# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

***Each operating nuclear power plant is required to include in its emergency plans a standard emergency classification and EAL scheme. An EAL is a pre-determined, site-specific, observable threshold for a plant condition that places the plant in an emergency class. The NRC is using an FAQ process to assist licensees with EAL development. As such, a practical knowledge of existing EAL regulatory guidance is required in applying any EALFAQ response.***

***The EALFAQ process is intended to clarify the NRC staff's interpretation of existing EAL regulatory guidance issued or endorsed by the NRC, and will not be used to create new regulatory positions or guidance. Issues involving safeguards information are not considered under the EALFAQ process.***

**EAL FAQ ID NUMBER:** 2006-001 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA1.2A

**QUESTION**

"Loss of RCS inventory as indicated by unexplained {site-specific} sump and tank level increase", utilizes an incorrect logic connector requiring both sump and tank level to be increasing.

**PROPOSED SOLUTION**

Revise CA1EAL2a as follows, "Loss of RCS inventory as indicated by unexplained {site-specific} sump OR tank level increase".

**PROPOSED JUSTIFICATION**

The NEI EAL FAQ Task Force believes that the original intent of the EAL was for either sump OR tank level increase to be an input to EAL2 being met. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

**RESOLUTION OF EALFAQ**

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). The use of the word "and" was not intended to signify a logic condition but was intended to provide options for EAL determination. Use of the word "or" in this case is considered an acceptable alternative to the wording of NEI 99-01 Rev. 4

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-002 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** SU1.1

## QUESTION

"Loss of power to {site-specific} transformers for greater than 15 minutes", specifies that actual transformer names/numbers be listed. Essential in this IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL as shown in the attached redline markup and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. The proposed solution allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is in three parts and will be discussed as such.

<1> The use of the term "emergency busses" is synonymous with "essential busses" only if the licensee does not use the term "essential busses" in their electrical system. If a licensee uses the term "essential busses" then they should use that term. If a licensee does not use the term "essential busses" then they are to use the term that describes the electrical busses that supply power to essential loads. The NRC does not recommend a change to the Initiating Condition as licensee's can use the term that accurately describes the electrical busses of concern. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<2> The scenario bounded by this EAL is, in part, a loss of power to essential busses from an offsite source. Changing the wording from "Loss of power to (site-specific) transformers…" to "Loss of offsite power to (site-specific) emergency busses…" bounds this scenario and is considered an acceptable alternative to the wording in NEI 99-01 Rev. 4. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<3> The proposed changes to the EAL Basis are in two parts: <a> wording related to the above mentioned issues are consistent and are considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18); <b> the proposed wording related to clarifying the guidance

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**EAL FAQ ID NUMBER:** 2006-002 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** SU1.1

related to the capability to cross-tie AC power was not justified in the EALFAQ. However, the wording as proposed is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). The proposed wording is "Plants that have a proceduralized capability to cross-tie AC power from an offsite power supply of a companion unit may take credit for the redundant power source in the associated EAL for this IC. Inability to affect the cross-tie within 15 minutes warrants declaring a NOUE."

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-003 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** SS1.1

## QUESTION

"Loss of power to {site-specific} transformers", specifies that actual transformer names/numbers be listed. "Essential" in the IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. The proposed solution allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is in three parts and will be discussed as such.

<1> The use of the term "emergency busses" is synonymous with "essential busses" only if the licensee does not use the term "essential busses" in their electrical system. If a licensee uses the term "essential busses" then they should use that term. If a licensee does not use the term "essential busses" then they are to use the term that describes the electrical busses that supply power to essential loads. The NRC does not recommend a change to the Initiating Condition as licensee's can use the term that accurately describes the electrical busses of concern. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<2> The scenario bounded by this EAL is, in part, a loss of power to essential busses from an offsite source. Changing the wording from "Loss of power to (site-specific) transformers…" to "Loss of offsite power to (site-specific) emergency busses…" bounds this scenario and is considered an acceptable alternative to the wording in NEI 99-01 Rev. 4. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<3> The EALFAQ redline markup proposed a deletion of EAL guidance in the EAL Basis related to evaluating critical loads on essential busses. This was not justified in the EAL FAQ, however, this is considered a DEVIATION in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). This information is necessary to bound the intent of this EAL and should not be removed.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-003 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** SS1.1

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-004 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA3.1A

## QUESTION

"Loss of power to {site-specific} transformers", specifies that actual transformer names/numbers be listed. "Essential" in the IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL as shown in the attached redline markup and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. The proposed solution allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is in three parts and will be discussed as such.

