EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 01

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other: EALs that contain notes

Description of Question

Are notes included within the EAL section of NEI 99-01 Rev 5 EALs considered part of the EAL threshold or are they simply instruction for how to evaluate the EAL?

Proposed Solution

Add the following to section 5.1. "When providing EALs and user aids, such as wallboards, notes should be kept with each applicable EAL or moved to a common area and referenced by the applicable EAL."

Justification

Notes contained in the EAL section are considered part of the EAL threshold. Applying human factors to the EAL manual format and user aids does not constitute a deviation provided the note information is included in some manner and has not been changed.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 01	Date Entered: 11/4/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added "When providing EALs and user aids, such as wallboards, notes should be kept with each applicable EAL or moved to a common area and referenced by the applicable EAL." to Section 5.1, at the end of the EAL bullet.

- **Example Emergency Action Level(s)** – these EALs are examples of conditions and indications that were considered to meet the criteria of the IC. These examples were not intended to be all encompassing, and some may not apply to a particular facility. Utilities should generally address each example EAL that applies to their site. If an example EAL does not apply because of its wording, e.g., specifies instrumentation not available at the site, the utility should identify other available means for entry into the IC. Ideally, the example EALs used will be unambiguous, expressed in site specific nomenclature, and be readily discernible from control room instrumentation. When providing EALs and user aids, such as wallboards, notes should be kept with each applicable EAL or moved to a common area and referenced by the applicable EAL. [FAQ01]

NRC to Complete This Section

Disposition of EALFAQ

During the development of NEI 99-01 Revision 5, the staff purposely moved information germane to EAL declaration timing to lead the EAL. The expectation is that licensees will have this information on the wallboard, or other licensee specific EAL presentation method, so that EAL decision-makers have this information readily available. It is not expected that similar notes be incorporated on EAL wallboards for every EAL, a reference to a Note on the EAL wallboard is acceptable as long as the information is adequately captured on the wallboard and pointed to for each applicable EAL.

This is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EAL Frequently Asked Question (EALFAQ)
Request Form

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 02

Requestor to Complete This Section

Licensee: NEI EAL Task Force	Date Submitted: 02/06/09	
Licensee Contact: D. Stobaugh	Phone: 262-344-3832	E-Mail: epconsult@charter.net
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other: Definition

Description of Question

Section 5.4 Definitions contains the following:

AFFECTING SAFE SHUTDOWN, BOMB, CIVIL DISTURBANCE, EXTORTION, HOSTAGE, INTRUSION, SABOTAGE, and STRIKE ACTION

None of these definitions are used in the document. Therefore the definitions are no longer needed.

Proposed Solution

Delete the definitions.

Justification

Not used in 99-01 Rev 5.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 02	Date Entered: 11/4/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Removed the definitions from the definitions section.
[FAQ02]

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NRC to Complete This Section

Disposition of EALFAQ

These terms are frequently used in discussing emergency planning issues. Having a consistent definition serves to ensure consistency in their use. The defined terms in NEI 99-01 R5, as well as NEI 07-01 Rev. 0, are intended to provide consistency and to aid in effective communication. The staff expects the terms defined in the endorsed guidance to be developed, if applicable for a licensee's design, in the licensee's EALs. This EALFAQ is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EAL Frequently Asked Question (EALFAQ)
Request Form

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 03

Requestor to Complete This Section

Licensee: Kewaunee Power Station	Date Submitted: 12/8/08	
Licensee Contact: John Egdorf	Phone: 920-388-8733	E-Mail: john.r.egdorf@dom.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: AU1 and AA1	Which EAL is involved: AU1.1, AU1.2, AA1.1, and AA1.2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Should the following be added to clarify the EALs for AU1 and AA1?

"A radiation monitor reading is VALID when a release path is established. If the release path to the environment has been isolated, then the radiation monitor reading is not VALID for classification."

Proposed Solution

Add the below wording as clarification to the EAL basis section for AU1 and AA1.

A radiation monitor reading is VALID when a release path is established. If the release path to the environment has been isolated, then the radiation monitor reading is not VALID for classification.

Justification

This Initiating Condition for the listed EALs addresses a potential or actual decrease in the level of safety of the plant as indicated by a radiological release for an extended period of time. The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of degradation in safety features and/or controls. Therefore if the release path to the environment is isolated, then the effluent monitor is no longer a valid indication for the EAL based upon an active release.

Additional pages attached? ☐ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 03	Date Entered: 11/4/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added "A radiation monitor reading is VALID when a release path is established. If the release path to the environment has been isolated, then the radiation monitor reading is not VALID for classification." to the basis for AU1 and AA1.

AU1

This IC addresses a potential decrease in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. A radiation monitor reading is VALID when a release path is established. If the release path to the environment has been isolated, then the radiation monitor reading is not VALID for classification. [FAQ03]

AA1

This IC addresses an actual or substantial potential decrease in the level of safety of the plant as indicated by a radiological release that exceeds regulatory commitments for an extended period of time. A radiation monitor reading is VALID when a release path is established. If the release path to the environment has been isolated, then the radiation monitor reading is not VALID for classification. [FAQ03]

NRC to Complete This Section

Disposition of EALFAQ

The radiation monitor readings are VALID as defined in the endorsed guidance, hence the proposed resolution is DENIED.

As stated in the endorsed wording for the initiating condition wording of AU1 and AA1, the EALs are for releases to the environment. If there is no release to the environment, then the staff questions why the EAL would be declared and thus why this is an issue. The NEI EAL Task Force may propose clarification wording in the EAL technical basis to ensure consistent understanding of AU1 and AA1 if it is desired to seek clarification via the EALFAQ process.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EAL Frequently Asked Question (EALFAQ)
Request Form

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 04

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: AG1, AS1, AA1, AU1, AA2, AU2	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The term “VALID” is formally defined and used in a limited number of EAL thresholds. Why do some EALs explicitly use the term valid and others do not?

Proposed Solution

Provide the following in the NEI 99-01 EALs and FPBs discussion section, rather than as a definition that only applies to a limited subset of EALs.

"All EALs and FPBs (i.e., all thresholds) assume valid indications."

AG1

Justification

The term ‘valid’ should apply to all EALs and FPB indications.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 04	Date Entered: 11/4/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added "All thresholds assume VALID indications." as the second sentence in section 3.9 paragraph 2.

Classifications are based on evaluation of each Unit. All classifications are to be based upon valid indications, reports or conditions. All Thresholds assume VALID indications. Reports or conditions are considered VALID when they are verified by (1) an instrument channel check, or (2) indications on related or redundant indications, or (3) by direct observation by plant personnel, such that doubt related to the indication's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment. [FAQ04]

NRC to Complete This Section

Disposition of EALFAQ

The use of this term is intended to serve as a reminder to EAL decision-makers that EAL declarations should be based upon VALID indicators as defined in the endorsed guidance. The fact that some EALs have the term VALID within the EAL wording, and some do not, does not negate the overall expectation that EAL declarations be based upon VALID indicators. Implicit in this definition is the need for timely assessment.

The guidance was endorsed as proposed by NEI, subject to NRC requests for revision. The inconsistent application of this term is not a staff expectation, but as it did not jeopardize the understanding of the EAL, or affect the timing of the declaration, the staff did not ask NEI to revise the guidance for this particular issue.

This is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					

EAL Frequently Asked Question (EALFAQ)
Request Form

DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 05

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: AU1.4, AU2.2, AA1.4, D-AU2.2, D-AA2.2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Rev 5 uses an asterisk to define the term 'normal' within the three EALs referenced above. This is inconsistent with the format of capitalization for defined terms used throughout the rest of the document.

Proposed Solution

Make 'normal levels' a defined term using the standard format of the document as follows:

NORMAL LEVELS: As applied to radiological IC/EALs, the highest reading in the past twenty-four hours excluding the current peak value.

Add the formal definition to the definitions section and remove the asterisk definition from the EALs.

Justification

Provides a consistent use of format for defined terms within the document. This change does not alter the meaning or the intent of the EALs it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 05	Date Entered: 11/4/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added the following as a new definition in section 5.4 and removed the asterisk definition EALs from AU1.4, AU2.2, AA1.4, D-AU2.2, and D-AA2.2 and replaced "normal* background" or "*" in the EALs with NORMAL LEVELS

Section 5.4

NORMAL LEVELS: As applied to radiological IC/EALs, the highest reading in the past twenty-four hours excluding the current peak value. [FAQ05]

AU1

4. VALID reading on perimeter radiation monitoring system reading greater than 0.10 mR/hr above NORMAL LEVELS for 60 minutes or longer. [for sites having telemetered perimeter monitors] [FAQ05]

AU2

2. UNPLANNED VALID Area Radiation Monitor readings or survey results indicate a rise by a factor of 1000 over NORMAL LEVELS. [FAQ05]

AA1

4. VALID reading on perimeter radiation monitoring system reading greater than 10.0 mR/hr above NORMAL LEVELS for 15 minutes or longer. [for sites having telemetered perimeter monitors] [FAQ05]

D-AU2

2. UNPLANNED Area Radiation Monitor readings or survey results indicate a rise by 25 mR/hr over NORMAL LEVELS. [FAQ05]

D-AA2

2. UNPLANNED Area Radiation Monitor readings or survey results indicate a rise by 100 mR/hr over NORMAL LEVELS that impedes access to **ANY** of the following areas needed to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity. [FAQ05]

   (site specific area list)

EAL Frequently Asked Question (EALFAQ)
Request Form

NRC to Complete This Section

Disposition of EALFAQ

This is an administrative choice by licensees as it does not alter the EAL scheme, or change any staff expectations.

This is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the specified EALs as endorsed by the staff.

OFFICE	**NSIR/DPR**	**NSIR/DPR**	**TL:NSIR/DPR**	**BC:NSIR/DPR**	**D:NSIR/DPR/EPD**
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 06

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: AU2.1, AA2.1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

AU2.1.a wording is inconsistent with AA2.1 wording with regard to use of terms. AU2.1 uses 'water level drop in a reactor refueling pathway' while AA2.1 uses 'water level drop in the reactor refueling cavity, spent fuel pool or fuel transfer canal'.

Proposed Solution

Revise AU2.1.a wording as follows:

UNPLANNED water level drop in (Site specific reactor refueling pathway) as indicated by (site specific level or indication).

Justification

Removes ambiguity and makes for consistent use of EAL wording within escalation pathway. This change does not alter the meaning or the intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 06	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised AU2.1.a wording as follows:

UNPLANNED water level drop in (Site specific reactor refueling pathway) as indicated by (site specific level or indication).

Revised AA2.1 wording as follows:

A water level drop in (Site specific reactor refueling pathway) that will result in irradiated fuel becoming uncovered.

NRC to Complete This Section

Disposition of EALFAQ

The staff agrees that consistent terminology is beneficial for EALs, particularly for those in the same EAL set. The proposed changes to AU2.1.a and AA2.1 are acceptable as long as the information in the EAL Technical Basis defining 'site specific refueling pathway' is maintained in AU2.1.a and added to AA2.1.

This is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 08

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: AG1, AS1	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Is there a technical reason for the capitalization or non-capitalization of the abbreviation REM?

Proposed Solution

The abbreviation can be stated as mRem, mrem, or mREM.

Justification

The term REM is an abbreviation for Roentgen Equivalent Man. Milli-Rem, or mRem is an abbreviation for 1/1000 of a Rem. The difference in capitalization of the 'R' is related to a preference in writer's style and is inconsequential to its use. A check of the FEMA, NRC, NCRP and NRRPT websites revealed that REM, rem and Rem conventions are used interchangeably. This is not a difference, deviation or an issue of standard terminology.

Additional pages attached? ☐ Yes ☒ No

Instructions:
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EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 08	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

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EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the Acronym and Abbreviations section as follows:

"Mr" changed to mR, mRem, mrem, mREM
"rem" changed to Rem, rem, REM

ACRONYMS & ABBREVIATIONS
mR, mRem, mrem, mREM [FAQ08] .....milliRoentgen
Rem, rem, REM [FAQ08] .....Roentgen Equivalent Man

NRC to Complete This Section

Disposition of EALFAQ

The staff agrees that the capitalization, or non-capitalization, of the abbreviated terms are inconsistent. It is not the staff's expectation to adhere to the acronym/abbreviation format proposed by the industry/NEI and endorsed by the NRC for terms that can be formatted in a multitude of ways without compromising the understanding of its use. However, for terminology related to radiation, the staff generally defers to those terms defined in 10 CFR 20.

This is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 09

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: AG1 / AS1	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The IC wording of AG1 differs from the IC wording of AS1 in that it specifies using actual meteorology. While the dose assessment EALs do use actual meteorology, the effluent monitor readings are based on an average meteorology.

Proposed Solution

Add the wording 'using actual meteorology.' to AS1 IC. Delete the note and Threshold 1 from both AS1 and AG1 leaving these EALs as Dose Assessment/Projection only. Delete the basis wording which sends the user to the dose assessment/projection conclusion in any case.

Justification

Removes ambiguity and makes for consistent use of IC wording within an escalation pathway. The monitor values as originally written did not implement the IC in that they were based on annual average meteorological conditions and not actual meteorology. AG1.1 and AS1.1 are thresholds that rely on pre-determined values and are not accurate for existing Met conditions. Thresholds AG1.2 and AS1.2 utilize actual met conditions for determining release doses as related to PAGs. In order to reach values of this nature Fission Product Barrier EALs would have already been exceeded and the event classified. In addition time is required following the loss of sub cooling to start the fission product generation, since dose assessment can be performed a predetermined value threshold is not required.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 09	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added the wording 'using actual meteorology.' to AS1 IC. Deleted the note and Threshold 1 from both AS1 and AG1 leaving these EALs as Dose Assessment/Projection only. Deleted the basis wording which sends the user to the dose assessment/projection conclusion in any case. Revised Appendix A basis to reflect the removal of treshold 1 from AS1 and AG1.

AS1

Off-site dose resulting from an actual or IMMINENT release of gaseous radioactivity greater than 100 mrem TEDE or 500 mrem Thyroid CDE for the actual or projected duration of the release using actual meteorology. [FAQ09]

Operating Mode Applicability: All

Example Emergency Action Levels: (1 or 2 or 3 or 4)

AS1 Basis

_[FAQ09]AG1

[FAQ09]AG1 Basis

_[FAQ09]

Appendix A

A.2

SAE (AS1) Off-site Dose Resulting from an Actual or IMMINENT Release of Gaseous Radioactivity Exceeds 100 mrem TEDE or 500 mrem Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meterology.

A.3

For each of the classifications, NEI 99-01 provides some example emergency action levels and bases. Ideally, the example EALs correspond numerically with the thresholds expressed in the respective IC. For example, two cases are applicable to the effluent EALs:

2. The EAL corresponds numerically to the threshold in the respective IC under certain assumed conditions. For example, an effluent monitor reading that equates to 200 times the Technical Specification /ODCM limit for 15 minutes or longer corresponds numerically to AA1 if the actual meteorology, source term, and release duration matches the annual average meteorological values used in establishing the monitor thresholds. A.3.1

A.6

- For the AS1 and AG1 dose assessments using actual meteorology will be initiated for significant radioactivity releases. Needed escalations can be based on the results of these

assessments. The delay in escalation due to the time necessary to perform assessments is deemed to be acceptable since in significant release situations, the plant condition EALs should provide the anticipatory classifications necessary for the implementation of off-site protective measures.

NRC to Complete This Section

Disposition of EALFAQ

The NRC agrees that the "actual meteorology" language in AG1 was carried over from the original NUREG-0654 Appendix 1 EALs. Similar language was not in the NUREG-0654 language for the EAL corresponding to AS1. The staff also agrees that the effluent monitors are based on annual average meteorology, the basis for which is explained in Appendix A to NEI 99-01. In addition, the NRC would not object to the inclusion of the phrase "using actual meteorology" to the IC for AS1. These are considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff.

However, the NRC rejects the suggestion that the note and Threshold 1 from AS1 and AG1 be omitted. Although the NRC agrees that substantial radioactivity releases that would warrant offsite protective measures will generally be preceded by the occurrences of one or more precursors to core damage, the existence of radiological ICs such as AS1 and AG1 provide desirable redundancy and diversity to the EAL scheme. The NRC also views the radiological monitor EALs as important triggers to initiate the dose assessments that the FAQ proposes to solely rely upon. The NRC notes that not every abnormal condition that could result in a radioactivity release could be classified under the fission product barrier matrix EALs. Consider a spent fuel pool handling accident that results in a radioactivity release. The DBA analysis results in most FSARs project an offsite dose that exceeds the EPA PAGs at the site boundary. What fission product barrier thresholds would be exceeded by this event? Similarly, many steam generator tube rupture DBA analyses project an offsite dose that exceeds the EPA PAGs at the site boundary from an event that assumes a stuck open relief valve and a pre-incident iodine spike of a lesser magnitude than the RCS activity threshold for a lost RCS barrier. Although the NRC recognizes that DBA analyses by their very nature are conservative, they are nonetheless credible and fall within the EP planning basis in Chapter1 of NUREG-0654. This part of the EALFAQ is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 10

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CU2, CA1, CS1, BWR CT1.A.L, PWR CT2.A.L	Which EAL is involved: CU2.2, CA1.2, CS1.3, Table 5-F-2 Containment Loss 1A threshold/basis, Table 5-F-3 Containment Loss 2A threshold/ basis
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Rev 5 provides a definition for UNPLANNED, but not for unexplained. Questions have arisen through OPs training regarding the specific difference between the two words. While an unexplained event would be UNPLANNED, an UNPLANNED event may or may not be explainable. This distinction can lead to confusion of terms. Note that CG1.2.a used 'UNPLANNED' in the same context as CS1.3 uses 'unexplained'.

Proposed Solution

Revise the definition of UNPLANNED to accommodate the concept of explained as follows:

A parameter change or an event, the reasons for which may be known or unknown, that is not the result of an intended evolution and requires corrective or mitigative actions.

Replace all instances of the undefined term 'unexplained' with the defined term 'UNPLANNED'.

Justification

Removes ambiguity and makes for consistent use of defined terms. This change does not alter the meaning or the intent of the EALs or FPB thresholds it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 10	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the definition of UNPLANNED to accommodate the concept of explained as follows:

A parameter change or an event, the reasons for which may be known or unknown, that is not the result of an intended evolution and requires corrective or mitigative actions.

Replaced all instances of the undefined term 'unexplained' with the defined term 'UNPLANNED'.

5.4 Definitions

UNPLANNED: A parameter change or an event, the reasons for which may be known or unknown, that is not the result of an intended evolution and requires corrective or mitigative actions. [FAQ10]

CU2

2. RCS/RPV level cannot be monitored with a loss of RCS/RPV inventory as indicated by an UNPLANNED level rise in (site specific sump or tank). [FAQ10]

CA1

2. RCS/RPV level cannot be monitored for 15 minutes or longer with a loss of RCS/RPV inventory as indicated by an UNPLANNED level rise in (site specific sump or tank). [FAQ10]

CS1

3. RCS/RPV level cannot be monitored for 30 minutes or longer with a loss of RCS/RPV inventory as indicated by **ANY** of the following:

- (Site specific radiation monitor) reading greater than (site specific value).
- Erratic Source Range Monitor Indication.
- UNPLANNED level rise in (site specific sump or tank). [FAQ10]

Table 5-F-2 CTMT L1A

A. Primary containment pressure rise followed by a rapid UNPLANNED drop in primary containment pressure. [FAQ10]

OR

B. Primary containment pressure response not consistent with LOCA conditions.

Table 5-F-2 CTMT L1A BASIS

1. Primary Containment Conditions

Loss Thresholds A and B

Rapid UNPLANNED loss of pressure (i.e., not attributable to drywell spray or condensation effects) following an initial pressure increase from a high energy line break indicates a loss of containment integrity. Primary containment pressure should increase as a result of mass and energy release into containment from a LOCA. Thus, primary containment pressure not increasing under these conditions indicates a loss of containment integrity. [FAQ10]

Table 5-F-3 CTMT L1A

A. A containment pressure rise followed by a rapid UNPLANNED drop in containment pressure. [FAQ10]

OR

B. Containment pressure or sump level response not consistent with LOCA conditions.

Table 5-F-2 CTMT L1A BASIS

2. Containment Pressure

Loss Thresholds A and B

Rapid UNPLANNED loss of pressure (i.e., not attributable to containment spray or condensation effects) following an initial pressure increase from a primary or secondary high energy line break indicates a loss of containment integrity. Containment pressure and sump levels should increase as a result of mass and energy release into containment from a LOCA. Thus, sump level or pressure not increasing indicates containment bypass and a loss of containment integrity. [FAQ10]

NRC to Complete This Section

Disposition of EALFAQ

The staff disagrees that a commonly used term such as UNEXPLAINED requires formal definition and questions how much confusion there could be with the use of this term. In addition, the proposed definition fails to account for expected plant response to transients. If a licensee is confused about these terms and desires to combine them into the term UNPLANNED, then this term needs to be defined as follows to meet the expectations of the staff:

UNPLANNED: A parameter change or an event, the reasons for which may be known or unknown, that is not the result of an intended evolution or expected plant response to a transient.

