From: DiFrancesco, Nicholas
Sent: Tuesday, November 30, 2010 8:18 PM
To: 'Richard.Gropp@exeloncorp.com'
Cc: Brown, Eva; Johnson, Don; Hughey, John; Norton, Charles; DiFrancesco, Nicholas; Wohl, Marilyn
Subject: NRC DRAFT RAI Re: Clinton, LaSalle, and Peach Bottom - Emergency Action Level scheme based on NEI 99-01 Rev 5

Mr. Gropp,

By letter to the Nuclear Regulatory Commission (NRC) December 22, 2009 (Agencywide Documents and Management System (ADAMS) (non-public) Accession No. ML100050503), Exelon Generation Company, LLC (the licensee), submitted for NRC review and approval revisions to the Emergency Plan Emergency Action Level (EALs) for Braidwood Station, Units 1 & 2, Byron Station, Unit Nos. 1 & 2, Clinton Power Station (Clinton), Unit No. 1, Dresden Nuclear Power Station, Units 2 & 3, LaSalle County Station (LaSalle), Units 1 & 2, Limerick Generating Station, Units 1 & 2, Oyster Creek Nuclear Generating Station, Peach Bottom Atomic Power Station (Peach Bottom), Units 2 & 3, Quad Cities Nuclear Power Station, Units 1 & 2, and Three Mile Island Nuclear Station, Unit 1. The proposed changes would incorporate EALs based on the NRC-endorsed methodology in Nuclear Energy Institute 99-01, Revision 5, "Methodology for Development of Emergency Action Levels," dated February 22, 2008 (ADAMS Accession No. ML080450149).

The Operating Reactor Licensing and Outreach Branch within the Office of Nuclear Security and Incident Response has reviewed the information provided for Clinton, LaSalle, and Peach Bottom, and has determined that additional information is required to complete its review. The draft requests for additional information (RAIs) related to the NRC staff review are provided below.

After reviewing the draft RAI, please contact me at 301-415-1115 to discuss the need for a teleconference to clarify the draft RAIs and to establish a due date for the response.

Respectfully,

Nicholas DiFrancesco

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DRAFT REQUEST FOR ADDITIONAL INFORMATION

CLINTON POWER STATION, UNIT NO 1

LA SALLE COUNTY STATION, UNITS 1 AND 2

PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3

EMERGENCY ACTION LEVEL SCHEME CHANGE TO NEI 99-01, REVISION 5

DOCKET NOS. 50-277, 50-278, 50-373, 50-374, AND 50-461

By letter dated December 22, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100050503), Exelon Generation Company (Exelon) submitted a request for Nuclear Regulatory Commission (NRC) review and approval of revisions to the Emergency Plan (EP) Emergency Action Levels (EALs) for the subject plants. The proposed EP changes would incorporate EALs based on the NRC-endorsed methodology in Nuclear Energy Institute (NEI) 99-01, Revision 5, "Methodology for Development of Emergency Action Levels," dated February 22, 2008 (ADAMS Accession No. ML080450149). To complete its review, the Nuclear Regulatory Commission (NRC) staff requests responses to the following request for additional information[1]. Please note that the majority of the questions request a justification for a deviation from the wording in NEI 99-01, Revision 5. When responding to these questions, you may propose to revise the wording in accordance with the endorsed guidance in lieu of providing the requested justification.

1. Please provide the missing Emergency Action Level (EAL) Basis Document pages (Peach Bottom, 3-9 through 3-28; La Salle 3-9 through 3-26; Clanton, 3-8 through 3-27), or provide justification as to why it has not been included with your submittal.

2. The paragraph from Section 3.1 that begins with "EALs are for unplanned events…" differs from the standard EAL scheme (Section 3.9) of the endorsed guidance – Revision 5 to Nuclear Energy Institute (NEI) 99-01. Specifically, a statement that "EALs are for unplanned events" was introduced. Additionally, the statement regarding the potential for planned or unplanned evolutions to result in an EAL threshold being exceeded was omitted, while the statement that this these don't result in an EAL declaration was retained. Please provide a justification for the changes in wording.

3. (La Salle and Clinton only) Sections 3.9 "Emergency Action Levels," 3.10 "Treatment of Multiple Events and Classification Level Upgrading," and 3.11 "Emergency Classification Level Downgrading," from the endorsed EAL guidance contain important information necessary to understand the intent of the guidance. Please provide justification as to why the information has not been incorporated.