<1> The use of the term "emergency busses" is synonymous with "essential busses" only if the licensee does not use the term "essential busses" in their electrical system. If a licensee uses the term "essential busses" than they should use that term. If a licensee does not use the term "essential busses" then they are to use the term that describes the electrical busses that supply power to essential loads. The NRC does not recommend a change to the Initiating Condition as licensee's can use the term that accurately describes the electrical busses of concern. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<2> The scenario bounded by this EAL is, in part, a loss of power to essential busses from an offsite source. Changing the wording from "Loss of power to (site-specific) transformers…" to "Loss of offsite power to (site-specific) emergency busses…" bounds this scenario and is considered an acceptable alternative to the wording in NEI 99-01 Rev. 4. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<3> The EALFAQ redline markup proposed a deletion of EAL guidance in the EAL Basis related to evaluating critical loads on essential busses. This was not justified in the EAL FAQ, however, this is considered a DEVIATION in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). This information is necessary to bound the intent of this EAL and should not be removed.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-004 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA3.1A

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-005 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CS2

### QUESTION

The third paragraph of the CS2 basis implies that a 30 minute time frame should be applied to EAL 1b and 2b.

### PROPOSED SOLUTION

Delete the third paragraph of the basis of CS2 in its entirety.

### PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent was that paragraph 3 of the basis was most applicable to CG1 and that the paragraph was incorrectly placed in the CS2 basis. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

### RESOLUTION OF EALFAQ

This paragraph is intended to provide guidance for the development of this EAL. The actual initiating condition and EALs do not have a 30-minute component to them. It is apparent that this developmental statement was erroneously placed in this EAL when it is actually only intended for EAL CG1. This change does not impact the EAL and is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-006 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA2

## QUESTION

The 3rd paragraph of the CA2 basis states "Significant fuel damage is not expected to occur until the core has been uncovered for greater than 1-hour per the analysis referenced in the CS2 basis".

## PROPOSED SOLUTION

Revise the CA2 basis 3rd paragraph to read "Significant fuel damage is not expected to occur until the core has been uncovered for greater than 1-hour per the analysis referenced in the CG1 basis."

## PROPOSED JUSTIFICATION

This basis incorrectly references CS2 and should reference CG1. The NEI EAL FAQ Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). This reference is intended to assist in the development of this EAL and incorrectly referenced information in CS2 that is actually in CG1. This does not impact the EAL.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-007 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA2

## QUESTION

The 5th paragraph of the CA2 basis states "If RPV level continues to decrease then escalation to Site Area will be via CS1 (Loss of Inventory Affecting Core Decay Heat Removal Capability with Irradiated Fuel in the RPV)."

## PROPOSED SOLUTION

Revise the CA2 5th paragraph to read "If RPV level continues to decrease than escalation to Site Area will be via CS2 (Loss of Inventory Affecting Core Decay Heat Removal Capability with Irradiated Fuel in the RPV)."

## PROPOSED JUSTIFICATION

This basis paragraph incorrectly references CS1 and should reference CS2. The NEI EAL FAQ Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). EAL CS2 is the escalation EAL. This does not impact the EAL.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-008 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA1

## QUESTION

The third paragraph of the CA1 basis states “Significant fuel damage is not expected to occur until the core has been uncovered for greater than 1 hour per the analysis referenced in the CS1 basis.

## PROPOSED SOLUTION

Revise the CA1 third paragraph to read “Significant fuel damage is not expected to occur until the core has been uncovered for greater than 1 hour per the analysis referenced in the CG1 basis.

## PROPOSED JUSTIFICATION

This basis incorrectly references CS1 and should reference CG1. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). This reference is intended to assist in the development of this EAL and incorrectly referenced information in CS1 that is actually in CG1. This does not impact the EAL.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-009 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CS1

**QUESTION**

The fourth paragraph of the CS1 basis implies that a 30 minute time frame should be applied to EAL 1b and 2b.

