

**Exelon EAL Upgrade Project**

NRC Request for Additional Information

Dresden Nuclear Power Station  
Quad Cities Nuclear Station

*Draft*

RAI #	EAL	Question
	GENERIC	<p>It is expected that licensees adhere to endorsed guidance, particularly for Initiating Conditions and Definitions, with no differences or deviations other than those related to a licensee's particular design. This is to ensure regulatory stability of the Emergency Action Level (EAL) scheme.</p> <p>This also ensures that, as stated in Title 10 of the <i>Code of Federal Regulations</i>, (10 CFR), Paragraph 50.47(b)(4), licensees implement "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters...."</p> <p>While the NRC staff is not enforcing strict verbatim compliance with the endorsed guidance, where applicable, the NRC staff will be pointing out areas where it expects the endorsed guidance to be used to ensure implementation of a standard scheme. This is primarily based upon industry and NRC staff experience with issues related to a particular EAL.</p> <p>While formatting is usually not technically relevant to the NRC staff's review of EALs, when inconsistent formatting may result in potential misunderstanding, an RAI will be developed to correct the formatting or to obtain additional information in support of the deviation.</p>

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1	GENERAL	<ol style="list-style-type: none"><li>1. Please confirm that all stated values, set points, and indications provided are within the calibrated range of the applicable instrumentation and that the instrumentation is appropriate for the EAL.</li><li>2. Off-scale high or low thresholds are usually not within the calibrated range of instrumentation. Please explain how the EALs that use one or the other of these thresholds will not be confused with failed instrumentation.</li><li>3. The NEI IC Cross-Reference Table has several errors and should be revised to ensure a quality EAL Technical Basis Document:<ol style="list-style-type: none"><li>a. MU2 (Exelon) not reflected as CU3 (NEI)</li><li>b. HS4 (Exelon) incorrectly referenced, it is actually HS2 (Exelon)</li></ol></li><li>4. Sections 3.9, 3.10, and 3.11 from the endorsed guidance contain important information necessary to understand the intent of the guidance as well as NRC staff expectations. Please indicate whether these sections will be incorporated into the document or fully document the technical basis for why it cannot be incorporated.</li><li>5. Missing EAL Basis Document pages, from 3-9 through 3-28 (3-29 Dresden). The staff needs to review the entire EAL Technical Basis Document and supporting information. Please provide the missing information or explain the discrepancy.</li><li>6. The entire paragraph from Section 3.1 related to "EALs are for unplanned events..." is incorrect and not in accordance with staff expectations or in accordance with the standard EAL scheme (section 3.9) endorsed by the NRC. Please revise to incorporate the endorsed expectation or provide technical justification to support the deviation.</li><li>7. The NRC staff requests that ADAMS Accession No. ML080450149 be used to reference NEI 99-01, Revision 5, to ensure that the multiple draft copies of this document that are in ADAMS are not inadvertently referenced.</li></ol>

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2	SECT 4.0	<p>It is expected that definitions are verbatim from the endorsed guidance, with the exception of terms specifically defined by the licensee, to ensure implementation of a standard emergency classification and action level scheme.</p> <ol style="list-style-type: none"> <li>1. As noted above, please provide the site-specific definitions for the following terms rather than the generic wording used in the endorsed guidance:               <ol style="list-style-type: none"> <li>a. Containment closure</li> <li>b. Protected area</li> <li>c. Vital area</li> <li>d. Owner controlled area</li> </ol> </li> <li>2. Explain the deviation with adding the caveat "...group of five or more persons..." to the definition of Civil Disturbance.</li> </ol>
3	RS1	<ol style="list-style-type: none"> <li>1. The 2<sup>nd</sup> paragraph from the endorsed guidance is not considered by the staff to be EAL Developer information. Please incorporate this information to ensure consistency in understanding, or provide further justification.</li> <li>2. [QC] Explain how the threshold for EAL #1 can be read. The typical logarithmic scale would be difficult to read 1.62 E+06.</li> </ol>
4	RG1 RS1 RA1 RU1 FC5	<ol style="list-style-type: none"> <li>1. Explain the resolution for the stated indicators as the stated values are difficult to read accurately on a typical logarithmic scale.</li> <li>2. [DR] Provide justification for why the set point for EAL #2 is the same for RA1 and RS1, or revise accordingly.</li> </ol>
5	RA1 RU1	<p>The IC states "Radiological Effluent Technical Specifications/ODCM." Typically, licensees use one or the other, not both. Please verify that the wording aligns with your site's document.</p>
6	RA3	<p>Please explain why the Secondary Alarm Station (SAS) is in Table R2, or revise accordingly. Typically, it is either the Central Alarm Station (CAS) or SAS, not both.</p>
7	RU3	<p>The standard EAL scheme required by 10 CFR 50.47(b) (4), and endorsed by the NRC (NEI 99-01 Revision 5), has this EAL as SU4. Explain why this EAL deviates from the endorsed guidance, or revise accordingly.</p>

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8	FISSION BARRIER MATRIX	<ol style="list-style-type: none"> <li>1. Need to see the Fission Barrier Matrix Table as it is part of the standard EAL scheme required by 10 CFR 50.47(b)(4), and endorsed by the NRC (NEI 99-01 Revision 5).</li> <li>2. Please provide sufficient justification to support not developing additional thresholds, i.e., "other," as expected from the endorsed guidance.</li> </ol>
9	CT7	<ol style="list-style-type: none"> <li>1. Please explain the deviation from the endorsed guidance and standard EAL Scheme for LOSS 1.a, i.e., you did not state "all" isolation valves. This could lead to a misunderstanding as to the intent of the threshold.</li> <li>2. Please explain in more detail why the 2<sup>nd</sup> paragraph was added to the Basis information as this is not as endorsed and not considered to be in alignment with the standard EAL scheme as it specifically excludes expected consideration of the threshold.</li> </ol>
10	MA2, MU3, MU4, MA5, MU5, MG8, MS8, MA8, MU8, MU9, MU10/MU6*	<p>The standard EAL scheme required by 10 CFR 50.47(b) (4), and endorsed by the NRC (NEI 99-01 Revision 5), has these EALs in their own unique table, and own unique IC designation, for Cold/Refuel EALs. Explain why this EAL deviates from the endorsed guidance and from the regulatory required standard EAL scheme, or revise accordingly.</p> <p>*MU10 and MU6 were combined for Cold and Hot operating modes. As stated above, the staff expects an IC/EAL for each.</p>
11	MG1 MS1 MA1 MA2 MU2	<p>Explain how the SBO Diesel Generator is addressed in your Tech Specs, specifically, how is this DG controlled such that it can be relied upon as part of this EAL set.</p>
12	MA3	<p>Explain how one threshold can be based on Reactor Power &gt;6% and the other threshold be based upon Reactor Power ≥6%. This appears to be a contradiction.</p>
13	MU3	<p>Explain the statement, "This EAL is satisfied when corrective actions are required in response to an unplanned sustained positive startup rate to mitigate the positive startup rate." This is not from the endorsed guidance and may lead to errors in meeting staff expectations for EAL classification.</p>

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14	MU7	Please explain why the information related to a stuck open relief valve was not incorporated into this EAL as endorsed in the guidance, or revise accordingly.
15	MU8	Please explain why you added the deviation from the endorsed guidance related to "...restore and maintained..." in the Basis information. The expectation is that level must be back above the procedurally established limit.
16	MU10	Please explain how the Nuclear Alert Reporting System (NARS) line can notify the NRC (for offsite).
17	HU3	The standard EAL scheme required by 10 CFR 50.47(b) (4), and endorsed by the NRC (NEI 99-01 Revision 5), has the explosion EAL without the 'damage' caveat. Explain why you have a deviation from the endorsed guidance and from the regulatory required standard EAL scheme, or revise accordingly for the threshold and Basis.
18	HA4 HU4	Please explain how an earthquake could be so selective that it only impacts certain areas of the site and not others as stated in your basis in your definition of "in plant"?
19	HA5	The Basis information is considered to be a deviation from the endorsed guidance and contrary to the regulatory requirement for a standard EAL scheme. The information from the endorsed guidance, particularly the 3 <sup>rd</sup> paragraph, states the staff's expectations for this EAL. The 3 <sup>rd</sup> and 4 <sup>th</sup> paragraphs in your submittal conflict with that expectation. Please provide sufficient justification for the deviation, or revise accordingly.
20	HU5	The 4 <sup>th</sup> and 7 <sup>th</sup> paragraphs of your Basis information are a deviation from the endorsed guidance. Please explain in more detail, or revise accordingly.