The definition of UNPLANNED as stated above, and the corresponding replacement of UNEXPLAINED with UNPLANNED, is considered a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the

staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 11

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CU4	Which EAL is involved: CU4.1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

IC includes the words 'with irradiated fuel in the RPV' which is irrelevant for the modes in which it applies (cold shutdown and refueling) and inconsistent with the IC wording in table 5-C-1. Note that this IC wording was removed from the other EALs in this series and appears to be an artifact.

EAL #1 specifies an unplanned event as the cause of a temperature rise while the IC is specific to an unplanned loss of decay heat removal capability.

Proposed Solution

Revise IC wording as follows: "UNPLANNED loss of decay heat removal capability."

Revise EAL #1 wording as follows: "RCS temperature greater than (site specific Technical Specification cold shutdown temperature limit) due to an UNPLANNED loss of decay heat removal capability."

Justification

Removes unnecessary wording used in the IC and ties the EAL language more appropriately to the IC. This change does not alter the meaning or the basis intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 11	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised IC wording as follows: "UNPLANNED loss of decay heat removal capability."

Revised EAL #1 wording as follows: "RCS temperature greater than (site specific Technical Specification cold shutdown temperature limit) due to an UNPLANNED loss of decay heat removal capability."

CU4

UNPLANNED loss of decay heat removal capability. [FAQ11]

1. RCS temperature greater than (the site specific Technical Specification cold shutdown temperature limit) due to an UNPLANNED loss of decay heat removal capability. [FAQ11]

NRC to Complete This Section

Disposition of EALFAQ

The staff considers the proposed change to the IC to be a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EAL as endorsed by the staff.

The staff considers the proposed change to CU4.1 to be of little value, therefore this part of the EALFAQ is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 12

Requestor to Complete This Section

Licensee: NEI EAL Task Force	Date Submitted: 10/29/08	
Licensee Contact: D. Stobaugh	Phone: 262-344-3832	E-Mail: epconsult@charter.net
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CU7	Which EAL is involved: IC
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The IC Matrix for CU7 starts with UNPLANNED where the IC on the EAL page does not.

Proposed Solution

Delete UNPLANNED from the IC matrix.

Justification

Editorial error while developing 99-01 Rev 5.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 12	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Delete UNPLANNED from the Cold Shutdown/Refueling Sytem Matrix.

5.6 COLD SHUTDOWN / REFUELING SYSTEM MALFUNCTION EALs

CU7 Loss of required DC power for 15 minutes or longer. [FAQ12]
Op. Modes: Cold Shutdown, Refueling

CU7

Initiating Condition -- NOTIFICATION OF UNUSUAL EVENT

Loss of required DC power for 15 minutes or longer.

NRC to Complete This Section

Disposition of EALFAQ

The staff agrees that the wording in table 5.6 is inconsistent with the actual IC wording.

The staff considers the proposed change to be a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EAL as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 13

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: CA4.2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

EAL #2 specifies an unplanned event as the cause of a pressure rise and then states that it is due to a loss of RCS cooling. Description of loss is not worded consistent with CU4 (loss of RCS cooling vs. loss of decay heat removal capability).

Proposed Solution

Revise EAL wording from:

An UNPLANNED event results in RCS pressure increase greater than 10 psi due to a loss of RCS cooling.

To:

RCS pressure increase greater than 10 psi due to an UNPLANNED loss of decay heat removal capability.

Justification

Removes ambiguous wording used in the EAL and makes the language consistent with that used in the UE for the escalation series. This change does not alter the meaning or the intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 13	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised EAL wording as follows:

"RCS pressure increase greater than 10 psi due to an UNPLANNED loss of decay heat removal capability."

CA4

2. RCS pressure increase greater than 10 psi due to an UNPLANNED loss of decay heat removal capability. (PWR-This EAL does not apply in Solid Plant conditions.) [FAQ13]

NRC to Complete This Section

Disposition of EALFAQ

The staff considers the proposed change to be a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EAL as endorsed by the staff.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 14

Requestor to Complete This Section

Licensee: NEI EAL Task Force	Date Submitted: 03/25/09	
Licensee Contact: W. Lee	Phone: 205-992-5627	E-Mail: whlee@southernco.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: 5-F-1	Which EAL is involved: Note: Bullet 4
Which Basis Paragraph(s) is involved:	Other:

Description of Question

In NEI 07-01 review, the NRC staff raised this issue. The NRC staff agrees that technical specification issues involving containment integrity should not be declared in the absence of an event needing containment barrier mitigation. However, the staff pointed out that the second sentence in the 4th bullet needs to be deleted because this sentence appears to expand this caveat to issues NOT associated with Technical Specification integrity. For example, in Table 5-F-3, there are three potential loss thresholds that are reductions in the level of safety of the plant, regardless of the other barrier performance, and should be declared. These are (1) a containment pressure greater than 59 psig, (2) Hydrogen concentration in containment, and (3) containment Hi-Hi pressure with failure of passive containment cooling to actuate. A steam line break can pressurize containment without a loss of either fuel or RCS barriers.

Proposed Solution

Delete second sentence in 4th Bullet of the notes on Table 5-F-1.

Justification

NRC recommendation and consistency with NEI 07-01.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 14	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Deleted second sentence in 4th Bullet of the notes on Table 5-F-1.

- The Containment Barrier should not be declared lost or potentially lost based on exceeding Technical Specification action statement criteria, unless there is an event in progress requiring mitigation by the Containment barrier. [FAQ14 and FAQ15]

NRC to Complete This Section

Disposition of EALFAQ

The staff considers the proposed change to be a DIFFERENCE in accordance with RIS 2003-18, Supplement 2, and as such, does not alter the intent of the EALs as endorsed by the staff. In addition, the staff agrees with the NEI Task Force in maintaining consistency between the various endorsed EAL schemes.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 15

Requestor to Complete This Section

Licensee: Exelon		Date Submitted: 11/17/08
Licensee Contact: Larry Baker	Phone: (610)765-5438	E-Mail: jamesl.baker@exeloncorp.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: Fission Product Barrier	Which EAL is involved: Containment Unusual Event
Which Basis Paragraph(s) is involved:	Other:

Description of Question

To avoid confusion and possible over classifications of events, the following changes are proposed:

1) Remove the Containment Loss/Potential Loss Unusual Event classification option since the Containment Loss/Potential Loss thresholds require a Loss/Potential Loss of Fuel Clad or RCS to occur prior to reaching the magnitude of the Containment Loss/Potential Loss thresholds.

Proposed Solution

Remove FU1 to eliminate the possible option of declaring an Unusual Event for Loss or Potential Loss of Containment from Tables 5-F-1, 5-F-2 and 5-F-3.

Add new IC SU9, “Failure of Containment to Isolate Following a High-Energy Line Break” to support elimination of FU1. See attached Technical Analysis document.

Justification

NEI 99-01 provides the following insight in the development and application of the Fission Product Barrier EAL matrix:

> *Containment Barrier thresholds are used primarily as discriminators for escalation from an Alert to a Site Area Emergency or a General Emergency.*

NEI 99-01 further defines how the Containment Barrier thresholds function as escalators and when they would apply by providing the following description of how they relate to not only stand alone Containment events but also in conjunction with events that could affect multiple barriers:

> *The Containment barrier should not be declared lost or potentially lost based on exceeding Technical Specification action statement criteria, unless there is an event in progress requiring mitigation by the Containment barrier. When no event is in progress (Loss or Potential Loss of either Fuel Clad and/or RCS) the Containment barrier status is addressed by Technical Specifications.*

When reviewing the thresholds for Containment it is clear the logic described above was applied. All Containment thresholds are either a magnitude of severity above what is already defined for the Fuel Clad and/or RCS or an event resulting in an established threshold for the Fuel Clad or RCS has been exceeded.

Since a Containment Loss/Potential Loss threshold can not be met without first having a Loss/Potential Loss of Fuel Clad/RCS occur it would be prudent to remove the option of declaring a stand alone Unusual Event associated with Containment Barrier from the matrix. This removes confusion and ensures fission product barrier classifications are declared in accordance with the guidance provided in NEI 99-01.

Additional pages attached? ☐ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☐ Yes ☐ No
EALFAQ #: 15	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Removed FU1 and revised table in 5-F-1 to eliminate the possible option of declaring an Unusual Event for Loss or Potential Loss of Containment from Tables 5-F-1, 5-F-2 and 5-F-3.

Added new IC SU9, "Failure of Containment to Isolate Following a High-Energy Line Break" to support elimination of FU1. See attached Technical Analysis document.

5-F-1

~~UNUSUAL EVENT~~	
~~FU1~~	~~ANY Loss or ANY Potential Loss of Containment.~~ ~~*Op. Modes: Power Operation, Hot Standby, Startup, Hot Shutdown*~~

[FAQ15]

5-F-2

~~UNUSUAL EVENT~~

~~ANY Loss or ANY Potential Loss of Containment.~~ [FAQ15]

5-F-3

~~UNUSUAL EVENT~~

~~ANY Loss or ANY Potential Loss of Containment.~~ [FAQ15]

SU9

Copy attached on last page.

NRC to Complete This Section

Disposition of EALFAQ

The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's interpretation of existing regulatory guidance issued or endorsed by NRC, and will not

be used to create new regulatory positions or guidance."

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

Technical Analysis in Support of NEI 99-01 Revision 5 FAQ #15
Delete Fission Product Barrier IC FU1 "Any loss or potential loss of containment"

OBJECTIVE

Simplify the NEI 99-01 Fission Product Barrier classification scheme and reduce the likelihood of inaccurate or inappropriate Unusual Event classifications.

BACKGROUND

NEI 99-01 Revision 5 Section 5.9 "Fission Product Barrier EALs" IC FU1 specifies declaration of an Unusual Event for "Any loss or potential loss of containment". Specifically, Tables 5-F-2 (PWR) and 5-F-3 (BWR) specify containment barrier loss and potential loss thresholds as part of the fission product barrier based classification scheme. While the existing scheme indicates declaration of an Unusual Event for any such loss or potential loss of the containment barrier as defined by the specified loss and potential loss thresholds, it is noted on page 88 that "Containment Barrier thresholds are used primarily as discriminators for escalation from an Alert to a Site Area Emergency or a General Emergency." A clarifying note regarding fission product barrier based EALs on page 80 states "The Containment Barrier should not be declared lost or potentially lost based on exceeding Technical Specification action statement criteria, unless there is an event in progress requiring mitigation by the Containment barrier. When no event is in progress (Loss or Potential Loss of either Fuel Clad and/or RCS) the Containment Barrier status is addressed by Technical Specifications." These statements imply that a containment barrier loss or potential loss in the absence of a challenge to another barrier should not warrant classification under fission product barrier monitoring criteria.

ANALYSIS APPROACH

As summarized in the following tables, each containment loss or potential loss threshold of NEI 99-01 Revision 5 was examined as follows:

- The symptoms or events that would generate the threshold were identified.
- The conditions that must occur in order to identify the symptom or produce the event sequence were compared to the fuel clad and RCS fission product barrier thresholds.
- If another fission product barrier threshold would always be reached by one of the conditions, the containment threshold should be considered redundant to the other barrier threshold and, therefore, unnecessary because the fuel clad and RCS fission product barrier threshold alone requires a higher classification than the Unusual Event required by the containment threshold.
- If another fission product barrier threshold would not always be reached by one of the conditions, a determination was made whether either an existing Unusual Event IC/EAL would be applicable or existing containment Technical Specification criteria is deemed to adequately address the condition.

CONCLUSION

This technical analysis (see attached) supports the conclusion that the Section 5.9 fission product barrier IC FU1 should be deleted from the fission product barrier classification scheme based on the fact that each of the existing specific loss or potential loss thresholds, as defined, either:

- represents a challenge to one or more of the other barriers (escalatory to a SAE or GE), or
- would result in declaration of a UE under another existing EAL threshold, or
- is adequately controlled under Technical Specification containment operability requirements.

Technical Analysis in Support of NEI 99-01 Revision 5 FAQ #15
Delete Fission Product Barrier IC FU1 "Any loss or potential loss of containment"
Attachment 1 - Analysis

ANALYSIS

BWR Justification - Containment Loss

Loss #	Containment Loss Threshold	Justification
1	A. Primary containment pressure rise followed by a rapid unexplained drop in primary containment pressure. **OR** B. Primary containment pressure response not consistent with LOCA conditions.	The NEI 99-01 bases states " Rapid unexplained loss of pressure (i.e., not attributable to drywell spray or condensation effects) following an initial pressure increase from a high energy line break indicates a loss of containment integrity. Primary containment pressure should increase as a result of mass and energy release into containment from a LOCA. Thus, primary containment pressure not increasing under these conditions indicates a loss of containment integrity." By definition these conditions define a loss of RCS (LOCA) in combination with containment failure warranting a SAE.
2	Not Applicable	Not Applicable
3	A. Failure of all valves in any one line to close. **AND** Direct downstream pathway to the environment exists after primary containment isolation signal. **OR** B. Intentional primary containment venting per EOPs. **OR** C. UNISOLABLE primary system leakage outside primary containment as indicated by exceeding EITHER of the following: a. Max Safe Operating Temperature. **OR** b. Max Safe Area Radiation.	A. This threshold is based on a failure to isolate following a primary containment isolation signal. Primary Containment isolation signals are generated based on exceeding parameters indicative of a LOCA (high drywell pressure or low RPV water level) and thus represent a loss/potential loss of RCS barrier (e.g., RCS loss 1A, 2A or RCS potential loss 3A). B. Intentional venting in BWR EOPs is directed when PC pressure cannot be maintained below extremely high containment pressures (PC Pressure Limit) or for combustible gas control. Both conditions by definition represent a loss of RCS and/or loss of fuel clad barriers. Furthermore, such elevated pressures and combustible gas concentrations cannot be reached before the requirement for emergency RPV depressurization occurs which is, by definition, a loss of the RCS barrier per RCS loss 3B. C. This threshold is, by definition, a potential loss of RCS barrier per RCS potential loss 3.B.
4	Not Applicable	Not Applicable
5	A. (site specific) as applicable.	Any other unique site specific indicator of

		containment loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.
6	A. Any condition in the opinion of the Emergency Director that indicates Loss of the Containment Barrier.	Any other unique site specific indicator of containment loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.

BWR Justification - Containment Potential Loss

Loss #	Containment Loss Threshold	Justification
1	A. Primary containment pressure greater than (site specific value) and rising. **OR** B. Explosive mixture exists inside primary containment. **OR** C. RPV pressure and suppression pool temperature cannot be maintained below the HCTL.	A. Primary Containment pressure in excess of the containment design pressure is indicative of, as a minimum, a breach of the RCS barrier. Such an elevated pressure is not exceeded in any FSAR analyzed event and would require emergency RPV depressurization long before it is reached. Numerous RCS barrier loss and potential loss thresholds would therefore require at least a SAE emergency classification. B. Explosive mixtures inside containment can only exist as a result of an accident indicative of a loss of both the RCS and fuel clad barriers. C. The inability to maintain RPV pressure and suppression pool temperature below the HCTL requires Emergency RPV Depressurization which is, by definition, a loss of the RCS barrier per RCS loss 3.B.
2	A. Primary containment flooding required.	Primary Containment flooding entry conditions are by themselves representative of losses of the fuel clad (Fuel Clad loss 2.A) and RCS barrier (RCS loss 2.A). Primary Containment flooding is the BWR entry to the SAGs which requires a General Emergency classification.
3	Not Applicable	Not Applicable
4	A. Primary containment radiation monitor reading greater than (site specific value).	By definition, the value specified for use as a potential loss of containment is greater than that specified by Fuel Clad lose 4.A and RCS Loss

		4.A. As stated in the bases: "The site specific reading is a value that indicates significant fuel damage well in excess of that required for loss of RCS and Fuel Clad."
5	A. (site specific) as applicable.	Any other unique site specific indicator of containment potential loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.
6	A. Any condition in the opinion of the Emergency Director that indicates Potential Loss of the Containment Barrier.	Any other unique site specific indicator of containment potential loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.

PWR Justification - Containment Loss

Loss #	Containment Loss Threshold	Justification
1	Not Applicable	Not Applicable
2	A. A containment pressure rise followed by a rapid unexplained drop in containment pressure. **OR** B. Containment pressure or sump level response not consistent with LOCA conditions.	A. The bases that supports part 'A' of this threshold states: "Rapid unexplained loss of pressure (i.e., not attributable to containment spray or condensation effects) following an initial pressure increase from a primary or secondary high energy line break indicates a loss of containment integrity." Any event that manifests this condition as a result of a RCS barrier breach (LOCA) would, by definition, escalate to a SAE. Should this threshold exist as a result of a recognizable secondary high energy line break, this condition would be classifiable as an Unusual Event under SU9, "Failure of Containment to Isolate Following a High-Energy Line Break (PWR)." A secondary high energy line break would not reasonably be expected to challenge containment structural integrity (i.e., not enough energy). The rapid containment pressure decrease would have to be due to an open penetration(s) and therefore addressed by SU9. B. The bases that supports part 'B' of this threshold states: "Containment pressure and

		sump levels should increase as a result of mass and energy release into containment from a LOCA. Thus, sump level or pressure not increasing indicates containment bypass and a loss of containment integrity." This threshold presupposes the occurrence of a LOCA (breach of the RCS barrier) in conjunction with an inconsistent LOCA response. This would lead to an SAE declaration.
3	Not Applicable	Not Applicable
4	A. RUPTURED SG is also FAULTED outside of containment. **OR** B. a. Primary-to-Secondary leakrate greater than 10[25] gpm. **AND** b. UNISOLABLE steam release from affected SG to the environment. (See proposed FAQ #38 to revised the threshold value to be consistent with SU5 for identified leakage of 25 gpm)	A. Part 'A' of this threshold is based on a ruptured SG which is by definition is at least a potential loss of the RCS barrier per RCS Potential loss 2.A. In conjunction with a steam generator fault outside containment, this would require declaration of a SAE. B. A Primary-to-Secondary leakrate greater than 25 gpm requires declaration of an Unusual Event based on IC SU5 RCS Leakage due to identified leakage greater than 25 gpm. (See proposed FAQ # 38 to revise the threshold value to be consistent with SU5 for identified leakage of 25 gpm).
5	A. a. Failure of all valves in any one line to close . **AND** b. Direct downstream pathway to the environment exists after containment isolation signal.	For containment isolation signals generated due to an RCS loss or potential loss, this condition escalates to a SAE. For containment isolation signals generated due to a secondary side high energy line break, classification of an Unusual Event would be required per IC SU9 " Failure of Containment to Isolate Following a High-Energy Line Break (PWR)."
6	Not Applicable	Not Applicable
7	A. (site specific) as applicable.	Any other unique site specific indicator of containment loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.
8	A. Any condition in the opinion of the Emergency Director that indicates Loss of the Containment Barrier.	Any other unique site specific indicator of containment loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via

		plant Technical Specification operability requirements.