**PROPOSED SOLUTION**

Delete the fourth paragraph of the basis of CS1 in its entirety.

**PROPOSED JUSTIFICATION**

The NEI EAL FAQ Task Force believes that the original intent was that paragraph 3 of the basis was most applicable to CG1 and that the paragraph was incorrectly placed in the CS1 basis. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

**RESOLUTION OF EALFAQ**

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). This change does not alter the intent of the EAL.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-010 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CS1

## QUESTION

The sixth paragraph of the CS1 basis implies that a 30 minute time frame should only be applicable to EAL2b. The 30 minute time requirement while in the refueling mode is applicable regardless of the containment closure status therefore paragraph 6 should be revised to delete the words “when Containment Closure established”. Erratic source range indications should be added to EAL 1b.

## PROPOSED SOLUTION

Revise the sixth paragraph to state “The 30 minute duration allows sufficient time for actions to be performed to recover needed cooling equipment. Add erratic source range indications to EAL 1b.

## PROPOSED JUSTIFICATION

For PWRs the effluent release path is not expected with closure established. For BWRs releases would be monitored and escalation would be via Category A ICs if required.” Addition of erratic source range indication is consistent with the Basis. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). The 30-minute time frame is applicable to this EAL regardless of containment closure status. The addition of erratic source range indications to EAL 1b is also considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-011 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CS2

## QUESTION

EAL 1b and 2b reference use of the “Containment High Range Radiation Monitor reading > (site specific) setpoint.”

## PROPOSED SOLUTION

Revise EAL 1b and 2b as follows:
• (site specific) radiation monitor reading > (site specific) setpoint

Revise basis paragraph 5 to read as follows:
“As water level in the RPV lowers, the dose rate above the core will increase. The dose rate due to this core shine should result in {site-specific} monitor indication and possible alarm. EAL 1.b and EAL 2.b should conservatively estimate a site-specific dose rate setpoint indicative of core uncovery (ie., level at TOAF). Additionally, post-TMI studies indicated that the installed nuclear instrumentation will operate erratically when the core is uncovered and that this should be used as a tool for making such determinations. For BWRs that do not have installed radiation monitors capable of indicating core uncovery, alternate site specific level indications of core uncovery should be used.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the applicability of CTMT radiation monitors as an EAL input for BWRs is not appropriate because no readily available monitor can readily be used. Basis also does not take into account the fact that BWRs have multiple visual indications of core water level in the Control Room reducing the need for the less reliable radiation monitor input. For PWRs, containment radiation monitors are still an appropriate input but monitors other than the specific CTMT High Range Monitors may be applicable and specification of only the one monitor may be to limiting. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01 Revision 4.

## RESOLUTION OF EALFAQ

The following is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18) and is the wording the NRC would prefer.

EAL 1b and 2b wording for one of the bullets is: "{Site-specific} radiation monitor reading > {site specific} setpoint."

Paragraph 5 wording in the EAL Basis is proposed as follows: ""As water level in the RPV lowers, the dose rate above the core will increase. The dose rate due to this core shine should result in {site-specific} monitor indication and possible alarm. EAL 1.b and EAL 2.b should conservatively estimate a site-specific dose rate setpoint indicative of core uncovery (ie., level at TOAF). For BWRs that do not have installed radiation monitors capable of indicating core uncovery, alternate site

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**EAL FAQ ID NUMBER:** 2006-011 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CS2

specific level indications of core uncovery should be used. Additionally, post-TMI studies indicated that the installed nuclear instrumentation will operate erratically when the core is uncovered and that this should be used as a tool for making such determinations."

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-012 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CU4

## QUESTION

The last sentence in paragraph 2 states: “Escalation to the Alert level via CA4 is provided should an UNPLANNED event result in RCS temperature exceeding the Technical Specification cold shutdown temperature limit for greater than 30-minutes with CONTAINMENT CLOSURE not established."

## PROPOSED SOLUTION

Delete last sentence in paragraph two.

