

Point Beach Nuclear Plant

NEI 99-01 Rev. 4 to PBNP EAL Comparison Matrix and Summary of Differences/Deviations

Global differences:

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
Various	Increase, decrease	Various	Rise, drop	<ul style="list-style-type: none"> ▪ The word “increase” has been replaced with “rise” consistent with approved communications terminology. The words ‘increase’ and ‘decrease’ are not used because they are easily misunderstood ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	Notification of Unusual Event	Various	Unusual Event	<ul style="list-style-type: none"> ▪ The NEI classification “Notification of Unusual Event” has been changed to “Unusual Event” for consistency with the commonly understood title given in the current plant EALs. ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	Site Area Emergency	Various	Site Emergency	<ul style="list-style-type: none"> ▪ The NEI classification “Site Area Emergency” has been changed to “Site Emergency” for consistency with the commonly understood title given in the current plant EALs. ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	“one or more”	Various	“any”	<ul style="list-style-type: none"> ▪ By standard English language definition, “one or more” is equivalent to “any.” The use of the term “any” decreases EAL user reading burden and, thereby, increases the potential for timely and accurate emergency classifications. ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	site-specific effluent Tech . Spec	Various	ODCM	<ul style="list-style-type: none"> ▪ ODCM is the PBNP site-specific effluent T.S. ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	“RPV”	Various	“Reactor Vessel”	<ul style="list-style-type: none"> ▪ “Reactor Vessel” is used in lieu of “RPV”. Reactor Vessel accepted is PWR terminology. ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..

Various	“potential loss”	Various	“challenge”	<ul style="list-style-type: none"> ▪ The term “challenge” vs. “potential loss” has been selected for site-specific use. In response to industry questions concerning the use of the phrase barrier “challenge” vs. “potential loss”, NEI and the NRC agreed in PWR FPB Question #5 of “Methodology for Development of Emergency Action Levels NUMARC/NESP-007 Rev. 2 Questions and Answers” that <i>“If this is more consistent with the human factor considerations for a specific site then it would be acceptable to do this.”</i> ▪ This difference is not considered a deviation because the change does not alter the intent of the EALs..
Various	“Other Conditions Existing Which... Warrant Declaration”	Various	“Emergency Director Judgment”	<ul style="list-style-type: none"> ▪ Use of the discretionary EALs is an integral part of the Emergency Director’s responsibilities. They are trained to recognize that situations not specifically addressed by the EALs are at their discretion to classify. ▪ This difference is not considered a deviation.
Various	“hostile force”	Various	“adversary”	<ul style="list-style-type: none"> ▪ The term “hostile force” was replaced with “adversary” consistent with the Security Contingency Plan. ▪ This difference is not considered a deviation.
Various	“scram”	Various	“trip”	<ul style="list-style-type: none"> ▪ The term “scram” was replaced with “trip” consistent with PWR terminology. This difference is not considered a deviation.
Various	“>”, “<”, greater than, less than	Various	“≥”, “≤”.	<ul style="list-style-type: none"> ▪ In order to remove any ambiguity for a setpoint, the symbol for “or equal to” was included with each setpoint value. ▪ This difference is not considered a deviation.

Changes in submitted document:

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU2	UNPLANNED Loss of RCS Inventory with Irradiated Fuel in the RPV	MU15.1	Unplanned loss of RCS inventory with irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	UNPLANNED RCS level decrease below the RPV flange for ≥ 15 minutes	MU15.1	<p>Unplanned RCS level lowering below 77.1 89.1% (1 foot below RPV flange) for ≥ 15 min.</p> <p><u>OR</u></p> <p>If Reactor Vessel level cannot be monitored, loss of RPV Reactor Vessel inventory as indicated by unexplained Containment Sump A level rise</p>	<ul style="list-style-type: none"> ▪ MU15.1 implements Example EALs #1 and #2. These were combined for improved usability. ▪ The word “decrease” has been replaced with “lowering” consistent with approved communications terminology. The words ‘increase’ and ‘decrease’ are not used because they are easily misunderstood. ▪ No justification could be determined for the 1 foot below flange lower level. PBNP will revise the submittal to provide the setpoint at the flange level of 89.1 feet. Also the “RPV” will be replaced by Reactor Vessel. ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU1	Natural and Destructive Phenomena Affecting the PROTECTED AREA	HU2.2	Natural or destructive phenomena affecting the Protected Area	HU1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
5	Report of turbine failure resulting in casing penetration or damage to turbine or generator seals	MU11.1	Report of main turbine failure requiring turbine trip resulting in: Damage to turbine-generator seals <u>OR</u> Casing penetration	<ul style="list-style-type: none"> ▪ Reversed the order of the resultant phrases to improve readability. ▪ Deleted mode applicability for modes 5, 6 and defueled because there are no turbine operations for which a casing/seal failure would be of concern to a safety system while in these modes. ▪ Removing “requiring turbine trip” ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA1	Natural and Destructive Phenomena Affecting the Plant VITAL AREA	HA3.1	Natural or destructive phenomena affecting the plant Vital area	HA1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
3	Vehicle crash within PROTECTED AREA boundary and resulting in VISIBLE DAMAGE to any of the following plant structures or equipment therein or control indication of degraded performance of those systems: <ul style="list-style-type: none"> • Reactor Building • Intake Building • Ultimate Heat Sink • Refueling Water Storage Tank • Diesel Generator Building • Turbine Building • Condensate Storage Tank • Control Room • Other (Site-Specific) Structures. 	HA3.1	Vehicle crash which precludes personnel access to or damages plant structures or equipment in one or more Table H-1 Safe Shutdown Areas	<ul style="list-style-type: none"> ▪ The criteria “visible damage” and “control indication of degraded performance of those systems” has been reduced to simply “damages plant structures or equipment in...” to encompass both visible damage and damage manifesting itself though degraded system performance. ▪ Table H-1 provides the site-specific list of structures. ▪ Deleting “precludes personnel access to or” and adding “plant structures” to align with the NEI wording. ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA4	Confirmed Security Event in a Plant PROTECTED AREA	HA1.1	Confirmed security event in a site Protected Area	The term “Plant” was replaced with “site” consistent with station terminology.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
2	Other security events as determined from (site-specific) Safeguards Contingency Plan and reported by the (site-specific) security shift supervision	HA1.1	Intrusion into the site Protected Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for a PA intrusion OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area.	<ul style="list-style-type: none"> ▪ HA1.1 combines example EALs #1 and #2 for improved usability. ▪ The term “Plant” was replaced with “site” consistent with station terminology. ▪ The “Security Shift Supervisor” is the title of the site-specific security shift supervision. ▪ The Shift Manager is notified of security events with the site PA via direction to implement the referenced AOP for PA intrusion.. ▪ Adding “OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area. ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HS1	Confirmed Security Event in a Plant VITAL AREA	HS1.1	Confirmed security event in a plant Vital Area	None
EI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
2	Other security events as determined from (site-specific) Safeguards Contingency Plan and reported by the (site-specific) security shift supervision	HS1.1	Intrusion into a Vital Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for Vital Area intrusion. OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside a Vital Area.	<ul style="list-style-type: none"> ▪ HS1.1 combines example EALs #1 and #2 for improved usability. ▪ The term “plant” was deleted and is unnecessary as vital areas are understood to be within the plant. ▪ The “Security Shift Supervisor” is the title of the site-specific security shift supervision. ▪ The Shift Manager is notified of security events with a vital area via direction to implement the referenced AOP for vital area intrusion. ▪ Added “OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside a Vital Area.” ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU4	Fuel Clad Degradation	MU3.1	Fuel Cladding Degradation	None
NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	(Site-specific) radiation monitor readings indicating fuel clad degradation greater than Technical Specification allowable limits	MU3.1	Failed Fuel Monitor (RE-109) ≥ 24 mRem/hr not due to a planned evolution.	<ul style="list-style-type: none"> Under the specified operating modes the failed fuel monitor value represents clad degradation greater than Technical Specification allowable limits as described in the basis. Deleting “not due to a planned evolution.”. This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS6	Inability to Monitor a SIGNIFICANT TRANSIENT in Progress	MS12.1	Inability to monitor a significant transient in progress	None
NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>a. Loss of most or all (site-specific) annunciators associated with safety systems.</p> <p style="text-align: center;">AND</p> <p>b. Compensatory non-alarming indications are unavailable.</p> <p style="text-align: center;">AND</p> <p>c. Indications needed to monitor (site-specific) safety functions are unavailable.</p> <p style="text-align: center;">AND</p> <p>d. SIGNIFICANT TRANSIENT in progress.</p>	MS12.1	<p>Unplanned loss of annunciators or indicators on any 2 Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20 for ≥ 15 min.</p> <p style="text-align: center;">AND</p> <p>PPCS is unavailable</p> <p style="text-align: center;">AND</p> <p>Complete loss of ability to monitor all critical safety function status</p> <p style="text-align: center;">AND</p> <p>A significant transient is in progress</p>	<ul style="list-style-type: none"> “Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20” contain the site-specific annunciators or indicators associated with safety systems. “PPCS” is the plant-specific “Compensatory non-alarming indication”. “Indications needed to monitor (site-specific) safety functions are unavailable” has been reworded to read “Complete loss of ability to monitor all critical safety function status”. A site-specific list is not needed in that reference to “critical safety functions” is well understood by the EAL user. Added “any 2” to more clearly describe “most”. Deleting “for ≥ 15 min.” was included in error. This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AA3	Release of Radioactive Material or Increases in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown	RA3.2	Release of radioactive material or rises in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
2	VALID (site-specific) radiation monitor readings GREATER THAN <site-specific> values in areas requiring infrequent access to maintain plant safety functions. (Site-specific) list	RA3.2	Sustained (10 minute average) abnormal area radiation levels \geq 12 R/hr in any Table H-1 Safe Shutdown Area AND Access to affected area is required for safe operation or shutdown	<ul style="list-style-type: none"> ▪ The term “sustained” has been used in lieu of “Valid”. Only valid indications are used to assess emergency classifications. The term sustained is used to be consistent with the philosophy of excluding momentary or transient radiation level increases. ▪ The words “(10 minute average)” were added so that “sustained” would have a value with which it can be related. The 10 minute average is what is commonly used for the Control Room reading. ▪ Table H-1 provides the site-specific list of areas requiring infrequent access. ▪ Radiation monitors are not specified in the EAL wording because portable monitoring devices may be used to determine area accessibility. It would then be possible to erroneously exclude information gained from portable monitor surveys when interpreting the EAL ▪ Deleting “AND Access to affected area is required for safe operation or shutdown. ▪ This change will eliminate a deviation from NEI 99-01.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS3	Loss of All Vital DC Power	MS9.1	Loss of all vital DC power	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of All Vital DC Power based on (site-specific) bus voltage indications for greater than 15 minutes	MS9.1	≤ 105 VDC on 125 VDC buses D-01, D-02, D-03 and D-04 for ≥ 15 min. due to unplanned activities	<ul style="list-style-type: none"> ▪ Since the PBNP specified DC batteries represent all required vital DC power, the NEI phrase “Loss of All Vital DC Power” is unnecessary. ▪ Deleting the term “due to unplanned activities”. ▪ This change will eliminate a deviation from NEI 99-01.

Deviations for approval:

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CG1	Loss of RPV Inventory Affecting Fuel Clad Integrity with Containment Challenged with Irradiated Fuel in the RPV	MG15.1	Loss of Reactor Vessel inventory affecting fuel cladding integrity with containment challenged and irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Deviation Justification
1	<p>(1 and 2 and 3)</p> <p>1. Loss of RPV inventory as indicated by unexplained {site-specific} sump and tank level increase</p> <p>2. RPV Level:</p> <p style="padding-left: 20px;">a. less than TOAF for > 30 minutes</p> <p style="text-align: center;">OR</p> <p style="padding-left: 20px;">b. cannot be monitored with Indication of core uncover for > 30 minutes as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> • Containment High Range Radiation Monitor reading > {site-specific} setpoint • Erratic Source Range Monitor Indication • Other {site-specific} indications <p>3. {Site-specific} indication of CONTAINMENT challenged as indicated by one or more of the following:</p> <ul style="list-style-type: none"> • Explosive mixture inside containment • Pressure above {site-specific} value • CONTAINMENT CLOSURE not established • Secondary Containment radiation monitors above {site-specific} value (BWR only) 	MG15.1	<p>1. Core uncover for ≥ 30 min. as indicated by EITHER of the following:</p> <p style="padding-left: 20px;">RVLIS NR $\leq [30 \text{ ft}] 27 \text{ ft}$</p> <p style="text-align: center;">OR</p> <p>One or more of the following when Reactor Vessel water level cannot be monitored:</p> <ul style="list-style-type: none"> - Containment High Range Radiation Monitor reading $\geq 10 \text{ R/hr}$ - Erratic Source Range Monitor indication - Unexplained Containment Sump A level rise <p>AND</p> <p>2. Containment challenged as indicated by one or more of the following:</p> <ul style="list-style-type: none"> o Containment closure not established o Hydrogen concentration in containment $\geq 6\%$ o Containment pressure $\geq 60 \text{ psig}$ 	<ul style="list-style-type: none"> ▪ “Unexplained Containment Sump A level increase” has been included as an “other” indication of inventory loss consistent with IC CS1. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses. ▪ The NEI example 1 requires a GE due to all three conditions. However, sump and tank level indications are only applicable when vessel level cannot be determined as described in the NEI basis: “For EAL 1 in the cold shutdown mode, normal RCS level and RPV level instrumentation systems will normally be available. However, if all level indication were to be lost during a loss of RCS inventory event, the operators would need to determine that RPV inventory loss was occurring by observing sump and tank level changes. Sump and tank level increases must be evaluated against other potential sources of leakage such as cooling water sources inside the containment to ensure they are indicative of RCS leakage”. Thus if reactor vessel level CAN be determined and water level is below TOAF for > 30 min. with a containment challenge, the GE should be declared regardless if there is an unexplained sump or tank level increase. Therefore, the sump level indication was included in the indication when vessel water level cannot be monitored. Deviation. ▪ “Secondary Containment radiation monitors above {site-specific} value (BWR only)” is applicable only to BWRs. ▪ The NEI phrase “{Site-specific} indication of CONTAINMENT challenged as indicated...” has been changed to “Containment challenged as indicated...” to remove the redundant wording.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Deviation Justification
HU1	Natural and Destructive Phenomena Affecting the PROTECTED AREA	HU4.2	Natural or destructive phenomena affecting the Protected Area	HU1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.