PWR Justification - Containment Potential Loss

Loss #	Containment Loss Threshold	Justification
1	A. Containment-Red Entry Conditions Met.	The bases supporting this threshold states: "Conditions leading to a containment RED path result from RCS barrier and/or Fuel Clad Barrier Loss. Thus, this threshold is primarily a discriminator between Site Area Emergency and General Emergency representing a potential loss of the third barrier."
2	A. Containment pressure greater than (site specific value) and rising. **OR** B. Explosive mixture exists inside containment. **OR** C. a. Pressure greater than containment depressurization actuation setpoint. **AND** b. Less than one full train of depressurization equipment operating.	A. The site specific value specified in the bases for this threshold is the containment design pressure. Exceeding this containment pressure is indicative of a significant LOCA in combination with either extended loss of containment cooling function or core melt (metal water reaction), and would therefore escalate the event to either a SAE or GE. B. Explosive mixtures inside containment can only exist as a result of an accident indicative of a loss of both the RCS and fuel clad barriers. At a minimum, this would require declaration of a SAE. C. The site specific value specified in the bases for this threshold is the containment cooling system actuation pressure setpoint. Exceeding this containment pressure is indicative of a significant LOCA and would therefore escalate the event to at least a SAE.
3	A. a. Core exit thermocouples in excess of (site specific) º F. **AND** b. Restoration procedures not effective within 15 minutes. **OR** B. a Core exit thermocouples in excess of (site-specific) F. **AND** b. Reactor vessel level below (site specific level). **AND** c. Restoration procedures not	The conditions defined by thresholds 'A' and 'B' represent a severe or extreme challenge to the core cooling function, and indicate a loss or potential loss of both the fuel clad and RCS barriers. This is also the transition point into Severe Accident Guidelines, and at a minimum, would require declaration of a SAE.

	effective within 15 minutes.	
4	Not Applicable	Not Applicable
5	Not Applicable	Not Applicable
6	A. Containment radiation monitor reading greater than (site specific value).	By definition, the value specified for use as a potential loss of containment is greater than that specified by Fuel Clad Loss 6.A and RCS Loss 6.A. As stated in the bases: "The site specific reading is a value which indicates significant fuel damage well in excess of the thresholds associated with both loss of Fuel Clad and loss of RCS barriers." At a minimum, would require declaration of a SAE.
7	A. (site specific) as applicable.	Any other unique site specific indicator of containment potential loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.
8	A. Any condition in the opinion of the Emergency Director that indicates Potential Loss of the Containment Barrier.	Any other unique site specific indicator of containment potential loss would either be indicative of a challenge to one of the other fission product barriers or would be adequately addressed via plant Technical Specification operability requirements.

SU9

Initiating Condition - NOTIFICATION OF UNUSUAL EVENT

Failure of Containment to Isolate Following a High-Energy Line Break (PWR)

Operating Mode Applicability: Power Operation, Startup, Hot Standby, Hot Shutdown

Example Emergency Action Level: (1 and 2)

1. Failure of containment to automatically isolate as required following a non-RCS high-energy line break (e.g., main steam line or feed water line break).

2. Manual actions taken in the Control Room do not result in closure of all required penetrations.

Basis:

This condition indicates a failure of one or more containment penetrations to automatically isolate (close) as required following a non-RCS high-energy line break, and the inability to manually isolate (close) the penetration(s) from the Control Room. Example initiating events include a main steam line or feed water line break. To receive consideration, the containment isolation signal must be generated as the result of an off-normal/accident condition; a failure resulting from testing or maintenance is not a classifiable event. An automatic containment isolation signal may be generated as a result of high containment pressure, a safety injection actuation, etc.

Absent a loss or potential loss of the Fuel Clad or RCS barrier, this condition represents a potential degradation of station safety.

The determination of containment and penetration status – isolated or not isolated – should be made in accordance with the appropriate criteria contained in the plant's AOPs and EOPs.

Manual actions taken at the reactor control console are any set of actions by the reactor operator(s) which causes or should cause a containment penetration (e.g., a valve) to isolate (close).

This event would escalate to a Site Area Emergency in accordance with the Fission Product Barrier Degradation Matrix (FS1) if there were a concurrent loss or potential loss of the Fuel Clad or RCS barrier. In particular, the containment barrier status would be assessed against the containment loss and potential loss criteria.

EAL Frequently Asked Question (EALFAQ)
Request Form

Requestor to Complete This Section

Licensee: OSSI		Date Submitted: June 21, 2010
Licensee Contact: C. Kelly Walker	Phone: 704-243-0501	E-Mail: ossikelly@aol.com
NRC Contact:	Phone:	E-Mail:

Is this a request for a Site-Specific or Generic EAL FAQ? ☐ Site ☒ Generic

This question involves the following EAL schemes: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 ☐ OTHER

Description of Question

Numerous BWR licensees have identified ambiguity in the EAL threshold criteria related to the inability to restore and maintain RPV water above the specified setpoint both in the Fission Product Barrier table. See attached detailed description. This FAQ applies to NEI 99-01 Rev. 5 and to those BWR licensees that have implemented similar wording in their NEI 99-01 Rev. 4 and NUMARC/NESP-007 Rev. 2 based EAL schemes.

Proposed Solution

See attached detailed description.

Justification

Improved understanding of EAL basis and application.

Additional pages attached? ☒ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

EALFAQ #: 16	Date Entered: 6/24/2010	By: MTH
EALFAQ presented to EALFAQ Panel: Date		

NRC to Complete This Section

Resolution of EALFAQ

While the staff finds the justification for revision persuasive, this change is considered a DEVIATION in accordance with RIS 2003-18 and its supplements. Licensees must evaluate the change against their approved Emergency Plan in accordance with 10 CFR 50.54(q). The proposed change is intended to clarify the expectations for EAL declaration and to improve EAL timeliness by reducing ambiguity. Subsequent revisions of the EAL development guidance should adopt the wording as proposed in this EALFAQ.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

Issue & Purpose of FAQ:

Numerous BWR licensees have identified ambiguity in the EAL threshold criteria related to the inability to restore and maintain RPV water above the specified setpoint in the Fission Product Barrier table. This could lead to inconsistent interpretation of the classification criteria.

This FAQ clarifies the intended interpretation and bases of the phrase "*RPV water level cannot be restored and maintained…*" as used within BWR Fission Product Barrier thresholds:

- Fuel Clad Loss 2A
- Potential Loss 2A
- RCS Loss 2A

Revision 5 of NEI 99-01 incorporated into the above EAL classification thresholds the terminology used in Revision 2 of the BWROG Emergency Procedure and Severe Accident Guidelines (EPGs/SAGs) related to EOP steps associated with RPV water level (inventory) control. The purpose for using wording similar to the EOPs (EPGs), as described in Section 3.9 of NEI 99-01, is to allow emergency classification to flow from the EOP assessment rather than being based on a separate EAL assessment. However, experience during training and drills with the specified EAL thresholds has resulted in inconsistent interpretation and questions as to which point within the EOP RPV water level control flowpath the appropriate determination is made that level cannot be restored and maintained above the specified level threshold for the purpose of emergency classification.

Fission Product Barrier Thresholds:

BWR Fuel Clad loss threshold 2A states:

> "*RPV water level cannot be restored and maintained above (site specific RPV water level corresponding to the requirement for primary containment flooding).*"

As described in the bases:

> "*Depending on the plant this may be the Minimum Steam Cooling RPV Water Level or the jet pump suction without the requisite Core Spray cooling flow. BWROG EPGs/SAGs provide explicit direction when RPV water level cannot be determined.*"

The operator is required to assess the ability to restore and maintain RPV water level relative to the Minimum Steam Cooling RPV Water Level (MSCRWL) threshold at various points within the RPV water level control flowpath of the EOPs (EPG Contingency #1 and Contingency #5)[1]. The intent of the NEI 99-01 threshold, however, is that RPV level cannot be restored or maintained such that Primary

[1] In EPG Contingency #1 alone, the condition pertaining to the ability to restore and maintain RPV water level above the MSCRWL must be assessed no less than three times, not including the final use of this condition for directing entry to the SAGs when Primary Containment Flooding is required.

Containment Flooding is required. The Fuel Clad Loss threshold has been revised in NEI 99-01 Revision 5 to clarify this intent.

Additionally, the last two sentences of the developers guidance related to when "RPV water level cannot be determined" have been moved to the end of the Fuel Clad Potential Loss bases since that is the threshold with which it is associated.

BWR Fuel Clad potential loss threshold 2A and RCS loss threshold 2A state:

> "*RPV water level cannot be restored and maintained above (site specific RPV water level corresponding to the top of active fuel) or cannot be determined.*"

Again, the operator is required to assess the ability to restore and maintain RPV water level relative to the threshold at various points within the RPV water level control flowpath of the EOPs (for examples see EPG Steps RC/L-2 and C1-3 for non-ATWS events). Specifically, if RPV water level cannot be restored and maintained above the top of active fuel (TAF), the operator is directed by the last paragraph of EPG Step RC/L-2 to enter Contingency #1 where he is given the latitude to use available injection systems, injection subsystems and alternate injection subsystems to restore RPV water level above TAF. Definition of the phrase "restore and maintain" allows the operator to make this decision when actual RPV water level is above, at, or somewhat below TAF. Timing of this decision is event dependent and includes factors such as the availability of injection sources, RPV pressure relative to the shutoff heads of injection sources, status of primary containment parameters, etc. No matter where actual RPV water level is with respect to TAF, however, the operator believes when making this decision that more drastic measures (e.g., emergency depressurization of the RPV) may be required to avoid unnecessary core uncovery and challenge to the fuel clad barrier.

Until the RPV is depressurized and low-pressure RPV injection sources operate, it is difficult for the operator to determine if, in fact, the fuel clad barrier is being challenged. It is, therefore, the inability to restore or maintain RPV water level above TAF following RPV depressurization (either by automatic or manual action or a large break) that threatens adequate core cooling. The Fuel Clad Potential Loss threshold and bases have been revised to clarify that intent.

EAL Frequently Asked Question (EALFAQ) Request Form

Proposed Changes to the BWR Fission Product Barrier Thresholds Based on RPV Water Level:

[From NEI 99-01 Rev. 5, Table 5-F-2]

2. Reactor Vessel Water Level			2. Reactor Vessel Water Level			2. Reactor Vessel Water Level		
A.	RPV water level cannot be restored and maintained above ~~(site specific RPV~~the water level corresponding to the requirement for primary containment flooding~~)~~.	A. RPV water level cannot be restored and maintained above (site specific RPV water level corresponding to the top of active fuel) following depressurization of the RPV or cannot be determined.	A.	RPV water level cannot be restored and maintained above (site specific RPV water level corresponding to the top of active fuel) or cannot be determined.	Not Applicable	Not Applicable	A.	Primary containment flooding required.

Fuel Clad Barrier Bases:

2. Reactor Vessel Water Level

Loss Threshold A

The Loss threshold corresponds to the requirement for primary containment flooding due to the inability to restore and maintain RPV water level above a site specific value. This site specific value corresponds to the level used in EOPs to indicate challenge of core cooling. This is the minimum value to assure core cooling without further degradation of the clad.

[*Depending on the plant this may be the Minimum Steam Cooling RPV Water Level or the jet pump suction without the requisite Core Spray cooling flow.*] ~~*BWROG EPGs/SAGs provide explicit direction when RPV water level cannot be determined. Since the loss of ability to determine if adequate core cooling is being provided presents a significant challenge to the fuel clad barrier, a potential loss of the fuel clad barrier is specified.*]~~

Potential Loss Threshold A

~~This~~ The site specific RPV water level threshold is the same as the RCS barrier Loss threshold A and corresponds to the site specific water level at the top of the active fuel. Thus, this threshold indicates a Potential Loss of the Fuel Clad barrier and a Loss of RCS barrier that appropriately escalates the emergency classification level to a Site Area Emergency. This threshold is considered to be exceeded when, as specified in the site specific EOPs, that RPV water cannot be restored and maintained above the specified level following depressurization of the RPV (either manually, automatically or by failure of the RCS barrier).

[BWROG EPGs/SAGs provide explicit direction when RPV water level cannot be determined. Since the loss of ability to determine if adequate core cooling is being provided presents a significant challenge to the fuel clad barrier, a potential loss of the fuel clad barrier is specified.]

RCS Barrier Bases:

2. Reactor Vessel Water Level

The Loss threshold site specific RPV water level corresponds to the level that is used in EOPs to indicate challenge of core cooling.

~~This~~ The threshold value is the same as Fuel Clad Barrier Potential Loss threshold #2.A and corresponds to a challenge to core cooling. Thus, this threshold indicates a Loss of RCS barrier and Potential Loss of Fuel Clad barrier that appropriately escalates the emergency classification level to a Site Area Emergency.

Unlike the Fuel Clad barrier Reactor Vessel Water Level potential loss threshold (top of the active fuel), the additional requirement that the RPV be depressurized is not associated with the RCS barrier potential loss. The significant loss of inventory that must occur to determine that RPV water level cannot be restored and maintained above the threshold is by itself a very strong indication that the RCS barrier is no longer capable of retaining sufficient inventory to keep the core submerged, and thus represents a loss of the RCS barrier.

There is no Potential Loss threshold associated with this item.

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 17

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: RC2.A (PL)	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

For RC2.A, why is the Potential Loss defined as a site specific leak rate value rather than a more readily identifiable condition that remains consistent with the technical basis for the EAL?

Proposed Solution

Revise Table 5-F-3, RCS potential loss 2A threshold to the following:

A. RCS leak resulting in the inability to maintain (site specific pressurizer level operating band) with Letdown isolated.

Justification

As evidenced in operator simulator training, the determination of an RCS gpm leak rate value for event classification is time consuming and error likely under transient conditions. No time period defines the duration of the leak rate. New potential loss wording, consistent with the current technical basis and based on common industry usage and the ability of an operator to recognize the event should be used.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 17	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised Table 5-F-3, RCS potential loss 2A threshold to the following:

2A. RCS leak resulting in the inability to maintain (site specific pressurizer level operating band) with Letdown isolated.

Revised the basis to support changes in the threshold values.

5-F-3

RCS Barrier Thresholds

POTENTIAL LOSS

2. RCS Leak Rate

A. RCS leak ~~rate indicated greater than (site specific capacity of one charging pump in the normal charging mode)~~resulting in the inability to maintain (site specific pressurizer level operating band) with Letdown isolated. [FAQ17]

BASIS

2. RCS Leak Rate

Potential Loss Threshold A [FAQ17]

This threshold is based on the apparent inability to maintain normal liquid inventory within the Reactor Coolant System (RCS) by normal operation of the Chemical and Volume Control System ~~which is considered to be the flow rate equivalent to one charging pump discharging to the charging header~~ within the normal operating band of pressurizer level. Isolating letdown is a standard abnormal operating procedure action and may prevent unnecessary classifications when a non-RCS leakage path such as a CVCS leak exists. The intent of this condition is met if attempts to isolate Letdown are NOT successful. ~~Additional charging pumps being required is indicative of a substantial RCS leak.~~

~~[*For plants with low capacity charging pumps, a 50 gpm indicated leak rate value may be used to indicate the Potential Loss.*]~~

EAL Frequently Asked Question (EALFAQ)
Request Form

NRC to Complete This Section

Disposition of EALFAQ

The staff disagrees with this approach as it may result in confusion when differentiating between the Table 5-F-3 (PWR) Loss-2A and Potential Loss 2-A. An RCS leak rate greater than the capacity of one charging pump with Letdown isolated is indicative of a Potential Loss of the RCS Barrier. This EALFAQ is DENIED.

OFFICE	**NSIR/DPR**	**NSIR/DPR**	**TL:NSIR/DPR**	**BC:NSIR/DPR**	**D:NSIR/DPR/EPD**
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 18

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: FC1.B-PL and RC1.B-PL (PWR)	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Declaring a potential loss of fuel clad and RCS (SAE) based simply on entry into Heat Sink-Red is inappropriate. Typical EOPs enter the Heat Sink - Red flowpath prior to an actual loss of heat removal capability.

Proposed Solution

Revise FPB Table 5-F-3 Fuel Clad and RCS Barrier Potential Loss 1B thresholds to:

Heat Sink-Red entry conditions met.

AND

Heat Sink is required

Justification

RCS level may be intentionally dropped and other means of cooling established, making the potential loss determination premature when based on only Heat Sink - Red. The potential loss threshold should not be met until the EOP actions are not effective in providing adequate heat sink capability.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 18	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised FPB Table 5-F-3 Fuel Clad and RCS Barrier Potential Loss 1B thresholds to:
Heat Sink-Red entry conditions met.
AND
Heat Sink is required

5-F-3
Fuel Clad Barrier Thresholds
POTENTIAL LOSS
1. Critical Safety Function Status
B. Heat Sink-Red Entry Conditions Met~~.~~ AND Heat Sink is required. [FAQ18]

5-F-3
RCS Barrier Thresholds
POTENTIAL LOSS
1. Critical Safety Function Status
B. Heat Sink-Red Entry Conditions Met AND Heat Sink is required.. [FAQ18]

NRC to Complete This Section

Disposition of EALFAQ

The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's interpretation of existing regulatory guidance issued or endorsed by NRC, and will not be used to create new regulatory positions or guidance."

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EAL Frequently Asked Question (EALFAQ)
Request Form

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 19

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 03/10/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: CT2.C – Potential Loss
Which Basis Paragraph(s) is involved: All	Other:

Description of Question

NEI 99-01 Rev 5 specifies pressure greater than containment depressurization actuation setpoint with insufficient equipment (sprays and coolers) in operation.

U.S. EPR containment design is such that the design basis accidents do not reach containment design pressure, and therefore there is no automatic depressurization actuation setpoint.

This creates a design specific deviation with the generic EAL guidance document to be used by all new U.S. EPR reactors.

Can guidance be added to 99-01 Rev 5 to address the removal of potential loss threshold CT2.C to eliminate the design specific deviation from the generic EAL guidance document?

Proposed Solution

Revise NEI 99-01 Rev 5 to include a section to address the design specific deviations for the U.S. EPR plants per the attached bases pages.

Justification

Eliminates a design specific deviation for the U.S. EPR EALs and establishes a standard IC, EAL and bases language for all new U.S. EPR EAL submittals within the NEI EAL guidance document.

Additional pages attached? ☒ Yes ☐ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 19	Date Entered: 11/4/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added "This threhhold is not applicable to USEPR". to Table 5-F-3 Containment Potential Loss C basis statement.

5-F-3

CONTAINMENT BARRIER THRESHOLDS:

2. Containment Pressure

Potential Loss Threshold C

This threshold represents a potential loss of containment in that the containment heat removal/depressurization system (e.g., containment sprays, ice condenser fans, etc., but not including containment venting strategies) are either lost or performing in a degraded manner, as indicated by containment pressure greater than the setpoint at which the equipment was supposed to have actuated. This threshold is not applicable to USEPR. [FAQ19]

NRC to Complete This Section

Disposition of EALFAQ

The staff agrees that the proposed revision is based upon the unique design characteristics of the EPR design. However the staff considers this to be a DEVIATION in accordance with RIS 2003-18 (with supplements). Also, the staff recommends an addendum to NEI 99-01 be developed that discusses the EAL differences specifically for the EPR design once the EPR design has been certified. In the meantime, new reactor applicants can use this EALFAQ in the development of their application to ensure consistency.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

Table 5-F-3 for U.S. EPR: PWR EAL Fission Product Barrier Table

Thresholds for LOSS or POTENTIAL LOSS of Barriers*

*Determine which combination of the three barriers are lost or have a potential loss and use the following key to classify the event. Also, multiple events could occur which result in the conclusion that exceeding the loss or potential loss thresholds is IMMINENT. In this IMMINENT loss situation use judgment and classify as if the thresholds are exceeded.