## PROPOSED JUSTIFICATION

The paragraph is redundant to words already provided in paragraph three. The reference to “for greater than 30 minutes with CONTAINMENT CLOSURE not established” is not applicable to this IC/EAL set and is a cut and paste error. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). Removing this sentence from the EAL basis has no effect on the EAL and is redundant with paragraph three which states that CA2 and CA4 are the possible escalation EALs.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-013 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** AA2

## QUESTION

The last sentence in paragraph 1 states: "This IC applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage, which is discussed in IC E-AU1".

## PROPOSED SOLUTION

Revise the basis sentence to read:
“This IC applies to spent fuel requiring water coverage and is not intended to address spent fuel which is licensed for dry storage.

## PROPOSED JUSTIFICATION

The reference to “which is discussed in IC E-AU1” is not applicable because E-AU1 was deleted. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). The proposed wording does not alter the intent of the EAL.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-014 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CU1

## QUESTION

RCS leak rate while in Cold Shutdown cannot be reliably monitored and Technical specifications are not applicable in Mode 5. Additionally, the leakage rate is based on crack propagation studies which do not apply in Cold Shutdown. Therefore the EAL should be deleted.

## PROPOSED SOLUTION

Revise CU1 EAL to create a PWR and BWR specific set as follows:
1. Unable to establish or maintain pressurizer level greater than {site specific pressurizer low level setpoint} ( PWR)
1. Unable to establish or maintain RPV level greater than {site specific low level RPS actuation setpoint} (BWR)

## PROPOSED JUSTIFICATION

Leakage monitoring is not required in operating modes 4 and 5 per Technical Specifications and there is no Limiting Condition for Operation (LCO) limit. Technical Specification leakage limits are based on the potential for leak propagation at operating pressures. However, the pressure in Cold Shutdown does not present the potential to support this leak since the reactor is shut down and depressurized. Additionally, the Leak Detection Systems at BWRs are frequently removed from service in the Cold Shutdown and Refuel Operational Conditions due to maintenance activities since this is the only time the drywell is accessible. Since water level is being maintained at or above an established normal band, the inability to establish or maintain level above the site specific low level setpoint is indicative of the initiating condition. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

While the NRC Staff agree with this position, this is considered a DEVIATION in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). Licensees should submit this proposal for prior approval.

The NRC staff recommends the following wording as an alternative to that contained in NEI 99-01. Licensees should submit for prior approval:
1. Unable to establish or maintain pressurizer level greater than {site specific pressurizer low level setpoint} ( PWR)
1. Unable to establish or maintain RPV level greater than {site specific low level RPS actuation setpoint} (BWR)

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-015 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CU5

## QUESTION

Fuel clad degradation EALs 1 and 2 have site-specific setpoints based on exceeding Technical Specification allowable limits; however, Technical Specification limits for mode 5 and 6 are not applicable.

## PROPOSED SOLUTION

Add developer note to basis, “EAL AU1, AU2 may be used to provide indication of fuel clad degradation if evaluation shows that radiation level indications would indicate this condition, In this case, the radiation level EAL(s) may be used in place of EAL #1. EAL #2 does not apply if Technical Specifications do not include limits for fuel clad degradation.”

## PROPOSED JUSTIFICATION

NEI EP FAQ task force believes that this IC should be deleted if the EALs have no Technical Specification mode applicability for fuel clad degradation. Reliance on the AU1 and AU2, series ICs will provide adequate indication of fuel clad degradation in modes 5 and 6. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

While the NRC Staff agree with this position, this is considered a DEVIATION in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). Licensees should submit this proposal for prior approval.

The NRC staff recommends adopting the proposed guidance in the development of a licensee's EALs, however, it is considered a DEVIATION and should be submitted for prior approval. This issue should be resolved via future revisions of NEI 99-01.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-016 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** SG1

## QUESTION

"Loss of power to {site-specific} transformers", specifies that actual transformer names/numbers be listed. Essential in this IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL as shown in the attached redline markup and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. Additionally specifying diesel does not allow for different emergency generator designs found in the industry. This allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is in two parts and will be discussed as such.