2	Report by plant personnel of tornado or high winds greater than (site-specific) mph striking within PROTECTED AREA boundary	HU4.2 Change Matrix	Sustained (15 minute average) winds \geq 75 mph onsite <u>OR</u> Report by plant personnel of tornado striking within plant Protected Area	<ul style="list-style-type: none"> ▪ The term “onsite” is used in lieu of “Protected Area boundary” since the meteorological tower is located onsite but not inside the PA. ▪ Included hurricane force winds (\geq 75 mph) vs. design basis winds as specified in NEI 99-01 to provide a gradient to the Alert threshold which is based on design basis wind speed of 108 mph. The NEI Basis for both the UE and Alert specifies FSAR design basis. Deviation. ▪ The term “sustained” has been added to clarify that the emergency declaration is not to be made for momentary gusts that reach the threshold value. ▪ The word boundary is unnecessary and was deleted since the Protected Area is defined by its boundary.
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA1	Natural and Destructive Phenomena Affecting the Plant VITAL AREA	HA4.2	Natural or destructive phenomena affecting the plant Vital area	HA1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.
2	<p>Tornado or high winds greater than (site-specific) mph within PROTECTED AREA boundary and resulting in VISIBLE DAMAGE to any of the following plant structures / equipment or Control Room indication of degraded performance of those systems.</p> <ul style="list-style-type: none"> • Reactor Building • Intake Building • Ultimate Heat Sink • Refueling Water Storage Tank • Diesel Generator Building • Turbine Building • Condensate Storage Tank • Control Room • Other (Site-Specific) Structures 	HA4.2	<p>Sustained (15 minute average) winds \geq 108 mph onsite</p> <p><u>OR</u></p> <p>Tornado strikes any Table H-1 Safe Shutdown Area</p>	<ul style="list-style-type: none"> ▪ The term “onsite” is used in lieu of “Protected Area boundary” since the meteorological tower is located onsite but not inside the PA. ▪ The term sustained is used to be consistent with the philosophy of excluding momentary wind gusts. Sustained wind speed is measured as the 15 minute average wind speed. ▪ NEI IC HA1 Example EAL #2 specifies that this event result in “visible damage” to plant structures or equipment therein. The phrase has been deleted from the wording of the plant EAL because the specified thresholds are design limits and, by definition, represent the level above which damage can be expected. In addition, during high wind conditions or tornado strikes, it may not be possible to accurately assess “visible damage.” The significance here is not that a particular system or structure was damaged, but rather, that the event was of sufficient magnitude to cause degradation. Deviation ▪ Table H-1 provides the site-specific list of structures.

EAL Comparisons:

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AU1	Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds Two Times the Radiological Effluent Technical Specifications for 60 Minutes or Longer	RU1.1 RU2.1	Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological effluent technical specifications for 60 minutes or longer	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	VALID reading on any effluent monitor that exceeds two times the alarm setpoint established by a current radioactivity discharge permit for 60 minutes or longer	RU1.1	Loss of control of radioactive materials as indicated by a valid reading on any monitors listed in Table R-1 column "UE" for ≥ 60 min. unless sample analysis can confirm release rates $\leq 2 \times$ ODCM limits within this time period	<ul style="list-style-type: none"> ▪ Example EALs #1 and #2 have been combined for ease of use. The values shown in Table R-1, consistent with the basis, represent 2 times the ODCM release limits for both liquid and gaseous release. Multiples of the alarm setpoints are not readily determinable so values corresponding to the multiple of the limit (alarm) are specified. ▪ Consistent with the note in generic ICs AS1 and AG1, the words "unless sample analysis can confirm release rates $\leq 2 \times$ ODCM limits within this time period" have been added to preclude declaration based on effluent monitor readings when actual release has been confirmed to be below the classification threshold. As described in the generic basis, the classification is based on actual releases in excess of the limit. Therefore, it is appropriate to limit the UE declaration to events in which sample analysis have not confirmed release rates above the threshold. ▪ As used here the term "Valid" is maintained because of the nature of effluent monitoring systems. While the instrument may be reading accurately, readings may be considered "invalid" based on effluent path status. ▪ The words "Loss of control of radioactive materials as indicated by a..." were added to provide the intent of the EAL in the NEI AU1 basis and Appendix A.
2	VALID reading on one or more of the following radiation monitors that exceeds the reading shown for 60 minutes or longer: (site-specific list)	RU1.1	Loss of control of radioactive materials as indicated by a valid reading on any monitors listed in Table R-1 column "UE" for ≥ 60 min. unless sample analysis can confirm release rates $\leq 2 \times$ ODCM limits within this time period	

3	Confirmed sample analyses for gaseous or liquid releases indicates concentrations or release rates, with a release duration of 60 minutes or longer, in excess of two times (site-specific technical specifications)	RU2.1	An unplanned gaseous or liquid release with rates $\geq 2 \times$ ODCM limits for ≥ 60 min.	<ul style="list-style-type: none"> ▪ ODCM is the PBNP site-specific effluent T.S. ▪ The words “Confirmed sample analyses for...” have been deleted since determination of actual release rates or concentrations can only be performed by sample analysis. ▪ The word “Unplanned..” has been added to be consistent with the generic IC wording
4	VALID reading on perimeter radiation monitoring system greater than 0.10 mR/hr above normal background sustained for 60 minutes or longer [for sites having telemetered perimeter monitors]	N/A	N/A	Deleted NEI 99-01 Example EALs #4 and #5 because the plant is not equipped with perimeter radiation monitoring and real-time dose assessment. These thresholds are properly addressed by the radiation monitors listed in Table R-1 and manual dose assessment capabilities.
5	VALID indication on automatic real-time dose assessment capability greater than (site-specific value) for 60 minutes or longer [for sites having such capability]	N/A	N/A	Deleted NEI 99-01 Example EALs #4 and #5 because the plant is not equipped with perimeter radiation monitoring and real-time dose assessment. These thresholds are properly addressed by the radiation monitors listed in Table R-1 and manual dose assessment capabilities.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AU2	Unexpected Increase in Plant Radiation	RU3.1	Unexpected rise in plant radiation	None
		MU4.1	Uncontrolled level drop in SFP	<ul style="list-style-type: none"> ▪ The wording of this IC has been revised to better define the implementing EAL in that SFP level is the key symptom correlating increased radiation to loss of pool inventory. ▪ Recategorized the plant EAL to the system malfunction group to emphasize that the EAL is associated with possible damage to irradiated reactor fuel.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>a. VALID (site-specific) indication of uncontrolled water level decrease in the reactor refueling cavity, spent fuel pool, or fuel transfer canal with all irradiated fuel assemblies remaining covered by water.</p> <p style="text-align: center;">AND</p> <p>b. Unplanned VALID (site-specific) Direct Area Radiation Monitor reading increases</p>	MU4.1	<p>Spent fuel pool (reactor cavity during refueling) water level cannot be restored and maintained above the spent fuel pool low water level alarm setpoint</p> <p>AND</p> <p>Unplanned SFP Area Radiation Monitor readings rise</p> <ul style="list-style-type: none"> o RE-105 SFP Area Low Range Area Radiation Monitor o RE-135 SFP Area High Range Area Radiation Monitor 	<p>The NEI 99-01 phrase “VALID (site-specific) indication of uncontrolled water level decrease in the reactor refueling cavity, spent fuel pool, or fuel transfer canal with all irradiated fuel assemblies remaining covered by water” has been replaced with “Spent fuel pool (reactor cavity during refueling) water level cannot be restored and maintained above the spent fuel pool low water level alarm setpoint” for the following reasons:</p> <ul style="list-style-type: none"> • Only valid indications are used to assess emergency classifications. This change is a result of operating experience obtained from EAL validation exercises. • Since there are no controlled water level reductions that lower Spent Fuel Pool water level or Reactor Cavity water level (during refueling operations) below the Technical Specification minimum required water level, it is unnecessary and potentially confusing to include the term “uncontrolled” in this EAL. • The fuel transfer canal at PBNP is normally in direct communication with the Spent Fuel Pool during refueling operations. A decrease in Spent Fuel Pool water level will also cause a decrease in fuel transfer canal water level. It is, therefore, unnecessary to distinguish one water volume from the other. In addition, no level indication or alarm is available for the transfer canal. • The Refueling Cavity is only filled with water during refueling

				<p>operations. The PBNP EAL wording includes the parenthetical phrase “(reactor cavity during refueling)” so that reactor cavity water level is considered only while conducting refueling activities that involve movement of irradiated fuel.</p> <ul style="list-style-type: none"> • Deleted the phrase “...with all irradiated fuel assemblies remaining covered by water.” Because uncovered irradiated fuel is an alert classification under AA2 example 2. • The NEI term “Direct” has been deleted because the plant EAL specifically names the monitors applicable to this EAL. • Two monitors are provided in the EAL although the NEI indicates only one monitor. Either monitor is used to classify the event.
<p>2</p>	<p>Unplanned VALID Direct Area Radiation Monitor readings increases by a factor of 1000 over normal* levels. *Normal levels can be considered as the highest reading in the past twenty-four hours excluding the current peak value.</p>	<p>RU3.1</p>	<p>Any sustained (10 minute average) direct Area Rad Monitor readings ≥ 100 x alarm or offscale high not resulting from a planned event or evolution</p>	<ul style="list-style-type: none"> ▪ The term “sustained” has been used in lieu of “Valid”. Only valid indications are used to assess emergency classifications. The term sustained is used to be consistent with the philosophy of excluding momentary or transient radiation level increases. ▪ The words “(10 minute average)” were added so that “sustained” would have a value with which it can be related. The 10 minute average is what is commonly used for the Control Room reading. ▪ As detailed in the basis, area radiation levels above 100 times the alarm setpoint have been selected because they are readily identifiable on Area Rad Monitor instrumentation. Since Area Rad Monitor setpoints are nominally set approximately one decade over normal levels, 100 times the alarm setpoint provides an appropriate threshold for emergency classification. 100 times the alarm setpoint is, therefore, approximately 1000 times the normal level. ▪ The wording “Unplanned...” has been implemented as “...not resulting from a planned event or evolution” for clarification.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AA1	Any UNPLANNED Release of Gaseous or Liquid Radioactivity to the Environment that Exceeds 200 Times the Radiological Effluent Technical Specifications for 15 Minutes or Longer	RA1.1 RA2.1 RA2.2	Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds 200 times the radiological effluent technical specifications for 15 minutes or longer	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	VALID reading on any effluent monitor that exceeds 200 times the alarm setpoint established by a current radioactivity discharge permit for 15 minutes or longer	RA1.1	Loss of control of radioactive materials as indicated by a valid reading on any monitors listed in Table R-1 column "Alert" for ≥ 15 min. unless sample analysis can confirm release rates $\leq 200 \times$ ODCM limits within this time period	<ul style="list-style-type: none"> ▪ Example EALs #1 and #2 have been combined for ease of use. The values shown in Table R-1, consistent with the basis, represent 200 times the ODCM release limits for both liquid and gaseous release. Multiples of the alarm setpoints are not readily determinant so values corresponding to the multiple of the limit (alarm) are specified. ▪ As used here the term "Valid" is maintained because of the nature of effluent monitoring systems. While the instrument may be reading accurately, readings may be considered "invalid" based on effluent path status. ▪ Consistent with the note in generic ICs AS1 and AG1, the words "unless sample analysis can confirm release rates $\leq 200 \times$ ODCM limits within this time period" have been added to preclude declaration based on effluent monitor readings when actual release have been confirmed to be below the classification threshold. As described in the generic basis, the classification is based on actual releases in excess of the limit. ▪ The words "Loss of control of radioactive materials as indicated by a..." were added to provide the intent of the EAL in the NEI AA1 basis and Appendix A.
2	VALID reading on one or more of the following radiation monitors that exceeds the reading shown for 15 minutes or longer: (site-specific list)	RA1.1	Loss of control of radioactive materials as indicated by a valid reading on any monitors listed in Table R-1 column "Alert" for ≥ 15 min. unless sample analysis can confirm release rates $\leq 200 \times$ ODCM limits within this time period	
3	Confirmed sample analyses for gaseous or liquid releases indicates concentrations or release rates, with a release duration of 15 minutes or longer, in excess of 200 times (site-specific technical specifications)	RA2.1	An unplanned gaseous or liquid release with rates $\geq 200 \times$ ODCM limits for ≥ 15 min.	<ul style="list-style-type: none"> ▪ ODCM is the PBNP site-specific effluent T.S. ▪ The words "Confirmed sample analyses for..." have been deleted since determination of actual release rates or concentrations are performed by sample analysis. ▪ The word "Unplanned.." has been added to be consistent with the generic IC wording

3		RA2.2	Dose projections or field surveys resulting from an unplanned actual or imminent release which indicate doses / dose rates \geq Table R-2 column "Alert" at the site boundary or beyond	<ul style="list-style-type: none"> ▪ This EAL threshold has been added for consistency with the basis for Example EAL #4. While PBNP does not have a perimeter radiation monitoring system, offsite doses and dose rates in excess of the specified limits can be assessed by dose projections and/or field surveys.
4	VALID reading on perimeter radiation monitoring system greater than 10.0 mR/hr above normal background sustained for 15 minutes or longer [for sites having telemetered perimeter monitors]	N/A	N/A	Deleted NEI 99-01 Example EALs #4 and #5 because the plant is not equipped with perimeter radiation monitoring and real-time dose assessment. These thresholds are properly addressed by the radiation monitors listed in Table R-1, R-2 and manual dose assessment capabilities.
5	VALID indication on automatic real-time dose assessment capability greater than (site-specific value) for 15 minutes or longer [for sites having such capability]	N/A	N/A	Deleted NEI 99-01 Example EALs #4 and #5 because the plant is not equipped with perimeter radiation monitoring and real-time dose assessment. These thresholds are properly addressed by the radiation monitors listed in Table R-1 and manual dose assessment capabilities.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AA2	Damage to Irradiated Fuel or Loss of Water Level that Has or Will Result in the Uncovering of Irradiated Fuel Outside the Reactor Vessel	MA4.1	Radiation monitoring indicating damaged or uncovered irradiated fuel	<ul style="list-style-type: none"> ▪ The wording of this IC has been revised to better define the implementing EAL in that radiation monitoring is the key symptom correlating fuel damage or uncovering. ▪ Recategorized the plant EAL to the system malfunction group to emphasize that the EAL is associated with possible damage to irradiated reactor fuel.
		MA4.2	Indication of irradiated fuel uncovering	The wording of this IC has been revised to better describe the implementing EAL which is visual observation of fuel uncovering.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	A VALID (site-specific) alarm or reading on one or more of the following radiation monitors: (site-specific monitors) Refuel Floor Area Radiation Monitor Fuel Handling Building Ventilation Monitor Refueling Bridge Area Radiation Monitor	MA4.1	Confirmed sustained (10 minute average) alarm on any of the following radiation monitors resulting from an uncontrolled fuel handling process indicating damaged or uncovered irradiated fuel: <ul style="list-style-type: none"> o RE-105 SFP Area Low Range Area Radiation High Alarm (≥ 10 mR/hr) o RE-135 SFP Area High Range Area Radiation High Alarm (≥ 100 mR/hr) o 1(2) RE-211 Containment Air Particulate Monitor High Alarm (≥ 0.5 μCi) o 1(2) RE-212B Containment Background Monitor High Alarm (≥ 100 mR/hr) 	<ul style="list-style-type: none"> ▪ The term “Confirmed” has been used in lieu of “Valid”. Only valid indications are used to assess emergency classifications. The term sustained is used to be consistent with the philosophy of excluding momentary or transient radiation level increases. ▪ The words “(10 minute average)” were added so that “sustained” would have a value with which it can be related. The 10 minute average is what is commonly used for the Control Room reading. ▪ The listed radiation monitors represent the site-specific equivalents. ▪ The term “ uncontrolled fuel handling process indicating damaged or uncovered irradiated fuel” captures the intent of outside the reactor vessel as stated in the IC and described in the NEI basis.
2	Water level less than (site-specific) feet for the reactor refueling cavity, spent fuel pool and fuel transfer canal that will result in irradiated fuel uncovering	MA4.2	Report of visual observation of irradiated fuel uncovered OR Loss of refueling water inventory as indicted by excessive makeup rate or unexpected lowering in refueling water storage tank level	<ul style="list-style-type: none"> ▪ No specific water level indication is specified since no remote level indication exists at PBNP. Therefore only visual observation (direct or remote) is available. ▪ Loss of refueling water inventory as indicted by excessive makeup rate or unexpected lowering in refueling water storage tank level” is included in the NEI AA2 basis for example 2.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AA3	Release of Radioactive Material or Increases in Radiation Levels Within the Facility That Impedes Operation of Systems Required to Maintain Safe Operations or to Establish or Maintain Cold Shutdown	RA3.1	Release of radioactive material or rises in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown	None
		RA3.2	Release of radioactive material or rises in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	VALID (site-specific) radiation monitor readings GREATER THAN 15 mR/hr in areas requiring continuous occupancy to maintain plant safety functions: (Site-specific) list	RA3.1	Sustained (10 minute average) area radiation levels \geq 15 mR/hr in <u>EITHER</u> : Control Room (RE 101) <u>OR</u> Central Alarm Station (by survey) <u>OR</u> Secondary Alarm Station (by survey)	<ul style="list-style-type: none"> ▪ The term “sustained” has been used in lieu of “Valid”. Only valid indications are used to assess emergency classifications. The term sustained is used to be consistent with the philosophy of excluding momentary or transient radiation level increases. ▪ The words “(10 minute average)” were added so that “sustained” would have a value with which it can be related. The 10 minute average is what is commonly used for the Control Room reading.

