

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
WASHINGTON, D.C. 20555-0001

December 12, 2005

**NRC REGULATORY ISSUE SUMMARY 2003-18, SUPPLEMENT 2,  
“USE OF NUCLEAR ENERGY INSTITUTE (NEI) 99-01, METHODOLOGY  
FOR DEVELOPMENT OF EMERGENCY ACTION LEVELS”  
REVISION 4, DATED JANUARY 2003**

**ADDRESSEES**

All holders of operating licenses for nuclear power reactors and licensees that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

**INTENT**

The Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to supplement previously issued information in RIS 2003-18, “Use of NEI 99-01, Methodology for Development of Emergency Action Levels”, Revision 4, dated January 2003, and RIS 2003-18 Supplement 1, dated July 13, 2004.

The purpose of this supplement is to:

- Supersede previously issued information in RIS 2003-18 and Supplement 1 regarding obtaining and documenting State and local governmental authority agreement to emergency action level (EAL) changes.
- Provide more examples of EAL *differences* and *deviations*, as identified in reviews of EAL submittals, to ensure the consistency of future licensee EAL submittals and/or the consistency of licensee documentation for EAL changes made under 10 CFR 50.54(q).
- Provide additional guidance on EAL upgrades from NUMARC/NESP-007 EALs to NEI 99-01 EALs.

This RIS requires no action or written response on the part of an addressee.

**BACKGROUND INFORMATION**

The rule change to Section IV.B to 10 CFR Part 50, Appendix E (effective 4/26/05) removed the requirement to obtain State and local governmental authority agreement to EAL changes except when the EALs are initially implemented. However, licensees must continue to review EALs with State and local governmental authorities on an annual basis.

**ML051450482**

The NRC is aware that licensees are considering seeking NRC approval for EAL upgrades from the NUMARC/NESP-007 scheme to the NEI 99-01 scheme rather than using the 10 CFR 50.54(q) process as referenced in RIS 2003-18. In a public meeting with NEI on January 26, 2005, industry representatives informed the NRC that licensees are reluctant to use the 10 CFR 50.54(q) process for EAL upgrades due to some confusion about what constitutes a *deviation* or *difference*.

The regulations governing the development and implementation of EALs for nuclear power licensees are contained in 10 CFR Part 50. Guidance documents used to review EAL schemes are identified in Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors" Revision 4, dated October 2003.

RIS 2003-18 describes the 10 CFR Part 50 sections and guidance references that pertain to EAL revisions. RIS-2003-18, Supplement 1, clarifies the technical positions on revising EALs. The guidance in these documents remains applicable except as otherwise indicated.

## **SUMMARY OF ISSUE**

### **State and County Approval**

According to a rule change to 10 CFR Part 50, Appendix E (effective 4/26/05), the licensee is only required to obtain State and local governmental authority agreement on the EALs during initial implementation. Subsequent changes to the EALs do not require State and local governmental authority agreement before implementation. However, licensees must continue to review EALs with State and local governmental authorities on an annual basis.

### **Generic Guidance**

When revising their Initiating Conditions (IC) or EALs, licensees should address the following guidelines:

- As stated in NEI 99-01 (emphasis added):

The guidance presented here is not intended to be applied to plants as-is. The generic guidance is intended to give the logic for developing site-specific IC/EALs using site-specific IC/EAL presentation methods. Each utility will need to revise the IC/EALs to meet site-specific needs with regard to instrumentation, nomenclature, plant arrangement, and method of presentation, etc. Such revision is expected and encouraged provided that the intent of the generic guidance is retained. Deviations from the intent may be acceptable, but will need to be justified during regulatory review. Items associated with presentation, e.g., format, sequencing of IC/EALs, IC numbering, and recognition categories, are at the option of the utility.

The generic guidance includes both ICs and example EALs. It is the intent of this guidance that both be included in the site-specific implementation. Each serves a specific purpose. The IC is intended to be the fundamental criteria for the declaration, whereas, the EALs are intended to represent unambiguous examples of conditions that may meet the IC.

- Verbatim compliance with the wording provided in the basis section of each IC is not necessary as long as there is enough information to support the IC and associated EALs and the intent of the EAL is maintained. Information in NEI 99-01 that is primarily used to assist licensees in developing their EALs and EAL Basis Document need not be incorporated into the licensee's EAL Basis Document unless the licensee chooses.
- Verbatim compliance with the wording in Sections 3.0, 4.0, and 5.0 of NEI 99-01 is not necessary as long as there is enough information to:
  - Support the scheme,
  - Explain the layout of the EAL Basis Document,
  - Explain the treatment of multiple events and emergency class upgrades,
  - Explain the treatment of emergency class downgrades,
  - Explain classification of transient events, and
  - Discuss operating mode applicability and other information deemed necessary by the licensee to support emergency event classifications.

### **Differences and Deviations**

From Supplement 1 to RIS 2003-18 (emphasis added):

A difference is an EAL change where the basis scheme guidance differs in wording but agrees in meaning and intent, such that classification of an event would be the same, whether using the basis scheme guidance or the site-specific proposed EAL. Examples of differences include the use of site-specific terminology or administrative re-formatting of site-specific EALs.

Expanded clarification:

Administrative changes that do not actually change the text are neither differences nor deviations. Likewise, any format change that does not alter the wording of the IC or EAL is considered neither a difference nor a deviation.

The following are examples of differences:

- Choosing the applicable EAL based on plant type (BWR vs. PWR).

- Using a different numbering scheme than the NEI 99-01 scheme without changing the intent of the overall EAL scheme. However, licensees are encouraged to adopt the NEI 99-01 numbering convention to facilitate communication among licensees, and between licensees, the NRC, and State and local governmental authorities.
- The NEI guidance specifically provides an option not to include an EAL if equipment for the EAL does not exist at the site (e.g., automatic real-time dose assessment capability and telemetered perimeter rad monitoring systems), and the licensee, therefore, does not include the EAL.
- Pulling information from the basis section up to the actual EAL that does not change the intent of the EAL.
- Stating “ALL” operating modes are applicable instead of stating “N/A” for the Independent Spent Fuel Storage Installation (ISFSI) EALs, or listing each mode individually under the Abnormal Rad Level/Radiological Effluent and Hazard and Other Conditions Affecting Plant Safety sections.
- Using synonymous wording, for example:
  - rising or lowering vs. increasing and decreasing
  - greater than or equal to vs. at or above
  - less than or equal vs. at or below
  - greater than or less than vs. above or below
- Adding site-specific equipment/instrument identification and/or noun names to EALs.
- Changing the format of the EALs to conform to site-specific writers guides (e.g., numbering individual EALs, re-ordering individual EALs within an IC that does not affect the logic, etc.).
- Combining like ICs that are exactly the same but have different operating modes as long as the intent of each IC is maintained and the overall progression of the EAL scheme is not affected.
- Any change to the IC and/or EAL, and/or basis wording, as stated in NEI 99-01, that does not alter the intent of the IC and/or EAL, i.e., the IC and/or EAL continues to:
  - Classify at the correct classification level
  - Logically integrate with other EALs in the EAL scheme
  - Ensure that the resulting EAL scheme is complete (i.e., classifies all potential emergency conditions)

From Supplement 1 to RIS 2003-18 (emphasis added):

A deviation is an EAL change where the basis scheme guidance differs in wording and is altered in meaning or intent, such that classification of the event could be different between the basis scheme guidance and the site-specific proposed EAL. Examples of deviations include the use of altered mode applicability, altering key words or time limits, or changing words of physical reference (protected area, safety-related equipment, etc.).

Expanded clarification:

The following are examples of deviations:

- Eliminating an IC. This includes removing an IC from the Fission Product Barrier Degradation category because doing so impacts the logic of Fission Barrier ICs.
- Changing a Fission Product Barrier EAL from a LOSS to a POTENTIAL LOSS, or vice-versa.
- Changing a defined term where the intended meaning of the defined word is not maintained.
- Any change to the IC and/or EAL, and/or basis, wording as stated in NEI 99-01 that alters the intent of the IC and/or EAL, i.e., the IC and/or EAL:
  - Does not classify at the classification level consistent with NEI 99-01
  - Is not logically integrated with other EALs in the EAL scheme
  - Results in an incomplete EAL scheme (i.e., does not classify all potential emergency conditions)

**Use of 10 CFR 50.54(q) When Upgrading From NUMARC/NESP-007 EALs to NEI 99-01 EALs**

As discussed in RIS 2003-18, the NRC staff recognizes that certain EAL changes do not warrant NRC review and approval and that licensees may make changes to EALs without prior NRC approval when changes do not decrease the effectiveness of the emergency plan and continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E. This supplement specifically clarifies the following statement from RIS 2003-18:

NUMARC/NESP-007 users implementing shutdown EALs or ISFSI EALs or updating EALs to include lessons learned from NEI 99-01, Revision 4, should implement changes under 10 CFR 50.54(q) since these changes are enhancements to the existing classification scheme.

Licensees that decide to upgrade their NUMARC/NESP-007 EALs to NEI 99-01 EALs via 10 CFR 50.54(q) may determine that a few ICs or EALs from NEI 99-01 cannot be implemented at the site as intended in NEI 99-01. Licensees can submit these specific ICs or EALs to the NRC for approval and update the remaining ICs or EALs in accordance with 10 CFR 50.54(q). However, the NRC expects the following information:

- The other corresponding ICs in the applicable IC logic grouping, if applicable, should be provided to the NRC to ensure that the emergency class escalation logic is properly evaluated. (For example, if a licensee submits IC SS2 for prior approval, the NRC would also need to evaluate corresponding ICs SA2 and SG2 to determine the overall impact on the group of ICs.)
- All supporting information related to why the IC or EAL could not be implemented as intended in NEI 99-01 shall be provided to the NRC (simplified plant system drawings, technical specification references, simplified electrical power drawings, etc.), as well as any applicable supporting information for evaluating an alternate IC or EAL. Submittals should follow the guidance contained in RIS 2003-18, Supplement 1.

### **Good Industry Practices**

The use of good industry practices in the preparation of EAL change documents is encouraged by the NRC. As EAL changes occur, licensees are expected to gain experience and share information with the industry. Expectation of the content of EAL change packages can be provided by the NRC during pre-submittal conferences and may be beneficial in reducing regulatory burden through the consistent incorporation of acceptable practices by the licensee.

### **BACKFIT DISCUSSION**

This RIS requires no action or written response. Consequently, the NRC staff did not perform a backfit analysis.

### **FEDERAL REGISTER NOTIFICATION**

A notice of opportunity for public comment on this RIS was not published in the *Federal Register* because it is informational. NRC worked with NEI, industry representatives, members of the public, and other stakeholders to obtain information used in developing this RIS. A public meeting was held February 10, 2005, to discuss this supplement to RIS 2003-18. (The meeting summary is available at ML050450434.)

### **SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT OF 1996**

The NRC has determined that this action is not subject to the Small Business Regulatory Enforcement Fairness Act of 1996.

## **PAPERWORK REDUCTION ACT NOTIFICATION**

This RIS does not request any information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Action of 1995 (44 U.S.C. 3501 et seq.).

## **CONTACT**

If you have any questions or wish to provide any feedback, please call the technical contact, listed below.

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