<1> The use of the term "emergency busses" is synonymous with "essential busses" only if the licensee does not use the term "essential busses" in their electrical system. If a licensee uses the term "essential busses" then they should use that term. If a licensee does not use the term "essential busses" then they are to use the term that describes the electrical busses that supply power to essential loads. The NRC does not recommend a change to the Initiating Condition as licensee's can use the term that accurately describes the electrical busses of concern. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<2> The scenario bounded by this EAL is, in part, a loss of power to essential busses from an offsite source. Changing the wording from "Loss of power to (site-specific) transformers…" to "Loss of offsite power to (site-specific) emergency busses…" bounds this scenario and is considered an acceptable alternative to the wording in NEI 99-01 Rev. 4. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-017 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CU3

## QUESTION

"Loss of power to {site-specific} transformers", specifies that actual transformer names/numbers be listed. "Essential" in this IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL as shown in the attached redline markup and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. The proposed solution allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is in three parts and will be discussed as such.

<1> The use of the term "emergency busses" is synonymous with "essential busses" only if the licensee does not use the term "essential busses" in their electrical system. If a licensee uses the term "essential busses" then they should use that term. If a licensee does not use the term "essential busses" then they are to use the term that describes the electrical busses that supply power to essential loads. The NRC does not recommend a change to the Initiating Condition as licensee's can use the term that accurately describes the electrical busses of concern. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<2> The scenario bounded by this EAL is, in part, a loss of power to essential busses from an offsite source. Changing the wording from "Loss of power to (site-specific) transformers…" to "Loss of offsite power to (site-specific) emergency busses…" bounds this scenario and is considered an acceptable alternative to the wording in NEI 99-01 Rev. 4. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

<3> The proposed changes to the EAL Basis are in two parts: <a> wording related to the above mentioned issues are consistent and are considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18); <b> the proposed wording related to clarifying the guidance related to the capability to cross-tie AC power was not justified in the EALFAQ. However, the wording as proposed is considered a DIFFERENCE in accordance

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-017 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CU3

with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). The proposed wording is "Plants that have a proceduralized capability to cross-tie AC power from an offsite power supply of a companion unit may take credit for the redundant power source in the associated EAL for this IC. Inability to affect the cross-tie within 15 minutes warrants declaring a NOUE."

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-018 **DATE POSTED:** 05/12/2006 **STATUS:** DECLINED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CA3

## QUESTION

"Loss of power to {site-specific} transformers", specifies that actual transformer names/numbers be listed. "Essential" in this IC is not a consistent term.

## PROPOSED SOLUTION

Revise the EAL and basis to delete the requirement to have to specify site specific transformers in the EAL as shown in the attached redline markup and change "essential" to "emergency" as shown in the attached redline markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent of the EAL is to allow the site to specify the clearest and most concise wording for loss of power to the emergency busses. The proposed solution allows the most concise, human factored method to be used by licensees to describe site specific loss. This change is consistent with the recommended revisions to the other electrical power IC's to ensure consistent understanding for purposes of escalation based on additional loss. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EALFAQ is the same as EAL FAQ 2006-004. See EAL FAQ 2006-004 for resolution.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-019 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** CG1

## QUESTION

EAL1 is written such that an RPV inventory other than to a tank or sump would prevent declaration per CG1 (such as an intersystem LOCA outside CTMT).

## PROPOSED SOLUTION

Revise EAL1 and 2 and the applicable basis paragraphs as indicated on the attached markup.

## PROPOSED JUSTIFICATION

The NEI EAL FAQ Task Force believes that the original intent was that other site specific indications be also considered. Additionally the indications of loss of inventory without level indication available in EAL 2b is inconsistent with the CS2 EAL2b indication list in that unexplained sump and tank level is not included. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

The intent of the EAL is not to limit available indications of a loss of RPV inventory but to encourage the development of non-traditional indications of a loss of RPV inventory during cold shutdown and refueling operating modes. Licensee's may adopt the wording as provided in the mark-up and consider the changes to be a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-020 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** FB-PWR-CONT-L

## QUESTION

The EAL “Valves not closed AND downstream pathway to the environment exists” does not stand alone and needs a part of the IC to be included to be complete.