<p>2</p>	<p>VALID (site-specific) radiation monitor readings GREATER THAN <site-specific> values in areas requiring infrequent access to maintain plant safety functions. (Site-specific) list</p>	<p>RA3.2 Change</p>	<p>Sustained (10 minute average) abnormal area radiation levels \geq 12 R/hr in any Table H-1 Safe Shutdown Area AND Access to affected area is required for safe operation or shutdown</p>	<ul style="list-style-type: none"> ▪ The term “sustained” has been used in lieu of “Valid”. Only valid indications are used to assess emergency classifications. The term sustained is used to be consistent with the philosophy of excluding momentary or transient radiation level increases. ▪ The words “(10 minute average)” were added so that “sustained” would have a value with which it can be related. The 10 minute average is what is commonly used for the Control Room reading. ▪ Table H-1 provides the site-specific list of areas requiring infrequent access. ▪ Radiation monitors are not specified in the EAL wording because portable monitoring devices may be used to determine area accessibility. It would then be possible to erroneously exclude information gained from portable monitor surveys when interpreting the EAL ▪ Deleting “AND Access to affected area is required for safe operation or shutdown. ▪ This change will eliminate a deviation from NEI 99-01.
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AS1	Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 100 mR TEDE or 500 mR Thyroid CDE for the Actual or Projected Duration of the Release	RS1.1 RS2.1	Offsite 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	“Rem “ is used in lieu of “R” since dose is properly given in Rem

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>VALID reading on one or more of the following radiation monitors that exceeds or is expected to exceed the reading shown for 15 minutes or longer: (site-specific list)</p> <p>NOTE: If dose assessment results are available at the time of declaration, the classification should be based on EAL #2 instead of EAL #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.</p>	RS1.1	A valid reading on any monitors listed in Table R-1 column “SE” for ≥ 15 min. unless dose assessment can confirm releases are below Table R-2 column “SE” within this time period	<ul style="list-style-type: none"> ▪ As used here the term “Valid” is maintained because of the nature of effluent monitoring systems. While the instrument may be reading accurately, readings may be considered “invalid” based on effluent path status. ▪ The site-specific list is provided in Table R-1. ▪ The intent of the NOTE is implemented via the words “unless dose assessment can confirm releases are below Table R-2 column “SE” within this time period” ▪ “...one or more...” has been replaced with “any” ▪ “...or is expected to exceed..” is unnecessary because all classifications are expected to be made if it is determined that exceeding the threshold is imminent.
2	Dose assessment using actual meteorology indicates doses greater than 100 mR TEDE or 500 mR thyroid CDE at or beyond the site boundary	RS2.1	Dose projections or field surveys resulting from an unplanned actual or imminent release which indicate doses / dose rates \geq Table R-2 column “SE” at the site boundary or beyond.	<ul style="list-style-type: none"> ▪ The term “Dose projection” is used in lieu of “Dose assessment” to capture the IC intent to project the assessment for the duration of the release. ▪ EAL RS2.1 implements Example EALs #2 and #4. These were combined for improved usability. The dose values are provided in Table R-2.
3	A VALID reading sustained for 15 minutes or longer on perimeter radiation monitoring system greater than 100 mR/hr. [for sites having telemetered perimeter monitors]	N/A	N/A	Deleted NEI 99-01 Example EAL #3 because the plant is not equipped with perimeter radiation monitoring. This threshold is properly addressed by the radiation monitors listed in Table R-1 and manual dose assessment capabilities.

<p>4</p>	<p>Field survey results indicate closed window dose rates exceeding 100 mR/hr expected to continue for more than one hour; or analyses of field survey samples indicate thyroid CDE of 500 mR for one hour of inhalation, at or beyond the site boundary</p>	<p>RS2.1</p>	<p>Dose projections or field surveys resulting from an unplanned actual or imminent release which indicate doses / dose rates \geq Table R-2 column "SE" at the site boundary or beyond.</p>	<ul style="list-style-type: none"> ▪ The term "Dose projection" is used in lieu of "Dose assessment" to capture the IC intent to project the assessment for the duration of the release. ▪ EAL RS2.1 implements Example EALs #2 and #4. These were combined for improved usability. The dose values are provided in Table R-2. ▪ "...analyses of field survey samples.." was deleted since CDE thyroid based on field survey requires analysis of field samples. ▪ "...closed window dose rates" is not specified in the plant-specific threshold. Site-specific field survey procedures specify how field readings are taken and evaluated relative to dose assessment
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
AG1	Offsite Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity Exceeds 1000 mR TEDE or 5000 mR Thyroid CDE for the Actual or Projected Duration of the Release Using Actual Meteorology	RG1.1 RG2.1	Offsite dose resulting from an actual or imminent release of gaseous radioactivity exceeds 1000 mRem TEDE or 5000 mRem thyroid CDE for the actual or projected duration of the release using actual meteorology	“Rem “ is used in lieu of “R” since dose is properly given in Rem

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>VALID reading on one or more of the following radiation monitors that exceeds or is expected to exceed the reading shown for 15 minutes or longer: (site-specific list)</p> <p>NOTE: If dose assessment results are available at the time of declaration, the classification should be based on EAL #2 instead of EAL #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.</p>	RG1.1	A valid reading on any monitors listed in Table R-1 column “GE” for ≥ 15 min, unless dose assessment can confirm releases are below Table R-2 column “GE” within this time period	<ul style="list-style-type: none"> ▪ As used here the term “Valid” is maintained because of the nature of effluent monitoring systems. While the instrument may be reading accurately, readings may be considered “invalid” based on effluent path status. ▪ The site-specific list is provided in Table R-1. ▪ The intent of the NOTE is implemented via the words “unless dose assessment can confirm releases are below Table R-2 column “GE” within this time period” ▪ “...one or more...” has been replaced with “any” ▪ “...or is expected to exceed...” is unnecessary because all classifications are expected to be made if it is determined that exceeding the threshold is imminent.
2	Dose assessment using actual meteorology indicates doses greater than 1000 mR TEDE or 5000 mR thyroid CDE at or beyond the site boundary	RG2.1	Dose projections or field surveys resulting from an unplanned actual or imminent release which indicate doses / dose rates \geq Table R-2 column “GE” at the site boundary or beyond.	<ul style="list-style-type: none"> ▪ The term “Dose projection” is used in lieu of “Dose assessment”. ▪ EAL RG2.1 implements Example EALs #2 and #4. These were combined for improved usability. The dose values are provided in Table R-2.
3	A VALID reading sustained for 15 minutes or longer on perimeter radiation monitoring system greater than 1000 mR/hr. [for sites having telemetered perimeter monitors]	N/A	N/A	Deleted NEI 99-01 Example EAL #3 because the plant is not equipped with perimeter radiation monitoring. This threshold is properly addressed by the radiation monitors listed in Table R-1 and manual dose assessment capabilities.

<p>4</p>	<p>Field survey results indicate closed window dose rates exceeding 1000 mR/hr expected to continue for more than one hour; or analyses of field survey samples indicate thyroid CDE of 5000 mR for one hour of inhalation, at or beyond site boundary.</p>	<p>RG2.1</p>	<p>Dose projections or field surveys resulting from an unplanned actual or imminent release which indicate doses / dose rates \geq Table R-2 column "GE" at the site boundary or beyond.</p>	<ul style="list-style-type: none"> ▪ EAL RG2.1 implements Example EALs #2 and #4. These were combined for improved usability. The dose values are provided in Table R-2. ▪ "...analyses of field survey samples.." was deleted since CDE thyroid based on field survey requires analysis of field samples. ▪ "...closed window dose rates" is not specified in the plant-specific threshold. Site-specific field survey procedures specify how field readings are taken and evaluated relative to dose assessment
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU1	RCS Leakage	MU5.1	RCS Leakage	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Unidentified or pressure boundary leakage greater than 10 gpm	MU5.1	Unidentified or pressure boundary leakage ≥ 10 gpm <u>OR</u> Identified leakage ≥ 25 gpm	EAL MU5.11 implements Example EALs #1 and #2. These were combined for improved usability.
2	Identified leakage greater than 25 gpm	MU5.1	Unidentified or pressure boundary leakage ≥ 10 gpm <u>OR</u> Identified leakage ≥ 25 gpm	EAL MU5.11 implements Example EALs #1 and #2. These were combined for improved usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU2	UNPLANNED Loss of RCS Inventory with Irradiated Fuel in the RPV	MU15.1	Unplanned loss of RCS inventory with irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	UNPLANNED RCS level decrease below the RPV flange for ≥ 15 minutes	MU15.1 Change	<p>Unplanned RCS level lowering below 77.1 89.1% (1 foot below RPV flange) for ≥ 15 min.</p> <p>OR</p> <p>If Reactor Vessel level cannot be monitored, loss of RPV Reactor Vessel inventory as indicated by unexplained Containment Sump A level rise</p>	<ul style="list-style-type: none"> MU15.1 implements Example EALs #1 and #2. These were combined for improved usability. The word “decrease” has been replaced with “lowering” consistent with approved communications terminology. The words ‘increase’ and ‘decrease’ are not used because they are easily misunderstood. No justification could be determined for the 1 foot below flange lower level. PBNP will revise the submittal to provide the setpoint at the flange level of 89.1 feet. Also the “RPV” will be replaced by Reactor Vessel.
2	<p>a. Loss of RPV inventory as indicated by unexplained {site-specific} sump and tank level increase</p> <p>AND</p> <p>b. RPV level cannot be monitored</p>	MU15.1	<p>Unplanned RCS level lowering below 77.1 89.1% (1 foot below RPV flange) for ≥ 15 min.</p> <p>OR</p> <p>If Reactor Vessel level cannot be monitored, loss of RPV Reactor Vessel inventory as indicated by unexplained Containment Sump A level rise</p>	<ul style="list-style-type: none"> MU15.1 implements Example EALs #1 and #2. These were combined for improved usability. The ‘AND’ logic statements were combined for readability and understanding. The AND/OR logic structure is confusing, subject to misinterpretation and should be avoided, if possible, as recommended in standard writing guidelines for operating procedures. The plant EAL structure avoids the AND/OR logic structure. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses. No justification could be determined for the 1 foot below flange lower level. PBNP will revise the submittal to provide the setpoint at the flange level of 89.1 feet. Also the “RPV” will be replaced by Reactor Vessel.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU1 & CU3	Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes	MU8.1	Loss of all offsite power to essential busses for \geq 15 minutes	Combined the IC/EALs SU1 and CU3. Changed mode applicability to ALL.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	a. Loss of power to (site-specific) transformers for greater than 15 minutes. AND b. At least (site-specific) emergency generators are supplying power to emergency busses	MU8.1 Hot Matrix	Unplanned loss of offsite AC power to both safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06 for \geq 15 min.	<ul style="list-style-type: none"> ▪ Added “unplanned” loss to exclude scheduled maintenance and testing activities for which contingency plans have been established. ▪ The NEI example EAL condition “Loss of power to (site-specific) transformers for greater than 15 minutes” has been changed to “Unplanned loss of <u>offsite</u> power to both safety-related...buses...for \geq 15 min.” The PBNP wording focuses the classification on the loss of offsite power capability rather than the status of one or more transformers that may or may not be capable of powering the essential buses. This simplifies the EAL wording and concisely meets the intent of the NEI IC. ▪ The NEI example EAL condition “...and At least (site-specific) emergency generators are supplying power to emergency busses” has been deleted because a failure of onsite sources to repower a safety-related bus would require declaration of an Alert under EAL# MA8.1 instead of an Unusual Event. The operability of emergency generators is, therefore, irrelevant to classification under this NEI IC.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU4	UNPLANNED Loss of Decay Heat Removal Capability with Irradiated Fuel in the RPV	MU15.1	Unplanned loss of decay heat removal capability with irradiated fuel in the reactor vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	An UNPLANNED event results in RCS temperature exceeding the Technical Specification cold shutdown temperature limit	MU13.1	An unplanned event results in RCS temperature $\geq 200^{\circ}\text{F}$ <u>OR</u> Loss of all RCS temperature and Reactor Vessel level indication for ≥ 15 min.	<ul style="list-style-type: none"> ▪ MU13.1 implements Example EALs #1 and #2. These were combined for improved usability. ▪ $\geq 200^{\circ}\text{F}$ is the Technical Specification cold shutdown temperature limit and is specified in the EAL instead of the NEI wording to reduce EAL user reading burden. When reading burden is reduced the potential for timely and accurate emergency classifications is improved.
2	Loss of all RCS temperature and RPV level indication for > 15 minutes	MU13.1	An unplanned event results in RCS temperature $\geq 200^{\circ}\text{F}$ <u>OR</u> Loss of all RCS temperature and Reactor Vessel level indication for ≥ 15 min.	MU13.1 implements Example EALs #1 and #2. These were combined for improved usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU5	Fuel Clad Degradation	MU2.1	Fuel Cladding Degradation	None
		MU3.1	Fuel Cladding Degradation	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	(Site-specific) radiation monitor readings indicating fuel clad degradation greater than Technical Specification allowable limits	N/A	N/A	No radiation monitor capable of detecting coolant activities relative the T.S. limit would be operable in the Cold Shutdown or Refueling modes.
2	(Site-specific) coolant sample activity value indicating fuel clad degradation greater than Technical Specification allowable limits	MU2.1	Coolant activity $\geq 0.8 \mu\text{Ci/gm}$ dose equivalent I-131	The stated value represents the Technical Specification allowable limit

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU6 & CU6	UNPLANNED Loss of All Onsite or Offsite Communications Capabilities	MU6.1	Unplanned loss of all onsite or offsite communications capabilities	Combined the IC/EALs SU6 and CU6. Changed mode applicability to ALL.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of all (site-specific list) onsite communications capability affecting the ability to perform routine operations	MU6.1	Loss of all communications capability affecting the ability to <u>EITHER:</u> Perform routine operations <u>OR</u> Notify offsite agencies or personnel	<ul style="list-style-type: none"> ▪ MU6.1 implements Example EALs #1 and #2. These were combined for improved usability. ▪ The example EALs specifies a list site-specific onsite and offsite communications methods. The PBNP EAL lists these methods in the basis discussion of the EAL, and specifies in the EAL wording the reasons onsite and offsite communication losses are important (i.e., perform routine operations and convey problems to offsite personnel). The reasons are obtained directly from the basis of the NEI example EALs. Due to the prevalence of communications systems that were not common-place when the NEI example EALs were drafted (e.g., cellular phones, internet communications, etc.), there are many options available to maintain the lines of communication open. The PBNP EAL wording recognizes this situation while maintaining the intent of the NEI example EALs. ▪ The NEI term “onsite” is deleted from the EAL because it is inferred in the performance of routine operations that the operations of concern are performed onsite. ▪ This EAL is applicable to ALL modes because it includes the offsite agency notifications.