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
Loss of ANY two barriers AND Loss or Potential Loss of third barrier.	Loss or Potential Loss of ANY two barriers.	ANY Loss or ANY Potential Loss of EITHER Fuel Clad or RCS.	ANY Loss or ANY Potential Loss of Containment.

Fuel Clad Barrier Thresholds		RCS Barrier Thresholds		Containment Barrier Thresholds	
LOSS	POTENTIAL LOSS	LOSS	POTENTIAL LOSS	LOSS	POTENTIAL LOSS
				2. Containment Pressure A. Containment pressure greater than (site specific value) and rising. **OR** B. Explosive mixture exists inside containment.	

CONTAINMENT BARRIER THRESHOLDS: (1 or 2 or 3 or 4 or 5 or 6 or 7 or 8)

2. Containment Pressure

Potential Loss Threshold C

The U.S. EPR containment volume, condensation surface area, and heat capacities are such that the containment design pressure is not exceeded during design basis Loss of Coolant Accident (LOCA) and Main Steam Line Break (MSLB) events.

In addition, the containment pressure decreases to less than 50% of the accident analysis values in less than 24 hours thus ensuring that radiological dose consequences are acceptable.

Mass and energy releases to the containment during LOCA and MSLB events were calculated using the NRC approved RELAP5/MOD2 (B&W) methodology. Containment pressure responses were calculated using the NRC approved GOTHIC code methodology.

An automatically actuated containment spray system is therefore not required to mitigate the consequences of a Design Basis Accident for the U.S. EPR; therefore, there is no automatic actuation setpoint for this potential loss fission product barrier threshold to be based upon.

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 20

Requestor to Complete This Section

Licensee: FPLE Seabrook Station	Date Submitted: 09/03/09	
Licensee Contact: David Young	Phone: 603-773-7287	E-Mail: david_young@fpl.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: Containment Barrier Thresholds - LOSS	Which EAL is involved: SG Secondary Side Release with P-to-S Leakage
Which Basis Paragraph(s) is involved: All	Other:

Description of Question

This EAL FAQ is addressing the threshold and basis for Loss of Containment Barrier, #4 - SG Secondary Side Release With Primary to Secondary Leakage - as presented in NEI 99-01, Rev. 4 and Rev. 5.

1) The lower limit of the "UNISOLABLE steam release from affected SG to the environment" is not clearly defined. The basis implies, but does not state, that a steam generator should be considered FAULTED for the steam release to be considered a bypass of containment. The classification of an unisolable steam release from a source other than the condensor and less than that required to declare the steam generator FAULTED is not addressed (e.g., break on a 1" main steam pressure transmitter line outside of containment and upstream of the MSIVs).
2) The third paragraph is confusing and does not aid in understanding of the EAL intent and application. In addition, this paragraph could be clearer on forced steaming of a leaking or RUPTURED generator.
3) The Loss Threshold B basis needs revision to specify a "leaking or RUPTURED steam generator", not just RUPTURED. The paragraph starts by discussing "SG tube leaks that exceed 10 gpm"; however, the next few sentences refer to a "RUPTURED steam generator". For most Westinghouse reactors, a steam generator is not considered RUPTURED unless the primary-to-secondary leakage requires a Safety Injection actuation (typically greater than the capacity of two charging pumps). Obviously, this is significantly greater than 10 gpm.

Proposed Solution

1) Revise the basis to clearly reflect that the threshold applies to a FAULTED SG.
2) See attached proposed basis for revised wording which addresses all items above.

NOTE - the attached basis reflects changes proposed in FAQ #15 (eliminate IC FU1), FAQ#17 (change to RCS barrier potential loss threshold), and FAQ #38 (change primary-to-secondary leak rate value from 10 gpm to 25 gpm).

Justification

Improved understanding of EAL basis and application.

Additional pages attached? ☒ Yes ☐ No

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EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/26/09		Approved: ☒ Yes ☐ No
EALFAQ #: 20	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the threshold for the PWR Containment LOSS #4 and basis as follows:

A. Primary-to-Secondary leakrate greater than ~~10~~25 gpm ~~RUPTURED~~ and the leaking SG is also FAULTED outside of containment. [FAQ15, FAQ17, FAQ20, FAQ38]

~~OR~~

~~B. a. Primary-to-Secondary leakrate greater than 10 gpm.~~

~~AND~~

~~b. UNISOLABLE steam release from affected SG to the environment.~~

4. SG Secondary Side Release With Primary to Secondary Leakage

~~The loss threshold recognizes that SG tube leakage can represent a bypass of the Containment barrier as well as a loss of the RCS barrier.~~

~~Users should realize that the two loss thresholds could be considered redundant. This was recognized during the development process. The inclusion of an threshold that uses Emergency Procedure commonly used terms like "RUPTURED and FAULTED" adds to the ease of the classification process and has been included based on this human factor concern.~~

~~This threshold results in a NOUE for smaller breaks that; (1) do not exceed the normal charging capacity threshold in RCS leak rate barrier Potential Loss threshold, or (2) do not result in ECCS actuation in RCS SG tube rupture barrier Loss threshold. For larger breaks, RCS barrier threshold criteria would result in an Alert. For SG tube ruptures which may involve multiple steam generators or unisolable secondary line breaks, this threshold would exist in conjunction with RCS barrier thresholds and would result in a Site Area Emergency. Escalation to General Emergency would be based on "Potential Loss" of the Fuel Clad Barrier.~~

Loss Threshold

~~A~~

~~This threshold addresses the condition in which a RUPTURED steam generator is also FAULTED.~~ This condition represents a bypass of the RCS and containment barriers. This threshold addresses a SG tube leak, exceeding 25 gpm, to a SG that is also FAULTED outside of containment.

SG tube leakage is considered to be identified leakage; therefore, the 25 gpm value was chosen to be consistent with the IC SU5 EAL for RCS identified leakage. ~~a~~The inclusion of a threshold that uses an EOP commonly used term "FAULTED" adds to the ease of the classification process and has been included based on this human factor concern.~~nd is a subset of the second threshold. In~~

~~conjunction with RCS leak rate barrier loss threshold, this would always result in the declaration of a Site Area Emergency.~~

~~Loss Threshold B~~

This threshold also applies to prolonged steam releases necessitated by operational considerations such as the forced steaming of a leaking or RUPTURED generator to cooldown the plant, or to drive an auxiliary (emergency) feed water pump. These types of conditions will result in large releases of contaminated steam to the environment. The inability to isolate the steam flow without an adverse effect on plant cooldown meets the intent of a loss of containment. ~~This threshold addresses SG tube leaks that exceed 10 gpm in conjunction with an UNISOLABLE release path to the environment from the affected steam generator. The threshold for establishing the UNISOLABLE secondary side release is intended to be a prolonged release of radioactivity from the RUPTURED steam generator directly to the environment. This could be expected to occur when the main condenser is unavailable to accept the contaminated steam (i.e., SG tube rupture with concurrent loss of off-site power and the RUPTURED steam generator is required for plant cooldown or a stuck open relief valve).~~ If the main condenser is available, there may be releases via air ejectors, gland seal exhausters, and other similar controlled, and often monitored, pathways. These minor releases are assessed using Abnormal Rad Levels / Radiological Effluent ICs.

The emergency classification levels resulting from primary-to-secondary leakage with a steam release from the affected Steam Generator (SG) are summarized below.

	Affected SG is FAULTED Outside of Containment?	
P-to-S Leak Rate	**Yes**	**No**
Less than or equal to 25 gpm	No classification	No classification
Greater than 25 gpm	Unusual Event per SU5	Unusual Event per SU5
RCS leak resulting in the inability to maintain (site specific pressurizer level operating band) with Letdown isolated. (*RCS Barrier Potential Loss)* [FAQ17]	Site Area Emergency per FS1	Alert per FA1
Sufficient to consider the SG RUPTURED per EOPs (e.g., leak results in an ECCS/SI actuation) (*RCS Barrier Loss*)	Site Area Emergency per FS1	Alert per FA1

~~These pathways do not meet the intent of an UNISOLABLE release path to the environment. [*The leakage threshold for this* threshold *has been increased with Revision 3. In the earlier revision, the threshold was leakage greater than T/S allowable. Since the prior revision, many plants have implemented reduced steam generator T/S limits (e.g., 150 gpd) as a defense in depth associated with alternate steam generator plugging criteria. The 150 gpd threshold is deemed too low for use as an emergency threshold. A pressure boundary leakage of 10 gpm was used as the threshold in IC SU5, RCS Leakage, and is deemed appropriate for this* threshold.]~~

EAL Frequently Asked Question (EALFAQ) Request Form

NRC to Complete This Section

Disposition of EALFAQ

The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's interpretation of existing regulatory guidance issued or endorsed by NRC, and will not be used to create new regulatory positions or guidance."

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 21

Requestor to Complete This Section

Licensee: Exelon	Date Submitted: 11/17/08	
Licensee Contact: Larry Baker	Phone: (610)765-5438	E-Mail: jamesl.baker@exeloncorp.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU1	Which EAL is involved: 1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Clarification is needed regarding the declaration criteria for Threshold #1, which states "Earthquake felt in plant". Does this limit the vibratory motion being felt to reports from in-plant personnel only or should reports from personnel outside the plant but on-site be considered as satisfying this threshold?

Information contained in the Basis section is not clear and introduces confusion as to the threshold's intent.

Proposed Solution

Revise the EAL threshold to provide a plant specific indication or method of indication in conjunction with a non-instrumented criteria. Revise the basis to support the new EAL clarifying the intent of the Seismic threshold values.

Justification

Seismic events are large area events and not confined to being felt only in the Control Room. Equipment located in the Protected area of the plant is the equipment which is of primary importance for safe operation of the plant.

Additional pages attached? ☐ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 21	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

EAL 1-1 was revised as follows:

1. Seismic event confirmed by (site specific indication or method) ~~identified by **ANY** 2 of the following:~~

~~☐Seismic event confirmed by (site specific indication or method)~~

AND

Either of the following:

- Earthquake felt in ~~plant~~the PROTECTED AREA.
- National Earthquake Information Center [FAQ21]

The EAL1-1 basis was revised as follows to clarify EAL 1

EAL #1

The site specific indication of a seismic event is used as the first indicator of an event. [*Typically the seismic "trigger" value is 0.01 g. If seismic instrumentation is not available, whatever site specific method that determines an earthquake has occurred is used.*] To eliminate instrument malfunctions, either a report from inside the PROTECTED AREA or a call to the National Earthquake Information Center is used to confirm the event. ~~Damage may be caused to some portions of the site, but should not affect ability of safety functions to operate.~~

~~As defined in the~~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." This definition is not used verbatim but is used as a guide for determining a felt earthquake by anyone inside the PROTECTED AREA. [*Control Rooms are often located in areas that experience movement from operating equipment and may not be a reliable location from which to judge an earthquake.*]

~~[*For most plants with seismic instrumentation, the seismic switches are set at an acceleration of about 0.01g. This EAL should be developed on site specific basis. The method of detection can be based on instrumentation, validated by a reliable source, or operator assessment.*]~~

~~The National Earthquake Center can confirm if an earthquake has occurred in the area of the plant.~~

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EAL Frequently Asked Question (EALFAQ)
Request Form

NRC to Complete This Section

Disposition of EALFAQ

The staff finds that the changes made to this EAL during the last revision served to clarify the intent and to allow flexibility in implementation for licensees with suspect seismic monitoring equipment. Any two of the three developed thresholds would result in an EAL declaration. Relying solely on site-specific confirmation as a precursor to the declaration would cause unnecessary delay in classification for those licensees that take a long time to confirm a seismic event. The wording as currently endorsed allows for timely confirmation without unnecessarily delaying classification if the other two thresholds are met. The proposed changes are DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 22

Requestor to Complete This Section

Licensee: Exelon	Date Submitted: 11/17/08	
Licensee Contact: Larry Baker	Phone: (610)765-5438	E-Mail: jamesl.baker@exeloncorp.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU2, HA2	Which EAL is involved: 1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Clarification is needed regarding the declaration criteria for Threshold #1. The Basis description as written could imply that a classification should be made on non-valid indications. This could result in inappropriate classifications for events that would not meet the conditions set forth in the threshold and would not meet the definition of an Unusual Event. Every effort should be made to make the correct classification and not over or under classify events.

Information contained in the Basis section is not clear and introduces confusion as to the threshold's intent.

Proposed Solution

Add the following to the Basis to clearly define the intent of the 15 minute timer in threshold 1:

The purpose of this threshold is to address the magnitude and extent of fires that may be potentially significant precursors to damage to safety systems. As used here, notification is visual observation and report by plant personnel or sensor alarm indication. The 15-minute period to extinguish the fire begins with a credible notification that a fire is occurring or indication of a valid fire detection system alarm. Determination of a valid fire detection system alarm includes actions that can be taken within the Control Room or at nearby Fire Panels to determine that the alarm is not spurious. These actions include the use of direct or indirect indications such as redundant alarms or instrumentation readings associated with the area to ensure the alarm is not spurious and is an indication of a fire. An alarm verified in this manner is assumed to be an indication of a fire unless personnel dispatched to the scene disprove the alarm within the 15-minute period. The report, however, shall not be required to verify the alarm. If the alarm cannot be verified by redundant Control Room or nearby Fire Panel indications, notification from the field that a fire exists would be required to start the 15-minute classification and fire extinguishment clocks.

EAL Frequently Asked Question (EALFAQ)
Request Form

Justification

The Basis section of NEI 99-01 states the following concerning threshold 1:

> *The intent of this 15-minute duration is to size the FIRE and to discriminate against small FIRES that are readily extinguished (e.g., smoldering waste paper basket).*

It is clear from the above statement that this threshold is based solely on the size of an existing fire. The size criterion is determined from a site's ability to extinguish a fire within a set timeframe. The length of time fires actually exist does not play into the determination of size, but only whether or not the fire can be extinguished once its existence is known.

When control room personnel receive notification from the field or determine they have a valid fire alarm the Shift Manager activates the site Fire Brigade. Use of the 15 minutes is appropriate in those cases to make classifications should the fire not be extinguished within the specified time frame. However, if a single alarm is received with no other direct or indirect indications available to support the alarm the Shift Manager may choose to send an operator to the area to determine the validity of the alarm. This action is prudent since non-fire conditions may cause the detector to alarm, for instance steam. Once the operator reports back to the control room that a fire exists, the Shift Manager then activates the Fire Brigade and the 15-minute clock should start from that point. As can be seen the determination of fire size based on ability to extinguish the fire is not altered in either condition. Therefore it would be appropriate to align threshold criteria with actual fire fighting actions in order to get a true determination of whether or not a fire can be extinguished within a set timeframe.

This alignment of threshold criteria with normal plant response ensures unnecessary classifications are not made and that non-valid alarm indications are not utilized to make classifications.

Additional pages attached? ☐ Yes ☐ No

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EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 22	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

The following changes were made to HU2 and HA2 EAL #1 and associated basis:

HU2 EAL Change:

1. FIRE in **ANY** of the following areas not extinguished within 15 minutes of: ~~control room notification or verification of a control room FIRE alarm in **ANY** of the following areas:~~ [FAQ22]

   a. Control Room notification/report of a FIRE

   b. Control Room verification of a FIRE based on FIRE detection system alarm/actuation

   (site specific area list)

HU2 Basis Change:

EAL #1 [FAQ22]

The 15 minute time period begins with a credible notification that a FIRE is occurring, or upon verification that a FIRE detection system alarm/actuation is due to a FIRE.

a. A credible notification to the Control Room would be any communication from outside the control room that identifies a FIRE in a specific location.

   NOTE: In this case, the 15 minute time period to assess the EAL and to extinguish the FIRE runs concurrently and starts upon Control Room receipt of the FIRE notification/report.

b. Verification that a FIRE detection system alarm/actuation is due to a FIRE (not a spurious/false alarm) includes either one of the following:

   1. Control Room (or other nearby site specific location) receipt of related independent alarm(s) (FIRE, temperature, deluge, FIRE pump start, etc.) sufficient to remove doubt that a fire exists.

      NOTE: In this case, the 15 minute time period to assess the EAL and to extinguish the FIRE runs concurrently and starts upon receipt of the independent alarm(s) related to the FIRE.

   2. On/Near-scene visual confirmation if only a single FIRE/smoke detector has alarmed.

      NOTE: In this case, the 15 minute time period to assess the EAL and to extinguish the FIRE runs concurrently. The time period starts upon an on/near-scene confirmation of a

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FIRE related to a single FIRE/smoke detector that had alarmed with no other related independent alarm(s) (FIRE, temperature, deluge, FIRE pump start, etc.).

~~The 15 minute time period begins with a credible notification that a FIRE is occurring, or indication of a fire detection system alarm/actuation. Verification of a fire detection system alarm/actuation includes actions that can be taken within the control room or other nearby site specific location to ensure that it is not spurious. An alarm is assumed to be an indication of a FIRE unless it is disproved within the 15 minute period by personnel dispatched to the scene. In other words, a personnel report from the scene may be used to disprove a sensor alarm if received within 15 minutes of the alarm, but shall not be required to verify the alarm.~~

The intent of this 15 minute duration is to size the FIRE and to discriminate against small FIRES that are readily extinguished (e.g., smoldering waste paper basket).

HA2 IC Change:

Initiating Condition - ALERT

FIRE or EXPLOSION in a VITAL AREA affecting the operability of plant safety systems required to establish or maintain safe shutdown. [FAQ22 and FAQ23]

HA2 EAL Change:

Example Emergency Action Level: (1 or 2)

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Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the duration has exceeded, or will likely exceed, the applicable time.

1. FIRE in a VITAL AREA lasting 15 minutes or longer affecting the operability of plant safety systems required to establish or maintain safe shutdown.

~~or~~ 2. EXPLOSION ~~resulting~~ in a VITAL AREA affecting the operability of plant safety~~in~~ systems required to establish or maintain safe shutdown. ~~VISIBLE DAMAGE to **ANY** of the following structures containing safety systems or components **OR** control room indication of degraded performance of those safety systems:~~ [FAQ22 and FAQ23]

~~(site specific structure list)~~

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HA2 Basis Change:

~~VISIBLE DAMAGE is used to identify the magnitude of the FIRE or EXPLOSION and to discriminate against minor FIRES and EXPLOSIONS.~~

~~The reference to structures containing safety systems or components is included to discriminate against FIRES or EXPLOSIONS in areas having a low probability of affecting safe operation.~~ The significance here is ~~not that a safety system was degraded but the fact~~ that the FIRE or EXPLOSION was large enough to cause damage to these systems.

~~The use of VISIBLE DAMAGE should not be interpreted as mandating a lengthy damage assessment prior to classification.~~ The declaration of an Alert and the activation of the Technical Support Center will provide the Emergency Director with the resources needed to perform detailed

damage assessments.

The Emergency Director also needs to consider any security aspects of the EXPLOSION.

~~[*This EAL should specify site specific structures or areas that contain safety system, or component and functions required for safe shutdown of the plant. Site specific Safe Shutdown Analysis should be consulted for equipment and plant areas required to establish or maintain safe shutdown.*]~~

Escalation of this emergency classification level, if appropriate, will be based on System Malfunctions, Fission Product Barrier Degradation or Abnormal Rad Levels / Radiological Effluent ICs.

NRC to Complete This Section

Disposition of EALFAQ

The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's interpretation of existing regulatory guidance issued or endorsed by NRC, and will not be used to create new regulatory positions or guidance."

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NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 23

Requestor to Complete This Section

Licensee: Exelon	Date Submitted: 11/17/08	
Licensee Contact: Larry Baker	Phone: (610)765-5438	E-Mail: jamesl.baker@exeloncorp.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU2, HU2	Which EAL is involved: 2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Should warehouses and administrative buildings be considered permanent structures?

Clarification is needed regarding the declaration criteria for Threshold #2. The Threshold and Basis description implies that a classification should be made for any explosion within the Protected Area of sufficient force to damage permanent structures or equipment.

