

ATTACHMENT 2

**LICENSE AMENDMENT REQUEST 257:
PERMANENTLY DEFUELED EMERGENCY PLAN
AND EMERGENCY ACTION LEVEL SCHEME**

**COMPARISON MATRIX FOR PERMANENTLY DEFUELED EALS
BASED UPON NUCLEAR ENERGY INSTITUTE (NEI) 99-01,
"METHODOLOGY FOR DEVELOPMENT OF EMERGENCY ACTION LEVELS,"
REVISION 6**

**KEWAUNEE POWER STATION
DOMINION ENERGY KEWAUNEE, INC.**

**COMPARISON MATRIX FOR PERMANENTLY DEFUELED EALS
BASED UPON NUCLEAR ENERGY INSTITUTE (NEI) 99-01,
“METHODODOLOGY FOR DEVELOPMENT OF EMERGENCY ACTION LEVELS,”
REVISION 6**

The discussion below provides a description of the Kewaunee Power Station (KPS) Permanently Defueled Emergency Action Level (EAL) Technical Basis Document (provided as Enclosure 3 to this submittal) and provides a comparison of the EAL matrix against the corresponding information contained in NEI 99-01, “Development of Emergency Action Levels for Non-Passive Reactors,” Revision 6.

Description of KPS Permanently Defueled EAL Technical Basis Document

1. Purpose

The purpose section was taken from Emergency Action Level Technical Bases Document, Revision 10. Differences between the proposed permanently defueled EALs and those in NEI 99-01 Revision 6 are discussed below.

- The reference to NEI 99-01 was changed from Rev 4 to Rev 6.
- Information was added to include the Recognition Category “PD” due to KPS becoming a permanently defueled facility.

2. Discussion

This section was developed from NEI 99-01, Revision 6, Section 1, “Regulatory Background.” Differences between the proposed EAL Technical Basis Document and NEI 99-01 are discussed below.

- NEI 99-01, Section 1.1, “Operating Reactors,” was excluded as it pertains to operating reactors. KPS has permanently ceased operation.
- NEI 99-01, Section 1.4, “NRC Order EA-12-051,” was excluded. KPS is a permanently defueled facility and has therefore requested rescission of NRC Order EA-12-051 by letter dated August 23, 2013.
- NEI 99-01, Section 1.5, “Applicability to Advanced and Small Modular Reactor Designs,” was excluded as this section does not apply to KPS.
- Added statement of applicability that only certain EAL/ICs will be required after all the fuel stored in the spent fuel pool is transferred to the ISFSI.

3. Key Terminology Used

This section was developed from NEI 99-01, Section 2, “Key Terminology Used in NEI 99-01.” Differences in this section are discussed below.

- Removed references to Site Area Emergency and General Emergency throughout the section. EALs have been developed using NEI 99-01, Section 8, for ISFSI and Appendix C for Permanently Defueled Station ICs/EALs. Emergency classification levels only include NOUE and Alert.
- In NEI 99-01, Section 2.2, “Initiating Condition (IC),” removed the references to RCS leakage and fission product barriers. KPS has permanently ceased operation. The RCS and Containment have been abandoned and are not considered fission product barriers.
- Removed NEI 99-01, Section 2.4, “Fission Product Barrier Threshold,” for reasons mentioned previously.

4. Guidance on Making Emergency Classification

This section was developed from NEI 99-01, Section 5, “Guidance on Making Emergency Classifications”. Differences in this section are discussed below.

- In Section 4.1 (NEI 99-01, Section 5.1), reference to fission product barrier thresholds were removed as the RCS and Containment have been abandoned and no longer serve as fission product barriers.
- In Section 4.1 (NEI 99-01, Section 5.1), the second paragraph of NEI 99-01 was removed that referenced declaring an emergency within 15 minutes. It is no longer possible for the radiological consequences of design basis accidents or other credible events at KPS to exceed the limits of the EPA Protective Action Guidelines at the exclusion area boundary (EAB). Therefore, offsite emergency response plans and public notification are no longer necessary. DEK will continue to make notifications to the State of Wisconsin and to the local county (Kewaunee). The timeliness goal will be to make notification to the State and county within 60 minutes of declaration of an event. The radiological consequences resulting from the only remaining events (e.g., fuel handling accident) are below the Environmental Protection Agency (EPA) Protective Action Guides (PAGs) exposure levels at the site boundary, as detailed in the EPA’s “Protective Action Guide and Planning Guidance for Radiological Incidents,” Draft for Interim Use and Public Comment dated March 2013 (PAG Manual). As such, a 15 minute notification requirement is unnecessarily restrictive. Sixty minutes provides a reasonable amount of time to provide notification to state and local governmental agencies since there is no need for the State to implement any protective actions. This notification timeliness is also consistent with the notification requirement to the NRC Operations Center, contained in 10 CFR 50.72(a)(1)(i), for the declaration of an emergency class.

- In Section 4.2 (NEI 99-01, Section 5.2), reference to Operating Mode Applicability was removed because Operating Modes are not applicable to a permanently defueled facility.
- Since Operating Modes no longer apply to a permanently defueled facility, NEI 99-01, Section 5.4 was not added to the KPS document.
- In Section 4.3, removed references to two units as KPS is a single unit site.
- In Section 4.4 (NEI 99-01, Section 5.5), the word “levels” in the last sentence was changed to “level” as there is only one higher emergency classification level above a UE.
- In Section 4.5 (NEI 99-01, Section 5.6), references to SAE and GE were removed. Since it is no longer possible for the radiological consequences of design basis accidents or other credible events at KPS to exceed the limits of the EPA Protective Action Guidelines at the EAB, Site Area Emergency and General Emergency are no longer credible emergency classifications.
- In Section 4.6 (NEI 99-01, Section 5.7) removed references to an operating plant type of short lived event (reactor trip) and replaced with verbiage applicable to a permanently defueled plant.
- In Section 4.7 (NEI 99-01, Section 5.8) removed the illustrative example as the auxiliary feedwater system example is no longer a credible example at KPS. The reference to the 15 minute classification was also removed as discussed above.

5. References

- This section was added. No corresponding section is provided in NEI 99-01.

NEI 99-01 Sections Not Included

The following sections of NEI 99-01, Revision 6 (which contain EAL development guidance), were not included and references made to these sections were also removed:

- Section 3, “Design of the NEI 99-01 Emergency Classification Scheme”
- Section 4, “Site-Specific Scheme Development Guidance”

The following NEI 99-01 sections were completely removed from the KPS EAL matrix as these do not apply to a permanently defueled facility:

- Section 6, “Abnormal Rad Levels/Radiological Effluent ICs/EALs”
- Section 7, “Cold Shutdown/Refueling System Malfunction ICs/EALs”
- Section 9, “Fission Product Barrier ICs/EALs”
- Section 10, “Hazards and Other Conditions Affecting Plant Safety ICs/EALs”
- Section 11, “System Malfunction ICs/EALs.”

Appendix A, “Independent Spent Fuel Storage Installation”

- Appendix A of the KPS EAL Technical Basis Document incorporates Section 8 of NEI 99-01. Changes to E-HU1 are provided in the table below.

Appendix B, “Hazards and Other Conditions Affecting Plant Safety”

- Appendix B provides the Permanently Defueled Station ICs/EALs and incorporates Appendix C of NEI 99-01.
- References to Operating Modes were removed from Table PD-1.

Appendix C, “Definitions”

- Appendix C, incorporates NEI 99-01, Appendix B.
- References to SAE, GE, and fission product barrier were removed as discussed above.
- The terms containment closure, faulted, and unisolable were removed from the list of definitions as they are not used in the permanently defueled ICs/EALs.
- Added specific definitions for Owner Controlled Area (OCA) and Protected Area.
- Revised NORMAL LEVELS by adding “or since the last survey” to the definition.
- Added definition for Vehicle Barrier System (VBS) which is applicable for Initiating Conditions PD-HU1 and PD-HA1.

Appendix D, “Acronyms and Definitions”

- Appendix D incorporates NEI 99-01, Appendix A.
- The list incorporates only those acronyms used in the KPS EAL Technical Basis Document.

NEI 99-01, Rev 6, Section 8 – ISFSI ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>E-HU1</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: Damage to a loaded cask CONFINEMENT BOUNDARY.</p> <p>Operating Mode Applicability: All</p>	<p>E-HU1</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: Damage to a loaded cask CONFINEMENT BOUNDARY.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels:</p> <p>(1) Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by an on-contact radiation reading greater than (2 times the site-specific cask specific technical specification allowable radiation level) on the surface of the spent fuel cask.</p>	<p>Emergency Action Levels: E-HU1.1</p> <p>E-HU1.1 Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by a radiation reading greater than two times the ISFSI Technical Specifications allowable levels.</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs. • Removed “on the surface of the spent fuel cask”. Surveys are performed on the transfer cask and the Horizontal Storage Module (HSM) and not directly on the spent fuel cask itself. Also, acceptance criteria for transfer cask readings are obtained at a distance of three feet.
<p>Basis:</p> <p>This IC addresses an event that results in damage to the CONFINEMENT BOUNDARY of a storage cask containing spent fuel. It applies to irradiated fuel that is licensed for dry storage beginning at the point that the loaded storage cask is sealed. The issues of concern are the creation of a potential or actual release path to the environment, degradation of one or more fuel assemblies due to environmental factors, and configuration changes which could cause challenges in removing the cask or fuel from storage.</p> <p>The existence of “damage” is determined by radiological survey. The technical specification multiple of “2 times”, which is also used in</p>	<p>Basis:</p> <p>This IC addresses an event that results in damage to the CONFINEMENT BOUNDARY of a storage cask containing spent fuel. It applies to irradiated fuel that is licensed for dry storage beginning at the point that the loaded storage cask is sealed. The issues of concern are the creation of a potential or actual release path to the environment, degradation of one or more fuel assemblies due to environmental factors, and configuration changes which could cause challenges in removing the cask or fuel from storage.</p> <p>The existence of “damage” is determined by radiological survey. The technical specification multiple of “2 times” is used here to distinguish</p>	<ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant. • Removed reference to ‘on contact’ due to surveys not being on contact readings.

NEI 99-01, Rev 6, Section 8 – ISFSI ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>Recognition Category A IC AU1, is used here to distinguish between non-emergency and emergency conditions. The emphasis for this classification is the degradation in the level of safety of the spent fuel cask and not the magnitude of the associated dose or dose rate. It is recognized that in the case of extreme damage to a loaded cask, the fact that the “on-contact” dose rate limit is exceeded may be determined based on measurement of a dose rate at some distance from the cask.</p> <p>Security-related events for ISFSIs are covered under ICs HU1 and HA1.</p>	<p>between non-emergency and emergency conditions. The emphasis for this classification is the degradation in the level of safety of the spent fuel cask and not the magnitude of the associated dose or dose rate. It is recognized that in the case of extreme damage to a loaded cask, the fact that the dose rate limit is exceeded may be determined based on measurement of a dose rate at some distance from the cask.</p> <p>This IC/EAL applies while irradiated fuel is stored in the Spent Fuel Pool or loaded into dry storage casks.</p> <p>Security-related events for ISFSIs are covered under ICs PD-HU1 and PD-HA1.</p>	

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>PD-AU1</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: Release of gaseous or liquid radioactivity greater than 2 times the (site-specific effluent release controlling document) limits for 60 minutes or longer.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-AU1</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: An uncontrolled release of gaseous or liquid radioactivity for 60 minutes or longer.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition. • The IC is changed to 'An uncontrolled release of gaseous or liquid radioactivity for 60 minutes or longer'. KPS no longer has the source term or motive force from credible accidents that could cause a gaseous release that would exceed 2 x ODCM limits. Therefore this IC does not directly apply to KPS as written in the NEI guidance for gaseous releases. The only remaining potential unplanned gaseous release of consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP), and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents would be monitored by R-13 and R-14, the Auxiliary Building Ventilation stack radiation monitors, or could be detected using manual grab sampling as a backup. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using the NEI guidance of 2 x ODCM limits for unplanned gaseous releases is not practicable for this IC at KPS. Using an IC worded to reflect the condition of an uncontrolled release of gaseous or liquid radioactivity for 60 minutes or longer more accurately implements the NEI guidance for an Unusual Event at KPS and is indicative of a potential degradation of the level of safety of the plant.

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison										
<p>Example Emergency Action Levels: (1 or 2)</p> <p>Notes:</p> <ul style="list-style-type: none"> The Emergency Director should declare the Unusual Event promptly upon determining that 60 minutes has been exceeded, or will likely be exceeded. If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes. <p>(1) Reading on ANY effluent radiation monitor greater than 2 times the alarm setpoint established by a current radioactivity discharge permit for 60 minutes or longer.</p> <p>(2) Sample analysis for a gaseous or liquid release indicates a concentration or release rate greater than 2 times the (site-specific effluent release controlling document) limits for 60 minutes or longer.</p>	<p>Emergency Action Levels: PD-AU 1.1 or PD-AU 1.2 or PD-AU1.3</p> <p>NOTE: The Emergency Director should declare the Unusual Event promptly upon determining that 60 minutes has been exceeded, or will likely be exceeded.</p> <p>NOTE: If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes.</p> <p>NOTE: If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p>PD-AU1.1 Reading on ANY effluent radiation monitor that is greater than the reading shown for 60 minutes or longer:</p> <table border="0"> <thead> <tr> <th><u>Auxiliary Building</u></th> <th><u>Action Value</u></th> </tr> </thead> <tbody> <tr> <td>R-13 Aux. Bldg. Vent Exhaust</td> <td>4.0E+05 cpm</td> </tr> <tr> <td>R-14 Aux. Bldg. Vent Exhaust</td> <td>4.0E+05 cpm</td> </tr> </tbody> </table> <p>Liquid Radwaste</p> <table border="0"> <tbody> <tr> <td>R-18 WD System Liquid</td> <td>2 x Discharge Permit Limit</td> </tr> <tr> <td>R-20 Aux Bldg SW Return</td> <td>2.0E+03 cpm</td> </tr> </tbody> </table> <p>PD-AU1.2 Confirmed sample analysis for a gaseous release indicates a concentration greater than 5.4E-03 µCi/cc for 60 minutes or longer</p> <p>PD-AU1.3 Confirmed analysis for a liquid effluent sample indicates a concentration or release rate greater than 2 times the</p>	<u>Auxiliary Building</u>	<u>Action Value</u>	R-13 Aux. Bldg. Vent Exhaust	4.0E+05 cpm	R-14 Aux. Bldg. Vent Exhaust	4.0E+05 cpm	R-18 WD System Liquid	2 x Discharge Permit Limit	R-20 Aux Bldg SW Return	2.0E+03 cpm	<ul style="list-style-type: none"> Removed “Example” from Emergency Action Levels and changed numbering of the EALs. EAL #1 (PD-AU1.1) is changed to “Reading on ANY effluent radiation monitor that is greater than the reading shown for 60 minutes or longer.” KPS no longer has the source term or motive force to perform any planned gaseous batch releases from a non-continuous release pathway, or that is established by a gaseous radioactivity discharge permit, and could exceed ODCM limits. Therefore, this part of the EAL does not directly apply to KPS for planned gaseous releases. The only remaining potential unplanned gaseous release of consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents would be monitored by R-13 and R-14, the Auxiliary Building Ventilation stack radiation monitors. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using a discharge permit or ODCM setpoint as the basis for the gaseous effluent radiation monitor readings is not practicable for this part of the EAL at KPS. Using RMS monitor readings based on an uncontrolled gaseous release for 60 minutes or longer and a credible fuel handling accident more accurately implements the NEI guidance for the gaseous release part of this EAL at KPS. This example EAL does still apply to liquid batch releases monitored by R-18 and continuous liquid releases monitored by R-20, therefore the NEI guidance will be used. EAL#2 (PD-AU1.2 and PD-AU1.3) was divided into two EALs, one for gaseous releases (PD-
<u>Auxiliary Building</u>	<u>Action Value</u>											
R-13 Aux. Bldg. Vent Exhaust	4.0E+05 cpm											
R-14 Aux. Bldg. Vent Exhaust	4.0E+05 cpm											
R-18 WD System Liquid	2 x Discharge Permit Limit											
R-20 Aux Bldg SW Return	2.0E+03 cpm											

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison
	<p>ODCM limits for 60 minutes or longer.</p>	<p>A1.2) and one for liquid releases (PD-AU1.3). For PD-AU1.2, KPS no longer has the source term or motive force from a credible accident that could create a gaseous release that could exceed ODCM limits. Therefore, this part of the EAL does not directly apply to KPS. The only remaining potential gaseous release of consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents could be detected by noble gas grab sampling and analysis. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using ODCM limits for unplanned gaseous releases is not practicable for this part of the EAL at KPS. Using gas sample analysis results and a gaseous effluent release rate based on an uncontrolled gaseous release for 60 minutes or longer and a credible fuel handling accident more accurately implements the NEI guidance for the gaseous release part of this EAL at KPS. For PD-AU1.3, this EAL does still apply to the KPS source term and motive force for radioactive liquid releases therefore the NEI guidance will be used.</p>
<p>Basis:</p> <p>This IC addresses a potential decrease in the level of safety of the plant as indicated by a low-level radiological release that exceeds regulatory commitments for an extended period of time (e.g., an uncontrolled release). It includes any gaseous or liquid radiological release, monitored or un-monitored, including those for which a radioactivity discharge permit is normally prepared.</p>	<p>Basis:</p> <p>This IC addresses a potential or actual decrease in the level of safety of the plant as indicated by an uncontrolled, low level radiological release for an extended period of time. It includes any gaseous or liquid radiological release, monitored or un-monitored, including those for which a radioactivity discharge permit is normally prepared.</p>	<ul style="list-style-type: none"> • The basis for PD-AU1 was changed to reflect the fact that KPS no longer has the source term or motive force to perform any planned gaseous batch releases from a non-continuous release pathway, or that is established by a gaseous radioactivity discharge permit, and could exceed ODCM limits. Therefore, this part of the EAL does not directly apply to KPS for planned gaseous releases. The only remaining potential unplanned gaseous release of consequence

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>Nuclear power plants incorporate design features intended to control the release of radioactive effluents to the environment. Further, there are administrative controls established to prevent unintentional releases, and to control and monitor intentional releases. The occurrence of an extended, uncontrolled radioactive release to the environment is indicative of degradation in these features and/or controls.</p> <p>Radiological effluent EALs are also included to provide a basis for classifying events and conditions that cannot be readily or appropriately classified on the basis of plant conditions alone. The inclusion of both plant condition and radiological effluent EALs more fully addresses the spectrum of possible accident events and conditions.</p> <p>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p>Releases should not be prorated or averaged. For example, a release exceeding 4 times release limits for 30 minutes does not meet the EAL.</p> <p>EAL #1 - This EAL addresses radioactivity releases that cause effluent radiation monitor readings to exceed 2 times the limit established by a radioactivity discharge permit. This EAL will typically be associated with planned batch releases from non-continuous release pathways (e.g., radwaste,</p>	<p>With the station being permanently shut down for more than 100 days, the only radionuclide of any significance available to be released in gaseous form is the noble gas Kr-85. Kr-85 decays emitting a beta particle and low abundance gamma, and is therefore not a significant contributor to Total Effective Dose Equivalent (TEDE). The gaseous release portion of this IC (detected by either an effluent monitor or by sample analysis) is not based on any particular ODCM values of dose or dose rate but rather the radiological release that results from damage to, and uncontrolled release from, a fuel assembly. The liquid release portion of this IC is based on an uncontrolled release that exceeds two times the radiation monitor discharge permit limit (R-18) or ODCM default setpoint value (R-20).</p> <p>KPS incorporates design features intended to control the release of radioactive effluents to the environment. The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of degradation in these features and/or controls. For gaseous and liquid releases, these controls are located in the ODCM. Further, there are administrative controls established to prevent unintentional releases.</p> <p>Radiological effluent EALs are also included to provide a basis for classifying events and conditions that cannot be readily or appropriately classified on the basis of plant conditions alone. The inclusion of both plant condition and radiological effluent EALs more fully addresses the spectrum of possible accident events and conditions.</p> <p>Classification based on effluent monitor readings assumes that a release path to the environment is</p>	<p>would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents would be monitored. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using a discharge permit or ODCM setpoint as the basis for the gaseous effluent radiation monitor readings is not practicable for this part of the EAL at KPS. Using RMS monitor readings based on an uncontrolled gaseous release for 60 minutes or longer and a credible fuel handling accident more accurately implements the NEI guidance for the gaseous release part of this EAL at KPS. The proposed KPS IC and EALS meet the NEI 99-01 stated attribute for a NOUE: "A minor loss of control of radioactive materials or the ability to control radiation levels within the plant." The emphasis for this classification is that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant and that no releases of radioactive material requiring offsite response are expected unless further degradation of safety systems occurs.</p> <ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant.

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>waste gas).</p> <p>EAL #2 - This EAL addresses uncontrolled gaseous or liquid releases that are detected by sample analyses or environmental surveys, particularly on unmonitored pathways (e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.).</p> <p>Escalation of the emergency classification level would be via IC PD-AA1.</p>	<p>established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p>PD-AU1.2 and PD-AU1.3 addresses uncontrolled gaseous or liquid releases that are detected by sample analyses or environmental surveys.</p> <p>Releases should not be prorated or averaged. For example, a release exceeding 4 times release limits for 30 minutes does not meet the EAL.</p> <p>Recording equipment can be used to determine the start of a release</p> <p>This IC/EAL applies only while irradiated fuel is stored in the Spent Fuel Pool or there is sufficient volume of radioactive liquid that, if released, could exceed two times the ODCM limits.</p> <p>Escalation of the emergency classification level would be via IC PD-AA1.</p>	

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison
<p>PD-AA1</p> <p>ECL: Alert</p> <p>Initiating Condition: Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-AA1</p> <p>ECL: Alert</p> <p>Initiating Condition: An uncontrolled release of gaseous or liquid radioactivity resulting in detectable levels at the site boundary.</p>	<ul style="list-style-type: none"> Removed reference to Operating Mode as they do not apply in a permanently defueled condition. Changed the IC to 'An uncontrolled release of gaseous or liquid radioactivity resulting in detectable levels at the site boundary'. KPS no longer has the source term or motive force from a credible accident to create a gaseous release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this IC does not directly apply to KPS as written in the NEI guidance for gaseous releases. The only remaining potential gaseous release of consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents would be monitored by R-13 and R-14, the Auxiliary Building Ventilation stack radiation monitors. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using the IC dose values of 10 mrem TEDE and 50 mrem thyroid CDE is not practicable at KPS. Using an IC worded to reflect the condition of an uncontrolled release of gaseous or liquid radioactivity that results in detectable levels at the site boundary more accurately implements the NEI guidance for an Alert at KPS.
<p>Example Emergency Action Levels: (1 or 2 or 3 or 4)</p> <p>Notes:</p> <ul style="list-style-type: none"> The Emergency Director should declare the Alert promptly upon determining that the applicable time has been exceeded, or will likely be exceeded. If an ongoing release is detected and the 	<p>Emergency Action Levels: PD-AA1.1 or PD-AA1.2 or PD-AA1.3</p> <p>NOTE: The Emergency Director should declare the Alert promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</p> <p>NOTE: If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</p> <p>NOTE: If the effluent flow past an effluent monitor is</p>	<ul style="list-style-type: none"> Removed "Example" from Emergency Action Levels and changed numbering of the EALs. For EAL#1 related to gaseous radiation monitors, KPS no longer has the source term or motive force from a credible accident to create a gaseous release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this part of the EAL does not directly apply to KPS. The only remaining potential gaseous release of consequence would be caused by

NEI 99-01, Rev 6, Appendix C – Permanently Defueled Station ICs/EALs	Proposed EAL Matrix for KPS	Comparison												
<p>release start time is unknown, assume that the release duration has exceeded 15 minutes.</p> <ul style="list-style-type: none"> If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes. The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the results from a dose assessment using actual meteorology are available. <p>(1) Reading on ANY of the following radiation monitors greater than the reading shown for 15 minutes or longer:</p> <p>(site-specific monitor list and threshold values)</p> <p>(2) Dose assessment using actual meteorology indicates doses greater than 10 mrem TEDE or 50 mrem thyroid CDE at or beyond (site-specific dose receptor point).</p> <p>(3) Analysis of a liquid effluent sample indicates a concentration or release rate that would result in doses greater than 10 mrem TEDE or 50 mrem thyroid CDE at or beyond (site-specific dose receptor point) for one hour of exposure.</p> <p>(4) Field survey results indicate EITHER of the following at or beyond (site-specific dose receptor point):</p> <ul style="list-style-type: none"> Closed window dose rates greater than 10 mR/hr expected to continue for 60 minutes or longer. 	<p>known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p>PD-AA1.1 Reading on ANY effluent radiation monitor that is greater than the reading shown for 15 minutes or longer:</p> <table border="0"> <thead> <tr> <th><u>Auxiliary Building</u></th> <th><u>Action Value</u></th> </tr> </thead> <tbody> <tr> <td>R-13 Aux Building Vent Exhaust</td> <td>4.0E+06 cpm</td> </tr> <tr> <td>R-14 Aux Building Vent Exhaust</td> <td>4.0E+06 cpm</td> </tr> </tbody> </table> <table border="0"> <thead> <tr> <th><u>Liquid Radwaste</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>R-18 WD System Liquid</td> <td>50 x Discharge Permit Limit</td> </tr> <tr> <td>R-20 Aux Bldg SW Return</td> <td>5.0E+04 cpm</td> </tr> </tbody> </table> <p>PD-AA1.2 Confirmed sample analysis for a gaseous release indicates a concentration greater than 5.4E-2 µCi/cc for 15 minutes or longer.</p> <p>PD-AA1.3 Confirmed analysis of a liquid effluent sample indicates a concentration or release rate greater than 50 times the ODCM limit for 15 minutes or longer.</p>	<u>Auxiliary Building</u>	<u>Action Value</u>	R-13 Aux Building Vent Exhaust	4.0E+06 cpm	R-14 Aux Building Vent Exhaust	4.0E+06 cpm	<u>Liquid Radwaste</u>		R-18 WD System Liquid	50 x Discharge Permit Limit	R-20 Aux Bldg SW Return	5.0E+04 cpm	<p>damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Any releases associated with fuel damage caused by credible fuel handling accidents would be monitored by R-13 and R-14, the Auxiliary Building Ventilation stack radiation monitors. The offsite dose consequence due to a gaseous release caused by a credible fuel handling accident is negligible. Therefore, using the IC dose values of 10 mrem TEDE and 50 mrem thyroid CDE as the basis for the gaseous effluent radiation monitor readings is not practicable at KPS. Using RMS monitor readings based on an uncontrolled gaseous release caused by a credible fuel handling accident that results in detectable levels at the site boundary more accurately implements the NEI guidance for the gaseous release part of this EAL at KPS, and provides an appropriate escalation from PD-AU1.</p> <ul style="list-style-type: none"> For EAL#1 related to liquid effluent radiation monitors, KPS does not have the source term from a credible event to create a liquid release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this part of the EAL does not directly apply to KPS. The current source term considered for liquid radioactive releases is comparable to what was previously used for this EAL (pre-defueling/ decommissioning). Therefore, using RMS monitor readings that are 50x the ODCM limits more accurately implements the NEI guidance for the liquid release part of this EAL at KPS, and provides an appropriate escalation from PD-AU1. For EAL#2, KPS no longer has the source term or motive force from a credible accident to create a gaseous release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this EAL does not apply to KPS. The only remaining potential gaseous release of
<u>Auxiliary Building</u>	<u>Action Value</u>													
R-13 Aux Building Vent Exhaust	4.0E+06 cpm													
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<ul style="list-style-type: none"> Analyses of field survey samples indicate thyroid CDE greater than 50 mrem for one hour of inhalation. 		<p>consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Kr-85 decays by emitting a beta particle and low abundance gamma, thus the TEDE and thyroid CDE at or beyond the site boundary produced from a credible accident is negligible. Since the offsite dose consequence due to a gaseous release caused by a credible accident is negligible, using this example EAL is not practicable at KPS.</p> <ul style="list-style-type: none"> For EAL#3, KPS does not have the source term from a credible event to create a liquid release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this part of the EAL does not directly apply to KPS. The current source term considered for liquid radioactive releases is comparable to what was previously used for this EAL (pre-defueling/ decommissioning). Therefore, using liquid sample analysis results that are 50x the ODCM limits for 15 minutes or longer more accurately implements the NEI guidance for the liquid release part of this EAL at KPS, and provides an appropriate escalation from PD-AU1. For EAL#4, KPS no longer has the source term or motive force from a credible accident to create a gaseous effluent release resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE. Therefore, this EAL does not directly apply to KPS. The only remaining potential gaseous release of consequence would be caused by damage to spent fuel in the Spent Fuel Pool (SFP) and the subsequent release of the noble gas radionuclide Kr-85. Kr-85 decays by emitting a beta particle and low abundance gamma. Therefore, using the EAL field survey values of 10 mR/hr closed window dose rate for 60 minutes or longer and 50 mrem thyroid CDE for one hour of

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		<p>inhalation at or beyond the site boundary is not practicable at KPS. Using gas sample analysis results and a gaseous effluent release rate caused by a credible fuel handling accident that results in detectable levels at the site boundary for 15 minutes or longer more accurately implements the NEI guidance for the gaseous release part of this EAL at KPS, and provides an appropriate escalation from PD-AU1.</p>
<p>Basis:</p> <p>This IC addresses a release of gaseous or liquid radioactivity that results in projected or actual offsite doses greater than or equal to 1% of the EPA Protective Action Guides (PAGs). It includes both monitored and un-monitored releases. Releases of this magnitude represent an actual or potential substantial degradation of the level of safety of the plant as indicated by a radiological release that significantly exceeds regulatory limits (e.g., a significant uncontrolled release).</p> <p>Radiological effluent EALs are also included to provide a basis for classifying events and conditions that cannot be readily or appropriately classified on the basis of plant conditions alone. The inclusion of both plant condition and radiological effluent EALs more fully addresses the spectrum of possible accident events and conditions.</p> <p>The TEDE dose is set at 1% of the EPA PAG of 1,000 mrem while the 50 mrem thyroid CDE was established in consideration of the 1:5 ratio of the EPA PAG for TEDE and thyroid CDE.</p> <p>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to</p>	<p>Basis:</p> <p>This IC addresses a release of gaseous or liquid radioactivity that results in detectable levels offsite that are below 1% of the EPA Protective Action Guides (PAGs). It includes both monitored and unmonitored releases. Releases of this magnitude represent an actual or potential substantial degradation of the level of safety of the plant as indicated by a radiological release that could potentially exceed regulatory limits (e.g., a significant uncontrolled release).</p> <p>With the station being permanently shut down for more than 100 days, the only radionuclide of any significance available to be released in gaseous form is the noble gas Kr-85. Kr-85 decays emitting a low abundance gamma, and is therefore not a significant contributor to Total Effective Dose Equivalent (TEDE). The gaseous release portion of this IC (detected by either an effluent monitor or by sample analysis) is not based on any particular ODCM values of dose or dose rate but rather the radiological release that results from damage to, and uncontrolled release from, multiple fuel assemblies. The liquid release portion of this IC is based on an uncontrolled release that exceeds fifty times the radiation monitor discharge permit limit (R-18) or ODCM default setpoint value (R-20).</p>	<ul style="list-style-type: none"> • The proposed KPS IC and EALS meet the NEI 99-01 stated attribute for an ALERT, as modified herein: “A significant loss of control of radioactive materials resulting in an inability to control radiation levels within the plant, or a release of radioactive materials to the environment that could result in doses that are a small fraction of an EPA PAG at or beyond the site boundary.” The emphasis for this classification is that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant and that any releases of radioactive material are expected to be limited to small fractions of the EPA PAGs. • Added an IC/EAL applicability statement to account for the end state of the plant.

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<p>isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p>	<p>KPS incorporates design features intended to control the release of radioactive effluents to the environment. The occurrence of extended, uncontrolled radioactive releases to the environment is indicative of degradation in these features and/or controls. For gaseous and liquid releases, these controls are located in the ODCM. Further, there are administrative controls established to prevent unintentional releases.</p> <p>Radiological effluent EALs are also included to provide a basis for classifying events and conditions that cannot be readily or appropriately classified on the basis of plant conditions alone. The inclusion of both plant condition and radiological effluent EALs more fully addresses the spectrum of possible accident events and conditions.</p> <p>Classification based on effluent monitor readings assumes that a release path to the environment is established. If the effluent flow past an effluent monitor is known to have stopped due to actions to isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p>PD-AA1.2 and PD-AA1.3 addresses uncontrolled gaseous or liquid releases that are detected by sample analyses or environmental surveys.</p> <p>Recording equipment can be used to determine the start time of a release.</p> <p>This IC/EAL applies only while irradiated fuel is stored in the Spent Fuel Pool or there is sufficient volume of radioactive liquid that, if released, could exceed fifty times the ODCM limits.</p>	

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<p>PD-AU2</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: UNPLANNED rise in plant radiation levels.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-AU2</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: UNPLANNED rise in plant radiation levels.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels: (1 or 2)</p> <p>(1) a. UNPLANNED water level drop in the spent fuel pool as indicated by ANY of the following:</p> <p style="padding-left: 40px;">(site-specific level indications).</p> <p style="text-align: center;">AND</p> <p>b. UNPLANNED rise in area radiation levels as indicated by ANY of the following radiation monitors.</p> <p style="padding-left: 40px;">(site-specific list of area radiation monitors).</p> <p>(2) Area radiation monitor reading or survey result indicates an UNPLANNED rise of 25 mR/hr over NORMAL LEVELS.</p>	<p>Emergency Action Levels: PD-AU2.1 or PD-AU2.2</p> <p>PD-AU2.1 a. UNPLANNED water level drop in the spent fuel pool as indicated by EITHER of the following:</p> <ul style="list-style-type: none"> • Spent Fuel Pool low water level alarm setpoint (3 ft. 4 in. below floor) • Visual observation <p style="text-align: center;">AND</p> <p>b. UNPLANNED rise in area radiation levels as indicated by EITHER of the following radiation monitors.</p> <ul style="list-style-type: none"> • R-5 Fuel Handling Area ALERT Alarm • R-10 New Fuel Pit Area ALERT Alarm <p>PD-AU2.2 Area radiation monitor reading or survey result indicates an UNPLANNED rise of 25 mR/hr over NORMAL LEVELS.</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs. • Added plant specific radiation monitors and SFP level alarms.

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<p>Basis:</p> <p>This IC addresses elevated plant radiation levels caused by a decrease in water level above irradiated (spent) fuel or other UNPLANNED events. The increased radiation levels are indicative of a minor loss in the ability to control radiation levels within the plant or radioactive materials. Either condition is a potential degradation in the level of safety of the plant.</p> <p>A water level decrease will be primarily determined by indications from available level instrumentation. Other sources of level indications may include reports from plant personnel or video camera observations (if available). A significant drop in the water level may also cause an increase in the radiation levels of adjacent areas that can be detected by monitors in those locations.</p> <p>The effects of planned evolutions should be considered. Note that EAL #1 is applicable only in cases where the elevated reading is due to an UNPLANNED water level drop. EAL #2 excludes radiation level increases that result from planned activities such as use of radiographic sources and movement of radioactive waste materials.</p> <p>Escalation of the emergency classification level would be via IC PD-AA1 or PD-AA2.</p>	<p>Basis:</p> <p>This IC addresses elevated plant radiation levels caused by a decrease in water level above irradiated (spent) fuel or other UNPLANNED events. The increased radiation levels are indicative of a minor loss in the ability to control radiation levels within the plant or radioactive materials. Either condition is a potential degradation in the level of safety of the plant.</p> <p>A water level decrease will be primarily determined by indications from available level instrumentation. Other sources of level indications may include reports from plant personnel or video camera observations (if available). A significant drop in the water level may also cause an increase in the radiation levels of adjacent areas that can be detected by monitors in those locations.</p> <p>The effects of planned evolutions should be considered. Note that PD-AU2.1 is applicable only in cases where the elevated reading is due to an UNPLANNED water level drop. PD-AU2.2 excludes radiation level increases that result from planned activities such as use of radiographic sources and movement of radioactive waste materials.</p> <p>Escalation of the emergency classification level would be via IC PD-AA1 or PD-AA2.</p>	<ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant.

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<p>PD-AA2</p> <p>ECL: Alert</p> <p>Initiating Condition: UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-AA2</p> <p>ECL: Alert</p> <p>Initiating Condition: UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity.</p>	<ul style="list-style-type: none"> Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels: (1 or 2)</p> <p>(1) UNPLANNED dose rate greater than 15 mR/hr in ANY of the following areas requiring continuous occupancy to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity:</p> <p>(site-specific area list)</p> <p>(2) UNPLANNED Area Radiation Monitor readings or survey results indicate a rise by 100 mR/hr over NORMAL LEVELS that impedes access to ANY of the following areas needed to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity.</p> <p>(site-specific area list)</p>	<p>Emergency Action Levels: PD-AA2.1 or PD-AA2.2</p> <p>PD-AA2.1 UNPLANNED dose rate greater than 15 mrem/hr in ANY of the following areas requiring continuous occupancy to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity:</p> <ul style="list-style-type: none"> R-1 Control Room Area <p>PD-AA2.2 Survey results that indicate an UNPLANNED rise of 100 mrem/hr over NORMAL LEVELS that impedes access to ANY of the following areas needed to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity.</p> <ul style="list-style-type: none"> Spent Fuel Pool Pump Area (survey) 	<ul style="list-style-type: none"> Removed “Example” from Emergency Action Levels and changed numbering of the EALs. EAL 2 was reworded to ensure the connection of UNPLANNED was to the word “rise” and not to the phrase “Area Radiation Monitor or survey results”. For PD-AA2.2, removed reference to “Area Radiation Monitor readings”. At KPS there are no area radiation monitors in the Spent Fuel Pool Pump area and this is the area that contains equipment that must be operated manually to maintain spent fuel integrity.
<p>Basis:</p> <p>This IC addresses increased radiation levels that impede necessary access to areas containing equipment that must be operated manually or that</p>	<p>Basis:</p> <p>This IC addresses increased radiation levels that impede necessary access to areas containing equipment that must be operated manually or that</p>	<ul style="list-style-type: none"> Added an IC/EAL applicability statement to account for the end state of the plant.

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<p>requires local monitoring, in order to maintain systems needed to maintain spent fuel integrity. As used here, 'impede' includes hindering or interfering, provided that the interference or delay is sufficient to significantly threaten necessary plant access. It is this impaired access that results in the actual or potential substantial degradation of the level of safety of the plant.</p> <p>This IC does not apply to anticipated temporary increases due to planned events.</p>	<p>requires local monitoring, in order to maintain systems needed to maintain spent fuel integrity. As used here, 'impede' includes hindering or interfering, provided that the interference or delay is sufficient to significantly threaten necessary plant access. It is this impaired access that results in the actual or potential substantial degradation of the level of safety of the plant.</p> <p>This IC/EAL applies only while irradiated fuel is stored in the Spent Fuel Pool.</p> <p>This IC does not apply to anticipated temporary increases due to planned events.</p>	

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<p>PD-SU1</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: UNPLANNED spent fuel pool temperature rise.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-SU1</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: UNPLANNED spent fuel pool temperature rise.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels:</p> <p>(1) UNPLANNED spent fuel pool temperature rise to greater than (site-specific °F).</p>	<p>Emergency Action Levels:</p> <p>PD-SU1.1 UNPLANNED spent fuel pool temperature rise to greater than 150°F.</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs. • Added specific temperature information.
<p>Basis:</p> <p>This IC addresses a condition that is a precursor to a more serious event and represents a potential degradation in the level of safety of the plant. If uncorrected, boiling in the pool will occur, and result in a loss of pool level and increased radiation levels.</p> <p>Escalation of the emergency classification level would be via IC PD-AA1 or PD-AA2.</p>	<p>Basis:</p> <p>This IC addresses a condition that is a precursor to a more serious event and represents a potential degradation in the level of safety of the plant. If uncorrected, boiling in the pool will occur, and result in a loss of pool level and increased radiation levels.</p> <p>Escalation of the emergency classification level would be via IC PD-AA1 or PD-AA2.</p> <p>This IC/EAL applies only while irradiated fuel is stored in the Spent Fuel Pool.</p>	<ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant.

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<p>PD-HU1</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: Confirmed SECURITY CONDITION or threat.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-HU1</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: Confirmed SECURITY CONDITION or threat.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels: (1 or 2 or 3)</p> <p>(1) A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the (site-specific security shift supervision).</p> <p>(2) Notification of a credible security threat directed at the site.</p> <p>(3) A validated notification from the NRC providing information of an aircraft threat.</p>	<p>Emergency Action Levels: PD-HU1.1 or PD-HU1.2 or PD-HU1.3</p> <p>PD-HU1.1 A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by Security Supervision.</p> <p>PD-HU1.2 Notification of a credible security threat directed at the site.</p> <p>PD-HU1.3 A validated notification from the NRC providing information of an aircraft threat.</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs.
<p>Basis:</p> <p>This IC addresses events that pose a threat to plant personnel or the equipment necessary to maintain cooling of spent fuel, and thus represent a potential degradation in the level of plant safety. Security events which do not meet one of these EALs are adequately addressed by the requirements of 10 CFR § 73.71 or 10 CFR § 50.72. Security events assessed as HOSTILE ACTIONS are classifiable under IC PD-HA1.</p> <p>Timely and accurate communications between Security Shift Supervision and the Control Room is</p>	<p>Basis:</p> <p>This IC addresses events that pose a threat to plant personnel or the equipment necessary to maintain cooling of spent fuel, and thus represent a potential degradation in the level of plant safety. Security events which do not meet one of these EALs are adequately addressed by the requirements of 10 CFR § 73.71 or 10 CFR § 50.72. Security events within the VEHICLE BARRIER SYSTEM (VBS) boundary that are assessed as HOSTILE ACTIONS are classifiable under IC PD-HA1.</p> <p>Timely and accurate communications between</p>	<ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant. • Reference to VBS boundary added to correspond to PD-HA1. Per NEI 99-01 rev 6: OWNER CONTROLLED AREA: Developer Note – This term is typically taken to mean the site property owned by, or otherwise under the control of, the licensee. In some cases, it may be appropriate for a licensee to define a smaller area with a perimeter closer to the plant Protected Area perimeter. • Based upon the reduced risk to the plant with KPS being in a permanently defueled condition, the VBS perimeter is the appropriate boundary.

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<p>essential for proper classification of a security-related event. Classification of these events will initiate appropriate threat-related notifications to plant personnel and Offsite Response Organizations.</p> <p>Security plans and terminology are based on the guidance provided by NEI 03-12, <i>Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program]</i>.</p> <p>EAL #1 references (site-specific security shift supervision) because these are the individuals trained to confirm that a security event is occurring or has occurred. Training on security event confirmation and classification is controlled due to the nature of Safeguards and 10 CFR § 2.39 information.</p> <p>EAL #2 addresses the receipt of a credible security threat. The credibility of the threat is assessed in accordance with (site-specific procedure).</p> <p>EAL #3 addresses the threat from the impact of an aircraft on the plant. The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an aircraft. The status and size of the plane may also be provided by NORAD through the NRC. Validation of the threat is performed in accordance with (site-specific procedure).</p> <p>Emergency plans and implementing procedures are public documents; therefore, EALs should not incorporate Security-sensitive information. This includes information that may be advantageous to a potential adversary, such as the particulars</p>	<p>Security Supervision and the Control Room is essential for proper classification of a security-related event. Classification of these events will initiate appropriate threat-related notifications to plant personnel and Offsite Response Organizations.</p> <p>Security plans and terminology are based on the guidance provided by NEI 03-12, <i>Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program]</i>.</p> <p>PD-HU1.1 references Security Supervision because these are the individuals trained to confirm that a security event is occurring or has occurred. Training on security event confirmation and classification is controlled due to the nature of information that is controlled by Safeguards and 10 CFR § 2.390 (withholding from public disclosure) requirements.</p> <p>PD-HU1.2 addresses the receipt of a credible security threat. The procedure to determine the credibility of a threat is considered security-sensitive information and therefore withheld from the EAL. Credible security threat includes a HOSTILE ACTION within the OWNER CONTROLLED AREA outside of the VBS boundary.</p> <p>PD-HU1.3 addresses the threat from the impact of an aircraft on the plant. The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an aircraft. The status and size of the plane may also be provided by NORAD through the NRC. The procedure to validate the threat is considered security-sensitive information and therefore withheld from the EAL.</p> <p>This IC/EAL applies while irradiated fuel is stored in</p>	

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<p>concerning a specific threat or threat location. Security-sensitive information should be contained in non-public documents such as the Security Plan.</p> <p>Escalation of the emergency classification level would be via IC PD-HA1.</p>	<p>the Spent Fuel Pool or loaded into dry storage casks.</p> <p>Escalation of the emergency classification level would be via IC PD-HA1.</p>	

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<p>PD-HA1</p> <p>ECL: Alert</p> <p>Initiating Condition: HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-HA1</p> <p>ECL: Alert</p> <p>Initiating Condition: HOSTILE ACTION within the VBS boundary or airborne attack threat within 30 minutes.</p>	<ul style="list-style-type: none"> Removed reference to Operating Mode as they do not apply in a permanently defueled condition. Changed "OWNER CONTROLLED AREA" to "VBS boundary". Per NEI 99-01 rev 6: OWNER CONTROLLED AREA: Developer Note – This term is typically taken to mean the site property owned by, or otherwise under the control of, the licensee. In some cases, it may be appropriate for a licensee to define a smaller area with a perimeter closer to the plant Protected Area perimeter. Based upon the reduced risk to the plant with KPS being in a permanently defueled condition, the VBS perimeter is the appropriate boundary.
<p>Example Emergency Action Levels: (1 or 2)</p> <p>(1) A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by the (site-specific security shift supervision).</p> <p>(2) A validated notification from NRC of an aircraft attack threat within 30 minutes of the site.</p>	<p>Emergency Action Levels: PD-HA1.1 or PD-HA1.2</p> <p>PD-HA1.1 A HOSTILE ACTION is occurring or has occurred within the VBS boundary as reported by Security Supervision.</p> <p>PD-HA1.2 A validated notification from NRC of an aircraft attack threat within 30 minutes of the site.</p>	<ul style="list-style-type: none"> Removed "Example" from Emergency Action Levels and changed numbering of the EALs. Changed "OWNER CONTROLLED AREA" to "VBS boundary" (per NEI 99-01 rev 6: OWNER CONTROLLED AREA: Developer Note). Based upon the reduced risk to the plant with KPS being in a permanently defueled condition, the VBS perimeter is the appropriate boundary.
<p>Basis:</p> <p>This IC addresses the occurrence of a HOSTILE ACTION within the OWNER CONTROLLED AREA or notification of an aircraft attack threat. This event will require rapid response and assistance due to the possibility of the attack progressing to the PROTECTED AREA, or the need to prepare the plant and staff for a potential aircraft impact.</p>	<p>Basis:</p> <p>This IC addresses the occurrence of a HOSTILE ACTION within the VEHICLE BARRIER SYSTEM (VBS) boundary or notification of an aircraft attack threat. This event will require rapid response and assistance due to the possibility of the attack progressing to the PROTECTED AREA, or the need to prepare the plant and staff for a potential aircraft impact.</p>	<ul style="list-style-type: none"> Added an IC/EAL applicability statement to account for the end state of the plant. Changed the Initiating Condition and EAL applicability from "OWNER CONTROLLED AREA" to "VBS boundary". Per NEI 99-01 rev 6: OWNER CONTROLLED AREA: Developer Note – This term is typically taken to mean the site property owned by, or otherwise under the control of, the licensee. In some cases, it may be appropriate for a licensee to define a smaller area

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<p>Timely and accurate communications between Security Shift Supervision and the Control Room is essential for proper classification of a security-related event.</p> <p>Security plans and terminology are based on the guidance provided by NEI 03-12, <i>Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program]</i>.</p> <p>As time and conditions allow, these events require a heightened state of readiness by the plant staff and implementation of onsite protective measures (e.g., evacuation, dispersal or sheltering). The Alert declaration will also heighten the awareness of Offsite Response Organizations, allowing them to be better prepared should it be necessary to consider further actions.</p> <p>This IC does not apply to incidents that are accidental events, acts of civil disobedience, or otherwise are not a HOSTILE ACTION perpetrated by a HOSTILE FORCE. Examples include the crash of a small aircraft, shots from hunters, physical disputes between employees, etc. Reporting of these types of events is adequately addressed by other EALs, or the requirements of 10 CFR § 73.71 or 10 CFR § 50.72.</p> <p>EAL #1 is applicable for any HOSTILE ACTION occurring, or that has occurred, in the OWNER CONTROLLED AREA. This includes any action directed against an ISFSI that is located within the OWNER CONTROLLED AREA.</p>	<p>Timely and accurate communications between Security Supervision and the Control Room is essential for proper classification of a security-related event.</p> <p>Security plans and terminology are based on the guidance provided by NEI 03-12, <i>Template for the Security Plan, Training and Qualification Plan, Safeguards Contingency Plan [and Independent Spent Fuel Storage Installation Security Program]</i>.</p> <p>As time and conditions allow, these events require a heightened state of readiness by the plant staff and implementation of onsite protective measures (e.g., evacuation, dispersal or sheltering). The Alert declaration will also heighten the awareness of Offsite Response Organizations, allowing them to be better prepared should it be necessary to consider further actions.</p> <p>This IC does not apply to incidents that are accidental events, acts of civil disobedience, or otherwise are not a HOSTILE ACTION perpetrated by a HOSTILE FORCE. Examples include the crash of a small aircraft, shots from hunters, physical disputes between employees, etc. Reporting of these types of events is adequately addressed by other EALs, or the requirements of 10 CFR § 73.71 or 10 CFR § 50.72.</p> <p>PD-HA1.1 is applicable for any HOSTILE ACTION occurring, or that has occurred, in the VBS boundary. This includes any action directed against an ISFSI that is located within the VBS boundary. A HOSTILE ACTION within the OWNER</p>	<p>with a perimeter closer to the plant Protected Area perimeter.</p> <p>Based upon the reduced risk to the plant with KPS being in a permanently defueled condition, the VBS perimeter is the appropriate boundary.</p>

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<p>EAL #2 addresses the threat from the impact of an aircraft on the plant, and the anticipated arrival time is within 30 minutes. The intent of this EAL is to ensure that threat-related notifications are made in a timely manner so that plant personnel and OROs are in a heightened state of readiness. This EAL is met when the threat-related information has been validated in accordance with (site-specific procedure).</p> <p>The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an aircraft. The status and size of the plane may be provided by NORAD through the NRC.</p> <p>In some cases, it may not be readily apparent if an aircraft impact within the OWNER CONTROLLED AREA was intentional (i.e., a HOSTILE ACTION). It is expected, although not certain, that notification by an appropriate Federal agency to the site would clarify this point. In this case, the appropriate federal agency is intended to be NORAD, FBI, FAA or NRC. The emergency declaration, including one based on other ICs/EALs, should not be unduly delayed while awaiting notification by a Federal agency.</p> <p>Emergency plans and implementing procedures are public documents; therefore, EALs should not incorporate Security-sensitive information. This includes information that may be advantageous to a potential adversary, such as the particulars concerning a specific threat or threat location. Security-sensitive information should be contained in non-public documents such as the Security Plan.</p>	<p>CONTROLLED AREA outside of the VBS boundary is considered a credible security threat and should be evaluated under EAL PD-HU1.2.</p> <p>PD-HA1.2 addresses the threat from the impact of an aircraft on the plant, and the anticipated arrival time is within 30 minutes. The intent of this EAL is to ensure that threat-related notifications are made in a timely manner so that plant personnel and Offsite Response Organizations are in a heightened state of readiness. The procedure to validate threat-related information is considered security-sensitive information and therefore is withheld from this IC.</p> <p>The NRC Headquarters Operations Officer (HOO) will communicate to the licensee if the threat involves an aircraft. The status and size of the plane may be provided by NORAD through the NRC.</p> <p>In some cases, it may not be readily apparent if an aircraft impact within the VBS boundary was intentional (i.e., a HOSTILE ACTION). It is expected, although not certain, that notification by an appropriate Federal agency to the site would clarify this point. In this case, the appropriate federal agency is intended to be NORAD, FBI, FAA or NRC. The emergency declaration, including one based on other ICs/EALs, should not be unduly delayed while awaiting notification by a Federal agency.</p> <p>This IC/EAL applies while irradiated fuel is stored in the Spent Fuel Pool or loaded into dry storage casks.</p>	

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<p>PD-HU2</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: Hazardous event affecting SAFETY SYSTEM equipment necessary for spent fuel cooling.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-HU2</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: Hazardous event affecting SAFETY SYSTEM equipment necessary for spent fuel cooling.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels:</p> <p>(1) a. The occurrence of ANY of the following hazardous events:</p> <ul style="list-style-type: none"> • Seismic event (earthquake) • Internal or external flooding event • High winds or tornado strike • FIRE • EXPLOSION • (site-specific hazards) • Other events with similar hazard characteristics as determined by the Shift Manager <p style="text-align: center;">AND</p> <p>b. The event has damaged at least one train of a SAFETY SYSTEM needed for spent fuel cooling.</p> <p style="text-align: center;">AND</p> <p>c. The damaged SAFETY SYSTEM train(s) cannot, or potentially cannot, perform its</p>	<p>Emergency Action Levels:</p> <p>PD-HU2.1 a. The occurrence of ANY of the following hazardous events:</p> <ul style="list-style-type: none"> • Seismic event (earthquake) • Internal or external flooding event • Low lake level • High winds or tornado strike • FIRE • EXPLOSION • Other events with similar hazard characteristics as determined by the Shift Manager <p style="text-align: center;">AND</p> <p>b. The event has damaged a SAFETY SYSTEM needed for spent fuel cooling.</p> <p style="text-align: center;">AND</p> <p>c. The damaged SAFETY SYSTEM cannot, or potentially cannot, perform its design function based on EITHER:</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs. • Added Low Lake Level to the list of hazardous events. Low lake level is an IC that exists presently in the KPS EAL matrix and should continue to be considered. • According to NEI 99-01, Rev 6, developer notes for PD-HU2,” nuclear power plant SAFETY SYSTEMS are comprised of two or more separate and redundant trains of equipment in accordance with site specific design criteria”. At KPS, the site specific design criteria for Spent Fuel Pool Cooling only specify a single train. Service Water System and Spent Fuel Pool Cooling are the systems necessary for cooling the spent fuel pool. The Spent Fuel Pool Cooling System consists of two half-capacity pumps, a heat exchanger, two half-capacity filters, a demineralizer with pre- and post-filters, and associated piping, valves, and instrumentation. The Service Water System consists of four pumps that supply water to the Spent Fuel Pool Cooling System through a ring header formed by cross-connecting Train A and Train B in the Aux Building and the Screenhouse. Although both systems contain redundant components, neither is considered to have

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<p>design function based on EITHER:</p> <ul style="list-style-type: none"> • Indications of degraded performance • VISIBLE DAMAGE 	<ul style="list-style-type: none"> • Indications of degraded performance • VISIBLE DAMAGE 	<p>separate and redundant trains. Therefore, the term “train” in PD-HU2.1b and PD-HU2.1c does not apply.</p>
<p>Basis:</p> <p>This IC addresses a hazardous event that causes damage to at least one train of a SAFETY SYSTEM needed for spent fuel cooling. The damage must be of sufficient magnitude that the system(s) train cannot, or potentially cannot, perform its design function. This condition reduces the margin to a loss or potential loss of the fuel clad barrier, and therefore represents a potential degradation of the level of safety of the plant.</p> <p>For EAL 1.c, the first bullet addresses damage to a SAFETY SYSTEM train that is in service/operation since indications for it will be readily available.</p> <p>For EAL 1.c, the second bullet addresses damage to a SAFETY SYSTEM train that is not in service/operation or readily apparent through indications alone. Operators will make this determination based on the totality of available event and damage report information. This is intended to be a brief assessment not requiring lengthy analysis or quantification of the damage.</p> <p>Escalation of the emergency classification level could, depending upon the event, be based on any of the Alert ICs; PD-AA1, PD-AA2, PD-HA1 or PD-HA3.</p>	<p>Basis:</p> <p>This IC addresses a hazardous event that causes damage to a SAFETY SYSTEM needed for spent fuel cooling. At KPS, Service Water System and Spent Fuel Pool Cooling are the systems necessary for cooling the spent fuel pool. The damage must be of sufficient magnitude that the system(s) cannot, or potentially cannot, perform its design function. This condition reduces the margin to a loss or potential loss of the fuel clad barrier, and therefore represents a potential degradation of the level of safety of the plant.</p> <p>For PD-HU2.1a, the “other” bullet is not intended to address component failures within the SAFETY SYSTEM such as pump bearing failures, electrical grounds or shorts in a pump, failure of valves, etc. Declaration of an event due to the failure of a SAFETY SYSTEM component would be based on PD-SU1.1.</p> <p>For PD-HU2.1c, the first bullet addresses damage to a SAFETY SYSTEM that is in service/operation since indications for it will be readily available.</p> <p>For PD-HU2.1c, the second bullet addresses damage to a SAFETY SYSTEM that is not in service/operation or readily apparent through indications alone. Operators will make this determination based on the totality of available event and damage report information. This is intended to</p>	<ul style="list-style-type: none"> • According to NEI 99-01, Rev 6, developer notes for PD-HU2, “nuclear power plant SAFETY SYSTEMS are comprised of two or more separate and redundant trains of equipment in accordance with site specific design criteria”. At KPS, the site specific design criteria for Spent Fuel Pool Cooling only specify a single train. Service Water System and Spent Fuel Pool Cooling are the systems necessary for cooling the spent fuel pool. The Spent Fuel Pool Cooling System consists of two half-capacity pumps, a heat exchanger, two half-capacity filters, a demineralizer with pre- and post-filters, and associated piping, valves, and instrumentation. The Service Water System consists of four pumps that supply water to the Spent Fuel Pool Cooling System through a ring header formed by cross-connecting Train A and Train B in the Aux Building and the Screenhouse. Although both systems contain redundant components, neither is considered to have separate and redundant trains. Therefore the term “train” in PD-HU2.1b and PD-HU2.1c does not apply. • The intent of the last bullet in PD-HU2.1a is to consider similar hazards that may cause damage to a SAFETY SYSTEM and not intended to include component failures in a system. If a component fails, Spent Fuel Pool temperature will be effected and the SM/ED should consider declaration per PD-SU1 if it rises above 150°F. • Added an IC/EAL applicability statement to account for the end state of the plant.

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	<p>be a brief assessment not requiring lengthy analysis or quantification of the damage.</p> <p><i>This IC/EAL applies only while irradiated fuel is stored in the Spent Fuel Pool.</i></p> <p>Escalation of the emergency classification level could, depending upon the event, be based on any of the Alert ICs; PD-AA1, PD-AA2, PD-HA1 or PD-HA3.</p>	

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<p>PD-HU3</p> <p>ECL: Notification of Unusual Event</p> <p>Initiating Condition: Other conditions exist which in the judgment of the Emergency Director warrant declaration of a (NO)UE.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-HU3</p> <p>ECL: Unusual Event</p> <p>Initiating Condition: Other conditions exist which in the judgment of the Emergency Director warrant declaration of a UE.</p>	<ul style="list-style-type: none"> • Use of Unusual Event (UE) instead of Notification of Unusual Event (NOUE) – use is consistent with present EAL matrix and agrees in meaning and intent with NEI 99-01, Rev 6. • Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels:</p> <p>(1) Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>	<p>Emergency Action Levels:</p> <p>PD-HU3.1 Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.</p>	<ul style="list-style-type: none"> • Removed “Example” from Emergency Action Levels and changed numbering of the EALs.
<p>Basis:</p> <p>This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for a NOUE</p>	<p>Basis:</p> <p>This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for a UE</p> <p>This IC/EAL applies while irradiated fuel is stored in the Spent Fuel Pool or loaded into dry storage casks.</p>	<ul style="list-style-type: none"> • Added an IC/EAL applicability statement to account for the end state of the plant.

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<p>PD-HA3</p> <p>ECL: Alert</p> <p>Initiating Condition: Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert.</p> <p>Operating Mode Applicability: Not Applicable</p>	<p>PD-HA3</p> <p>ECL: Alert</p> <p>Initiating Condition: Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert.</p>	<ul style="list-style-type: none"> Removed reference to Operating Mode as they do not apply in a permanently defueled condition.
<p>Example Emergency Action Levels:</p> <p>(1) Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<p>Emergency Action Levels:</p> <p>PD-HA3.1 Other conditions exist which in the judgment of the Emergency Director indicate that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.</p>	<ul style="list-style-type: none"> Removed “Example” from Emergency Action Levels and changed numbering of the EALs.
<p>Basis:</p> <p>This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for an Alert.</p>	<p>Basis:</p> <p>This IC addresses unanticipated conditions not addressed explicitly elsewhere but that warrant declaration of an emergency because conditions exist which are believed by the Emergency Director to fall under the emergency classification level description for an Alert.</p> <p>This IC/EAL applies while irradiated fuel is stored in the Spent Fuel Pool or loaded into dry storage casks</p>	<ul style="list-style-type: none"> Added an IC/EAL applicability statement to account for the end state of the plant.