<p>2</p>	<p>Loss of all (site-specific list) offsite communications capability</p>	<p>MU6.1</p>	<p>Loss of all communications capability affecting the ability to <u>EITHER:</u> Perform routine operations <u>OR</u> Notify offsite agencies or personnel</p>	<ul style="list-style-type: none"> ▪ MU6.1 implements Example EALs #1 and #2. These were combined for improved usability. ▪ “Offsite communications capability” has been reworded to “ability to Notify offsite agencies or personnel” to more clearly define the intent of NEI 99-01. ▪ The example EALs specifies a list site-specific onsite and offsite communications methods. The PBNP EAL lists these methods in the basis discussion of the EAL, and specifies in the EAL wording the reasons onsite and offsite communication losses are important (i.e., perform routine operations and convey problems to offsite personnel). The reasons are obtained directly from the basis of the NEI example EALs. Due to the prevalence of communications systems that were not common-place when the NEI example EALs were drafted (e.g., cellular phones, internet communications, etc.), there are many options available to maintain the lines of communication open. The PBNP EAL wording recognizes this situation while maintaining the intent of the NEI example EALs.
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU7	UNPLANNED Loss of Required DC Power for Greater than 15 Minutes	MU9.1	Unplanned loss of required DC power for greater than 15 minutes	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>a. UNPLANNED Loss of Vital DC power to required DC busses based on (site-specific) bus voltage indications.</p> <p style="text-align: center;">AND</p> <p>b. Failure to restore power to at least one required DC bus within 15 minutes from the time of loss.</p>	MU9.1	<p>≤105 VDC on 125 VDC buses D-01, D-02, D-03 and D-04 for ≥15 min. due to unplanned activities</p>	<ul style="list-style-type: none"> ▪ The ‘AND’ logic statements were combined for readability and understanding ▪ The phrase “a...Loss of Vital DC power to required DC busses based on...AND b. Failure to restore power to at least one required DC bus...from the time of loss.” is excess verbiage and therefore slows reading and EAL assessment. Since the PBNP specified DC batteries represent all required vital DC power, the NEI phrase is unnecessary.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CU8	Inadvertent Criticality	MU1.1	Inadvertent Criticality	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	An UNPLANNED extended positive period observed on nuclear instrumentation	N/A	N/A	Applicable to BWRs. PWRs are not equipped with period meters.
2	An UNPLANNED sustained positive startup rate observed on nuclear instrumentation	MU1.1	An unplanned sustained positive startup rate observed on nuclear instrumentation	None

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CA1	Loss of RCS Inventory	MA15.1	Loss of reactor vessel inventory with irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of RCS inventory as indicated by RPV level less than {site-specific level}. (low-low ECCS actuation setpoint) (BWR) (bottom ID of the RCS loop) (PWR)	MA15.1	Loss of RCS or Reactor Vessel inventory as indicated by <u>EITHER:</u> LI-447 and LI-447A ≤ 0% when aligned <u>OR</u> If RCS or Reactor Vessel level cannot be monitored for ≥15 min., loss of inventory as indicated by unexplained Containment Sump A level rise	<ul style="list-style-type: none"> This EAL combines NEI 99-01 IC CA1 and CA2. NEI 99-01 ICs CA1 and CA2 address loss of inventory events when level in the RCS or reactor vessel can and cannot be monitored. The ICs have been combined in one plant EAL to improve clarity and understandability. Reactor Vessel level indication is used for both cold shutdown and refueling conditions. The phrase "...when aligned" has been added to clarify that RVLIS (LI-447 and LI-447A) may not be aligned for operation in shutdown conditions.
2	a. Loss of RCS inventory as indicated by unexplained {site-specific} sump and tank level increase <u>AND</u> b. RCS level cannot be monitored for > 15 minutes	MA15.1	Loss of RCS or Reactor Vessel inventory as indicated by <u>EITHER:</u> LI-447 and LI-447A ≤ 0% when aligned <u>OR</u> If RCS or Reactor Vessel level cannot be monitored for ≥15 min., loss of inventory as indicated by unexplained Containment Sump A level rise	<ul style="list-style-type: none"> This EAL combines NEI 99-01 IC CA1 and CA2. NEI 99-01 ICs CA1 and CA2 address loss of inventory events when level in the RCS or reactor vessel can and cannot be monitored. The ICs have been combined in one plant EAL to improve clarity and understandability. Reactor Vessel level indication is used for both cold shutdown and refueling conditions. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CA2	Loss of RPV Inventory with Irradiated Fuel in the RPV	MA15.1	Loss of reactor vessel inventory with irradiated fuel in the Reactor Vessel	See CA1

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CA3	Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses	MA8.2	Loss of all offsite power and loss of all onsite AC power to essential busses	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	a. Loss of power to (site-specific) transformers. <p style="text-align: center;">AND</p> b. Failure of (site-specific) emergency generators to supply power to emergency busses. <p style="text-align: center;">AND</p> c. Failure to restore power to at least one emergency bus within 15 minutes from the time of loss of both offsite and onsite AC power.	MA8.2	Loss of all AC power to safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06 for ≥ 15 min.	<ul style="list-style-type: none"> ▪ The NEI example EAL condition “Loss of power to (site-specific) transformers...” has been changed to “Loss of all AC power to safety-related 4160 VAC buses...” The plant EAL wording focuses the classification on the loss of power capability rather than the status of one or more transformers that may or may not be capable powering the essential buses. This simplifies the EAL wording and concisely meets the intent of the NEI IC. ▪ The NEI example EAL conditions “...Failure of (site-specific) emergency generators to supply power to emergency busses AND Failure to restore power to at least one emergency bus within (site-specific) minutes from the time of loss of both offsite and onsite AC power” has been deleted. The operability of emergency generators and onsite and offsite power sources is encompassed by the plant EAL wording “Loss of all AC power...”

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CA4	Inability to Maintain Plant in Cold Shutdown with Irradiated Fuel in the RPV	MA13.1	Inability to maintain plant in cold shutdown with irradiated fuel in the reactor vessel	None
		MA14.1	Inability to maintain plant in cold shutdown with irradiated fuel in the reactor vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL # MA13.1	PBNP EAL Wording	Justification
1	With CONTAINMENT CLOSURE <u>and</u> RCS integrity <u>not</u> established an UNPLANNED event results in RCS temperature exceeding the Technical Specification cold shutdown temperature limit.	MA13.1	An unplanned event results in RCS temperature exceeding 200°F for \geq Table M-1 duration*	<ul style="list-style-type: none"> ▪ 200°F is the Technical Specification cold shutdown temperature limit. ▪ Each of the three example EAL conditions related to temperature have been tabularized for ease of use and readability.
2	With CONTAINMENT CLOSURE established <u>and</u> RCS integrity <u>not</u> established <u>or</u> RCS inventory reduced an UNPLANNED event results in RCS temperature exceeding the Technical Specification cold shutdown temperature limit for greater than 20 minutes ¹ .	MA13.1	An unplanned event results in RCS temperature exceeding 200°F for \geq Table M-1 duration*	
3	An UNPLANNED event results in RCS temperature exceeding the Technical Specification cold shutdown temperature limit for greater than 60 minutes ¹ or results in an RCS pressure increase of greater than {site-specific} psig.	MA13.1	An unplanned event results in RCS temperature exceeding 200°F for \geq Table M-1 duration*	

¹Note: if an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced then this EAL is not applicable.

3	An UNPLANNED event results in RCS temperature exceeding the Technical Specification cold shutdown temperature limit for greater than 60 minutes ² or results in an RCS pressure increase of greater than {site-specific} psig.	MA14.1	Unplanned RCS pressure rise ≥ 10 psig due to loss of decay heat removal	<ul style="list-style-type: none"> ▪ This EAL implements NEI 99-01 Revision 4 IC CA4 Example EAL #3 criterion "... pressure increase of > {site-specific} psig". This criterion has been implemented in EAL MA14.1 instead of in EAL MA13.1 so that the temperature and pressure criteria are separated and, thereby, improve EAL clarity and readability. ▪ The criteria "...due to loss of decay heat removal" was added. As stated in the basis: " This EAL is not applicable during solid plant conditions. The pressure rise of 10 psig infers an RCS temperature in excess of the Technical Specification cold shutdown limit (200°F) for which EAL# MA13.1 would permit up to sixty minutes to restore RCS cooling before declaration of an Alert. This EAL therefore covers situations in which it is determined that, due to high decay heat loads, the time provided to reestablish temperature control should be less than sixty minutes."
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Table M-1 RCS Reheat Duration Thresholds	
Containment and RCS Barrier Status	Duration
RCS intact	60 min.*
Containment closure established AND EITHER: RCS <u>not</u> intact OR RCS reduced inventory	20 min.*
Containment closure <u>not</u> established AND RCS <u>not</u> intact	0 min.

*If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced, this EAL is not applicable

²Note: if an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced then this EAL is not applicable.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
<p>CS1</p> <p>Cold matrix</p>	<p>Loss of RPV Inventory Affecting Core Decay Heat Removal Capability</p>	<p>MS15.1</p>	<p>Loss of reactor vessel inventory affecting core decay heat removal capability with irradiated fuel in the Reactor Vessel</p>	<ul style="list-style-type: none"> ▪ The term “RPV” has been replaced with “Reactor Vessel” to use terminology normally associated with PWR nuclear power plants and commonly used by PWR operators. ▪ Added the words “...with irradiated fuel in the Reactor Vessel” consistent with NEI IC CS2. If no irradiated fuel is in the vessel the plant is either in the Defueled mode or there is no decay heat load.
		<p>MS15.2</p>	<p>Loss of reactor vessel inventory affecting core decay heat removal capability with irradiated fuel in the Reactor Vessel</p>	<ul style="list-style-type: none"> ▪ The term “RPV” has been replaced with “Reactor Vessel” to use terminology normally associated with PWR nuclear power plants and commonly used by PWR operators. ▪ Added the words “...with irradiated fuel in the Reactor Vessel” consistent with NEI IC CS2. If no irradiated fuel is in the vessel the plant is either in the Defueled mode or there is no decay heat load.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
<p>1</p>	<p>With CONTAINMENT CLOSURE <u>not</u> established:</p> <p>a. RPV inventory as indicated by RPV level less than {site-specific level} (6" below the low-low ECCS actuation setpoint) (BWR) (6" below the bottom ID of the RCS loop) (PWR)</p> <p><u>OR</u></p> <p>b. RPV level cannot be monitored for > 30 minutes with a loss of RPV inventory as indicated by unexplained {site-specific} sump and tank level increase</p>	<p>MS15.1</p>	<p>With containment closure <u>not</u> established, RVLIS NR ≤[33 ft] 30 ft</p> <p><u>OR</u></p> <p>With containment closure established, RVLIS NR ≤[30 ft] 27 ft</p>	<ul style="list-style-type: none"> ▪ NEI IC CS1 and CS2 have been implemented in EALs MS15.1, MS15.2 and MS15.3. MS15.1 addresses conditions in which Reactor Vessel water level can be monitored; EALs MS15.2 and MS15.3 for conditions in which level cannot be monitored. These changes improve clarity, accuracy and timeliness of EAL classification but do not affect the intent of the NEI ICs. ▪ The use of alternate level values under adverse containment conditions is explained in 2nd paragraph of the EAL basis. This is not a difference from NEI; it is simply the site-specific level.

		MS15.2	<p>Reactor Vessel level cannot be monitored for ≥ 30 min.</p> <p>AND</p> <p>A loss of Reactor Vessel inventory as indicated by <u>EITHER</u>:</p> <p>Unexplained Containment Sump A level rise</p> <p>OR</p> <p>Erratic Source Range Monitor indication</p>	<ul style="list-style-type: none"> ▪ The NEI 99-01 IC does not specify the use of SRM indication for loss of inventory when containment closure is not established. SRM indication is not affected by the status of containment closure and is a valid alternate indication of inventory loss when core uncover is threatened regardless of containment integrity status. ▪ Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses.
2	<p>With CONTAINMENT CLOSURE established</p> <p>a. RPV inventory as indicated by RPV level less than TOAF</p> <p>OR</p> <p>b. RPV level cannot be monitored for > 30 minutes with a loss of RPV inventory as indicated by either:</p> <ul style="list-style-type: none"> • Unexplained {site-specific} sump and tank level increase <p>Erratic Source Range Monitor Indication</p>	MS15.1	<p>With containment closure <u>not</u> established, RVLIS NR $\leq [33 \text{ ft}]$ 30 ft</p> <p>OR</p> <p>With containment closure established, RVLIS NR $\leq [30 \text{ ft}]$ 27 ft</p>	<p>The use of alternate level values under adverse containment conditions is explained in 2nd paragraph of the EAL basis. This is not a difference from NEI; it is simply the site-specific level.</p>
		MS15.2	<p>Reactor Vessel level cannot be monitored for ≥ 30 min.</p> <p>AND</p> <p>A loss of Reactor Vessel inventory as indicated by <u>EITHER</u>:</p> <p>Unexplained Containment Sump A level rise</p> <p>OR</p> <p>Erratic Source Range Monitor indication</p>	<p>Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses.</p>

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CS2	Loss of RPV Inventory Affecting Core Decay Heat Removal Capability with Irradiated Fuel in the RPV	MS15.1	Loss of reactor vessel inventory affecting core decay heat removal capability with irradiated fuel in the Reactor Vessel	None
		MS15.3	Loss of reactor vessel inventory affecting core decay heat removal capability with irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>With CONTAINMENT CLOSURE <u>not</u> established:</p> <p>a. RPV inventory as indicated by RPV level less than {site-specific level}</p> <p style="padding-left: 40px;">(6" below the low-low ECCS actuation setpoint) (BWR)</p> <p style="padding-left: 40px;">(6" below the bottom ID of the RCS loop) (PWR)</p> <p style="text-align: center;"><u>OR</u></p> <p>b. RPV level cannot be monitored with Indication of core uncover as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> • Containment High Range Radiation Monitor reading > {site-specific} setpoint • Erratic Source Range Monitor Indication • Other {site-specific} indications 	MS15.1	<p>With containment closure <u>not</u> established, RVLIS NR ≤[33 ft] 30 ft</p> <p style="text-align: center;"><u>OR</u></p> <p>With containment closure established, RVLIS NR ≤[30 ft] 27 ft</p>	<ul style="list-style-type: none"> ▪ The use of alternate level values under adverse containment conditions is explained in 2nd paragraph of the EAL basis. This is not a difference from NEI; it is simply the site-specific level. These values are expressed as they appear in the EOPs and do not change the intent of the EALs.