Proposed Solution

Revise threshold as follows: EXPLOSION within PROTECTED AREA resulting in damage to permanent structure or equipment associated with plant operations.

Add the following statement to the Basis:

> Permanent structures and equipment are those where an explosion could indicate a potential degradation of the level of safety of the plant and is not meant to include warehouses or administrative buildings.

Justification

There are a number of buildings within the Protected Area where an explosion could occur and have no effect on the level of safety of the plant. Examples could include air compressor or cylinder explosion in warehouses, gas explosions in cafeterias or hot water heater explosions in administrative buildings. It is clear that none of these example events would affect plant safety but having the EAL be all-inclusive could result in possible over classifications of events, which would not meet the definition of an Unusual Event.

Additional pages attached? ☐ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 23	Date Entered: 11/04/09	MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

The following changes were made to HU2 and HA2 EAL #2 and associated basis:

HU2 EAL Change:

2. EXPLOSION within the PROTECTED AREA resulting in damage to permanent structure or equipment associated with plant operations. [FAQ23]

HU2 Basis Change:

EAL #2

This EAL addresses only those EXPLOSIONS of sufficient force to damage permanent structures or equipment within the PROTECTED AREA. Permanent structures and equipment are those where an explosion could cause a potential degradation of the level of safety of the plant and is not meant to include warehouses or administrative buildings. [FAQ23]

No attempt is made to assess the actual ~~magnitude~~ consequences of the damage. ~~The occurrence of the EXPLOSION in the PROTECTED AREA is sufficient for declaration.~~

The Emergency director also needs to consider any security aspects of the EXPLOSION, if applicable.

Escalation of this emergency classification level, if appropriate, would be based on HA2.

HA2 IC Change:

Initiating Condition - ALERT

FIRE or EXPLOSION in a VITAL AREA affecting the operability of plant safety systems required to establish or maintain safe shutdown. [FAQ22 and FAQ23]

HA2 EAL Change:

Example Emergency Action Level: (1 or 2)

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Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the duration has exceeded, or will likely exceed, the applicable time.

1. FIRE in a VITAL AREA lasting 15 minutes or longer affecting the operability of plant safety

systems required to establish or maintain safe shutdown.

~~or~~ 2. EXPLOSION ~~resulting~~ in a VITAL AREA affecting the operability of plant safety~~in~~ systems required to establish or maintain safe shutdown. ~~VISIBLE DAMAGE to **ANY** of the following structures containing safety systems or components **OR** control room indication of degraded performance of those safety systems:~~ [FAQ22 and FAQ23]

~~(site specific structure list)~~

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HA2 Basis Change:

~~VISIBLE DAMAGE is used to identify the magnitude of the FIRE or EXPLOSION and to discriminate against minor FIRES and EXPLOSIONS.~~

~~The reference to structures containing safety systems or components is included to discriminate against FIRES or EXPLOSIONS in areas having a low probability of affecting safe operation.~~ The significance here is ~~not that a safety system was degraded but the fact~~ that the FIRE or EXPLOSION was large enough to cause damage to these systems.

~~The use of VISIBLE DAMAGE should not be interpreted as mandating a lengthy damage assessment prior to classification.~~ The declaration of an Alert and the activation of the Technical Support Center will provide the Emergency Director with the resources needed to perform detailed damage assessments.

The Emergency Director also needs to consider any security aspects of the EXPLOSION.

~~[*This EAL should specify site specific structures or areas that contain safety system, or component and functions required for safe shutdown of the plant. Site specific Safe Shutdown Analysis should be consulted for equipment and plant areas required to establish or maintain safe shutdown.*]~~

Escalation of this emergency classification level, if appropriate, will be based on System Malfunctions, Fission Product Barrier Degradation or Abnormal Rad Levels / Radiological Effluent ICs.

NRC to Complete This Section

Disposition of EALFAQ

The proposed changes to these EALs are DENIED as the current expectation for declaration of HU2 and HA2 are already well defined in the latest NRC approved guidance. An explosion in the Protected Area warrants an EAL declaration (HU2), and HA2 already is worded to limit the areas of concern as well as a determination of Visible Damage and/or indication of degraded performance.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EAL Frequently Asked Question (EALFAQ)
Request Form

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 24

Requestor to Complete This Section

Licensee: Kewaunee Power Station	Date Submitted: 12/8/08	
Licensee Contact: John Egdorf	Phone: 920-388-8733	E-Mail: john.r.egdorf@dom.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU3 & HA3	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

OE25324, Alert Declared Due to CO2 Fire Extinguisher Discharge

On August 8, 2007, the Peach Bottom Main Control Room was notified that a wall mounted 20 pound portable CO2 fire extinguisher in the E-3 Emergency Diesel Generator (EDG) room had rapidly discharged its contents into the room by a failed seal. The Shift Manager declared an Alert for an Immediately Dangerous to Life and Health (IDLH) atmosphere in a Vital Area. After facility activations and confirmation of no existing hazard, the event was terminated. Subsequent reviews determined that an IDLH condition was not created by this event.

Should this OE be incorporated into NEI 99-01 HU3 and HA3 basis section?

Proposed Solution

HU3, HA3

Add in Bases section:

A 20 lb CO2 extinguisher discharge will not create an IDLH atmosphere unless the room volume is less than 2500 cubic feet. (Reference: OE25324, Alert Declared Due to CO2 Fire Extinguisher Discharge)

Justification

Information added as guidance to prevent an un-necessary emergency classification due to fire fighting activites or intentional inerting of a containment.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 24	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised wording to state the following in Bases sections:

"This would preclude small or incidental releases, e.g. handheld fire extinguishers, or releases that do not impact structures needed for plant operation."

HU3 Basis:

This IC is not intended to require significant assessment or quantification. It assumes an uncontrolled process that has the potential to affect plant operations. This would preclude small or incidental releases, e.g. handheld fire extinguishers, or releases that do not impact structures needed for plant operation. [FAQ24]

This EAL does not apply to fire fighting activities that automatically or manually activate a fire suppression system in an area. This EAL does not apply to intentional inerting of containment (BWR only). [FAQ24]

HA3 Basis:

This EAL does not apply to fire fighting activities that automatically or manually activate a fire suppression system in an area. This EAL does not apply to intentional inerting of containment (BWR only). [FAQ24]

An asphyxiant is a gas capable of reducing the level of oxygen in the body to dangerous levels. Most commonly, asphyxiants work by merely displacing air in an enclosed environment. This reduces the concentration of oxygen below the normal level of around 19%, which can lead to breathing difficulties, unconsciousness or even death. This would preclude small or incidental releases, e.g. handheld fire extinguishers, or releases that do not impact structures needed for plant operation. [FAQ24]

NRC to Complete This Section

Disposition of EALFAQ

The staff finds the proposed change for HU3 to be in alignment with expectations and the approved guidance and is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements.

The staff finds the proposed change for HA3 related to handheld fire extinguishers inappropriate as the approved EAL Basis language already provides some latitude with determining the risk. The HA3

change related to fire fighting activities is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements, and the HA3 change related to handheld fire extinguishers is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 25

Requestor to Complete This Section

Licensee: NEI EAL Task Force	Date Submitted: 03/25/09	
Licensee Contact: W. Lee	Phone: 205-992-5627	E-Mail: whlee@southernco.com
NRC Contact: Don Johnson	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU4, HA4, HS4, HG1	Which EAL is involved: 1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

NEI 99-01 Rev 5 and NEI 07-01 referenced Security EALs have been written assuming that NEI 03-12, Rev6 has been revised and approved addressing the new wording in the EALs.

Proposed Solution

Complete revision of NEI 03-12, Rev 6 so that the security events match and are binned to allow usage of the EALs as written

Justification

Consistency between the industry Security and Emergency Plans. See letter from NEI to NRC dated 07/24/09 and response letter from NRC to NEI dated 07/31/09 indicating that changes for all schemes would be addressed by the NRC submittal of a FAQ.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 25	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

NRC to provide FAQ.

NRC to Complete This Section

Disposition of EALFAQ

EALFAQ already addressed via EALFAQ 2009-048.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 26

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU4, HA4	Which EAL is involved: HU4.3, HA4.2
Which Basis Paragraph(s) is involved: HU4, HA4	Other:

Description of Question

An airliner is defined as a large aircraft in the NEI 99-01 Rev 5 bases section of HU4 and HA4. Are the two terms synonymous with regards to the EALs?

Proposed Solution

Yes, the two terms are synonymous. The following definition should be added to the definitions section: AIRLINER/LARGE AIRCRAFT: Any size or type of aircraft with the potential for causing significant damage to the plant (refer to the Security Plan for a more detailed definition).

Justification

Airliner is a common (non-nuclear) term defined as; a passenger-carrying aircraft, especially one of a fleet operated by an airline. Size is not a characteristic of the common use of the term airliner, but size determination is necessary to an operator for the Alert EAL. NEI 99-01 Rev 5 defines an airliner/large aircraft in the basis sections of the security EALs as follows; airliner is meant to be a large aircraft. The term 'Large Aircraft' is more identifiable than the term 'Airliner', particularly when distinguishing between the Unusual Event and Alert level EALs – the UE explicitly applies to any aircraft and the Alert implicitly applies to large aircraft.

The use of the term large aircraft within the alert EAL and the definition above is consistent with the NEI 99-01 Rev 5 term "airliner" provided in the EAL basis section and should be considered an allowable difference.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 26	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

AIRLINER/LARGE AIRCRAFT definition was added to section 5.4.

Replaced Airliner and large aircraft with AIRLINER/LARGE AIRCRAFT where appropriate with the intent that these names may be used interchangeably.

5.4

AIRLINER/LARGE AIRCRAFT: Any size or type of aircraft with the potential for causing significant damage to the plant (refer to the Security Plan for a more detailed definition). [FAQ26]

HU4 EAL:

3. A validated notification from NRC providing information of an ~~aircraft~~ AIRLINER/LARGE AIRCRAFT threat. [FAQ26]

HU4 Basis:

The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an AIRLINER/LARGE AIRCRAFT ~~(airliner is meant to be a large aircraft with the potential for causing significant damage to the plant)~~. The status and size of the plane may be provided by NORAD through the NRC. [FAQ26]

Escalation to Alert emergency classification level would be via HA4 would be appropriate if the threat involves an AIRLINER/LARGE AIRCRAFT within 30 minutes of the plant. [FAQ26]

HA4 EAL:

~~2.~~2. A validated notification from NRC of an AIRLINER/LARGE AIRCRAFT attack threat within 30 minutes of the site. [FAQ26]

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HA4 Basis:

The intent of this EAL is to ensure that notifications for the AIRLINER/LARGE AIRCRAFT attack threat are made in a timely manner and that OROs and plant personnel are at a state of heightened awareness regarding the credible threat. ~~Airliner is meant to be a large aircraft with the potential for causing significant damage to the plant.~~ [FAQ26]

This EAL is met when a plant receives information regarding an airliner attack threat from NRC and the airliner is within 30 minutes of the plant. Only the plant to which the specific threat is made need declare the Alert.

EAL Frequently Asked Question (EALFAQ) Request Form

The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an AIRLINER/LARGE AIRCRAFT ~~(airliner is meant to be a large aircraft with the potential for causing significant damage to the plant)~~. The status and size of the plane may be provided by NORAD through the NRC. [FAQ26]

NRC to Complete This Section

Disposition of EALFAQ

The staff finds the proposed changes to be a DIFFERENCE in accordance with RIS 2003-18, including supplements, and the EALs as proposed continue to meet staff's expectations.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 27

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HA3	Which EAL is involved: HA3.1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The NEI 99-01 Rev 5 IC and EAL wording is overly confusing by its multiple use of versions of the word 'operate' within the same sentence. The EAL note provides ample clarity of the IC and EAL making the confusing language unnecessary.

Proposed Solution

Revise the HA3 IC to match the HA3-1 threshold wording.

Justification

Removes inconsistent language between the IC and EAL. This change does not alter the meaning or the intent of the EAL it applies to.

Additional pages attached? ☒ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 27	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the HA3 IC to match the HA3-1 threshold wording as follows:

HA3 IC:

Access to a VITAL AREA is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of systems ~~operable equipment~~ required to maintain safe operations or safely shutdown the reactor. [FAQ27]

HA3 EAL:

1. Access to a VITAL AREA is prohibited due to toxic, corrosive, asphyxiant or flammable gases which jeopardize operation of systems required to maintain safe operations or safely shutdown the reactor.

NRC to Complete This Section

Disposition of EALFAQ

The proposed change basically returns the IC to the wording from the previous NRC approved version of the development guidance, in addition, the staff does not find the redundant use of the term to be confusing nor has there been any feedback from licensees about this beyond this specific EALFAQ. The proposed EALFAQ is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 28

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HA5	Which EAL is involved: HA5.1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Operations procedures for control room evacuation typically require several activities prior to the actual evacuation initiation. This creates a discrepancy between the IC and the EAL language. The initiation of evacuation (IC criteria) is not always the same as when the procedure requires evacuation (EAL criteria).

Proposed Solution

Revise HA5.1 wording as follows:

Control Room evacuation has been initiated.

Justification

Removes conflicting language between the IC and EAL. This change does not alter the meaning or the intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 28	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised EAL HA5-1 as follows:

1. The Shift Manager or Control Room Supervisor orders Control Room evacuation.~~(Site-specific procedure) requires control room evacuation~~. [FAQ28]

NRC to Complete This Section

Disposition of EALFAQ

The staff finds the proposed wording to be consistent with expectations for this EAL and is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 29

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: HG1.2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Use of the term 'freshly offloaded reactor core' is confusing and not consistently defined throughout the industry. It is unclear why a GE would not apply when a hostile action has caused a condition for imminent damage of any spent fuel assemblies.

Proposed Solution

Revise HG2.1 wording as follows:

A HOSTILE ACTION has caused failure of spent fuel cooling systems and IMMINENT fuel damage is likely.

Justification

Removes ambiguity within the EAL and improves recognition timeliness. This change does not alter the meaning or the intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 29	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Deleted the following reference to a freshly off loaded reactor core in pool from the EAL and the basis:

1. A HOSTILE ACTION has caused failure of Spent Fuel Cooling Systems and IMMINENT fuel damage is likely ~~for a freshly off-loaded reactor core in pool~~. [FAQ29]

BASIS

EAL #2

This EAL addresses failure of spent fuel cooling systems as a result of HOSTILE ACTION if IMMINENT fuel damage is likely~~, such as when a freshly off-loaded reactor core is in the spent fuel pool~~.

~~[*A freshly off-loaded reactor core is defined by site specific criteria.*]~~ [FAQ29]

NRC to Complete This Section

Disposition of EALFAQ

The staff DENIES the changes as proposed as they state the incorrect EALs to be clarified. However, the clarification of HG1.2, i.e., to remove reference to freshly off-loaded fuel, is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements. EAL HG1.1, as approved by the staff, is adequate as is and does not to be clarified. Corresponding changes to the EAL Basis information to support the clarification to HG1.2 is also considered a DIFFERENCE in accordance with RIS 2003-18, including supplements.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					

EAL Frequently Asked Question (EALFAQ)
Request Form

DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 30

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SU2	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

IC inappropriately specifies the inability to reach required shutdown within TS limits while the EAL specifies the inability to reach the required operating mode within TS limits.

Proposed Solution

Revise SU2 wording as follows:

Inability to reach required operating mode within Technical Specification limits

Justification

Corrects an inappropriate term used in the IC. This change does not alter the meaning or the basis intent of the EAL it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 30	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised SU2 wording as follows:

Inability to reach required ~~shutdown~~ operating mode within Technical Specification limits. [FAQ30]

NRC to Complete This Section

Disposition of EALFAQ

The staff finds the proposed change to be a DIFFERENCE in accordance with RIS 2003-18, including supplements. The expectation is maintained, i.e., the proposed changes only clarifies the intent of the EAL.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 31

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SA2, SS2, and SG2 (ATWS)	Which EAL is involved: 1
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The sentences and language terms used are not consistent throughout the escalation pathway, making evaluation more difficult than it needs to be.

The EAL wording for the challenge to core cooling in the GE is inappropriately limiting. If the site specific condition for degraded or loss of core cooling or heat removal exists it doesn't matter whether it was caused by continued heat generation or not.

The Alert IC and EAL wording contain extraneous wording that is unnecessary for classification.

Proposed Solution

See attached

Justification

Removes ambiguity within the ICs and EALs and improves recognition timeliness. This change does not alter the meaning or the intent of the EALs it applies to.

Additional pages attached? ☒ Yes ☐ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

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Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
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EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised IC and EAL threshold wording as indicated in the attached table.

SA2 IC:

Automatic Scram (Trip) ~~fails~~ failed to shutdown the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor. [FAQ31]

SS2 IC:

Automatic Scram (Trip) ~~fails to shutdown the reactor~~ and manual actions taken from the reactor control console ~~are not successful in shutting down~~failed to shutdown the reactor. [FAQ31]

SS2 EAL:

1. a. An automatic scram (trip) failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). [FAQ31]

   AND

   b. Manual actions taken at the reactor control console ~~do not~~failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). [FAQ31]

SG2 EAL:

1. a. An automatic scram (trip) failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). [FAQ31]

   AND

   b. All manual actions ~~do not~~fail to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). [FAQ31]

   AND

   c. **EITHER** of the following exist or have occurred ~~due to continued power generation~~: [FAQ37]

   - (Site specific indication that core cooling is extremely challenged.)
   - (Site specific indication that heat removal is extremely challenged.)

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EAL Frequently Asked Question (EALFAQ)
Request Form

NRC to Complete This Section

Disposition of EALFAQ

The staff finds the proposed changes to be a DIFFERENCE in accordance with RIS 2003-18, including supplements. The proposed wording clarifies the intent of these EALs and is in alignment with staff expectations.

OFFICE	**NSIR/DPR**	**NSIR/DPR**	**TL:NSIR/DPR**	**BC:NSIR/DPR**	**D:NSIR/DPR/EPD**
NAME					
DATE					

EALFAQ closed and database updated – Date:

Current NEI 99-01 Rev. 5 Wording	Proposed Wording
SG2 Automatic Scram (Trip) and all manual actions fail to shutdown the reactor and indication of an extreme challenge to the ability to cool the core exists. **Example Emergency Action Level:** 1. a. An automatic scram (trip) failed to shutdown the reactor. **AND** b. All manual actions do not shutdown the reactor as indicated by (site specific indications of reactor not shutdown). **AND** c. **EITHER** of the following exist or have occurred due to continued power generation (FAQ37): • (Site specific indication that core cooling is extremely challenged.) • (Site specific indication that heat removal is extremely challenged.)	**SG2** Automatic scram (trip) and all manual actions fail to shutdown the reactor and indication of an extreme challenge to the ability to cool the core exists. **Example Emergency Action Level:** 1. a. An automatic scram (trip) failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). **AND** b. All manual actions fail to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). **AND** c. **EITHER** of the following exist or have occurred: • (Site specific indication that core cooling is extremely challenged.) • (Site specific indication that heat removal is extremely challenged.)
SS2 Automatic Scram (Trip) fails to shutdown the reactor and manual actions taken from the reactor control console are not successful in shutting down the reactor. **Example Emergency Action Level:** 1. a. An automatic scram (trip) failed to shutdown the reactor. **AND** b. Manual actions taken at the reactor control console do not shutdown the reactor as indicated by (site specific indications of reactor not shutdown).	**SS2** Automatic scram (trip) and manual actions taken from the reactor control console failed to shutdown the reactor. **Example Emergency Action Level:** 1. a. An automatic scram (trip) failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown). **AND** b. Manual actions taken at the reactor control console failed to shutdown the reactor as indicated by (site specific indications of reactor not shutdown).
SA2 Automatic Scram (Trip) fails to shutdown the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor. **Example Emergency Action Level:** 1. a. An automatic scram (trip) failed to shutdown the reactor. **AND** b. Manual actions taken at the reactor control console successfully shutdown the reactor as indicated by (site specific indications of plant shutdown).	**SA2** Automatic Scram (Trip) failed to shutdown the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor. **Example Emergency Action Level:** a. An automatic scram (trip) failed to shutdown the reactor. **AND** b. Manual actions taken at the reactor control console successfully shutdown the reactor as indicated by (site specific indications of plant shutdown).