[1] Questions 3, 6 and 20.a are applicable only to La Salle and Clinton; Questions 5 and 15 are applicable only to La Salle; and Question 24 is applicable only to Peach Bottom and La Salle.

4. Please provide site-specific definitions for the following terms:
   - Containment Closure
   - Protected Area
   - Vital Area

5. (La Salle only) Please provide a site-specific definition for Independent Spent Fuel Storage Installation (ISFSI).

6. (La Salle and Clinton only) The proposed definition of "Civil Disturbance" includes a minimum number of 5 participants. In the development of NEI 99-01, Revision 5, the specific number of people required to constitute a civil disturbance was removed, recognizing that number of persons involved is not as important as the activities they are involved in. Please provide a justification for defining a minimum number of participants.

7. For EAL RS1, the following paragraph from the endorsed guidance is not considered to be developmental and is annotated improperly in the endorsed EAL development guidance. This information provides insight into why this EAL was chosen versus others and may be germane to subsequent revisions to the EALs under 10 CFR 50.54(q). Please justify its omission from the EAL scheme:

   > While these failures are addressed by other Initiating Conditions (IC), this IC provides appropriate diversity and addresses events which may not be able to be classified on the basis of plant status alone. It is important to note that for the more severe accidents the release may be unmonitored or there may be large uncertainties associated with the source term and/or methodology.

8. For EAL RG1, the following paragraph from the approved guidance is not considered to be developmental and is annotated improperly in the endorsed EAL development guidance. This information provides insight into why this EAL was chosen versus others and may be germane to subsequent revisions to the EALs under 10 CFR 50.54(q). Please justify its omission from the EAL scheme:

   > While these failures are addressed by other ICs, this IC provides appropriate diversity and addresses events which may not be able to be classified on the basis of plant status alone. It is important to note that for the more severe accidents the release may be unmonitored or there may be large uncertainties associated with the source term and/or methodology.

9. For EALs RA1 and RU1, the IC states, "Radiological Effluent Technical Specifications/ODCM [Offsite Dose Calculation Manual]." Please verify that the wording aligns with the title of the facilities' document.

10. The endorsed guidance for EAL AA3 (equivalent to RA3 for Peach Bottom, La Salle and Clinton) directs declaration of an alert upon detection of dose rate greater than 15 mR/hr in <u>any</u> of areas listed in a site specific table. For the proposed RA3, the wording of "Dose rate **> 15 mR/hr** in areas requiring continuous occupancy (Table R3) to maintain plant safety functions" is ambiguous as to whether an elevated dose rate in any or all of

the locations in the table requires declaration of the EAL. Additionally, since the Central Alarm Station is the primary location for control of security related functions, please justify the wording of the EAL threshold and contents of Table R3.

11. For EAL RU3, this EAL corresponds to SU4 in endorsed guidance, which specifically has this EAL as part of the Systems Malfunction Category, not as part of the Abnormal Rad Levels/Radiological Effluent Category. Please provide a justification as to why Exelon categorized fuel clad degradation in the Abnormal Rad Levels/Radiological Effluent Category versus Systems Malfunction Category.

12. Please justify why the Fission Product Barrier Matrix Table has not been included.

13. For Fission Barrier threshold RC2.C (Peach Bottom) and RC5 (La Salle and Clinton), please explain the inclusion of "Indications of RCS leakage in the drywell." While the basis statement indicates that this is to discriminate between an actual loss of RCS barrier and shine from failed fuel clad with an intact RCS barrier, it is unclear how this determination will be made. Additionally, it is unclear how making this determination will be done in a timely manner. Please provide a justification for allowing this discriminating factor and for how indications of RCS leakage can be identified in a timely manner.

14. For EALs MU2, MU3, MU4, MU5, MU8, MU9, MU10, MA2, MA5, MA8, MS8, and MG8, the endorsed guidance has these EALs in their own unique table (and category) and with their own unique IC designation, for EALs applicable in Cold/Refuel Operating Modes. Please provide a justification for this deviation.

15. (La Salle only) For EALs MA1 and MU2, please provide justification which supports the site-specific inclusion of criteria "…the other unit's SAT crosstie breakers…"

16. For EAL MU7, the endorsed guidance for this EAL states, "However, a relief valve that operates and fails to close per design should be considered applicable to this IC if the relief valve cannot be isolated." The submittal states, "Relief valve operation should be excluded from this EAL." Please justify why the remainder of the detailed information related to relief valve operation is not included with this EAL.