		MS15.3	<p>Reactor Vessel level cannot be monitored</p> <p><u>AND</u></p> <p>Indication of core uncover as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> o Containment High Range Radiation Monitor reading ≥ 10 R/hr o Erratic Source Range Monitor indication o Unexplained Containment Sump A level increase 	<ul style="list-style-type: none"> ▪ “Unexplained Containment Sump A level increase” has been included as an “other” indication of inventory loss consistent with IC CS1. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses.
2	<p>With CONTAINMENT CLOSURE established</p> <p>a. RPV inventory as indicated by RPV level less than TOAF</p> <p style="text-align: center;"><u>OR</u></p> <p>b. RPV level cannot be monitored with Indication of core uncover as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> • Containment High Range Radiation Monitor reading $> \{site-specific\}$ setpoint • Erratic Source Range Monitor Indication • Other $\{site-specific\}$ indications 	MS15.1	<p>With containment closure <u>not</u> established, RVLIS NR $\leq [33 \text{ ft}]$ 30 ft</p> <p style="text-align: center;"><u>OR</u></p> <p>With containment closure established, RVLIS NR $\leq [30 \text{ ft}]$ 27 ft</p>	
		MS15.3	<p>Reactor Vessel level cannot be monitored</p> <p><u>AND</u></p> <p>Indication of core uncover as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> o Containment High Range Radiation Monitor reading ≥ 10 R/hr o Erratic Source Range Monitor indication o Unexplained Containment Sump A level increase 	<ul style="list-style-type: none"> ▪ “Unexplained Containment Sump A level increase” has been included as an “other” indication of inventory loss consistent with IC CS1. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
CG1	Loss of RPV Inventory Affecting Fuel Clad Integrity with Containment Challenged with Irradiated Fuel in the RPV	MG15.1	Loss of Reactor Vessel inventory affecting fuel cladding integrity with containment challenged and irradiated fuel in the Reactor Vessel	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Deviation Justification
1	<p>(1 and 2 and 3)</p> <p>1. Loss of RPV inventory as indicated by unexplained {site-specific} sump and tank level increase</p> <p>2. RPV Level:</p> <p style="padding-left: 20px;">a. less than TOAF for > 30 minutes</p> <p style="text-align: center;">OR</p> <p style="padding-left: 20px;">b. cannot be monitored with Indication of core uncover for > 30 minutes as evidenced by one or more of the following:</p> <ul style="list-style-type: none"> • Containment High Range Radiation Monitor reading > {site-specific} setpoint • Erratic Source Range Monitor Indication • Other {site-specific} indications <p>3. {Site-specific} indication of CONTAINMENT challenged as indicated by one or more of the following:</p> <ul style="list-style-type: none"> • Explosive mixture inside containment • Pressure above {site-specific} value • CONTAINMENT CLOSURE not established • Secondary Containment radiation monitors above {site-specific} value (BWR only) 	MG15.1	<p>1. Core uncover for ≥ 30 min. as indicated by EITHER of the following:</p> <p style="padding-left: 20px;">RVLIS NR $\leq [30 \text{ ft}] 27 \text{ ft}$</p> <p style="text-align: center;">OR</p> <p>One or more of the following when Reactor Vessel water level cannot be monitored:</p> <ul style="list-style-type: none"> - Containment High Range Radiation Monitor reading $\geq 10 \text{ R/hr}$ - Erratic Source Range Monitor indication - Unexplained Containment Sump A level rise <p>AND</p> <p>2. Containment challenged as indicated by one or more of the following:</p> <ul style="list-style-type: none"> o Containment closure not established o Hydrogen concentration in containment $\geq 6\%$ o Containment pressure $\geq 60 \text{ psig}$ 	<ul style="list-style-type: none"> ▪ “Unexplained Containment Sump A level increase” has been included as an “other” indication of inventory loss consistent with IC CS1. Only sump level response has been included since unexplained tank level increases in and of themselves cannot be correlated to reactor vessel inventory losses. ▪ The NEI example 1 requires a GE due to all three conditions. However, sump and tank level indications are only applicable when vessel level cannot be determined as described in the NEI basis: “For EAL 1 in the cold shutdown mode, normal RCS level and RPV level instrumentation systems will normally be available. However, if all level indication were to be lost during a loss of RCS inventory event, the operators would need to determine that RPV inventory loss was occurring by observing sump and tank level changes. Sump and tank level increases must be evaluated against other potential sources of leakage such as cooling water sources inside the containment to ensure they are indicative of RCS leakage”. Thus if reactor vessel level CAN be determined and water level is below TOAF for > 30 min. with a containment challenge, the GE should be declared regardless if there is an unexplained sump or tank level increase. Therefore, the sump level indication was included in the indication when vessel water level cannot be monitored. Deviation. ▪ “Secondary Containment radiation monitors above {site-specific} value (BWR only)” is applicable only to BWRs. ▪ The NEI phrase “{Site-specific} indication of CONTAINMENT challenged as indicated...” has been changed to “Containment challenged as indicated...” to remove the redundant wording.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
E-HU1	Damage to a loaded cask CONFINEMENT BOUNDARY	IU1.1	Damage to a loaded cask confinement boundary	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Natural phenomena events affecting a loaded cask CONFINEMENT BOUNDARY. (site-specific list)	IU1.1	Loss of cask confinement boundary as indicated by exceeding any of the following external surface dose rates on any loaded Dry Storage Cask: <ul style="list-style-type: none"> o ≥ 100 mR/hr at the cask side o ≥ 200 mR/hr at the top of the cask o ≥ 350 mR/hr at the cask air inlet o ≥ 100 mR/hr at the cask air outlet 	<ul style="list-style-type: none"> ▪ The NEI 99-01 example EAL wording specifies a list of natural phenomena events affecting a loaded cask confinement boundary. The plant EAL identifies radiation levels that might result from such natural phenomena. As explained in the second paragraph of the EAL basis, the listed radiation levels address the spectrum of events (natural and man-made) that might lead to emergency classification under the NEI EAL. ▪ The NEI 99-01 example EAL mode applicability is given as “N/A”. Since all possible operating modes are listed in the plant EAL, operating mode applicability is irrelevant to event classification and is therefore not applicable. “All” is given in the plant EAL for consistency with other EALs. ▪ The discretionary conditions are included in the HU6.1 ED discretion EAL.
2	Accident conditions affecting a loaded cask CONFINEMENT BOUNDARY. (site-specific list)	IU1.1	Loss of cask confinement boundary as indicated by exceeding any of the following external surface dose rates on any loaded Dry Storage Cask: <ul style="list-style-type: none"> o ≥ 100 mR/hr at the cask side o ≥ 200 mR/hr at the top of the cask o ≥ 350 mR/hr at the cask air inlet o ≥ 100 mR/hr at the cask air outlet 	
3	Any condition in the opinion of the Emergency Director that indicates loss of loaded fuel storage cask CONFINEMENT BOUNDARY	IU1.1	Loss of cask confinement boundary as indicated by exceeding any of the following external surface dose rates on any loaded Dry Storage Cask: <ul style="list-style-type: none"> o ≥ 100 mR/hr at the cask side o ≥ 200 mR/hr at the top of the cask o ≥ 350 mR/hr at the cask air inlet o ≥ 100 mR/hr at the cask air outlet 	

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
E-HU2	Confirmed Security Event with potential loss of level of safety of the ISFSI	IU1.2	Confirmed security event with potential loss of level of safety of the ISFSI	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Security Event as determined from (site-specific) Security Plan and reported by the (site-specific) security shift supervision	IU1.2	Report by Security Shift Supervisor of a security concern within the ISFSI	<ul style="list-style-type: none"> ▪ Notification of a security concern from the Security Shift Supervision would be based on events as specified in the PBNP Safeguards Contingency Plan. It is the responsibility of the Security Shift Supervision to ensure that such reports are based on requirements of the Security Plan. ▪ The NEI 99-01 example EAL mode applicability is given as “N/A”. Since all possible operating modes are listed in the plant EAL, operating mode applicability is irrelevant to event classification and is therefore not applicable. “All” is given in the plant EAL for consistency with other EALs.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
FU1	ANY Loss or ANY Potential Loss of Containment	FU1.1	Any loss or challenge of Containment	<ul style="list-style-type: none"> The second appearance of the word “any” in the NEI EAL has been deleted. The extra word adds to the EAL user reading burden. Unnecessary verbiage may inhibit timely and accurate emergency classification.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	ANY Loss or ANY Potential Loss of Containment	FU1.1	Any loss or challenge of Containment (Table F-1)	The second appearance of the word “any” in the NEI EAL has been deleted. The extra word adds to the EAL user reading burden. Unnecessary verbiage may inhibit timely and accurate emergency classification.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
FA1	ANY Loss or ANY Potential Loss of EITHER Fuel Clad OR RCS	FA1.1	Any loss or any challenge of either Fuel Cladding or RCS	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	ANY Loss or ANY Potential Loss of EITHER Fuel Clad OR RCS	FA1.1	Any loss or challenge of Fuel Cladding or RCS (Table F-1)	The second appearance of the word “any” in the NEI EAL has been deleted. The extra word adds to the EAL user reading burden. Unnecessary verbiage may inhibit timely and accurate emergency classification.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
FS1	Loss or Potential Loss of ANY Two Barriers	FS1.1	Loss or challenge of any two barriers	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss or Potential Loss of ANY Two Barriers	FS1.1	Loss or challenge of any two barriers (Table F-1)	None

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
FG1	Loss of ANY Two Barriers AND Loss or Potential Loss of Third Barrier	FG1.1	Loss of any two barriers with loss or challenge of a third	The word “Barrier” has been deleted from the plant IC to minimize reading burden. It is clear from the context of the term “third” that it is in reference to a third barrier.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of ANY Two Barriers AND Loss or Potential Loss of Third Barrier	FG1.1	Loss of any two barriers with a loss or challenge of a third (Table F-1)	<ul style="list-style-type: none"> ▪ The word “Barrier” has been deleted from the plant EAL to minimize reading burden. It is clear from the context of the term “third” that it is in reference to a third barrier. ▪ Table F-1 contains the loss and challenge thresholds for the three fission product barriers and is the plant representation of NEI Table 5-F-4.FPB ▪ The draft EALs provided to PBNP used the term “Potential Loss”. All references to potential loss were subsequently changed to “challenge”.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU1	Natural and Destructive Phenomena Affecting the PROTECTED AREA	HU2.2	Natural or destructive phenomena affecting the Protected Area	HU1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.
		HU3.1	Natural or destructive phenomena affecting the Protected Area	
		HU4.1	Natural or destructive phenomena affecting the Protected Area	
		HU4.2	Natural or destructive phenomena affecting the Protected Area	
		HU4.3	Natural or destructive phenomena affecting the Protected Area	
		MU11.1	Natural or destructive phenomena affecting the Protected Area (turbine)	Added in parens. “(turbine)” to clarify its placement with system malfunctions.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	(Site-Specific) method indicates felt earthquake	HU4.1	Activation of 2 or more seismic monitors (SEI 6210 through 6213) <u>AND</u> Verified by: <ul style="list-style-type: none"> • Actual ground shaking <u>OR</u> <ul style="list-style-type: none"> • By contacting the U.S. Geological Survey National Earthquake Information Center 	This EAL reflects the site-specific method of indicating a felt earthquake.

2	Report by plant personnel of tornado or high winds greater than (site-specific) mph striking within PROTECTED AREA boundary	HU4.2 Change	Sustained (15 minute average) winds \geq 75 mph onsite <u>OR</u> Report by plant personnel of tornado striking within plant Protected Area	<ul style="list-style-type: none"> ▪ The term “onsite” is used in lieu of “Protected Area boundary” since the meteorological tower is located onsite but not inside the PA. ▪ Included hurricane force winds (\geq 75 mph) vs. design basis winds as specified in NEI 99-01 to provide a gradient to the Alert threshold which is based on design basis wind speed of 108 mph. The NEI Basis for both the UE and Alert specifies FSAR design basis. Deviation. ▪ The term “sustained” has been added to clarify that the emergency declaration is not to be made for momentary gusts that reach the threshold value. ▪ The word boundary is unnecessary and was deleted since the Protected Area is defined by its boundary. ▪ Adding (15 minute average) to define sustained and be consistent with HA4.2
3	Vehicle crash into plant structures or systems within PROTECTED AREA boundary	HU3.1	Vehicle crash into plant structures or systems within the Protected Area	The word boundary is unnecessary and was deleted since the Protected Area is defined by its boundary.
4	Report by plant personnel of an unanticipated EXPLOSION within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to permanent structure or equipment	HU2.2	Report by plant personnel of an explosion within Protected Area resulting in visible damage to permanent structures or equipment	<ul style="list-style-type: none"> ▪ The word “unanticipated” was deleted since no explosions resulting in damage are ever “anticipated”. ▪ The word boundary is unnecessary and was deleted since the Protected Area is defined by its boundary.
5	Report of turbine failure resulting in casing penetration or damage to turbine or generator seals	MU11.1 Change	Report of main turbine failure requiring turbine trip resulting in: Damage to turbine-generator seals <u>OR</u> Casing penetration	<ul style="list-style-type: none"> ▪ Reversed the order of the resultant phrases to improve readability. ▪ Deleted mode applicability for modes 5, 6 and defueled because there are no turbine operations for which a casing/seal failure would be of concern to a safety system while in these modes. ▪ Removing “requiring turbine trip”
6	Uncontrolled flooding in (site-specific) areas of the plant that has the potential to affect safety related equipment needed for the current operating mode	HU4.3	Uncontrolled flooding in the auxiliary building caused by rupture of the SW header . <u>OR</u> Uncontrolled flooding in the water intake structure caused by rupture of a circulating water system expansion joint or fire water main.	Deleted the words “...that has the potential to affect safety related equipment needed for the current operating mode” since by definition the selected internal flooding areas were chosen based on the internal flooding analysis indicating flooding in these areas potentially affect required safety systems.

7	(Site-Specific) occurrences affecting the PROTECTED AREA	N/A	N/A	N/A
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NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU2	FIRE Within PROTECTED AREA Boundary Not Extinguished Within 15 Minutes of Detection	HU2.1	Fire within Protected Area boundary not extinguished within 15 minutes of detection	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	FIRE in buildings or areas contiguous to any of the following (site-specific) areas not extinguished within 15 minutes of control room notification or verification of a control room alarm: (Site-specific) list	HU2.1	Confirmed fire in the Protected Area not extinguished in \leq 15 min. of Control Room notification	The site specific areas encompass the PA.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU3	Release of Toxic or Flammable Gases Deemed Detrimental to Normal Operation of the Plant	HU3.2	Release of toxic or flammable gases deemed detrimental to normal operation of the plant	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Report or detection of toxic or flammable gases that has or could enter the site area boundary in amounts that can affect NORMAL PLANT OPERATIONS	HU3.2	Report or detection of toxic or flammable gases that could enter or have entered within the Protected Area in amounts that could affect the health of plant personnel or safe plant operation <u>OR</u> Report by local, county or state officials for evacuation or sheltering of site personnel based on an offsite event	<ul style="list-style-type: none"> ▪ Example EALs #1 and #2 have been combined into a single EAL for usability. ▪ Added the words "...could affect the health of plant personnel..." to be consistent with the generic basis that states: "The IC assumes an uncontrolled process that has the potential to affect plant operations, or personnel safety". ▪ The site area boundary is stated as the PA because this defined area contains the structures and equipment needed for normal plant operations as allowed by the NEI basis.
2	Report by Local, County or State Officials for evacuation or sheltering of site personnel based on an offsite event	HU3.2	Report or detection of toxic or flammable gases that could enter or have entered within the Protected Area in amounts that could affect the health of plant personnel or safe plant operation <u>OR</u> Report by local, county or state officials for evacuation or sheltering of site personnel based on an offsite event	None

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU4	Confirmed Security Event Which Indicates a Potential Degradation in the Level of Safety of the Plant	HU1.1	Confirmed security event which indicates a potential degradation in the level of safety of the plant	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Security events as determined from (site-specific) Safeguards Contingency Plan and reported by the (site-specific) security shift supervision	HU1.1	Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action onsite OR Notification of any credible site-specific threat by the Security Shift Supervisor or outside agency (NRC, military or law enforcement)	<ul style="list-style-type: none"> ▪ Example EALs #1 and #2 have been combined into a single EAL for improved usability. ▪ The EAL specifies those security events listed in the generic basis whether report by the Security Shift Supervisor or through direct observation.
2	A credible site-specific security threat notification	HU1.1	Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action onsite OR Notification of any credible site-specific threat by the Security Shift Supervisor or outside agency (NRC, military or law enforcement)	<ul style="list-style-type: none"> ▪ Example EALs #1 and #2 have been combined into a single EAL for improved usability. ▪ EAL lists sources for credible security threat notifications which may include outside agencies.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HU5	Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of a NOUE	HU6.1	Emergency Director Judgment	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Other conditions exist which in the judgment of the Emergency Director indicate that events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs	HU6.1	Any event, in the judgment of the Emergency Director, that could lead to or has led to a potential degradation of the level of safety of the plant	The words “No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs” as they provide no quantifiable guidance criteria for emergency classification.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA1	Natural and Destructive Phenomena Affecting the Plant VITAL AREA	HA3.1	Natural or destructive phenomena affecting the plant Vital area	HA1 example EALs are each classifiable events. A destructive phenomena is not necessarily of natural origins. The examples are listed as “or”, therefore the phenomena are either natural and destructive or just destructive.
		HA4.1	Natural or destructive phenomena affecting the plant Vital area	
		HA4.2	Natural or destructive phenomena affecting the plant Vital area	
		HA4.3	Natural or destructive phenomena affecting the plant Vital area	
		MA11.1	Natural or destructive phenomena affecting the plant Vital area (turbine)	Added in parens. “(turbine)” to clarify its placement with system malfunctions.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	(Site-Specific) method indicates Seismic Event greater than Operating Basis Earthquake (OBE)	HA4.1	Two or more seismic monitors (SEI 6210 through 6213) indicate ground acceleration <u>EITHER</u> : ≥ 0.06 g horizontal <u>OR</u> ≥ 0.04 g vertical	This EAL reflects the site-specific method of indicating OBE earthquake.