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 32

Requestor to Complete This Section

Licensee: FPLE Seabrook Station	Date Submitted: 10/31/08	
Licensee Contact: David Young	Phone: 603-773-7287	E-Mail: david_young@fpl.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SU3/SA4/SS6	Which EAL is involved: See below
Which Basis Paragraph(s) is involved: See below	Other:

Description of Question

Each Initiating Condition Basis contains this developer guidance, "[Site-specific annunciators or indicators for this EAL must include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e.g., area, process, and/or effluent rad monitors, etc.).]" Industry benchmarking has revealed that there are differing interpretations regarding this guidance as it pertains to the radiation monitor indications. The existing guidance needs further clarification to ensure consistent application. Question - Are radiation monitor indications available in the control room, and identified in AOPs, EOPs and other EALs, considered to be part of the "control room safety system indication" EAL or should another (a third) EAL be added to specifically address the loss of radiation monitor indications? If they are included in the "control room safety system indication", how should a total/partial loss of radiation monitoring indications be considered (counted) when assessing the "greater than approximately 75%" (most or all) criteria?

Proposed Solution

Revise each Basis section to clarify that radiation monitor indications are considered to be part of the "control room safety system indication" EAL; a separate EAL for radiation monitor indications is not necessary or intended. The "loss of indication" EAL should be developed with consideration of the totality of 1) the main control board indications (position lights, meters, recorders, etc.) and 2) the radiation monitoring indications (area, process and airborne) that are available in the Control Room and identified in the Abnormal Operating Procedures, Emergency Operating Procedures, and in other EALs. In other words, the 'denominator' to be used when assessing the loss of "control room safety system indication" EAL is the sum of indications from 1) the main control boards and 2) the radiation monitor system.

Justification

This clarification will promote consistent EAL development and interpretation across the industry.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 32	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the basis for SU3, SA4, and SS6 to include the following revised developer note:

It is further recognized that most plant designs provide redundant safety system indication powered from separate uninterruptible power supplies. While failure of a large portion of annunciators is more likely than a failure of a large portion of indications, the concern is included in this EAL due to difficulty associated with assessment of plant conditions. The loss of specific, or several, safety system indicators should remain a function of that specific system or component operability status. This will be addressed by the specific Technical Specification. The initiation of a Technical Specification imposed plant shutdown related to the instrument loss will be reported via 10 CFR 50.72. If the shutdown is not in compliance with the Technical Specification action, the NOUE is based on SU2 ~~"Inability to Reach Required Shutdown Within Technical Specification Limits.~~"

[The "loss of indication" EAL should be developed with consideration of the totality of 1) the main control board indications (position lights, meters, recorders, etc.) and 2) the radiation monitoring indications (area, process and effluent) that are available in the Control Room and identified in the Abnormal Operating Procedures, Emergency Operating Procedures, and in other EALs. In other words, the 'denominator' to be used when assessing the loss of "control room safety system indication" EAL is the sum of indications from 1) the main control boards and 2) the radiation monitor system.] [FAQ32]

~~*[Site specific annunciators or indicators for this EAL must include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e.g., area, process, and/or effluent rad monitors, etc.).]*~~

Also deleted reference to computer system availability on SU3.

~~Recognition of the availability of computer based indication equipment is considered [*e.g., SPDS, plant computer, etc.*].~~ [FAQ32]

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NRC to Complete This Section

Disposition of EALFAQ

The staff finds that the proposed changes do not clarify the intent of these EALs and is therefore DENIED. The present wording already discusses this to some extent. The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's

interpretation of existing regulatory guidance issued or endorsed by NRC, and will not be used to create new regulatory positions or guidance."

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

Issue with NEI 99-01
Loss of Annunciation or Indication EALs

The development guidance in NEI 99-01 is inconsistent with respect to the following three Initiating Conditions.

- SU3 - UNPLANNED loss of safety system annunciation or indication in the control room for 15 minutes or longer.
- SA4 - UNPLANNED Loss of safety system annunciation or indication in the control room with EITHER (1) a SIGNIFICANT TRANSIENT in progress, or (2) compensatory indicators unavailable.
- SS6 - Inability to monitor a SIGNIFICANT TRANSIENT in progress.

This issue, as presented below, applies to both Rev. 4 and Rev. 5 on NEI 99-01.

Issue Statement:

The Example Emergency Action Levels (EALs) for the above three Initiating Conditions do not address loss of radiation monitoring indications; however, a statement in each basis section implies that these indications must be included. In addition, this statement's direction to include radiation monitoring indications is inconsistent with another aspect of the basis in that some of the specified indications may not be safety-related.

Issue Description:

The following statement is contained in the basis sections of Initiating Conditions SU3 and SA4.

> "[Site specific annunciators or indicators for this EAL must include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (e.g., area, process, and/or effluent rad monitors, etc.).]"

Under SS6, the statement is changed slightly to read,

> "[Site specific annunciators for this EAL should be limited to include those identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs (.g., area, process, and/or effluent rad monitors, etc.)]"

The Example EALs relevant to these basis statements are presented in Table 1.

Table 1

SU3	SA4	SS6
1. UNPLANNED Loss of greater than approximately 75% of the following for 15 minutes or longer: a. (Site specific control room safety system annunciation) **OR** b. (Site specific control room safety system indication)	1. a. UNPLANNED loss of greater than approximately 75% of the following for 15 minutes or longer: • (Site specific control room safety system annunciation) **OR** • (Site specific control room safety system indication)	1. a. Loss of greater than approximately 75% of the following for 15 minutes or longer: • (Site specific control room safety system annunciation) **OR** • (Site specific control room safety system indication)

Issue with NEI 99-01
Loss of Annunciation or Indication EALs

As can be seen in Table 1, the example EALs do not include a reference to radiation monitoring indications. This leads to the following questions.

1. Are radiation monitoring indications "identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs" included in the population of "Site specific control room safety system indication"?

   For example, a licensee has 6 main control boards with safety-system indications and a separate display of radiation monitoring indications. Assume that the radiation monitoring indication panel is lost. How should this condition be evaluated?
   - Lost approximately 14% (1 out of 7) of total indications – no classification warranted
   - Lost 100% of radiation monitoring indications – a classification is required

2. How should radiation monitoring indications "identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs" AND that are <u>not</u> safety-related be addressed?

3. Should a separate example EAL statement be added to specifically address loss of radiation monitoring indications "identified in the Abnormal Operating Procedures, in the Emergency Operating Procedures, and in other EALs"?

In addition, the basis statements concerning radiation monitoring indications should be made consistent – "Site specific annunciators or indicators" vs. Site specific annunciators."

Benchmarking has revealed a lack of consistency in licensee implementation of SU3, SA4 and SS6. See information collected from seven plants in Attachment 1. These differences in application indicate that additional EAL development guidance and clarification is necessary.

I submitted an EAL Frequently Asked Question (FAQ) concerning the above issues to the NEI EAL FAQ working group approximately six months ago. The working group rejected the EAL FAQ (i.e., would not process it). The majority of the group members apparently felt that the existing guidance was adequate and/or that the issues raised were not of sufficient magnitude to warrant a material revision.

Plant #1

SU3	SA4	SS6
Unplanned loss of most (~75%) or all of EITHER: • Annunciators (Panels "A" thru "K") • Indicators associated with safety-related structures, systems and components on Unit ( ) MCR Bench Boards 1 and 2 and Vertical Boards 1 and 2 for > 15 min.	Unplanned loss of most (~75%) or all of EITHER: • Annunciators (Panels "A" thru "K") • Indicators associated with safety-related structures, systems and components on Unit ( ) MCR Bench Boards 1 and 2 and Vertical Boards 1 and 2 for > 15 min.	Loss of most (~75%) or all annunciators (Panels "A" thru "K") associated with safety-related structures, systems and components on Unit ( ) MCR Bench Boards 1 and 2 and Vertical Boards 1 and 2

Plant #2

SU3	SA4	SS6
UNPLANNED loss of most OR all (greater than 75% of the MCB annunciators) OR indicators associated with safety systems for greater than 15 minutes.	UNPLANNED loss of most OR all (greater than 75% of the MCB) annunciators OR indicators associated with safety systems for greater than 15 minutes	a. Loss of most OR all (greater than 75% of the MCB) annunciators OR indicators associated with safety systems

Plant #3

SU3	SA4	SS6
1. UNPLANNED loss of greater than approximately 75% of the following for 15 minutes or longer per 1[2]-ONP-100.03: a. Control Room Safety System annunciation. OR b. Control Room Safety System indication associated with the above annunciators.	1. UNPLANNED loss of greater than approximately 75% of the following for 15 minutes or longer per 1[2]-ONP-100.03: a. Control Room Safety System annunciation. OR b. Control Room Safety System indication associated with the above annunciators.	1. UNPLANNED loss of greater than approximately 75% of the following for 15 minutes or longer per 1[2]-ONP-100.03: a. Control Room Safety System annunciation. OR b. Control Room Safety System indication associated with the above annunciators.

Plant #4

SU3	SA4	SS6
1. UNPLANNED loss of most (approximately 75%) safety system annunciators (Table M2) for > 15 minutes. OR 2. UNPLANNED loss of most (approximately 75%) indicators associated with safety functions (Table M3) for > 15 minutes.	1. UNPLANNED loss of most (approximately 75%) safety system annunciators (Table M2) for > 15 minutes. OR 2. UNPLANNED loss of most (approximately 75%) indications associated with safety functions (Table M3) for > 15 minutes.	1. Loss of most (approximately 75%) safety system annunciators (Table M2).

Table M2 - Control Room Panels

- 1/2 PM01J MCB Gen & Aux Power
- 1/2 PM05J MCB Reactor and Chem Volume Control
- 1/2 PM06J MCB Eng. Safety Features

Table M3 - Safety Functions and Related Systems

- Reactivity Control (ability to shut down the reactor and keep it shutdown)
- RCS Inventory (ability to cool the core)
- Secondary Heat Removal (ability to maintain heat sink)
- Fission Product Barriers

Plant #5

SU3	SA4	SS6
UNPLANNED loss of most or all annunciators or indications associated with the following safety systems for GREATER THAN 15 minutes • ECCS • CONTAINMENT isolation • Reactor Trip • Process or Effluent Radiation Monitors • Electrical Distribution/Diesel Generators	UNPLANNED loss of most or all annunciators or indications associated with the following safety systems for GREATER THAN 15 minutes • ECCS • CONTAINMENT isolation • Reactor Trip • Process or Effluent Radiation Monitors • Electrical Distribution/Diesel Generators	Loss of most or all annunciators associated with the following safety systems • ECCS • CONTAINMENT isolation • Reactor Trip • Process or Effluent Radiation Monitors • Electrical Distribution/Diesel Generators

Plant #6

SU3	SA4	SS6
1. UNPLANNED loss of approximately 75% or more of UA annunciators for > 15 minutes. **** OR **** 2. UNPLANNED loss of approximately 75% or more of Main Control Board indications for > 15 minutes. **** OR **** 3. UNPLANNED loss of approximately 75% or more of radiation monitor indications for > 15 minutes.	1. a. UNPLANNED loss of approximately 75% or more of UA annunciators for > 15 minutes. OR b. UNPLANNED loss of approximately 75% or more of Main Control Board indications for > 15 minutes. OR c. UNPLANNED loss of approximately 75% or more of radiation monitor indications for > 15 minutes.	2. a. Loss of approximately 75% or more of UA annunciators. OR b. Loss of approximately 75% or more of Main Control Board indications. OR c. Loss of approximately 75% or more of radiation monitor indications.

Plant #7

SU3	SA4	SS6
Unplanned loss of most or all 1C03, 1C04 and 1C05 annunciators or indicators associated with Safety Systems for greater than 15 minutes	Unplanned loss of most or all 1C03, 1C04 and 1C05 annunciators or indicators associated with Safety Systems for greater than 15 minutes	Loss of most or all annunciators on Panels 1C03, 1C04 and 1C05.

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 33

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 03/10/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SS6, SA4, SU3: Loss of Monitoring	Which EAL is involved: All
Which Basis Paragraph(s) is involved: All	Other:

Description of Question

NEI 99-01 Rev 5 specifies plant annunciation and safety indication EALs to be set at a loss of all or most (approximately greater than 75%) monitoring or alarm capability.

U.S. EPR design includes a digital I&C system that provides annunciation and safety indication (PICS and SICS) similar to the digital I&C EALs developed for the passive reactor designs utilizing NEI 07-01.

This creates a design specific deviation with the generic EAL guidance document to be used by all new U.S. EPR reactors.

Can guidance be added to 99-01 Rev 5 to address the use of Digital I&C EALs for loss of monitoring capability to eliminate the design specific deviation from the generic EAL guidance document?

Proposed Solution

Revise NEI 99-05 consistent with NEI 07-01 to include a section to address the design specific deviations for the U.S. EPR plants per the attached bases pages.

Justification

Eliminates a design specific deviation for the U.S. EPR EALs and establishes a standard IC, EAL and bases language for all new U.S. EPR EAL submittals within the NEI EAL guidance document.

Additional pages attached? ☒ Yes ☐ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
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NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 33	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added new SA7, SS7, CA5 and CU5 ICs and EALs for U.S. EPR design as shown in the attachment. These EALs are consistent with the digital I&C ICs developed in NEI 07-01 for the AP-1000 and ESBWR ALWRs.

Added notes to basis of SU3, SA4, and SS6. For plants with digital I&C, SA7, SS7, CA5 and CU5 should be used in lieu of SS6, SA4, and SU3.

SU3 Basis:

[*Not applicable to plants with digital I&C*] [FAQ33]

SA4 Basis:

[*Plants with digital I&C use SA7*] [FAQ33]

SS6 Basis:

[*Plants with digital I&C use SS7*] [FAQ33]

NRC to Complete This Section

Disposition of EALFAQ

This EALFAQ is DENIED due to the ongoing issues related to the design of the I&C system for the EPR. Once the I&C system for the EPR has been approved by the NRC, consideration can then be given for having detailed EALs for licensees utilizing the EPR. In the interim, applicants using the EPR, which includes digital I&C, must consider the deletion and addition of EALs to be DEVIATIONS in accordance with RIS 2003-18, including supplements.

The staff would encourage the development of an EPR specific addendum to the approved guidance which would capture all the DEVIATIONS from the guidance for the EPR design.

The EPR design should use the applicable wording from NEI 07-01 for SA7 and SS7, in addition to CU7 and CA7. The staff agrees that SU3 is not applicable to the EPR design.

While the specific nomenclature and detail may be improved when the design is approved, in the interim these EALs will serve to capture the intent of the EAL scheme for a loss of I&C.

EAL Frequently Asked Question (EALFAQ)
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Appropriate change management processes can be utilized to refine these EALs once the design has been approved by the NRC.

These are all considered DEVIATIONS in accordance with RIS 2003-18, including supplements.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

5.6 COLD SHUTDOWN / REFUELING SYSTEM MALFUNCTION EALs

Table 5-C-1: Recognition Category "C" Initiating Condition Matrix

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
		CA5 UNPLANNED loss of indicating, monitoring and control functions for 15 minutes or longer. *Op. Modes: Cold Shutdown, Refueling*	**CU5** UNPLANNED partial loss of indicating, monitoring and control functions for 15 minutes or longer. *Op. Modes: Cold Shutdown, Refueling*

5.11 SYSTEM MALFUNCTION EALs

Table 5-S-1 for US EPR: Recognition Category "S" Initiating Condition Matrix

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
	SS7 UNPLANNED loss of indicating, monitoring and control functions for 15 minutes or longer. *Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown*	**SA7** UNPLANNED partial loss of indicating, monitoring and control functions for 15 minutes or longer. *Op. Modes: Power Operation, Startup, Hot Standby, Hot Shutdown*	**SU3** N/A

Initiating Condition – UNUSUAL EVENT

UNPLANNED partial loss of indicating, monitoring and control functions for 15 minutes or longer.

Operating Mode Applicability: Cold Shutdown, Refueling

Example Emergency Action Level Threshold:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time.

1. UNPLANNED partial loss of [Site specific] indicating, monitoring and control functions for 15 minutes or longer.

Basis:

This IC recognizes the difficulty associated with monitoring changing plant conditions without the use of a major portion of the control and indication systems.

This IC recognizes the challenge to the Control Room staff to monitor and control the plant due to partial loss of normal and safety indication and monitoring systems. An Unusual Event is considered appropriate if the Control Room staff requires additional personnel to assist in monitoring alternative indications, manipulate equipment and restore the systems to full capability in cold modes. The selection of 15 minutes was chosen to allow personnel sufficient time for restoration of required systems due to an inadvertent loss.

U.S. EPR –

The Process Information and Control System (PICS) is a non-safety related, augmented quality digital I&C system. It provides a screen based interface for the operators in the control room and in the remote shutdown station to control and monitor all plant parameters by interfacing with the plant automation systems. The Safety Information and Control System (SICS) is a safety related I&C system which contains both safety and non-safety related equipment. It provides the Human-System Interface (HSI) to perform control and information functions needed to monitor the plant's safety status and bring the unit to and maintain it in a safe shutdown state in case of unavailability of the PICS.

The SICS provides controls for actuating manual reactor trips and manual system level functions performed by the Protection System (PS) and the Safety Automation System (SAS) via the Priority Actuation and Control System (PACS) in order to bring the plant to and maintain it in a cold shutdown state.

Either PICS or SICS is separately capable of bringing the reactor to a safe shutdown. Therefore, a partial loss of the indicating, monitoring, and control functions when the plant has experienced the complete loss of one of the two capable systems (PICS or SICS) and a total loss of the indicating, monitoring, and control functions (i.e. inability to monitor and control the plant from the MCR) is characterized by the complete loss of both capable systems (PICS and SICS). Loss of the PICS system is indicated by no PICS terminal in the control room being functional. Loss of the SICS system is indicated by no SICS terminal in the control room being functional. This UE will be escalated to an Alert if the operating crew cannot monitor and control the plant.

Developer Note:

U.S. EPR - Fill in PICS or SICS.

Initiating Condition – ALERT

UNPLANNED loss of indicating, monitoring and control functions for 15 minutes or longer.

Operating Mode Applicability: Cold Shutdown, Refueling

Example Emergency Action Level Threshold:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time.

1. UNPLANNED loss of [Site specific] digital monitoring and control functions for 15 minutes or longer.

Basis:

This IC recognizes the inability of the Control Room staff to monitor and control the plant due to loss of normal and safety indication and monitoring systems, and diverse indication and control systems that allows the operators to monitor and safely shutdown the plant. An Alert is considered to exist if the Control Room staff cannot monitor and control safety functions needed for protection of the public in cold modes. The selection of 15 minutes was chosen to allow personnel sufficient time for restoration of required systems due to an inadvertent loss.

US EPR –

The Process Information and Control System (PICS) is a non-safety related, augmented quality digital I&C system. It provides a screen based interface for the operators in the control room and in the remote shutdown station to control and monitor all plant parameters by interfacing with the plant automation systems. The Safety Information and Control System (SICS) is a safety related I&C system which contains both safety and non-safety related equipment. It provides the Human-System Interface (HSI) to perform control and information functions needed to monitor the plant's safety status and bring the unit to and maintain it in a safe shutdown state in case of unavailability of the PICS.

The SICS provides controls for actuating manual reactor trips and manual system level functions performed by the Protection System (PS) and the Safety Automation System (SAS) via the Priority Actuation and Control System (PACS) in order to bring the plant to and maintain it in a cold shutdown state.

Either PICS or SICS is separately capable of bringing the reactor to a safe shutdown. Therefore, a partial loss of the indicating, monitoring, and control functions when the plant has experienced the complete loss of one of the two capable systems (PICS or SICS) and a total loss of the indicating, monitoring, and control functions (i.e. inability to monitor and control the plant from the MCR) is characterized by the complete loss of both capable systems (PICS and SICS).