## PROPOSED SOLUTION

Change “Valves not closed AND downstream pathway to the environment exists” to “Valves not closed AND direct pathway to the environment exists after CTMT Isolation Initiated”

## PROPOSED JUSTIFICATION

This change clarifies the EAL to ensure that the intent of the IC is complete therefore promoting consistent usage. Without the change it is not clear that CTMT isolation is required to meet the EAL criteria. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

The IC and EAL Basis clearly state that this EAL is intended to address incomplete containment isolation that allows direct release to the environment. NRC Staff also considers the addition of the word "signal" to clarify the intent of the EAL. The EAL should be "Valves not closed AND direct pathway to the environment exists after CTMT Isolation signal”. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-021 **DATE POSTED:** 05/12/2006 **STATUS:** DECLINED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** HU1

## QUESTION

For an explosion, the HU1 NOUE and HA2 Alert are very similar. HU1 is the only NOUE that requires VISIBLE DAMAGE as a criterion. VISIBLE DAMAGE is the discriminator for the other Hazards between the NOUE and the Alert.

## PROPOSED SOLUTION

HU1 should be modified to clarify this wording for the end user by changing HU1 EAL 4 as shown in the attached markup.

## PROPOSED JUSTIFICATION

The change provides clear discrimination between the HU1 EXPLOSION and the HA2 EXPLOSION criteria to ensure that an under classification of an event does not occur. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

The intent of HU1.4 is to declare an EAL for only those explosions of sufficient force to damage permanent structures or equipment within the Protected Area. In order to determine if the explosion was of sufficient force to cause damage, a visual damage assessment needs to occur. The delineation between HU1.4 and HA2 is in the areas of concern. HU1.4 addresses explosions in the Protected Area and HA2 addresses explosions in areas containing functions and systems required for Safe Shutdown. This EAL FAQ is DECLINED.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-022 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** HU1

## QUESTION

HU1 EAL1 - The use of “felt” is confusing and needs to be clarified. Need to specify if a felt earthquake requires instrumentation confirmation Conversely if instrumentation indicates an earthquake has occurred but it is not felt then is it an NOUE.

## PROPOSED SOLUTION

No change to the IC/EAL is required due to existing documentation in the basis. As defined in the EPRI-sponsored "Guidelines for Nuclear Plant Response to an Earthquake", dated October 1989, a "felt earthquake" is:

An earthquake of sufficient intensity such that: (a) the vibratory ground motion is felt at the nuclear plant site and recognized as an earthquake based on a consensus of control room operators on duty at the time, and (b) for plants with operable seismic instrumentation, the seismic switches of the plant are activated. For most plants with seismic instrumentation, the seismic switches are set at an acceleration of about 0.01g.

Therefore it is clear that both are required if instrumentation is available.

## PROPOSED JUSTIFICATION

EPRI definition of “felt” earthquake.

## RESOLUTION OF EALFAQ

The NRC agrees with the statement that this EAL does not need to be changed, however, the NRC disagrees with the statement in the Proposed Solution that states: "Therefore it is clear that both are required if instrumentation is available". The EPRI definition of "felt earthquake" is not intended to provide a logical AND statement. As stated in the EAL Basis for HU1.1: "Method of detection can be based on instrumentation, validated by a reliable source, OR operator assessment". If seismic instrumentation is available that would provide timely indication of an earthquake at about 0.01g, then that should be enough for EAL declaration. If instrumentation is not available, then a "felt" earthquake is sufficient for EAL declaration as defined in NEI 99-01. Validation efforts that are timely and descriptive could be used to qualify a "felt" earthquake EAL if so desired by a licensee. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18) as stated in this resolution to the EAL FAQ.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-023 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** HU3

## QUESTION

Asphyxiant gasses have been left out of the list of toxic gasses. Additionally the guidance for identifying what areas of the plant are needed for normal and maintenance of safe operations is not clear.

## PROPOSED SOLUTION

Add asphyxiant to the list of toxic gasses. Clarify the basis to provide the user and developer additional guidance for selecting areas of the plant as shown in the attached markup.