17. For EAL MU8, please justify why the paragraph, from the endorsed guidance, related to relief valve operation is not included with this EAL which states "Relief valve normal operation should be excluded from this IC. However, a relief valve that operates and fails to close per design should be considered applicable to this IC if the relief valve cannot be isolated."

18. For EAL MU10, the list of communication options for offsite communications must be limited to communication systems that can readily perform required notifications for licensee event classification and protective action recommendations to State and local response agencies, as well as the NRC. Please provide documentation that supports the conclusion that the stated list of offsite communication systems can perform as expected.

19. For EAL HU3 (EAL #2), the proposed wording includes the addition of the words, "resulting in damage to permanent structure or equipment directly associated with plant operations." Please justify the inclusion of this caveat into the EAL, including how timely declaration of the EAL is possible if verification of damage is required prior to

declaration. Additionally, HA3 uses the EAL defined term VISIBLE DAMAGE, while HU3 uses "damage." Please clarify the difference in these two terms and explain why the EAL defined term was not used in HU3.

20. For EAL HA4:

    a. (La Salle and Clinton only) The endorsed EAL development guidance (EAL HU1, #5) states, "Site-specific occurrences affecting the protected area." In addition, the basis section of the endorsed guidance states, "This EAL addresses other site specific phenomena (such as hurricane, flood, or seiche) that can also be precursors of more serious events." Please provide documentation to support your apparent conclusion that no additional hazards are applicable to your site.

    b. The submittal states, "The phrase "in plant" is meant to include buildings and structures associated with plant operations and to rule out buildings or structures such as warehouses, administrative buildings or bullet resistant enclosures (BRE), which would not be a precursor of potential degradation of level of safety." Provide additional justification for the deviation.

21. For EAL HU4, the submittal states, "The phrase 'in plant' is meant to include buildings and structures associated with plant operations and to rule out buildings or structures such as warehouses, administrative buildings or bullet resistant enclosures (BRE), which would not be a precursor of potential degradation of level of safety. Provide additional justification for the deviation.

22. For EAL HA5, please provide additional justification for the following deviations to support that they do not negatively impact the timeless of EAL classification:

    a. The 3rd paragraph added, "A precautionary area evacuation for the purpose of atmospheric testing does not warrant declaration until test results are obtained. However, declaration should not be delayed for atmospheric testing after an inadvertent actuation of installed Cardox fire suppression systems, or for gas releases that result in personnel ill effects from exposure."

    b. The submittal deleted the 2nd and 3rd paragraphs from the approved EAL guidance which state:

       Declaration should not be delayed for confirmation from atmospheric testing if the atmosphere poses an immediate threat to life and health or an immediate threat of severe exposure to gases. This could be based upon documented analysis, indication of personal ill effects from exposure, or operating experience with the hazards.

       If the equipment in the stated area was already inoperable, or out of service, before the event occurred, then this EAL should not be declared as it will have no adverse impact on the ability of the plant to safely operate or safely shutdown beyond that already allowed by Technical Specifications at the time of the event.

23. For EAL HU5, the 4th paragraph in the submittal added, "A precautionary area evacuation for the purpose of atmospheric testing does not warrant declaration until test

results are obtained. However, declaration should not be delayed for atmospheric testing after an inadvertent actuation of installed Cardox fire suppression systems, or for gas releases that result in personnel ill effects from exposure." Please provide additional justification to support the conclusion waiting for test results would not impact the timeliness of an EAL declaration.

24. (Peach Bottom and La Salle only) For EAL HU7, the endorsed guidance has this ISFSI-specific EAL as a stand-alone EAL. The submittal proposes to incorporate this EAL into one of the pre-existing categories. Please justify this deviation. This justification for deviation from the endorsed guidance should address why the Hazards Category was chosen and why the use of this category will not cause an unnecessary delay in classification (i.e., explain why the Abnormal Radiation category is not more appropriate).

[1] Questions 3, 6 and 20.a are applicable only to La Salle and Clinton; Questions 5 and 15 are applicable only to La Salle; and Question 24 is applicable only to Peach Bottom and La Salle.

DRAFT REQUEST FOR ADDITIONAL INFORMATION

E-mail Properties

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