Loss of the PICS system is indicated by no PICS terminal in the control room being functional. Loss of the SICS system is indicated by no SICS terminal in the control room being functional.

Developer Note:

U.S. EPR - Fill in PICS or SICS.

Initiating Condition -- ALERT

UNPLANNED partial loss of indicating, monitoring and control functions for 15 minutes or longer.

Operating Mode Applicability: Power Operation, Startup, Hot Standby, Hot Shutdown

Example Emergency Action Level Threshold:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time.

1. UNPLANNED partial loss of [Site specific] indicating, monitoring and control functions for 15 minutes or longer.

Basis:

This IC recognizes the difficulty associated with monitoring changing plant conditions without the use of a major portion of the control and indication systems.

This IC recognizes the challenge to the Control Room staff to monitor and control the plant due to partial loss of normal and safety indication and monitoring systems. An Alert is considered appropriate if the Control Room staff requires additional personnel to assist in monitoring alternative indications, manipulate equipment and restore the systems to full capability. The selection of 15 minutes was chosen to allow personnel sufficient time for restoration of required systems due to an inadvertent loss.

U.S. EPR –

The Process Information and Control System (PICS) is a non-safety related, augmented quality digital I&C system. It provides a screen based interface for the operators in the control room and in the remote shutdown station to control and monitor all plant parameters by interfacing with the plant automation systems. The Safety Information and Control System (SICS) is a safety related I&C system which contains both safety and non-safety related equipment. It provides the Human-System Interface (HSI) to perform control and information functions needed to monitor the plant's safety status and bring the unit to and maintain it in a safe shutdown state in case of unavailability of the PICS.

The SICS provides controls for actuating manual reactor trips and manual system level functions performed by the Protection System (PS) and the Safety Automation System (SAS) via the Priority Actuation and Control System (PACS) in order to bring the plant to and maintain it in a cold shutdown state.

Either PICS or SICS is separately capable of bringing the reactor to a safe shutdown. Therefore, a partial loss of the indicating, monitoring, and control functions when the plant has experienced the complete loss of one of the two capable systems (PICS or SICS) and a total loss of the indicating, monitoring, and control functions (i.e. inability to monitor and control the plant from the MCR) is characterized by the complete loss of both capable systems (PICS and SICS). Loss of the PICS system is indicated by no PICS terminal in the control room being functional. Loss of the SICS system is indicated by no SICS terminal in the control room being functional. This Alert will be escalated to a Site Area Emergency if the operating crew cannot monitor and control the plant.

Developer Note:

U.S. EPR - Fill in PICS or SICS.

Initiating Condition – SITE AREA EMERGENCY

UNPLANNED loss of indicating, monitoring and control functions for 15 minutes or longer.

Operating Mode Applicability: Power Operation, Startup, Hot Standby, Hot Shutdown

Example Emergency Action Level Threshold:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition will likely exceed the applicable time.

1. UNPLANNED loss of [Site specific] digital monitoring and control functions for 15 minutes or longer.

Basis:

This IC recognizes the inability of the Control Room staff to monitor and control the plant due to loss of normal and safety indication and monitoring systems, and diverse indication and control systems that allows the operators to monitor and safely shutdown the plant. A Site Area Emergency is considered to exist if the Control Room staff cannot monitor and control safety functions needed for protection of the public. The selection of 15 minutes was chosen to allow personnel sufficient time for restoration of required systems due to an inadvertent loss.

US EPR –

The Process Information and Control System (PICS) is a non-safety related, augmented quality digital I&C system. It provides a screen based interface for the operators in the control room and in the remote shutdown station to control and monitor all plant parameters by interfacing with the plant automation systems. The Safety Information and Control System (SICS) is a safety related I&C system which contains both safety and non-safety related equipment. It provides the Human-System Interface (HSI) to perform control and information functions needed to monitor the plant's safety status and bring the unit to and maintain it in a safe shutdown state in case of unavailability of the PICS.

The SICS provides controls for actuating manual reactor trips and manual system level functions performed by the Protection System (PS) and the Safety Automation System (SAS) via the Priority Actuation and Control System (PACS) in order to bring the plant to and maintain it in a cold shutdown state.

Either PICS or SICS is separately capable of bringing the reactor to a safe shutdown. Therefore, a partial loss of the indicating, monitoring, and control functions when the plant has experienced the complete loss of one of the two capable systems (PICS or SICS) and a total loss of the indicating, monitoring, and control functions (i.e. inability to monitor and control the plant from the MCR) is characterized by the complete loss of both capable systems (PICS and SICS).

Loss of the PICS system is indicated by no PICS terminal in the control room being functional. Loss of the SICS system is indicated by no SICS terminal in the control room being functional.

Developer Note:

U.S. EPR - Fill in PICS or SICS.

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 34

Requestor to Complete This Section

Licensee: Kewaunee Power Station	Date Submitted: 12/8/08	
Licensee Contact: John Egdorf	Phone: 920-388-8733	E-Mail: john.r.egdorf@dom.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CU1 (99-01 rev 4) SU5 (99-01 rev 4 & 5)	Which EAL is involved: 99-01 Rev 4 - CU1.1, CU1.2 99-01 Rev 4 & 5 - SU5.1 & SU5.2
Which Basis Paragraph(s) is involved:	Other:

Description of Question

1) It has been identified through industry OE that the same leakage condition at different plants maybe classified differently. The difference is based upon the specific plants Technical Specification definition of Identified, Unidentified and Pressure Boundary Leakage. The intent of the listed EALs is a leak greater than Technical Specifications.

2) Additionally, the EALs have no threshold time to evaluate or mitigate a event that is not a "precursor of a more serious condition". There should be time for the Control Room Operators to use procedures to attempt identifcation and isolate of the leakage prior to classification. The EAL would then be based upon the inability to maintain RCS inventory.

Proposed Solution

1) Add the following to the associated EAL Bases section: "Refer to plants Technical Specifications for Identified, Unidentified and Pressure Boundary Leakage definition."

2) Add "15 minutes or longer" to the EAL's

Justification

1) EAL definition will be consistent with current plant RCS leakage definitions and the EALs would not be redefining the terms.

2) With the threshold time, conditions which are mitigated with established Operations Procedures and are not a precursor to a serious condition would not be un-necessary classified.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 34	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

CU1/SU5 – Added to the basis:

"15 minutes allows time to evaluate the source and take corrective actions to isolate the leak."

SU5 – Added "Refer to plants Technical Specifications for Identified, Unidentified and Pressure Boundary Leakage definition." To the basis

SU5 - Added "15 minutes or longer" to the EAL Thresholds

Added the ED lapsed time note to SU5.

CU1 Basis:

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. 15 minutes allows time to evaluate the source and take corrective actions to isolate the leak. [FAQ34]

SU5 EALS:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.

1. Unidentified or pressure boundary leakage greater than 10 gpm for 15 minutes or longer.

2. Identified leakage greater than 25 gpm for 15 minutes or longer. [FAQ34]

SU5 Basis:

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. 15 minutes allows time to evaluate the source and take corrective actions to isolate the leak. [FAQ34]

[Refer to plants Technical Specifications for Identified, Unidentified and Pressure Boundary Leakage definition.] [FAQ34]

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NRC to Complete This Section

Disposition of EALFAQ

EAL Frequently Asked Question (EALFAQ)
Request Form

This EALFAQ is DENIED as the RCS Leakage is not based upon Tech Specs. In addition, the staff's expectations for CU1 was already clarified in Revision 5 (from the wording in Revision 4) of NEI 99-01.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 35

Requestor to Complete This Section

Licensee:	Date Submitted: 10/31/08	
Licensee Contact: David Young	Phone: 603-773-7287	E-Mail: david_young@fpl.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SA2	Which EAL is involved: a.
Which Basis Paragraph(s) is involved: 4th	Other:

Description of Question

This EAL FAQ concerns Initiating Condition SA2, "Automatic Scram (Trip) fails to shutdown the reactor and the manual actions taken from the reactor control console are successful in shutting down the reactor." Is an Alert declaration required if an automatic reactor trip signal, NOT due to a plant transient, is generated and the reactor does not trip? For example, an automatic reactor trip signal is generated due to an instrument failure, and the reactor does not trip. Is an Alert declaration required in this case? Some licensees have interpreted information in the basis section as requiring a transient initiating event before an Alert declaration is warranted. The IC and EAL make no mention of a transient initiating event.

Proposed Solution

Revise the 2nd and 3rd sentences in the 4th paragraph of the basis to read:

"This condition is more than a potential degradation of the safety system in that a front line automatic protection system did not function in response to a scram (trip) signal. Thus the plant safety has been compromised because of the failure of the RPS to automatically shutdown the plant.

Justification

Clarifies the intent of the EAL.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/07/09		Approved: ☒ Yes ☐ No
EALFAQ #: 35	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the 2nd and 3rd sentences in the 4th paragraph of the basis to read:

This condition indicates failure of the automatic protection system to scram (trip) the reactor. This condition is more than a potential degradation of a safety system in that a front line automatic protection system did not function in response to a ~~plant transient~~scram (trip) signal. Thus the plant safety has been compromised ~~because design limits of the fuel may have been exceeded. An Alert is indicated because conditions may exist that lead to potential loss of fuel clad or RCS and~~ because of the failure of the Reactor Protection System to automatically shutdown the plant. [FAQ35]

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NRC to Complete This Section

Disposition of EALFAQ

The staff agrees that the intent of the EAL is not based upon a transient but upon the failure of the RPS system to scram the plant when required by design. Removing the words 'plant transient' and substituting 'scram (trip) signal)' is in alignment with the staff's expectations and is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements. However, the staff sees no value in removing the information from the 3rd sentence in the 4th paragraph and that change is DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 36

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 12/03/08
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SA5, CU3	Which EAL is involved: SA5.1.b, CU3.1.b
Which Basis Paragraph(s) is involved: SA5, CU3	Other:

Description of Question

At many sites it is possible to backfeed non-emergency busses from offsite or other sources such that a complete loss of AC power to emergency busses will not result in a station blackout. The basis intent of the EAL is not consistent with the literal wording used.

Proposed Solution

Revise SA5 and CU3 wording as follows: "AC power capability to emergency busses reduced to a single source for 15 minutes or longer"

and

Revise SA5.1.b and CU3.1.b wording as follows: "Any additional single power source failure will result in a loss of all AC power to the emergency busses."

Justification

Eliminates an intentional loophole condition for loss of AC power to emergency busses. This change does not alter the meaning or the basis intent of the EALs it applies to.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 36	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised SA5 and CU3 wording as follows: "AC power capability to emergency busses reduced to a single source for 15 minutes or longer"
and
Revised SA5.1.b and CU3.1.b wording as follows: "Any additional single power source failure will result in a loss of all AC power to the emergency busses."
Also Revised matrix wording.

CU3 IC:

AC power capability to emergency busses reduced to a single power source for 15 minutes or longer~~ such that any additional single failure would result in station blackout~~. [FAQ36]

CU3 EAL:

1. a. AC power capability to (site specific emergency busses) reduced to a single power source for 15 minutes or longer.

AND

b. Any additional single power source failure will result in loss of all AC power to emergency buses.~~station blackout~~. [FAQ36]

CU3 Basis:

The condition indicated by this IC is the degradation of the off-site and on-site AC power systems such that any additional single failure would result in a loss of all AC power to emergency buses.~~station blackout~~. [FAQ36] This condition could occur due to a loss of off-site power with a concurrent failure of all but one emergency generator to supply power to its emergency busses. The subsequent loss of this single power source would escalate the event to an Alert in accordance with CA3.

SA5 IC:

AC power capability to emergency buses reduced to a single power source for 15 minutes or longer~~ such that any additional single failure would result in station blackout~~. [FAQ36]

SA5 EAL:

1. a. AC power capability to (site-specific emergency busses) reduced to a single power source for 15 minutes or longer.

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AND

b. Any additional single power source failure will result in ~~station blackout~~loss of all AC power to emergency buses. [FAQ36]

SA5 Basis:

[*This IC and the associated EALs are intended to provide an escalation from IC SU1~~, "Loss of All Off-site AC Power To Emergency Busses for Greater Than 15 Minutes."~~.*]

The condition indicated by this IC is the degradation of the off-site and on-site AC power systems such that any additional single failure would result in a loss of all AC power to emergency buses.~~station blackout~~. [FAQ36] This condition could occur due to a loss of off-site power with a concurrent failure of all but one emergency generator to supply power to its emergency busses. Another related condition could be the loss of all off-site power and loss of on-site emergency generators with only one train of emergency busses being backfed from the unit main generator, or the loss of on-site emergency generators with only one train of emergency busses being backfed from off-site power. The subsequent loss of this single power source would escalate the event to a Site Area Emergency in accordance with SS1.

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NRC to Complete This Section

Disposition of EALFAQ

The staff finds that the proposed wording clarifies the intent of these EALs and is considered a DIFFERENCE in accordance with RIS 2003-18, including supplements.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ)
Request Form

FAQ# 37

Requestor to Complete This Section

Licensee: U.S. EPR		Date Submitted: 02/05/09
Licensee Contact: Scott McCain	Phone: 630.452.1704	E-Mail: MDSCScott@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved: SG2.1.c
Which Basis Paragraph(s) is involved:	Other:

Description of Question

The indication that heat removal is extremely challenged is constrained by the requirement that it is due to continued power generation. Does it matter why heat removal is extremely challenged when in an ATWS condition?

Proposed Solution

The EAL threshold should be revised as follows:

1.c. EITHER of the following exist or have occurred"

Justification

The extreme challenge to heat removal, equivalent to core cooling red, should not be constrained by requiring it to be caused by continued power generation.

Additional pages attached? ☐ Yes ☒ No

Instructions:
Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 37	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised the EAL threshold should be revised as follows:

SG2 EAL:

c. **EITHER** of the following exist or have occurred ~~due to continued power generation~~: [FAQ37]

- (Site specific indication that core cooling is extremely challenged.)
- (Site specific indication that heat removal is extremely challenged.)

NRC to Complete This Section

Disposition of EALFAQ

This EALFAQ is DENIED as it is redundant with EALFAQ 2009-031.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 38

Requestor to Complete This Section

Licensee: NEI Task Force		Date Submitted: 5/31/08
Licensee Contact: Kelly Walker	Phone: 7042430501	E-Mail: ossikelly@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: PWR Containment Loss 4 (99-01 rev 4 & 5)	Which EAL is involved: Fission Product Barrier Matrix
Which Basis Paragraph(s) is involved:	Other:

Description of Question

PWR Containment Loss 4 specifies a threshold value for P-to-S leakage of 10 gpm. Per the current Rev. 5 bases, the value of 10 gpm was selected to a be consistent with the leakage value specified in IC SU5 "RCS Leakage". SU5 specifies RCS leakage thresholds for both unidentified/pressure boundary leakage (10 gpm) and identified leakage (25 gpm). However, for PWRs, SG tube leakage is considered identified leakage. Should the value specified in PWR Containment Loss 4.B be consistent with the SU5 identified leakage threshold of 25 gpm vs. 10 gpm?

Proposed Solution

Revise PWR Containment Loss 4 SG tube leakage value to specify 25 gpm vs. 10 gpm.

Justification

The bases for the PWR Containment Loss 4 SG tube leakage value states that the leak value was chosen to be consistent with the SU5 RCS leakage threshold. Since SG tube leakage is considered identified leakage the threshold value used should be consistent with the SU5 identified leakage threshold (25 gpm vs. 10 gpm).

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 38	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Revised PWR Containment Loss 4 SG tube leakage threshold and basis values to specify 25 gpm vs. 10 gpm. Changed RUPTURED to leaking to be consistent with the specified threshold value of 25 gpm as follows: [FAQ 15,17,20, 38]

5-F-3

Containment Barrier Threshold

LOSS

4. SG Secondary Side Release with P-to-S Leakage

A. Primary-to-Secondary leakrate greater than ~~10~~25 gpm ~~RUPTURED~~ and the leaking SG is also FAULTED outside of containment. [FAQ38]

~~**OR**~~

~~B. a. Primary to Secondary leakrate greater than 10 gpm.~~

~~**AND**~~

~~b. UNISOLABLE steam release from affected SG to the environment.~~

Basis:

4. SG Secondary Side Release With Primary to Secondary Leakage

~~The loss threshold recognizes that SG tube leakage can represent a bypass of the Containment barrier as well as a loss of the RCS barrier.~~

~~Users should realize that the two loss thresholds could be considered redundant. This was recognized during the development process. The inclusion of an threshold that uses Emergency Procedure commonly used terms like "RUPTURED and FAULTED" adds to the ease of the classification process and has been included based on this human factor concern.~~

~~This threshold results in a NOUE for smaller breaks that; (1) do not exceed the normal charging capacity threshold in RCS leak rate barrier Potential Loss threshold, or (2) do not result in ECCS actuation in RCS SG tube rupture barrier Loss threshold. For larger breaks, RCS barrier threshold criteria would result in an Alert. For SG tube ruptures which may involve multiple steam generators or unisolable secondary line breaks, this threshold would exist in conjunction with RCS barrier thresholds and would result in a Site Area Emergency. Escalation to General Emergency would be based on "Potential Loss" of the Fuel Clad Barrier.~~

~~Loss Threshold A~~

~~This threshold addresses the condition in which a RUPTURED steam generator is also FAULTED.~~

This condition represents a bypass of the RCS and containment barriers. This threshold addresses a SG tube leak, exceeding 25 gpm, to a SG that is also FAULTED outside of containment.

SG tube leakage is considered to be identified leakage; therefore, the 25 gpm value was chosen to be consistent with the IC SU5 EAL for RCS identified leakage. aThe inclusion of a threshold that uses an EOP commonly used term "FAULTED" adds to the ease of the classification process and has been included based on this human factor concern.nd is a subset of the second threshold. In conjunction with RCS leak rate barrier loss threshold, this would always result in the declaration of a Site Area Emergency.

Loss Threshold B

This threshold also applies to prolonged steam releases necessitated by operational considerations such as the forced steaming of a leaking or RUPTURED generator to cooldown the plant, or to drive an auxiliary (emergency) feed water pump. These types of conditions will result in large releases of contaminated steam to the environment. The inability to isolate the steam flow without an adverse effect on plant cooldown meets the intent of a loss of containment. This threshold addresses SG tube leaks that exceed 10 gpm in conjunction with an UNISOLABLE release path to the environment from the affected steam generator. The threshold for establishing the UNISOLABLE secondary side release is intended to be a prolonged release of radioactivity from the RUPTURED steam generator directly to the environment. This could be expected to occur when the main condenser is unavailable to accept the contaminated steam (i.e., SG tube rupture with concurrent loss of off-site power and the RUPTURED steam generator is required for plant cooldown or a stuck open relief valve). If the main condenser is available, there may be releases via air ejectors, gland seal exhausters, and other similar controlled, and often monitored, pathways. These minor releases are assessed using Abnormal Rad Levels / Radiological Effluent ICs.

The emergency classification levels resulting from primary-to-secondary leakage with a steam release from the affected Steam Generator (SG) are summarized below.