<p>2</p>	<p>Tornado or high winds greater than (site-specific) mph within PROTECTED AREA boundary and resulting in VISIBLE DAMAGE to any of the following plant structures / equipment or Control Room indication of degraded performance of those systems.</p> <ul style="list-style-type: none"> • Reactor Building • Intake Building • Ultimate Heat Sink • Refueling Water Storage Tank • Diesel Generator Building • Turbine Building • Condensate Storage Tank • Control Room • Other (Site-Specific) Structures 	<p>HA4.2</p>	<p>Sustained (15 minute average) winds \geq 108 mph onsite <u>OR</u> Tornado strikes any Table H-1 Safe Shutdown Area</p>	<ul style="list-style-type: none"> ▪ The term “onsite” is used in lieu of “Protected Area boundary” since the meteorological tower is located onsite but not inside the PA. ▪ The term sustained is used to be consistent with the philosophy of excluding momentary wind gusts. Sustained wind speed is measured as the 15 minute average wind speed. ▪ NEI IC HA1 Example EAL #2 specifies that this event result in “visible damage” to plant structures or equipment therein. The phrase has been deleted from the wording of the plant EAL because the specified thresholds are design limits and, by definition, represent the level above which damage can be expected. In addition, during high wind conditions or tornado strikes, it may not be possible to accurately assess “visible damage.” The significance here is not that a particular system or structure was damaged, but rather, that the event was of sufficient magnitude to cause degradation. ▪ Table H-1 provides the site-specific list of structures.
<p>3</p>	<p>Vehicle crash within PROTECTED AREA boundary and resulting in VISIBLE DAMAGE to any of the following plant structures or equipment therein or control indication of degraded performance of those systems:</p> <ul style="list-style-type: none"> • Reactor Building • Intake Building • Ultimate Heat Sink • Refueling Water Storage Tank • Diesel Generator Building • Turbine Building • Condensate Storage Tank • Control Room • Other (Site-Specific) Structures. 	<p>HA3.1 Change</p>	<p>Vehicle crash which precludes personnel access to or damages <u>plant structures</u> or equipment in one or more Table H-1 Safe Shutdown Areas</p>	<ul style="list-style-type: none"> ▪ The criteria “visible damage” and “control indication of degraded performance of those systems” has been reduced to simply “damages plant structures or equipment in...” to encompass both visible damage and damage manifesting itself though degraded system performance. ▪ Table H-1 provides the site-specific list of structures. ▪ Deleting “precludes personnel access to or” and adding “<u>plant structures</u>” to align with the NEI wording.

4	Turbine failure-generated missiles result in any VISIBLE DAMAGE to or penetration of any of the following plant areas: (site-specific) list.	MA11.1	Turbine failure generated missiles resulting in visible damage to or penetrating any Table H-1 Safe Shutdown Area structure or system	Table H-1 provides the plant-specific list of affected structures.
5	Uncontrolled flooding in (site-specific) areas of the plant that results in degraded safety system performance as indicated in the control room or that creates industrial safety hazards (e.g., electric shock) that precludes access necessary to operate or monitor safety equipment	HA4.3	Uncontrolled flooding that results in degraded safety system performance or that creates industrial safety hazards that precludes access necessary to operate or monitor safety equipment in <u>EITHER</u> : The auxiliary building caused by rupture of the SW header <u>OR</u> The water intake structure caused by rupture of a circulating water system expansion joint or fire water main	“...as indicated in the control room...” was deleted since indication of degraded system performance may manifest itself by indications outside the control room as well.
6	(Site-Specific) occurrences within PROTECTED AREA boundary and resulting in VISIBLE DAMAGE to plant structures containing equipment necessary for safe shutdown, or has caused damage as evidenced by control room indication of degraded performance of those systems	N/A	N/A	N/A

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA2	FIRE or EXPLOSION Affecting the Operability of Plant Safety Systems Required to Establish or Maintain Safe Shutdown	HA2.1	Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>FIRE or EXPLOSION in any of the following (site-specific) areas:</p> <p style="text-align: center;">(Site-specific) list</p> <p style="text-align: center;">AND</p> <p>Affected system parameter indications show degraded performance or plant personnel report VISIBLE DAMAGE to permanent structures or equipment within the specified area</p>	HA2.1	<p>Fire or explosion in any Table H-1 Safe Shutdown Area, which results in <u>EITHER</u>:</p> <p style="padding-left: 40px;">Visible damage to plant equipment or structures needed for safe shutdown</p> <p style="text-align: center;"><u>OR</u></p> <p style="padding-left: 40px;">Affected safety system performance is degraded indicating damage to a safety system</p>	<ul style="list-style-type: none"> ▪ Table H-1 provides the plant-specific list of affected structures. ▪ “VISIBLE DAMAGE to permanent structures or equipment within the specified area..” has been changed to “Visible damage to plant equipment or structures needed for safe shutdown” and “Affected system parameter indications show degraded performance” has been changed to “Affected safety system performance is degraded indicating damage to a safety system”. These changes are consistent with the generic basis that reads: “Site-specific areas containing functions and systems required for the safe shutdown of the plant should be specified. Site-Specific Safe Shutdown Analysis should be consulted for equipment and plant areas required to establish or maintain safe shutdown. This will make it easier to determine if the FIRE or EXPLOSION is potentially affecting one or more redundant trains of safety systems.” ▪ The AND/OR logic structure is confusing, subject to misinterpretation and should be avoided, if possible, as recommended in standard writing guidelines for operating procedures. The plant EAL structure avoids the AND/OR logic structure.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA3	Release of Toxic or Flammable Gases Within or Contiguous to a VITAL AREA Which Jeopardizes Operation of Systems Required to Maintain Safe Operations or Establish or Maintain Safe Shutdown	HA3.2	Release of toxic or flammable gases within or contiguous to a Vital Area which jeopardizes operation of systems required to establish or maintain safe shutdown	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Report or detection of toxic gases within or contiguous to a VITAL AREA in concentrations that may result in an atmosphere IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH)	HA3.2	Report or detection of toxic or flammable gases within any Table H-1 Safe Shutdown Area in concentrations that <u>EITHER:</u> Will be immediately life threatening to plant personnel <u>OR</u> Exceed the lower flammability limit	<ul style="list-style-type: none"> ▪ HA3.2 combines example EALs #1 and #2 for improved usability. ▪ Table H-1 provides the plant-specific list of structures which encompass plant vital areas and areas contiguous to plant vital areas. ▪ “may result in an atmosphere IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH)” has been worded to read “Will be immediately life threatening to plant personnel” since the control room has no way of immediately determining gas concentrations relative to IDHL limits. The wording provides a more general threshold of immediately life threatening concentrations.
2	Report or detection of gases in concentration greater than the LOWER FLAMMABILITY LIMIT within or contiguous to a VITAL AREA	HA3.2	Report or detection of toxic or flammable gases within any Table H-1 Safe Shutdown Area in concentrations that <u>EITHER:</u> Will be immediately life threatening to plant personnel <u>OR</u> Exceed the lower flammability limit	<ul style="list-style-type: none"> ▪ HA3.2 combines example EALs #1 and #2 for improved usability. ▪ Table H-1 provides the plant-specific list of structures which encompass plant vital areas and areas contiguous to plant vital areas. ▪ The NEI phrase “greater than” has been replaced with “exceeds” to minimize EAL user reading burden. The phrases have the same meaning.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA4	Confirmed Security Event in a Plant PROTECTED AREA	HA1.1	Confirmed security event in a site Protected Area	The term “Plant” was replaced with “site” consistent with station terminology.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	INTRUSION into the plant PROTECTED AREA by a HOSTILE FORCE	HA1.1 Change	Intrusion into the site Protected Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for a PA intrusion OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area.	<ul style="list-style-type: none"> HA1.1 combines example EALs #1 and #2 for improved usability. The term “Plant” was replaced with “site” consistent with station terminology. The “Security Shift Supervisor” is the title of the site-specific security shift supervision. The Shift Manager is notified of security events with the site PA via direction to implement the referenced AOP for PA intrusion.
2	Other security events as determined from (site-specific) Safeguards Contingency Plan and reported by the (site-specific) security shift supervision	HA1.1	Intrusion into the site Protected Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for a PA intrusion OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area.	<ul style="list-style-type: none"> HA1.1 combines example EALs #1 and #2 for improved usability. The term “Plant” was replaced with “site” consistent with station terminology. The “Security Shift Supervisor” is the title of the site-specific security shift supervision. The Shift Manager is notified of security events with the site PA via direction to implement the referenced AOP for PA intrusion.. Adding “OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA5	Control Room Evacuation Has Been Initiated	HA5.1	Control Room Evacuation Has Been Initiated	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Entry into (site-specific) procedure for control room evacuation	HA5.1	Entry into AOP-10 Control Room Inaccessibility due to Control Room Evacuation	<ul style="list-style-type: none"> ▪ “AOP-10 Control Room Inaccessibility” is the site-specific procedure for control room evacuation. ▪ The NEI term “for” has been replaced with “due to” to emphasize the reason for entry into AOP-10.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HA6	Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of an Alert	HA6.1	Emergency Director Judgment	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Other conditions exist which in the judgment of the Emergency Director indicate that events are in process or have occurred which involve actual or likely potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels	HA6.1	Any event in the judgment of the Emergency Director, that could cause or has caused actual substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of EPA Protective Action Guides	Both of the generic sentences have been simplified without any reduction of intent or meaning for readability and usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HS1	Confirmed Security Event in a Plant VITAL AREA	HS1.1	Confirmed security event in a plant Vital Area	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	INTRUSION into the plant VITAL AREA by a HOSTILE FORCE	HS1.1 Change	Intrusion into a Vital Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for Vital Area intrusion. OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside a Vital Area.	<ul style="list-style-type: none"> ▪ HS1.1 combines example EALs #1 and #2 for usability. ▪ The term “plant” was deleted and is unnecessary as vital areas are understood to be within the plant. ▪ The “Security Shift Supervisor” is the title of the site-specific security shift supervision. ▪ The term “hostile force” was replaced with “adversary” consistent with the Security Contingency Plan. ▪ The Shift Manager is notified of security events with a vital area via direction to implement the referenced AOP for vital area intrusion.
2	Other security events as determined from (site-specific) Safeguards Contingency Plan and reported by the (site-specific) security shift supervision	HS1.1	Intrusion into a Vital Area by an adversary indicated by notification by the Security Shift Supervisor to implement AOP-29 for Vital Area intrusion. OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside a Vital Area.	<ul style="list-style-type: none"> ▪ HS1.1 combines example EALs #1 and #2 for usability. ▪ The term “plant” was deleted and is unnecessary as vital areas are understood to be within the plant. ▪ The “Security Shift Supervisor” is the title of the site-specific security shift supervision. ▪ The term “hostile force” was replaced with “adversary” consistent with the Security Contingency Plan. ▪ The Shift Manager is notified of security events with a vital area via direction to implement the referenced AOP for vital area intrusion. ▪ Adding “OR Indication of attempted sabotage, hostage/extortion, civil disturbance or strike action inside the Protected Area.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HS2	Control Room Evacuation Has Been Initiated and Plant Control Cannot Be Established	HS5.1	Control Room evacuation has been initiated and plant control cannot be established	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Control room evacuation has been initiated. <p style="text-align: center;">AND</p> Control of the plant cannot be established per (site-specific) procedure within (site-specific) minutes	HS5.1	Control Room evacuation <p style="text-align: center;">AND</p> Transfer of reactivity, RCS inventory and secondary heat removal control functions cannot be established per AOP-10A Safe Shutdown - Local Control in ≤ 15 min.	<ul style="list-style-type: none"> ▪ The NEI phrase "...has been initiated" has been deleted as unnecessary words. The statement of "Control Room evacuation" within the context of EAL thresholds is sufficient to indicate that the evacuation has been initiated. ▪ "Control of the plant..." has been reworded to "Transfer of reactivity, RCS inventory and secondary heat removal control functions..." to be consistent with the generic basis which states: "The intent of the EAL is to establish control of important plant equipment and knowledge of important plant parameters in a timely manner. ... The equivalent functions for a PWR are reactivity control, RCS inventory, and secondary heat removal" ▪ "AOP-10A Safe Shutdown - Local Control" is the site-specific procedure for control room evacuation.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HS3	Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of Site Area Emergency	HS6.1	Emergency Director Judgment	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Other conditions exist which in the judgment of the Emergency Director indicate that events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary	HS6.1	Any event in the judgment of the Emergency Director is in progress which indicate actual or likely failures of plant systems needed to protect the public. Any releases are <u>not</u> expected to result in exposures which exceed EPA Protective Action Guides beyond the site boundary	Both of the generic sentences have been simplified without any reduction of intent or meaning for readability and usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HG1	Security Event Resulting in Loss Of Physical Control of the Facility	HG1.1	Security event resulting in loss of physical control of the facility	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	A HOSTILE FORCE has taken control of plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions	HG1.1	An adversary has taken control of plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions: Reactivity control RCS inventory Secondary heat removal Spent Fuel Pool integrity	<ul style="list-style-type: none"> ▪ The “Security Shift Supervisor” is the title of the site-specific security shift supervision. ▪ A safety function list was specifically added to clarify intent consistent with the generic basis which states: “The equivalent functions for a PWR are reactivity control, RCS inventory, and secondary heat removal” and “This EAL should also address loss of physical control of spent fuel pool cooling systems if imminent fuel damage is likely.”

