

# DRAFT FOR DISCUSSION PURPOSES ONLY

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NEI 99-01

Proposed Revision #6

NRC Staff Questions and Comments

## **HAZARDS AND DEFINITIONS**

### **DISCUSSION**

The following questions and comments were generated by the NRC Emergency Action Level (EAL) Review Team, which consists of representation from NRC licensing, inspection, and regional emergency preparedness staffs. The goal of this team is to provide the Nuclear Energy Institute's (NEI) EAL Task Force a thorough review of existing EALs, individually and in the context of the entire EAL scheme, based on the benefits of decades of the staff's emergency planning experience in the development and endorsement of this guidance.

Many of these questions and comments are for clarification purposes to ensure that any issues identified by the NRC EAL Review Team are clearly understood and to avoid any misconceptions with the NEI EAL Task Force's proposed revision. As such, these questions and comments are not formatted or treated as formal requests for additional information (RAIs) typically associated with licensee-initiated licensing actions, as this is a generic EAL scheme development guidance document.

It is expected that the NEI EAL Task Force will consider these questions and comments in the revised draft or be prepared to discuss further during the scheduled public meetings.

### **HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY SECTION**

1. HU1/HA1/HS1/HG1: Please add, as a note, the statement in the bases section that states the importance of timely and accurate communication between security shift supervision and the control room. Also, please provide more guidance, in the basis, of why security related information should not be in the EALs, i.e., emergency plan is a public document, and the security plan is not. In addition, provide guidance related to site-specific use of the terms 'OWNER CONTROLLED AREA' and 'PROTECTED AREA' as some licensees use these terms for other non-EAL purposes. Clarify what the areas contain and what they are typically called, but allow for the use of whatever site-specific term is required.
2. Consider the development of an EAL (UE) that captures normal access to the site being impeded by a hazard (severe weather, train derailments, etc.).
3. Please return the turbine projectile EAL (Alert), clarify the areas to be considered (see RAI related to 'safety systems'), and discuss that if the stated areas are not susceptible to a turbine blade failure event then not including this EAL in the scheme can be considered.

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4. Please return the vehicle crash EAL (Alert), clarify the areas to be considered (see RAI related to 'safety systems'), and discuss that if the stated areas are not susceptible to a vehicle crash event then not including this EAL in the scheme can be considered.
5. Please return the EAL (Alert) related to internal flooding, from internal sources, for areas susceptible to this hazard that contain equipment necessary for safe operations, shutdown, and/or cooldown.
6. The use of the term 'safety systems' throughout the Hazards section is of concern to the staff.
  - a. This term, which is not defined in the document's definition section (Appendix B), may have different meanings for different licensees. Consider the development of a defined term that captures the intent of these EALs in that they are for events that jeopardize or negatively impact equipment needed for safe operations, safe shutdown, or safe cooldown.
    - i. The 3<sup>rd</sup> paragraph of the basis information for HA2 is acceptable to the staff for use in this definition with the revision of the 2<sup>nd</sup> sentence of this paragraph: "These systems may include the ECCS; on-site emergency AC and DC power sources and distribution systems; and associated support systems necessary for operation. Note that this may necessitate operating mode specificity."
  - b. The use of language related to number of operable safety system trains is not applicable for these EALs and is unnecessarily confusing the intent of the EALs. Please remove all the information related to safety system trains.
7. HA2: Add a discussion to the developer notes related to the need to limit indications of seismic events to what is available, or immediately available, to the control room. Monitoring and/or instrumentation that is outside the control room and/or requires lengthy determination (i.e., development of scratch tapes, instrumentation (memory) recovery, etc.) should not be used as a primary EAL unless it is coupled with other indicators as an 'OR' statement.
8. HA2, HA3, HA4, HA5, HA6
  - a. As attributes are only intended to be used as training aids in categorizing, or grouping, EALs, using attribute information as a basis for EAL development is inappropriate. Please remove the paragraph related to attributes from the developer notes.
  - b. The use of language related to number of operable safety system trains is not applicable for these EALs and is unnecessarily confusing the intent of the EALs. Please remove all the information related to safety system trains.

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- c. List of systems and/or areas may need to be operating mode specific.
9. HA3: Please explain the intent of the 30-minutes from Fire Brigade deployment caveat for HA3.2. Why is this time not from receipt of the fire alarm and/or report of a fire?
10. HA4: Please explain why the sentence reminding decision-makers to consider the security aspects of an explosion was deleted, or revise accordingly.
11. HA5:
  - a. Please revise 'gas' in the initiating condition (IC) to 'gaseous'.
  - b. Please add another note that states that this EAL is applicable if personnel access is impeded by the event, even if access is not required at the present time.
  - c. Please revise (1)b. to "Personnel access is impeded."
  - d. The 1<sup>st</sup> sentence of the basis information related to fission product barriers is unnecessary for this EAL and should be removed.
  - e. Add to the last sentence of the 1<sup>st</sup> paragraph that this EAL is to be declared when access is impeded to an area regardless if entry is necessary at the present time.
  - f. The 2<sup>nd</sup> paragraph of the basis information is incorrect and is not the staff's position. Please remove this paragraph.
  - g. The last sentence of the 3<sup>rd</sup> paragraph is incorrect; if an impediment is imposed on access to an area, and it is related to a gaseous event, regardless of why, then an Alert is warranted. However, the staff does encourage the development of language that supports the idea that a self-imposed impediment, that would be removed if an emergent event occurred, could be considered to not be applicable for this EAL. This would need to be defined and examples provided (such as temperature inversions where a Shift Manager may limit plant access for a period of time) and it would need to be clear that the impediment is self-imposed, conservative, and no personnel safety impact(s) would occur if entry to these areas is granted without the use of personal protection equipment.
12. HA7: Please explain why the event needs to be 'UNPLANNED'? Is there ever a planned event that requires evacuation of the control room? Revise accordingly. Also, add the timing element, and associated note, to the EAL itself. The staff considers that 15-minutes should be the time to establish control, and that the time starts when the control is transferred.
13. HS7: Please explain why 15-minutes should not be the time for establishment of control or revise accordingly.

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14. HG1: Please add more information in the bases related to a security event that results in the loss of physical control.
15. Based upon the events at Fukushima, please consider the development of the following EALs, the exact language need not be followed as long as intent is met:
  - a. An Alert for a hazard event (severe weather, flooding, security, etc.) resulting in visible damage to, or degraded performance of, equipment necessary for spent fuel pool cooling and spent fuel pool water level control.
  - b. A Site Area Emergency (SAE) for an event which causes the loss of spent fuel pool level or temperature control. Preferably these would be based upon a setpoint that results in annunciation in the control room, but nevertheless, the loss of control (level and temperature) for the spent fuel pool should result in a SAE. Whether this is an EAL in the hazards section (all operating modes), or incorporated as a Cold Systems SAE and a Hot Systems SAE, is up to the NEI EAL Task Force to consider (staff prefers a Cold and Hot Systems SAE, but can accept a Hazard SAE as well).
  - c. A General Emergency (GE) for an event which results radiological consequences to the public (similar to AG1) but based upon failure of spent fuel pool cooling and/or level control. A combination of radiological indications with spent fuel pool failure indications is appropriate to preclude GE declarations when public health and safety is not impacted. The use of non-technical specification equipment available to the licensee is appropriate for the development of EALs related to the spent fuel pool (typically, there is radiation monitoring available, on the spent fuel floor, that is used by licensees but is not controlled via technical specifications).

### **APPENDIX B - DEFINITIONS**

1. Emergency Action Level (EAL)
  - a. Throughout the document the inconsistent use of language related to emergency action levels (EAL) has led to misunderstanding and inconsistent application throughout the industry. The staff recommends that the definition of EAL very clearly states that for communication purposes, the term EAL consists of the initiating condition (IC), the operating mode applicability, the applicable notes, and the EALs.
  - b. In addition, clearly state that the IC, operating mode, note(s), EAL(s), and basis information all lead to the classification declaration. Use of any single item may result in a misclassification. Accordingly, licensees that develop 'wall-boards' for their EAL decision-makers must ensure that the IC, op mode, note(s), and EALs are on the board(s); technical basis information need not be on the wallboard(s) as long as it is readily available to the decision-maker.
2. Fission Product Barrier Threshold

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- a. Please explain why this needs to be defined. If defined, please discuss that these thresholds are expected to be design specific and may require thresholds different than what is provided in the guidance document.
3. Seismic Event: Please explain why this needs to be a defined term or revise accordingly.
4. Significant Transient: Please explain why this needs to be a defined term or revise accordingly.