised to add the Spent Fuel Pool (SFP) Level 3 and Level 2 determination computation reference.*

**Description of How the Changes Still Comply with Regulations**

1. Planning Standard 10 CFR 50.47(b)(4) states in part: "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee." In addition, the guidance in NUREG-0654, Section II.D.1, states in part: "An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."

A change in X/Q values in the TMI ODCM required a change to computation EP-EAL-0609, since it uses these factors and the methodology of the TMI ODCM. The threshold values for EALs RG1.1, RS1.1, RA1.1, and RU1.2 are determined by computation EP-EAL-0609. The

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new revision of EP-EAL-0609 revised the threshold values for EALs RG1.1, RS1.1, RA1.1, and RU1.2 based on the TMI ODCM and revised X/Q factors.

2. With regard to the changes described in Item 2 above, the following justification is provided:

- a. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1, states in part: *"An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and the EAL Basis and does not alter the meaning or intent of the approved EAL. The applicable emergency planning regulations and commitments to the NRC continue to be met.

- b. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1 states in part: *"An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and the EAL Basis and does not alter the meaning or intent of the approved EAL. The applicable emergency planning regulations and commitments to the NRC continue to be met.

- c. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1, states in part: *"An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and does not alter the meaning or intent of the approved EAL. The emergency planning regulations and commitments to the NRC continue to be met.

- d. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1 states in part: *"An emergency classification*

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*and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and the EAL Basis and does not alter the meaning or intent of the approved EAL. The applicable emergency planning regulations and commitments to the NRC continue to be met.

- e. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1, states in part: *"An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and the EAL Basis and does not alter the meaning or intent of the approved EAL. The applicable emergency planning regulations and commitments to the NRC continue to be met.

- f. Planning Standard 10 CFR 50.47(b)(4) states in part: *"A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee."* In addition, the guidance in NUREG-0654, Section II.D.1, states in part: *"An emergency classification and emergency action level scheme as set forth in Appendix 1 must be established by the licensee. The specific instruments, parameters or equipment status shall be shown for establishing each emergency class, in the in-plant emergency procedures. The plan shall identify the parameter values and equipment status for each emergency class."*

Correcting the wording as noted is consistent with the NRC SER and the EAL Basis and does not alter the meaning or intent of the approved EAL. The applicable emergency planning regulations and commitments to the NRC continue to be met.

- g. Correcting the editorial items and updating references as noted is consistent with the NRC SER and the Basis for the EALs and does not alter the meaning or intent of the approved EALs. The applicable emergency planning regulations and commitments to the NRC continue to be met.

**Description of Why the Changes are Not a Reduction in Effectiveness (RIE)**

1. Updating the EAL threshold values for EALs RG1.1, RS1.1, RA1.1, and RU1.2 as noted based on the technical basis changes described for the EALs does not alter the meaning or intent of the basis of the approved EALs. The methodology used for the determination of the threshold value remains consistent with the NRC-approved threshold definition. The changes made to the EALs do not alter the meaning or intent of the basis of the approved

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EALs. The applicable emergency planning regulatory requirements and commitments to the NRC continue to be satisfied. Therefore, the changes do not result in a reduction in effectiveness of the Emergency Plan for TMI.

2. Making the changes as described in Item 2 above is consistent with the NRC SER and the Basis information for the cited EALs. The changes made to the EALs do not alter the meaning or intent of the basis of the approved EALs. The applicable emergency planning regulatory requirements and commitments to the NRC continue to be satisfied. Therefore, the changes do not result in a reduction in effectiveness of the Emergency Plan for TMI.