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
HG2	Other Conditions Existing Which in the Judgment of the Emergency Director Warrant Declaration of General Emergency	HG2.1	Emergency Director Judgment	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Other conditions exist which in the judgment of the Emergency Director indicate that events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area	HG2.1	Any event in the judgment of the Emergency Director is in progress which indicates actual or imminent core damage and the potential for a large release of radioactive material in excess of EPA Protective Action Guides outside the site boundary	<ul style="list-style-type: none"> ▪ These generic sentences have been simplified without any reduction of intent or meaning for readability and usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU1 & CU3	Loss of All Offsite Power to Essential Busses for Greater Than 15 Minutes	MU8.1	Loss of all offsite power to essential busses for \geq 15 minutes	See discussion on CU3

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU2	Inability to Reach Required Shutdown Within Technical Specification Limits	MU10.1	Inability to reach required shutdown within Technical Specification limits	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Plant is not brought to required operating mode within (site-specific) Technical Specifications LCO Action Statement Time	MU10.1	Plant is not brought to required operating mode within Technical Specifications LCO required action completion time	None

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU3	UNPLANNED Loss of Most or All Safety System Annunciation or Indication in The Control Room for Greater Than 15 Minutes	MU12.1	Unplanned loss of most or all safety system annunciation or indication in the control room for greater than 15 minutes	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	UNPLANNED loss of most or all (site-specific) annunciators or indicators associated with safety systems for greater than 15 minutes	MU12.1	Unplanned loss of annunciators or indicators on any 2 Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20 for ≥ 15 min.	<ul style="list-style-type: none"> ▪ “Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20” contain the site-specific annunciators or indicators associated with safety systems. ▪ Added “any 2” to more clearly describe “most”.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU4	Fuel Clad Degradation	MU2.1	Fuel Cladding Degradation	None
		MU3.1	Fuel Cladding Degradation	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	(Site-specific) radiation monitor readings indicating fuel clad degradation greater than Technical Specification allowable limits	MU3.1 Change	Failed Fuel Monitor (RE-109) ≥ 24 mRem/hr not due to a planned evolution.	Under the specified operating modes the failed fuel monitor value represents clad degradation greater than Technical Specification allowable limits as described in the basis. Deleting “not due to a planned evolution.”.
2	(Site-specific) coolant sample activity value indicating fuel clad degradation greater than Technical Specification allowable limits.	MU2.1	Coolant activity ≥ 0.8 μ Ci/gm dose equivalent I-131	The stated value represents the Technical Specification allowable limit.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU5	RCS Leakage	MU5.1	RCS Leakage	None
		MU5.1	RCS Leakage	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Unidentified or pressure boundary leakage greater than 10 gpm	MU5.1	Unidentified or pressure boundary leakage ≥ 10 gpm OR Identified leakage ≥ 25 gpm	MU5.1 combines example EALs #1 and #2 for usability.
2	Identified leakage greater than 25 gpm	MU5.1	Unidentified or pressure boundary leakage ≥ 10 gpm OR Identified leakage ≥ 25 gpm	MU5.1 combines example EALs #1 and #2 for improved usability.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU6	UNPLANNED Loss of All Onsite or Offsite Communications Capabilities	MU6.1	Unplanned loss of all onsite or offsite communications capabilities	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of all (site-specific list) onsite communications capability affecting the ability to perform routine operations	MU6.1	Loss of all communications capability affecting the ability to <u>EITHER:</u> Perform routine operations <u>OR</u> Notify offsite agencies or personnel	<ul style="list-style-type: none"> ▪ MU6.1 implements Example EALs #1 and #2. These were combined for improved usability. ▪ The example EALs specifies a list site-specific onsite and offsite communications methods. The PBNP EAL lists these methods in the basis discussion of the EAL, and specifies in the EAL wording the reasons onsite and offsite communication losses are important (i.e., perform routine operations and convey problems to offsite personnel). The reasons are obtained directly from the basis of the NEI example EALs. Due to the prevalence of communications systems that were not common-place when the NEI example EALs were drafted (e.g., cellular phones, internet communications, etc.), there are many options available to maintain the lines of communication open. The PBNP EAL wording recognizes this situation while maintaining the intent of the NEI example EALs. ▪ The NEI term “onsite” is deleted from the plant EAL because it is inferred in the performance of routine operations that the operations of concern are performed onsite.
2	Loss of all (site-specific list) offsite communications capability	MU6.1	Loss of all communications capability affecting the ability to <u>EITHER:</u> Perform routine operations <u>OR</u> Notify offsite agencies or personnel	

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SU8	Inadvertent Criticality	MU1.1	RCS Leakage	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	An UNPLANNED extended positive period observed on nuclear instrumentation	N/A	N/A	Applicable to BWRs only
2	An UNPLANNED sustained positive startup rate observed on nuclear instrumentation	MU1.1	An unplanned sustained positive startup rate observed on nuclear instrumentation.	None

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SA2	Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was Successful	MA7.1	Failure of reactor protection system instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was successful e	The term “scram” was replaced with “trip” consistent with PWR terminology.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Indication(s) exist that indicate that reactor protection system setpoint was exceeded and automatic scram did not occur, and a successful manual scram occurred	MA7.1	Any failure of the Reactor Protection System to generate an automatic trip signal and reduce power range to $\leq 5\%$. <u>AND</u> Manual trip is successful	In response to industry questions concerning the definition of a successful reactor trip, NEI and the NRC agreed in System Malfunction Question #7 of “Methodology for Development of Emergency Action Levels NUMARC/NESP-007 Rev. 2 Questions and Answers” that “...the scram is considered unsuccessful when enough control rods have not inserted to cause the reactor power to fall below that percent power associated with the ability of the safety systems to remove heat and continue to decrease.” To implement the intent of this position, the PBNP EAL wording includes the phrase “...power range $\leq 5\%$.”

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SA4	UNPLANNED Loss of Most or All Safety System Annunciation or Indication in Control Room With Either (1) a SIGNIFICANT TRANSIENT in Progress, or (2) Compensatory Non-Alarming Indicators are Unavailable	MA7.1	Unplanned loss of most or all safety system annunciation or indication in control room with either (1) a significant transient in progress, or (2) compensatory non-alarming indicators are unavailable	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>UNPLANNED loss of most or all (site-specific) annunciators or indicators associated with safety systems for greater than 15 minutes.</p> <p>AND</p> <p>Either of the following: (a or b)</p> <p>a. A SIGNIFICANT TRANSIENT is in progress.</p> <p style="text-align: center;">OR</p> <p>b. Compensatory non-alarming indications are unavailable.</p>	MA12.1	<p>Unplanned loss of annunciators or indicators on any 2 Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20 for ≥ 15 min.</p> <p><u>AND EITHER:</u></p> <p>A significant transient is in progress</p> <p style="text-align: center;"><u>OR</u></p> <p>PPCS is unavailable</p>	<ul style="list-style-type: none"> ▪ “Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20” contain the site-specific annunciators or indicators associated with safety systems. ▪ “PPCS” is the plant-specific “Compensatory non-alarming indication”. ▪ Added “any 2” to more clearly describe “most”.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SA5	AC power capability to essential busses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in station blackout	MA8.1	AC power capability to essential busses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in station blackout	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>AC power capability to site-specific essential busses reduced to a single power source for greater than 15 minutes</p> <p style="text-align: center;">AND</p> <p>Any additional single failure will result in station blackout</p>	MA8.1	<p>AC power capability to safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06 reduced to only one of the following sources for ≥ 15 min. (one source away from station blackout):</p> <ul style="list-style-type: none"> o A single emergency diesel generator (G01, G02, G03 or G04) o LVSAT 1(2)-X04 o UAT 1(2)-X02 o Cross-tying with the opposite unit power supply 	<ul style="list-style-type: none"> ▪ “safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06” are the site-specific essential buses. ▪ The words “to a single power source for greater than 15 minutes AND Any additional single failure will result in station blackout” have been replaced with: ▪ “only one of the following sources for ≥ 15 min. (one source away from station blackout): for readability. A single emergency diesel generator (G01, G02, G03 or G04) <ul style="list-style-type: none"> o LVSAT 1(2)-X04 o UAT 1(2)-X02 o Cross-tying with the opposite unit power supply” ▪ This provides a plant-specific list of AC power sources and clearly implements the intent of the generic EAL.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS1	Loss of All Offsite Power and Loss of All Onsite AC Power to Essential Busses	MS8.1	Loss of all offsite power and loss of all onsite AC power to essential busses	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of power to (site-specific) transformers. <p style="text-align: center;">AND</p> Failure of (site-specific) emergency generators to supply power to emergency busses. <p style="text-align: center;">AND</p> Failure to restore power to at least one emergency bus within (site-specific) minutes from the time of loss of both offsite and onsite AC power	MS8.1	Loss of all AC power to safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06 for ≥ 15 min.	<ul style="list-style-type: none"> ▪ The NEI example EAL condition “Loss of power to (site-specific) transformers...” has been changed to “Loss of all AC power to safety-related 4160 VAC buses...” The plant EAL wording focuses the classification on the loss of power capability rather than the status of one or more transformers that may or may not be capable powering the essential buses. This simplifies the EAL wording and concisely meets the intent of the NEI IC. ▪ The NEI example EAL conditions “...Failure of (site-specific) emergency generators to supply power to emergency busses AND Failure to restore power to at least one emergency bus within (site-specific) minutes from the time of loss of both offsite and onsite AC power” has been deleted. The operability of emergency generators and onsite and offsite power sources is encompassed by the plant EAL wording “Loss of all AC power...”

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS2	Failure of Reactor Protection System Instrumentation to Complete or Initiate an Automatic Reactor Scram Once a Reactor Protection System Setpoint Has Been Exceeded and Manual Scram Was NOT Successful	MS7.1	Failure of Reactor Protection System instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was not successful	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Indication(s) exist that automatic and manual scram were not successful	MS7.1	Conditions requiring entry into Critical Safety Function - Subcriticality-RED path (CSP-S.1)	<ul style="list-style-type: none"> ▪ The condition requiring entry into Critical Safety Function - Subcriticality-RED path (CSP-S.1) implements the intent of IC SS2 in that entry is required for any failure of both automatic and manual trips to reduce reactor power to < 5%. This EAL is operationally significant and is consistent with NEI philosophy of basing emergency classification on CSFST entry conditions where possible. ▪ In response to industry questions concerning the definition of a successful reactor trip, NEI and the NRC agreed in System Malfunction Question #7 of “Methodology for Development of Emergency Action Levels NUMARC/NESP-007 Rev. 2 Questions and Answers” that “...the scram is considered unsuccessful when enough control rods have not inserted to cause the reactor power to fall below that percent power associated with the ability of the safety systems to remove heat and continue to decrease.” 5% is the power level specified in Subcriticality-RED path.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS3	Loss of All Vital DC Power	MS9.1	Loss of all vital DC power	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of All Vital DC Power based on (site-specific) bus voltage indications for greater than 15 minutes	MS9.1	≤ 105 VDC on 125 VDC buses D-01, D-02, D-03 and D-04 for ≥ 15 min. due to unplanned activities	<ul style="list-style-type: none"> ▪ Since the PBNP specified DC batteries represent all required vital DC power, the NEI phrase “Loss of All Vital DC Power” is unnecessary. ▪ Deleting the term “due to unplanned activities” to eliminate a deviation.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS4	Complete Loss of Heat Removal Capability	FS1.1	Loss or challenge of any two barriers	This IC and example EAL have been subsumed into the Fission Product Barrier EALs as the conditions defined are identical to the combination of generic Fuel Cladding loss #1 (or Challenge #1) and RCS Potential Loss #1. Specifying a separate but redundant EAL threshold would be confusing for the EAL user.

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	Loss of core cooling and heat sink (PWR)	FS1.1	Loss or challenge of any two barriers (Table F-1)	This IC and example EAL have been subsumed into the Fission Product Barrier EALs as the conditions defined are identical to the combination of generic Fuel Cladding loss #1 (or Challenge #1) and RCS Potential Loss #1. Specifying a separate but redundant EAL threshold would be confusing for the EAL user.
2	Heat Capacity Temperature Limit Curve exceeded (BWR)	N/A	N/A	Applicable to BWRs only

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SS6	Inability to Monitor a SIGNIFICANT TRANSIENT in Progress	MS12.1	Inability to monitor a significant transient in progress	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>a. Loss of most or all (site-specific) annunciators associated with safety systems.</p> <p style="text-align: center;">AND</p> <p>b. Compensatory non-alarming indications are unavailable.</p> <p style="text-align: center;">AND</p> <p>c. Indications needed to monitor (site-specific) safety functions are unavailable.</p> <p style="text-align: center;">AND</p> <p>d. SIGNIFICANT TRANSIENT in progress.</p>	MS12.1 Change	<p>Unplanned loss of annunciators or indicators on any 2 Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20 for ≥ 15 min.</p> <p style="text-align: center;">AND</p> <p>PPCS is unavailable</p> <p style="text-align: center;">AND</p> <p>Complete loss of ability to monitor all critical safety function status</p> <p style="text-align: center;">AND</p> <p>A significant transient is in progress</p>	<ul style="list-style-type: none"> ▪ “Control Room panels C01, C02, 1C03, 2C03, 1C04, 2C04, 1C20, or 2C20” contain the site-specific annunciators or indicators associated with safety systems. ▪ “PPCS” is the plant-specific “Compensatory non-alarming indication”. ▪ “Indications needed to monitor (site-specific) safety functions are unavailable” has been reworded to read “Complete loss of ability to monitor all critical safety function status”. A site-specific list is not needed in that reference to “critical safety functions” is well understood by the EAL user. ▪ Added “any 2” to more clearly describe “most”. ▪ Deleting “for ≥ 15 min.” was included in error.

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SG1	Prolonged Loss of All Offsite Power and Prolonged Loss of All Onsite AC Power to Essential Busses	MG8.1	Prolonged loss of all offsite power and prolonged loss of all onsite AC power to essential busses	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>Loss of power to (site-specific) transformers.</p> <p style="text-align: center;">AND</p> <p>Failure of (site-specific) emergency diesel generators to supply power to emergency busses.</p> <p style="text-align: center;">AND</p> <p>Either of the following: (a or b)</p> <p>a. Restoration of at least one emergency bus within (site-specific) hours is <u>not</u> likely</p> <p style="text-align: center;">OR</p> <p>b. (Site-Specific) Indication of continuing degradation of core cooling based on Fission Product Barrier monitoring.</p>	MG8.1	<p>Loss of all AC power to safety-related 4160 VAC buses 1(2)-A05 and 1(2)-A06</p> <p>AND EITHER:</p> <p>Power restoration to any safety-related 4160 VAC bus or 480 VAC bus is not likely in ≤ 4 hours</p> <p style="text-align: center;">OR</p> <p>Conditions require entry into Core Cooling-RED path (CSP-C.1) or Core Cooling-ORANGE path (CSP-C.2)</p>	<ul style="list-style-type: none"> ▪ The NEI example EAL condition “Loss of power to (site-specific) transformers...” has been changed to “Loss of all AC power to safety-related 4160 VAC buses...” The plant EAL wording focuses the classification on the loss of power capability rather than the status of one or more transformers that may or may not be capable powering the essential buses. This simplifies the EAL wording and concisely meets the intent of the NEI IC. ▪ The NEI example EAL conditions “...Failure of (site-specific) emergency generators to supply power to emergency busses AND Failure to restore power to at least one emergency bus within (site-specific) minutes from the time of loss of both offsite and onsite AC power” has been deleted. The operability of emergency generators and onsite and offsite power sources is encompassed by the plant EAL wording “Loss of all AC power...” ▪ The plant EAL condition “Power restoration to any safety-related 4160 VAC bus or 480 VAC bus is not likely in ≤ 4 hours” includes 480 VAC safety-related buses at the General Emergency level. During EAL validation simulator scenario #1, one success path to restore safety-related 480 VAC is to backfeed from the unaffected unit. (See ECA00.) It is possible to effect this line up in less than 4 hours but not in less than the 15 minutes allotted in lower emergency classification levels. ▪ “Conditions require entry into Core Cooling-RED path (CSP-C.1) or Core Cooling-ORANGE path (CSP-C.2)” represent the site-specific indication of continuing degradation of core cooling based on Fission Product Barrier monitoring (see Fuel Cladding Loss #1 and Challenge #1 thresholds).

NEI IC#	NEI IC Wording	PBNP IC#(s)	PBNP IC Wording	Justification
SG2	Failure of the Reactor Protection System to Complete an Automatic Scram and Manual Scram was NOT Successful and There is Indication of an Extreme Challenge to the Ability to Cool the Core	MG7.1	Failure of the Reactor Protection System to complete an automatic trip and manual trip was not successful and there is indication of an extreme challenge to the ability to cool the core	None

NEI Ex. EAL #	NEI Example EAL Wording	PBNP EAL #	PBNP EAL Wording	Justification
1	<p>Indications exist that automatic and manual scram were not successful.</p> <p style="text-align: center;">AND</p> <p>Either of the following: (a or b)</p> <p style="margin-left: 20px;">a. Indication(s) exists that the core cooling is extremely challenged.</p> <p style="text-align: center;">OR</p> <p style="margin-left: 20px;">b. Indication(s) exists that heat removal is extremely challenged</p>	MG7.1	<p>Conditions requiring entry into Subcriticality-RED path (CSP-S.1) currently exist</p> <p style="text-align: center;">AND</p> <p>Conditions requiring entry into <u>EITHER</u>:</p> <p style="margin-left: 20px;">Core Cooling-RED path (CSP-C.1)</p> <p style="text-align: center;">OR</p> <p style="margin-left: 20px;">Heat Sink-RED path (CSP-H.1)</p>	<ul style="list-style-type: none"> ▪ The condition requiring entry into Critical Safety Function - Subcriticality-RED path (CSP-S.1) implements the intent of IC SS2 in that entry is required for any failure of both automatic and manual trips to reduce reactor power to < 5%. This EAL is operationally significant and is consistent with NEI philosophy of basing emergency classification on CSFST entry conditions where possible. ▪ “Core Cooling-RED path (CSP-C.1)” represents the site-specific indication that core cooling is extremely challenged. ▪ “Heat Sink-RED path (CSP-H.1)” represents the site-specific indication that heat removal is extremely challenged.

Fuel Cladding Fission Product Barrier

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
FC Loss 1	<u>Critical Safety Function Status</u> Core-Cooling Red	FC Loss 1	Conditions requiring entry into Core Cooling-RED path (CSP-C.1)	Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the RED path procedure. This is consistent with the NEI basis for the FPBs.
FC Loss 2	<u>Primary Coolant Activity Level</u> Coolant Activity GREATER THAN (site-specific) Value	FC Loss 2	Coolant activity ≥ 300 $\mu\text{Ci/gm}$ I-131 equivalent	None
FC Loss 3	<u>Core Exit Thermocouple Readings</u> GREATER THAN (site-specific) degree F	FC Loss 3	CET readings $\geq 1200^\circ\text{F}$ (Core Cooling-RED path, CSP-C.1)	Added clarifying parenthetical that CET readings are redundant to loss #1
FC Loss 4	<u>Reactor Vessel Water Level</u> Not Applicable	N/A	N/A	N/A
FC Loss 5	<u>Containment Radiation Monitoring</u> Containment rad monitor reading GREATER THAN (site-specific) R/hr	FC Loss 4	Containment rad monitor reading ≥ 17 R/hr	None
FC Loss 6	<u>Other (Site-Specific) Indications</u> (Site-specific) as applicable	FC Loss 5	Failed Fuel Monitor (RE-109) reading ≥ 120 mRem/hr	Site-specific indicator of Fuel Cladding loss.
FC Loss 7	<u>Emergency Director Judgment</u> Any condition in the opinion of the Emergency Director that indicates Loss or Potential Loss of the Fuel Clad Barrier	FC Loss 6	Emergency Director Judgment	None
FC P-Loss 1	<u>Critical Safety Function Status</u> Core Cooling-Orange OR Heat Sink-Red	FC Ch 1	Conditions requiring entry into Core Cooling-ORANGE path (CSP-C.2)	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 Fuel Cladding Potential Loss #1 threshold into two separate thresholds to improve clarity. ▪ Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the CSFT procedure.

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
		FC Ch 2	Conditions requiring entry into Heat Sink-RED path (CSP-H.1)	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 Fuel Cladding Potential Loss #1 threshold into two separate thresholds to improve clarity. ▪ Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the CSFT procedure.
FC P-Loss 2	<u>Primary Coolant Activity Level</u> Not Applicable	N/A	N/A	N/A
FC P-Loss 3	<u>Core Exit Thermocouple Readings</u> GREATER THAN (site-specific) degree F	FC Ch 3	CET readings $\geq 700^{\circ}\text{F}$	None
FC P-Loss 4	<u>Reactor Vessel Water Level</u> Level LESS than (site-specific) value	FC Ch 4	RVLIS NR ≤ 25 ft with no RCPs running	<ul style="list-style-type: none"> ▪ RVLIS narrow range equal to or less than 25 ft with no RCPs running corresponds to a collapsed liquid level 3.5 feet above the bottom of the active fuel with core exit temperature greater than 700°F, including allowance for normal channel accuracy. ▪ This water level is an indication of inadequate coolant inventory and is used in the Core Cooling-ORANGE path and indicates subcooling has been lost and that some fuel cladding damage may occur. ▪ The NEI phrase “less than” has been changed to “\leq” so that the EAL threshold agrees with the level specified in CSP-ST.0 Unit 1(2) Critical Safety Function Status Trees, Figure 2.
FC P-Loss 5	<u>Containment Radiation Monitoring</u> Not Applicable	N/A	N/A	N/A
FC P-Loss 6	<u>Other (Site-Specific) Indications</u> (Site-specific) as applicable	N/A	N/A	N/A
FC P-Loss 7	<u>Emergency Director Judgment</u> Any condition in the opinion of the Emergency Director that indicates Loss or Potential Loss of the Fuel Clad Barrier	FC Ch 5	Emergency Director Judgment	None

RCS Fission Product Barrier

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
RCS Loss 1	<u>Critical Safety Function Status</u> Not Applicable	N/A	N/A	N/A
RCS Loss 2	<u>RCS Leak Rate</u> GREATER THAN available makeup capacity as indicated by a loss of RCS subcooling	RCS Loss 1	RCS subcooling based on core exit thermocouples $\leq [80^{\circ}\text{F}]$ 35°F due to RCS leakage	The NEI phrase “GREATER THAN available makeup capacity..” is unnecessary verbiage as this is self-evident based on loss of subcooling due to RCS leakage. Providing the subcooling value encompasses variations in available makeup capacity.
RCS Loss 3	<u>SG Tube Rupture</u> SGTR that results in an ECCS (SI) Actuation	RCS Loss 2	SGTR in excess of available charging pumps	<ul style="list-style-type: none"> Replaced “results in an ECCS (SI) Actuation” with “in excess of available charging pumps”. Classification would therefore be more appropriately based on inventory loss in excess of normal makeup capability. The use of available charging pump capacity is more conservative than the SI actuation indicated by the NEI IC. The AOPs direct manual SI when exceeding the capacity of charging. The NEI Basis does not provide either automatic or manual associated with the SI actuation.
RCS Loss 4	<u>Containment Radiation Monitoring</u> Containment rad monitor reading GREATER THAN (site-specific) R/hr	RCS Loss 3	Containment rad monitor reading ≥ 3.0 R/hr	None
RCS Loss 5	<u>Other (Site-Specific) Indications</u> (Site-specific) as applicable	N/A	N/A	N/A
RCS Loss 6	<u>Emergency Director Judgment</u> Any condition in the opinion of the Emergency Director that indicate Loss or Potential Loss of the RCS Barrier	RCS Loss 4	Emergency Director Judgment	None
RCS P-Loss 1	<u>Critical Safety Function Status</u> RCS Integrity-Red OR Heat Sink-Red	RCS Ch 1	Conditions requiring entry into RCS Integrity-RED path (CSP-P.1)	<ul style="list-style-type: none"> Divided NEI 99-01 RCS Potential Loss #1 threshold into two separate thresholds to improve clarity. Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the CSFT procedure.

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
		RCS Ch 2	Conditions requiring entry into Heat Sink-RED path (CSP-H.1)	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 RCS Potential Loss #1 threshold into two separate thresholds to improve clarity. ▪ Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the CSFT procedure.
RCS P-Loss 2	<u>RCS Leak Rate</u> Unisolable leak exceeding the capacity of one charging pump in the normal charging mode	RCS Ch 3	Unisolable leak exceeding 60 gpm	60 gpm is the capacity of one charging pump in the normal charging mode.
RCS P-Loss 3	<u>SG Tube Rupture</u> Not Applicable	N/A	N/A	N/A
RCS P-Loss 4	<u>Containment Radiation Monitoring</u> Not Applicable	N/A	N/A	N/A
RCS P-Loss 5	<u>Other (Site-Specific) Indications</u> (Site-specific) as applicable	N/A	N/A	N/A
RCS P-Loss 6	<u>Emergency Director Judgment</u> Any condition in the opinion of the Emergency Director that indicate Loss or Potential Loss of the RCS Barrier	RCS Ch 6	Emergency Director Judgment	None

Containment Fission Product Barrier

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
PC Loss 1	<u>Critical Safety Function Status</u> Not Applicable	N/A	N/A	N/A
PC Loss 2	<u>Containment Pressure</u> Rapid unexplained decrease following initial increase OR Containment pressure or sump level response not consistent with LOCA conditions	PC Loss 1	Rapid unexplained containment pressure drop following initial rise	Divided NEI 99-01 PC Loss #2 threshold into two separate thresholds to improve clarity.
		PC Loss 2	Containment pressure or sump level response not consistent with LOCA conditions	Divided NEI 99-01 PC Loss #2 threshold into two separate thresholds to improve clarity.
PC Loss 3	<u>Core Exit Thermocouple Readings</u> Not applicable	N/A		N/A
PC Loss 4	<u>SG Secondary Side Release with P-to-S Leakage</u> RUPTURED S/G is also FAULTED outside of containment OR Primary-to-Secondary leakrate greater than 10 gpm with nonisolable steam release from affected S/G to the environment	PC Loss 3	Ruptured S/G is also faulted outside of containment	Divided NEI 99-01 PC Loss #4 threshold into two separate thresholds to improve clarity.
		PC Loss 4	Primary-to-secondary leakage ≥ 10 gpm with non-isolable steam release from affected S/G to the environment	Divided NEI 99-01 PC Loss #4 threshold into two separate thresholds to improve clarity.
PC Loss 5	<u>CNMT Isolation Valves Status After CNMT Isolation</u> Valve(s) not closed AND downstream pathway to the environment exists	PC Loss 5	Containment isolation required and containment isolation or ventilation valve(s) not closed when required <u>AND</u> Radiological release pathway to the environment exists	Implemented the NEI threshold “Valve(s) not closed AND downstream pathway to the environment exists” in two Containment loss threshold (#5 and #6) to improve readability and simplify logic. This threshold “Containment isolation required and containment isolation or ventilation valve(s) not closed when required AND Radiological release pathway to the environment exists” specifically addresses possible radiological release pathways associated with the containment isolation and ventilation system.

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
		PC Loss 6	Inability to isolate any primary system discharging outside containment AND Radiological release pathway to the environment exists	Added the Containment loss threshold “Inability to isolate any primary system discharging outside containment AND radiological release pathway to the environment exists” to address other possible release pathways that are not addressed by Containment loss #5. Should this condition exist, classification under the ED Judgment would be expected.
PC Loss 6	Significant Radioactive Inventory in Containment Not Applicable	N/A	N/A	N/A
PC Loss 7	Other (Site-Specific) Indications (Site-specific) as applicable	N/A	N/A	N/A
PC Loss 8	Emergency Director Judgment Any condition in the opinion of the Emergency Director that indicates Loss or Potential Loss of the Containment barrier	PC Loss 8	Emergency Director Judgment	None
PC P-Loss 1	Critical Safety Function Status Containment-Red	PC Ch 1	Conditions requiring entry into Containment-RED path (CSP-Z.1)	Added words “Conditions requiring...” Provides clarification that classification is based upon the condition defined in the CSFST as opposed to when the transition is made into the CSFT procedure.
PC P-Loss 2	Containment Pressure (Site-specific) PSIG and increasing OR Explosive mixture exists OR Pressure greater than containment depressurization actuation setpoint with less than one full train of depressurization equipment operating	PC Ch 2	Containment pressure ≥ 60 psig and rising (Containment-RED path, CSP-Z.1)	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 PC Potential Loss #2 threshold into three separate thresholds to improve clarity. ▪ Added clarifying parenthetical that containment pressure is redundant to potential loss #1.
		PC Ch 3	Hydrogen concentration in containment $\geq 6\%$	<ul style="list-style-type: none"> ▪ Hydrogen concentration is specified in the NEI basis for explosive mixture. ▪ Divided NEI 99-01 PC Potential Loss #2 threshold into three separate thresholds to improve clarity.

NEI FPB#	NEI IC Wording	PBNP FPB #(s)	PBNP FPB Wording	Justification
		PC Ch 4	Containment pressure ≥ 25 psig with less than one train of containment spray and two containment accident fan cooler units operating	Divided NEI 99-01 PC Potential Loss #2 threshold into three separate thresholds to improve clarity.
PC P-Loss 3	<u>Core Exit Thermocouple Readings</u> Core exit thermocouples in excess of 1200 degrees and restoration procedures not effective within 15 minutes; or, core exit thermocouples in excess of 700 degrees with reactor vessel level below top of active fuel and restoration procedures not effective within 15 minutes	PC Ch 5	CET readings $\geq 1200^{\circ}\text{F}$ (Core Cooling-RED path, CSP-C.1) <u>AND</u> Restoration procedures not effective within 15 min.	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 PC Potential Loss #3 threshold into two separate thresholds to improve clarity ▪ Added clarifying parenthetical that the listed CET reading is also an entry condition for Core Cooling RED path CSFST
		PC Ch 6	CET readings $\geq 700^{\circ}\text{F}$ with RVLIS NR <25 ft and no RCPs running (Core Cooling-RED path, CSP-C.1) <u>AND</u> Restoration procedures not effective within 15 min.	<ul style="list-style-type: none"> ▪ Divided NEI 99-01 PC Potential Loss #3 threshold into two separate thresholds to improve clarity ▪ Added clarifying parenthetical that the listed CET and RVLIS reading is also an entry condition for Core Cooling RED path CSFST
PC P-Loss 4	<u>SG Secondary Side Release with P-to-S Leakage</u> Not applicable	N/A	N/A	N/A
PC P-Loss 5	<u>CNMT Isolation Valves Status After CNMT Isolation</u> Not Applicable	N/A	N/A	N/A
PC P-Loss 6	<u>Significant Radioactive Inventory in Containment</u> Containment rad monitor reading GREATER THAN (site-specific) R/hr	PC Ch 7	Containment radiation $\geq 15,900$ R/hr	None
PC P-Loss 7	<u>Other (Site-Specific) Indications</u> (Site-specific) as applicable	N/A	N/A	N/A
PC P-Loss 8	<u>Emergency Director Judgment</u> Any condition in the opinion of the Emergency Director that indicates Loss or Potential Loss of the Containment barrier	PC Ch 8	Emergency Director Judgment	None