## PROPOSED JUSTIFICATION

To ensure that gasses harmful to personnel are included and that consistency exists in the selection of areas of the plant that are needed to be included. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

The intent of this EAL is to declare an Unusual Event if gases enter the site area boundary that affect normal plant operations. The gases of concern that were actually listed were "toxic and flammable gases", however, asphyxiant gases are also of concern and should be listed. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

The EALFAQ markup did not address the proposed solution to clarifying the selection of areas of the plant and was therefore not evaluated.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-024 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** HA3

## QUESTION

Asphyxiant gasses have been left out of the list of toxic gasses. Additionally the guidance for identifying what areas of the plant are needed for normal and maintenance of safe operations is not clear.

## PROPOSED SOLUTION

Add asphyxiant to the list of toxic gasses. Clarify the basis to provide the user and developer additional guidance for selecting areas of the plant as shown in the attached markup.

## PROPOSED JUSTIFICATION

To ensure that gasses harmful to personnel are included and that consistency exists in the selection of areas of the plant that are needed to be included. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

The intent of this EAL is to declare an Alert if gases are in or around a plant vital area in concentrations that may result in an atmosphere immediately dangerous to life and health. The gases of concern that were actually listed were "toxic and flammable gases", however, asphyxiant gases are also of concern and should be listed. This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18).

The EALFAQ markup did not address the proposed solution to clarifying the selection of areas of the plant and was therefore not evaluated.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-025 **DATE POSTED:** 05/12/2006 **STATUS:** APPROVED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** AA3.2

## QUESTION

It is unclear what areas require infrequent access and guidance for developing the site specific radiation monitor values in these areas is subjective and therefore open to wide interpretation.

## PROPOSED SOLUTION

The FAQ Task Force believes that sufficient guidance exists in the basis for determination of infrequent areas. It is recommended that the annual administrative exposure limit for the site be used as the basis for this dose limit.

## PROPOSED JUSTIFICATION

To promote consistent application of the EAL. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This is considered a DIFFERENCE in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18). Licensees that have an event whereby they may exceed their administrative exposure limits for a given area would be implementing radiation control protocols that would impede 'normal' access to these areas as defined in NEI 99-01. For situations where the given area 'normally' exceeds the administrative exposure limit, any exposure that would cause a change to the existing established access protocol for that area would need to be addressed.

# Emergency Action Level Frequently Asked Question (EALFAQ) Report
# Approved - Sorted by EAL Scheme and EAL Number

**EAL FAQ ID NUMBER:** 2006-026 **DATE POSTED:** 05/12/2006 **STATUS:** DECLINED

**EAL SCHEME:** NEI 99-01 **EAL NUMBER:** FB-PWR-FC(RCS

## QUESTION

FPB Matrix PWR Fuel Clad and RCS Barrier Potential Loss EAL1 - A heat sink – RED will result in a potential loss of Fuel Clad Barrier and RCS Barrier and therefore a Site Area Emergency. This is more conservative than SS4 which would require loss of Core Cooling and Heat Sink.

## PROPOSED SOLUTION

Change the Fuel Clad potential loss EAL1 from “Core Cooling Orange OR Heat Sink Red” to “Core Cooling Orange” and revise basis to be consistent as shown in the attached markup.

## PROPOSED JUSTIFICATION

This change results in an Alert being declared when Heat sink is Red . Escalation to SAE would be via potential loss of the Fuel Clad and RCS barrier using the FPB matrix or via SS4 should there be a loss of both Heat Sink and Core Cooling. This change therefore corrects an inconsistency in the matrix and SS4 criteria. The NEI EAL Task Force believes that this clarification maintains the intent of NEI 99-01, Revision 4.

## RESOLUTION OF EALFAQ

This EAL FAQ is declined. NEI 99-01 states that any CSF entering a RED path would constitute a Site Area Emergency. While SS4 and FB-PWR-CLAD-PL1/RCS-PL1 do appear to be inconsistent, the intent of these EALs to want a Site Area Emergency for these conditions is clear. Any proposed change such as that proposed above is considered a DEVIATION in accordance with the guidance contained in RIS 2003-18 (and supplements 1 & 2 to RIS 2003-18) and should be submitted for prior approval.