	Affected SG is FAULTED Outside of Containment?	
P-to-S Leak Rate	**Yes**	**No**
Less than or equal to 25 gpm	No classification	No classification
Greater than 25 gpm	Unusual Event per SU5	Unusual Event per SU5
RCS leak resulting in the inability to maintain (site specific pressurizer level operating band) with Letdown isolated. (*RCS Barrier Potential Loss)* [FAQ17]	Site Area Emergency per FS1	Alert per FA1
Sufficient to consider the SG RUPTURED per EOPs (e.g., leak results in an ECCS/SI actuation) (*RCS Barrier Loss*)	Site Area Emergency per FS1	Alert per FA1

~~These pathways do not meet the intent of an UNISOLABLE release path to the environment. [*The leakage threshold for this* threshold *has been increased with Revision 3. In the earlier revision, the threshold was leakage greater than T/S allowable. Since the prior revision, many plants have implemented reduced steam generator T/S limits (e.g., 150 gpd) as a defense in depth associated with alternate steam generator plugging criteria. The 150 gpd threshold is deemed too low for use as an emergency threshold. A pressure boundary leakage of 10 gpm was used as the threshold in IC SU5, RCS Leakage, and is deemed appropriate for this* threshold.]~~

NRC to Complete This Section

Disposition of EALFAQ

This EALFAQ is redundant with EALFAQ # 2009-20 and is therefore DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 39

Requestor to Complete This Section

Licensee: NEI Task Force	Date Submitted: 5/31/08	
Licensee Contact: Dave Stobaugh	Phone:	E-Mail:
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SA4, SS6	Which EAL is involved: 1.b
Which Basis Paragraph(s) is involved: Definitions section 5.4, Basis	Other:

Description of Question

The use of the definition of Significant transient as a defined term results in most site having to take a deviation because of the difference in specific SIGNIFICANT TRANSIENTS for the different disigns.

Proposed Solution

Delete the definition of SIGNIFICANT TRANSIENT, replace the EAL with a site specific wording in those locations where applicable, and add a developer note to provide guidance for development of the site specific element of the EAL.

Justification

Intent is the same and only result in the modification of 2 ICs.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 39	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Deleted the definition of SIGNIFICANT TRANSIENT, replaced the EAL with a site specific wording in those locations where applicable, and added a developer note to provide guidance for development of the site specific element of the EAL.

5.4

[FAQ39]

SA4 EAL:

b. **EITHER** of the following:

- Any (Site specific significant transient) is in progress. [FAQ39]
- Compensatory indications are unavailable.

SA4 Basis:

[*A significant transient is an UNPLANNED event involving one or more of the following site specific criteria: (1) automatic [turbine runback - PWR][recirculation system flow runback - BWR] greater than 25% thermal reactor power, (2) electrical load rejection greater than [25% - PWR][site-specific MSL bypass capability - BWR] full electrical load, (3) Reactor Trip/Scram, (4) Safety Injection Activation [PWR] Inadvertent ECCS injection [BWR], or (5) thermal power oscillations greater than 10% [BWR]*] [FAQ39]

SS6 EAL:

b. Any (site specific significant transient) is in progress. [FAQ39]

AND

SS6 Basis:

[*A significant transient is an UNPLANNED event involving one or more of the following site specific criteria: (1) automatic [turbine runback - PWR][recirculation system flow runback - BWR] greater than 25% thermal reactor power, (2) electrical load rejection greater than [25% - PWR][site-specific MSL bypass capability - BWR] full electrical load, (3) Reactor Trip/Scram, (4) Safety Injection Activation [PWR] Inadvertent ECCS injection [BWR], or (5) thermal power oscillations greater than 10% [BWR]*] [FAQ39]

NRC to Complete This Section

EAL Frequently Asked Question (EALFAQ)
Request Form

Disposition of EALFAQ

The removal of this defined term from the approved development guidance and incorporating it into the specific EALs of concern is considered a DIFFERENCE in accordance with RIS 2003-18, including its supplements. However, for this to be considered a DIFFERENCE the EAL Technical Basis information must be included in each EAL, and it is NOT considered EAL developer information.

OFFICE	**NSIR/DPR**	**NSIR/DPR**	**TL:NSIR/DPR**	**BC:NSIR/DPR**	**D:NSIR/DPR/EPD**
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 41

Requestor to Complete This Section

Licensee: OSSI (Energy Northwest/Progress)		Date Submitted: September 2, 2009
Licensee Contact: Kelly walker	Phone: 704-243-0501	E-Mail: ossikelly@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CU1	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

Numerous recent NEI 99-01 Rev. 5 submittals have received NRC RAIs stating that EALs derived from ICs that do not have the same noun name cannot be organized into the same numerical EAL grouping in a plant-specific EAL scheme. IC CU1 "RCS leakage" and CU2 "Unplanned loss of RCS/RPV inventory" both address the exact same concern, loss of RCS inventory but for different plant operating modes. It makes sense to implement these EALs in the same site specific numerical grouping.

Proposed Solution

Revise IC CU2 to read "RCS Lekage" consistent with IC CU1 and SU1

Justification

It would be illogical to not combine CU1 and CU2 plant specific implementation under the same numerical grouping as the ICs are only different due to mode applicability.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 41	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ Task Force to Complete This Section

Resolution of EALFAQ

Revised CU2 IC title and the corresponding Cold Shutdown Matrix title from UNPLANNED Loss of RCS/RPV Inventory to RCS Leakage

CU2 IC:

RCS leakage~~UNPLANNED loss of RCS/RPV inventory~~. [FAQ41]

NRC to Complete This Section

Resolution of EALFAQ

This EALFAQ is beyond the scope of the EALFAQ process and is therefore DENIED. The approved guidance includes EAL/IC numbering and noun conventions as proposed by NEI and approved by the staff. Proposed changes to this must be submitted and evaluated as part of a revision to the development guidance.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 44

Requestor to Complete This Section

Licensee: NEI EAL Task Force		Date Submitted: 05/01/09
Licensee Contact: D. Stobaugh	Phone: 262-344-3832	E-Mail: epconsult@charter.net
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: HU1, HU2, HA1	Which EAL is involved:
Which Basis Paragraph(s) is involved: HU1.1, HU2.1, HA1.3-4, HA1.2-6	Other:

Description of Question

In the above EALs, 99-01 asks for lists of buildings and areas using slightly different criteria for each.

AREAS of concern to replace Power Block

HU1 TV 3 The site specific areas include those areas that contain systems required for safe shutdown of the plant, which are not designed to be partially or fully submerged. The plant's IPEEE may provide insight into areas to be considered when developing this EAL.

HU2 TV 1 The site specific list should be limited and applies to buildings and areas in actual contact with or immediately adjacent to VITAL AREAS or other significant buildings or areas.

HA1 TV 2 - 5 These EALs should specify site specific structures or areas that contain safety system, or component and functions required for safe shutdown of the plant. Site specific Safe Shutdown Analysis should be consulted for equipment and plant areas required to establish or maintain safe shutdown

HA1 TV 3 The site specific areas include those areas that contain systems required for safe shutdown of the plant, which are not designed to be partially or fully submerged. The plant's IPEEE may provide insight into areas to be considered when developing this EAL

HA1 TV 4 The site specific list of areas should include all areas containing safety structure, system, or component, their controls, and their power supplies.

HA1 TV 6 VISIBLE DAMAGE to VITAL AREAS or results in indication of damage to safety structures, systems, or components containing functions and systems required for safe shutdown of the plant

Proposed Solution

Create a standard list that contains the structures that meet the following criteria:

The site specific list of areas should include all areas containing safety structure, system, or components. Typically these will include all Category 1, VITAL AREAS, and safe shutdown structures/areas.

EAL Frequently Asked Question (EALFAQ)
Request Form

Justification

Consistency across the industry

Additional pages attached? ☒ Yes ☐ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 44	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Changed wording to provide consistency between the locations specified in HU1.1, HU2.1, HA1.3-4, HA1:2-6.

HU1:

EAL #3

This EAL addresses the effect of internal flooding caused by events such as component failures, equipment misalignment, or outage activity mishaps.

[*The site specific list of areas should include all areas containing safety structure, system, or components. Typically these will include all Category 1, VITAL AREAS and safe shutdown structures/areas~~The site specific areas include those areas that contain systems required for safe shutdown of the plant, which are not designed to be partially or fully submerged~~*. [FAQ44] *The plant's IPEEE may provide insight into areas to be considered when developing this EAL.*]

Escalation of this emergency classification level, if appropriate, would be based VISIBLE DAMAGE via HA1, or by other plant conditions.

HU2:

EAL #1

[*~~T~~The site specific list of areas should include all areas containing safety structure, system, or components. Typically these will include all Category 1, VITAL AREAS and safe shutdown structures/areas~~he site specific list should be limited and applies to buildings and areas in actual contact with or immediately adjacent to VITAL AREAS or other significant buildings or areas. The intent of this IC is not to include buildings (i.e., warehouses) or areas that are not in actual contact with or immediately adjacent to VITAL AREAS. This excludes FIRES within administration buildings, waste-basket FIRES, and other small FIRES of no safety consequence. Immediately adjacent implies that the area immediately adjacent contains or may contain equipment or cabling that could impact equipment located in VITAL AREAS or the fire could damage equipment inside VITAL AREAS or that precludes access to VITAL AREAS~~*.] [FAQ44]

HA1:

EALs #2 - #5

[*~~T~~The site specific list of areas should include all areas containing safety structure, system, or components. Typically these will include all Category 1, VITAL AREAS and safe shutdown structures/areas~~hese EALs should specify site specific structures or areas that contain safety system, or component and functions required for safe shutdown of the plant. Site specific Safe Shutdown~~*

~~*Analysis should be consulted for equipment and plant areas required to establish or maintain safe shutdown.*~~] [FAQ44]

EAL #3:

[*The site specific list of areas should include all areas containing safety structure, system, or components. Typically these will include all Category 1, VITAL AREAS and safe shutdown structures/areas*~~*The site specific areas include those areas that contain systems required for safe shutdown of the plant, which are not designed to be partially or fully submerged*~~. [FAQ44] *The plant's IPEEE may provide insight into areas to be considered when developing this EAL.*]

EAL #4:

[*The site specific list of areas should include all areas containing safety structure, system, or component*~~*s.*~~*, their controls, and their power supplies.* *Typically these will include all Category 1, VITAL AREAS and safe shutdown structures/areas.*] [FAQ44]

EAL #5

This EAL addresses vehicle crashes within the PROTECTED AREA that results in VISIBLE DAMAGE to VITAL AREAS or indication of damage to Category 1, VITAL AREAS and safe shutdown structures/areas ~~safety structures, systems, or components containing functions and systems required for safe shutdown of the plant~~. [FAQ44]

EAL #6

This EAL addresses other site specific phenomena that result in VISIBLE DAMAGE to VITAL AREAS or results in indication of damage to all Category 1, VITAL AREAS and safe shutdown structures/areas ~~safety structures, systems, or components containing functions and systems required for safe shutdown of the plant~~ (such as hurricane, flood, or seiche) that can also be precursors of more serious events. [FAQ44]

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NRC to Complete This Section

Disposition of EALFAQ

This EALFAQ is beyond the scope of the EALFAQ process and is therefore DENIED. Proposed changes to this must be submitted and evaluated as part of a revision to the development guidance.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					

EAL Frequently Asked Question (EALFAQ)
Request Form

DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 45

Licensee: OSSI (Energy Northwest/Progress)		Date Submitted: September 15, 2009
Licensee Contact: Kelly walker	Phone: 704-243-0501	E-Mail: ossikelly@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: SA4, SS6	Which EAL is involved:
Which Basis Paragraph(s) is involved: Definitions	Other:

Description of Question

NEI 99-01 defines the term SIGNIFICANT TRANSIENT: An UNPLANNED event involving one or more of the following: (1) automatic turbine runback greater than 25% thermal reactor power, (2) electrical load rejection greater than 25% full electrical load, (3) Reactor Trip, (4) Safety Injection Activation, or (5) thermal power oscillations greater than 10%.

This definition does not adequately address BWR specific criteria. BWRs do not have automatic turbine runbacks. Also, many BWRs have bypass capability > 25% such that they can handle a 25% full electrical load rejection (i.e. results in no thermal power transient). Others can only handle as low as a 10% full electrical load rejection. There are other events that can cause a 25% power transient such as recirculation system runbacks. It appears that any 25% thermal power transient, regardless of cause would meet the intent of the significant transient condition. BWRs do not have 'Safety Injection' however, they have both high and low pressure ECCS, which depending on reactor pressure may or may not induce a plant transient upon activation.

Proposed Solution

Delete SIGNIFICANT TRANSIENT from section 5.4 and add the specific wording to the basis for SA4 and SS6 which are the only two using the defined term.

Justification

The current definition does not adequately support BWR specific implementation. The proposed revision supports BWR specific implementation.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ)
Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 45	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

SIGNIFICANT TRANSIENT deleted and added the specific definition to the basis for SA4 and SS6 – See FAQ# 39.

NRC to Complete This Section

Resolution of EALFAQ

This is redundant with EALFAQ #2009-039 and is therefore DENIED.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 46

Requestor to Complete This Section

Licensee: OSSI (Energy Northwest/Progress)		Date Submitted: September 15, 2009
Licensee Contact: Kelly walker	Phone: 704-243-0501	E-Mail: ossikelly@aol.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☐ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved: CA1, CS1	Which EAL is involved:
Which Basis Paragraph(s) is involved:	Other:

Description of Question

CA1 specifies: "Loss of RCS/RPV inventory as indicated by level less than (site specific level). [Low-Low ECCS actuation setpoint / Level 2 (BWR)]". CS1 specifies a threshold of 6" below the Level 2 setpoint. The generic bases states "The BWR Low-Low ECCS Actuation Setpoint/Level 2 was chosen because it is a standard setpoint at which some available injection systems automatically start." For most BWRs, the "Low-Low/Level 2" ECCS actuation setpoint is associated with the high pressure steam driven ECCS injection systems. These systems would not be available in the cold shutdown mode. For most BWRs the Low-Low-Low (level 1) setpoint is associated with the low pressure motor driven ECCS. These are the systems that would be available to recover RPV inventory. The low pressure ECCS actuation level setpoint is the appropriate BWR classification threshold for CA1 (6" below for CS1) as that is the level below which ECCS will auto initiate to restore RPV water level.

Proposed Solution

Revise wording of CA1 example EAL to read:

"Loss of RCS/RPV inventory as indicated by level less than (site specific level). [low pressure motor driven ECCS initation setpoint (BWR)]"

Revise BWR specific wording of CS1 example EAL #1 to read:

"... level less than (site specific level). [6" below the low pressure motor driven ECCS initation setpoint (BWR)]"

Justification

Use of the high pressure steam driven ECCS injection system actuation setpoint as the classification threshold is inconsistent with expected automatic system response capability in that exceeding the specified setpoint would not initiate any level restoration action in the applicable operating modes.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 46	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Agree with proposed resolution. Wording changed as indicated.

Revised wording of CA1 example EAL to read:

"Loss of RCS/RPV inventory as indicated by level less than (site specific level). [low pressure motor driven ECCS initation setpoint (BWR)]"

Revised BWR specific wording of CS1 example EAL #1 to read:

"... level less than (site specific level). [6" below the low pressure motor driven ECCS initation setpoint (BWR)]"

CA1 EAL:

1. Loss of RCS/RPV inventory as indicated by level less than (site specific level).

   [Low pressure motor driven ECCS initiation setpoint ~~*Low-Low ECCS actuation setpoint / Level 2*~~ *(BWR)*] [FAQ46]

   [*Bottom ID of the RCS loop (PWR)*]

CA1 Basis:

EAL #1

[*The low pressure motor driven ECCS initiation setpoint ~~BWR Low-Low ECCS Actuation Setpoint/Level 2~~ was chosen because it is a standard setpoint at which some available injection systems automatically start. The PWR Bottom ID of the RCS Loop Setpoint was chosen because at this level remote RCS level indication may be lost and loss of suction to decay heat removal systems has occurred. The Bottom ID of the RCS Loop Setpoint should be the level equal to the bottom of the RPV loop penetration (not the low point of the loop).*] [FAQ46]

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The inability to restore and maintain level after reaching this setpoint would be indicative of a failure of the RCS barrier.

CS1 EAL:

1. With CONTAINMENT CLOSURE not established, RCS/RPV level less than (site specific level).

   [*6" below the bottom ID of the RCS loop (PWR)*]

   [*6" below the low pressure motor driven ECCS initiation setpoint ~~low-low ECCS actuation setpoint~~ (BWR)*] [FAQ46]

EAL Frequently Asked Question (EALFAQ)
Request Form

CS1 Basis:

EAL #1

[*The low pressure motor driven ECCS initiation setpoint was chosen because it is a standard setpoint at which some available injection systems automatically start. Since BWRs have RCS penetrations below the EAL value, continued level decrease may be indicative of pressure boundary leakage.*]

NRC to Complete This Section

Resolution of EALFAQ

The proposed change(s) will fundamentally change the endorsed scheme, which is beyond the scope of the EALFAQ process, and is therefore DENIED. Proposed significant changes to the scheme should be made during subsequent revisions to the guidance. As stated: "The EP [EAL] FAQ process is intended to clarify the staff's interpretation of existing regulatory guidance issued or endorsed by NRC, and will not be used to create new regulatory positions or guidance."

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date:

EAL Frequently Asked Question (EALFAQ) Request Form

FAQ# 47

Requestor to Complete This Section

Licensee: Southern Nuclear		Date Submitted: September 15, 2009
Licensee Contact: Walter Lee	Phone: 205-992-5627	E-Mail: whlee@southernco.com
NRC Contact:	Phone:	E-Mail:
Is this a request for a Site-Specific or Generic EAL FAQ?	☐ Site	☒ Generic

Specific IC/EAL Required Information

Select EAL scheme(s) involved: ☐ NUREG-0654 ☐ NESP-007 ☒ NEI 99-01 R4 ☒ NEI 99-01 R5	
Which IC is involved:	Which EAL is involved:
Which Basis Paragraph(s) is involved: 5F2 EAL 5, 5F3 EAL 7	Other:

Description of Question

The EAL for other specific indications can inadvertently be written to result in the loss or potential loss of the RCS barrier being called prior to exceeding any of the other threshold criteria. Example: Listing leakage into a specific tank such as the RCDT or CTMT sump without listing a leakage value.

Proposed Solution

Add a statement to the basis for all the “Other Specific Indication” thresholds that point out that the intent for these indications is to provide an indication that exceeds the leakage thresholds which would exceed the loss or potential loss thresholds.

Justification

Prevent classification of emergencies that do not exceed the intent of the Initiating condition.

Additional pages attached? ☐ Yes ☒ No

Instructions: Requester completes this part of the EALFAQ form and transmits through approved electronic means via e-mail to mth@nei.org, mail to NEI Emergency Preparedness FAQ, 1776 I St NW, Suite 400, Washington DC 2006-3708, or hand deliver to the NEI EALFAQ Coordinator. The question will be discussed at the next regularly scheduled EALFAQ Panel meeting.

EAL Frequently Asked Question (EALFAQ) Request Form

NEI to Complete This Section

Date Proposed EALFAQ Reviewed by EAL Task Force: 10/08/09		Approved: ☒ Yes ☐ No
EALFAQ #: 47	Date Entered: 11/04/09	By: MTH
EALFAQ presented to NEI/NRC EALFAQ Panel: Date		Approved: ☐ Yes ☐ No

EALFAQ TaskForce to Complete This Section

Resolution of EALFAQ

Added the following to the basis:

5-F-2

EAL 5

5. Other Site Specific Indications

This subcategory addresses other site specific thresholds that may be included to indicate loss or potential loss of the RCS barrier. [*To ensure consistent classifications, any Thresholds provided must be equivalent in relative threat to the Thresholds provided in the same column. Use the basis information from equivalent Thresholds to determine the relative threat.*] [FAQ47]

5-F-3

EAL 7

5. Other Site Specific Indications

This subcategory addresses other site specific thresholds that may be included to indicate loss or potential loss of the Containment barrier. [*To ensure consistent classifications, any Thresholds provided must be equivalent in relative threat to the Thresholds provided in the same column. Use the basis information from equivalent Thresholds to determine the relative threat.*] [FAQ47]

NRC to Complete This Section

Resolution of EALFAQ

The proposed clarification is considered a DIFFERENCE in accordance with RIS 2003-18, with Supplements. The proposed wording clarifies the expectation that the thresholds developed follow a consistent threat-based approach for the entire barrier Loss-Potential Loss thresholds.

OFFICE	NSIR/DPR	NSIR/DPR	TL:NSIR/DPR	BC:NSIR/DPR	D:NSIR/DPR/EPD
NAME					
DATE					

EALFAQ closed and database updated – Date: