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Section 1.3, "Independent Spent Fuel Storage Installation (ISFSI)," of NEI 99-01 is addressed in Section 2.2 of the IPEC PD EAL Technical Bases Document. Inclusion of this discussion is appropriate because an ISFSI is in use at IPEC.

Section 1.4, "NRC Order EA-12-051," of NEI 99-01 was excluded from the IPEC PD EAL Technical Bases Document because the recommendation applies to NEI 99-01 EALs IC AA2, AS2, and AG2, which are only applicable to operating plants. Therefore, the discussion of Section 1.4 does not apply to IPEC and has not been included.

Section 1.5, "Applicability to Advanced and Small Modular Reactor Designs," of NEI 99-01 was excluded from the IPEC PD EAL Technical Bases Document because IPEC does not utilize Advanced or Small Modular Reactors Designs.

### **3.0 KEY TERMINOLOGY USED**

This section in of the IPEC PD EAL Technical Bases Document was developed based on information contained in Section 2, "Key Terminology Used in NEI 99-01," of NEI 99-01. Differences between the IPEC PD EAL Technical Bases Document and NEI 99-01 are discussed below.

- References to Site Area Emergency and General Emergency were removed throughout. IPEC's Emergency Classification Levels (ECLs) only include Notification of Unusual Event and Alert. EALs have been developed using NEI 99-01, Appendix C for the permanently defueled station ICs/EALs and Section 8 for the ISFSI.
- References to "plant" were revised to "facility" to indicate that IPEC is no longer an operating nuclear power plant.
- References to Reactor Coolant System (RCS) Leakage and fission product barriers were excluded from IPEC PD EAL Technical Bases Document, Section 3.2, "Initiating Condition (IC)" (Section 2.2 of NEI 99-01). Upon permanent removal of fuel from the IPEC reactors, the RCS and Containment will no longer be considered fission product barriers because the reactors will be permanently defueled and containment integrity is

not needed for the SFPs. In the permanently defueled condition, the fuel cladding is a fission product barrier. However, the Recognition Category "F" matrices containing EALs referred to as Fission Product Barrier Thresholds, are not applicable in the permanently shutdown and defueled condition.

- The purpose of the "Alert", Section 2.1.2 of NEI 99-01 was revised to indicate that emergency personnel would respond at an Alert declaration, rather than "be readily available to respond" to correspond with the actions at an Alert declaration as detailed in the IPEC PDEP.
- Section 2.4, "Fission Product Barrier Threshold," of NEI 99-01 was excluded for reasons previously identified related to fission product barriers.

#### **4.0 GUIDANCE ON MAKING EMERGENCY CLASSIFICATIONS**

This section of the IPEC PD EAL Technical Bases Document was developed based on guidance contained in Section 5, "Guidance on Making Emergency Classifications," of NEI 99-01. Differences between the IPEC Permanently Defueled EAL Technical Bases Document and the corresponding section of NEI 99-01, Rev. 6 are discussed below.

- References to fission product barrier thresholds in Section 5.1 of NEI 99-01 (Section 4.1 of the IPEC PD EAL Technical Bases Document) were excluded as the RCS and Containment will no longer serve as fission product barriers upon permanent cessation of power operations and permanent removal of fuel from the IPEC reactor vessels. Reference to "Operating Mode Applicability" was removed because Operating Modes are not applicable to a permanently defueled facility.
- The second paragraph of Section 5.1 of NEI 99-01 stating that, "regulations require the licensee to establish and maintain the capability to assess, classify and declare an emergency condition within 15 minutes," was excluded from Section 4.1 of the IPEC PD EAL Technical Bases Document. As detailed in NSIR/DPR-ISG-02, Interim Staff Guidance, "Emergency Planning Exemption Requests for Decommissioning Plants," (ISG-02) "...the staff concludes that a decommissioning power reactor is not required to assess, classify, and declare an emergency condition within 15 minutes." HDI will maintain the ability to assess, classify, and declare an emergency within 30 minutes. As described in Section 1.0 of the IPEC PD EAL Technical Bases Document, an emergency declaration is required to be made as soon as conditions warranting classification are present and recognizable, but within 30 minutes in all cases after the availability of indications to operators that an EAL threshold has been reached.
- With respect to the notification of an emergency declaration to State and local authorities, as discussed in the Enclosure to this amendment request, no design basis accident or reasonably conceivable beyond design basis accident (DBA) would result in radioactive releases that exceed U.S. Environmental Protection Agency (EPA) Protective Action Guides (PAGs) beyond the site boundary. In the permanently defueled condition, the rapidly developing scenarios associated with events initiated during reactor power operation are no longer credible. The radiological consequences resulting from the only remaining events develop over a significantly longer period. As such, a 15-minute notification requirement is unnecessarily restrictive. A notification time of 60



minutes after declaring an emergency provides a reasonable amount of time to notify state and local governmental authorities.

- Reference to "Operating Mode Applicability" was excluded from Section 4.2 of the IPEC PD EAL Technical Bases Document (Section 5.2 of NEI 99-01), because Operating Modes are not applicable to a permanently defueled facility.
- Section 5.4 of NEI 99-01 was excluded from the IPEC PD EAL Technical Bases Document because mode changes during classification are not applicable to a permanently defueled facility.
- In Section 4.4 of the IPEC PD EAL Technical Bases Document (Section 5.5 of NEI 99-01), the word "levels" was changed to "level" within the term "Emergency Classification Levels (ECLs) because there is only one higher emergency classification level above an Unusual Event for a permanently defueled facility.
- In Section 4.5 of the IPEC PD EAL Technical Bases Document (Section 5.6 of NEI 99-01), references to "Site Area Emergency" and "General Emergency" were excluded. Based on the analyses described in the Enclosure to this submittal, the "Site Area Emergency" and "General Emergency" classification levels are no longer credible emergency classifications at IPEC and no credible accident will result in radiological releases requiring offsite protective actions. IPEC will not downgrade events.
- In Section 4.6 of the IPEC PD EAL Technical Bases Document (Section 5.7 of NEI 99-01), references to an "operating plant short-lived event (e.g., reactor trip)" were removed and replaced with verbiage applicable to a permanently defueled facility. The given example was changed to an "explosion" because the example provided in NEI 99-01, ("failure of the reactor protection system to automatically scram/trip the reactor followed by a successful manual scram/trip") is not possible for a permanently defueled facility.
- In Section 4.7 of the IPEC PD EAL Technical Bases Document (Section 5.8 of NEI 99-01), the given example was removed because an emergency declaration associated with the auxiliary feedwater system is no longer credible at IPEC. The reference to "15-minute emergency classification assessment period" was excluded because the timeframe is not applicable to a permanently shutdown and defueled facility. However, consistent with NEI 99-01, the IPEC PDEP EAL Technical Bases Document indicates that the emergency classification assessment period is not a "grace period."

## **5.0 REFERENCES**

This section of the IPEC PD EAL Technical Bases Document was added to provide Developmental and Implementing References applicable to the IPEC PD EAL Technical Bases Document. No corresponding section is included in NEI 99-01.

## 6.0 DEFINITIONS AND ACRONYMS

This section of the IPEC PD EAL Technical Bases Document was developed based on the information presented in Appendices A and B of NEI 99-01. The section incorporates only those acronyms and definitions applicable to, and used in, the IPEC PD EAL Technical Bases Document.

- The following definitions contained within NEI 99-01 are not used in the IPEC PD EAL Technical Bases Document, as previously discussed:
  - General Emergency
  - Site Area Emergency
- The definition for "Alert" was revised to change "plant" to "facility" and to delete "of safety systems." The reference to "plant" was revised to "facility" to indicate that IPEC is no longer an operating nuclear power plant.
- The definition for "Notification of Unusual Event (NOUE)" was revised to change "plant" to "facility" and to delete "of safety systems." The reference to "plant" was revised to "facility" to indicate that IPEC is no longer an operating nuclear power plant. The term "safety system" was excluded because only those systems required to maintain spent fuel cooling are necessary in the permanently shut down and defueled condition. These systems, by definition, are not "safety systems".
- The following key term is not used in the IPEC PD EAL Technical Bases Document for reasons previously provided:
  - Fission Product Barrier Threshold
- The key term, "Initiating Condition," was revised to change "four emergency classification levels" to "two emergency classification levels" because the "Site Area Emergency" and "General Emergency" are not applicable to a permanently shutdown and defueled facility.
- The key term, "Emergency Classification Level," was revised to exclude reference to "Site Area Emergency" and "General Emergency" because the classification levels are no longer credible emergency classifications at IPEC and no credible accident will result in radiological releases requiring offsite protective actions.

Selected terms used in IC and EAL statements are set in all capital letters (e.g., ALL CAPS). These words are defined terms that have specific meanings as used in NEI 99-01. Definitions not used in the IPEC PD EAL Technical Bases Document were excluded.

The term "SAFETY SYSTEM" was excluded because only those systems required to maintain spent fuel cooling are necessary in the permanently shut down and defueled condition. These systems, by definition, are not SAFETY SYSTEMS.

## **7.0 IPEC TO NEI 99-01 EAL CROSS-REFERENCE**

There is no corresponding section included in NEI 99-01, Rev. 6. However, this section was added to the IPEC PD EAL Technical Bases Document to facilitate reviewer's association and location of the IPEC EALs with the corresponding information contained in the guidance in NEI 99-01. Further information regarding the development of the IPEC EALs, based on the NEI guidance, can be found in the EAL Matrices in Attachment 1 of the IPEC PD EAL Technical Bases Document.

## **8.0 ATTACHMENTS**

### **8.1 Attachment 1, EAL Matrices**

- References to "Operating Modes" were excluded from IPEC PD EAL Technical Bases Document Tables PD-1 and E-1 because Operating Modes are not applicable to a permanently defueled facility.
- The EALs were developed using Appendix C (Recognition Category "PD") and Section 8 (Recognition Category "E") of NEI 99-01.

### **8.2 Attachment 2, EAL Bases**

- Attachment 2 of the IPEC PD EAL Technical Bases Document provides the Permanently Defueled and ISFSI IC/EALs and incorporates Appendix C (Recognition Category "PD") and Section 8 (Recognition Category "E") of NEI 99-01.
- Reference to Section 3 of NEI 99-01 was excluded from Attachment 2 because this section was not included in the IPEC PD EAL Technical Bases Document (Attachment 2 of this Enclosure).

The table included below provides a comparison of the IPEC EALs (PD and ISFSI) against the corresponding information contained in NEI 99-01, Rev. 6.

## **9.0 NEI 99-01 SECTIONS NOT INCLUDED IN THE IPEC PD EAL TECHNICAL BASES DOCUMENT**

The following sections of NEI 99-01 were excluded from the IPEC PD EAL Technical Bases Document. Any references made to these sections in NEI 99-01 were also excluded:

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

The following sections of NEI 99-01 were excluded from the IPEC PD EAL Technical Bases Document because these Sections 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, and
- Section 11, System Malfunction ICs/EALs

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<p><b>PD-AU1</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> 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><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b> (1 or 2)</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the Unusual Event promptly upon determining that 60 minutes has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes.</li> <li>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.</li> </ul> <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><b>PD-AU1</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> Release of gaseous or liquid radioactivity greater than 2 times the Off-site Dose Calculation Manual (ODCM) limits for 60 minutes or longer.</p> <p><b>Emergency Action Levels (EALs): (1 or 2)</b></p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the UNUSUAL EVENT promptly upon determining that 60 minutes has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 60 minutes.</li> <li>If the effluent flow past an effluent monitor is known to have stopped due to isolation of the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> </ul> <p>1. Reading on <b>ANY</b> of the following effluent radiation monitors greater than the reading shown for 60 minutes or longer.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>ECL: Changed "Notification of Unusual Event" to "UNUSUAL EVENT" to maintain continuity with the previous IPEC EAL scheme</li> <li>Initiating Condition: Inserted Off-site Dose Calculation Monitor (ODCM) as the site-specific effluent release controlling document</li> <li>Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>Removed "Example" from EALs as they are no longer examples</li> <li>Notes, Bullet #3: Replaced "have stopped due to actions to isolate the release path" with "have stopped due to isolation of the release path"</li> <li>Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>EAL #1: Provided IPEC site-specific effluent radiation monitors and calculated threshold values</li> <li>EAL #1: Replaced "2 times the alarm setpoint established by a current radioactivity discharge permit" with "the reading shown" and included IPEC site-specific calculated effluent radiation monitor threshold values on which to base the declaration of a UNUSUAL EVENT.</li> <li>EAL #2: Added "Confirmed"</li> <li>EAL #2: Inserted "ODCM" as the site-specific effluent release controlling document</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison																				
	<table border="1" data-bbox="737 358 1356 708"> <thead> <tr> <th colspan="3">Effluent Monitor Classification Thresholds - NOUE</th> </tr> <tr> <th></th> <th>Monitor</th> <th>NOUE</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Gaseous</td> <td>U2 R-27</td> <td>1.6E+00 <math>\mu\text{Ci/cc}</math> 4.1E+07 <math>\mu\text{Ci/sec}</math></td> </tr> <tr> <td>U2 R-44</td> <td>4.2E-02 <math>\mu\text{Ci/cc}</math></td> </tr> <tr> <td>U3 R-27</td> <td>1.0E+00 <math>\mu\text{Ci/cc}</math> 3.6E+07 <math>\mu\text{Ci/sec}</math></td> </tr> <tr> <td>U3 R-14</td> <td>1.5E-02 <math>\mu\text{Ci/cc}</math></td> </tr> <tr> <td rowspan="2">Liquid</td> <td>U2 R-54 WDST</td> <td>4.0E-04 <math>\mu\text{Ci/cc}</math></td> </tr> <tr> <td>U3 R-18 Monitor Tanks</td> <td>1.0E-03 <math>\mu\text{Ci/cc}</math></td> </tr> </tbody> </table> <p data-bbox="783 727 827 753"><b>OR</b></p> <p data-bbox="737 776 1329 894">2. Confirmed sample analysis for a gaseous or liquid release indicates a concentration or release rate greater than two times the ODCM limits for 60 minutes or longer.</p>	Effluent Monitor Classification Thresholds - NOUE				Monitor	NOUE	Gaseous	U2 R-27	1.6E+00 $\mu\text{Ci/cc}$ 4.1E+07 $\mu\text{Ci/sec}$	U2 R-44	4.2E-02 $\mu\text{Ci/cc}$	U3 R-27	1.0E+00 $\mu\text{Ci/cc}$ 3.6E+07 $\mu\text{Ci/sec}$	U3 R-14	1.5E-02 $\mu\text{Ci/cc}$	Liquid	U2 R-54 WDST	4.0E-04 $\mu\text{Ci/cc}$	U3 R-18 Monitor Tanks	1.0E-03 $\mu\text{Ci/cc}$	
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<p data-bbox="107 915 191 938"><b>Basis:</b></p> <p data-bbox="107 959 711 1203">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 data-bbox="107 1219 711 1425">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</p>	<p data-bbox="737 915 821 938"><b>Basis:</b></p> <p data-bbox="737 959 1362 1203">This IC addresses a potential decrease in the level of safety of the facility 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 uncontrolled gaseous or liquid radiological release, monitored or un-monitored, including those for which a radioactivity discharge permit is normally prepared.</p> <p data-bbox="737 1219 1362 1425">IPEC incorporates 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</p>	<p data-bbox="1388 915 1961 943"><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul data-bbox="1388 964 1990 1365" style="list-style-type: none"> <li>• Replaced "plant" with "facility"</li> <li>• Added "uncontrolled" without changing the intent of the EAL</li> <li>• Replaced "Nuclear power plants" with "IPEC" to incorporate IPEC site-specific information</li> <li>• Replaced "have stopped due to actions to isolate the release path" with "have stopped due to isolation of the release path" consistent with the change made in the Notes</li> <li>• Provided IPEC site-specific basis information and references</li> </ul>																				

<b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b>	<b>Proposed Permanently Defueled EAL for IPEC</b>	<b>Comparison</b>
<p>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, 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>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 facility conditions alone. The inclusion of both facility 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 isolation of 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, 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 ECL would be via IC PD-AA1.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>Gaseous and liquid releases in excess of two times the Off-site Dose Calculation Manual (ODCM)</p>	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	<p>instantaneous limits that continue for 60 minutes or longer represent an uncontrolled situation and hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the UNUSUAL EVENT emergency class) is not the primary concern here; it is the degradation in plant control implied by the fact that the release was not isolated within 60 minutes.</p> <p>The values shown for each monitor represents two times the calculated monitor alarm set-points which are set in accordance with the ODCM (Reference 2).</p> <p>Collecting liquid and gaseous effluent samples to ensure that release conditions above nominal steady state conditions are detected and reported. Confirmed sample analyses in excess of two times the ODCM (Reference 2) that continue for 60 minutes or longer represent an uncontrolled situation and, hence, a potential degradation in the level of safety. The final integrated dose (which is very low in the UNUSUAL EVENT emergency class) is not the primary concern here; it is the degradation in facility control implied by the fact that the release was not isolated within 60 minutes.</p> <p>At low classification levels, the concern for classification is the continuing, uncontrolled release of radioactivity and not the magnitude of the release. When the liquid release is isolated, the release is no longer continuing nor is it uncontrolled. Therefore, the classification is not appropriate when the liquid release is isolated.</p> <p>EAL 2 addresses collecting liquid and gaseous effluent samples to ensure that release conditions above nominal steady state conditions are detected and reported.</p> <p><b>Basis Reference(s):</b></p>	



NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	1. NEI 99-01 Rev. 6 PD-AU1 2. IP-CALC-20-00019 (ENTGIP144-CALC-001), Revision 2 3. IPEC Off-Site Dose Calculation Manual	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-AA1</b>  <b>ECL:</b> Alert  <b>Initiating Condition:</b> Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE.  <b>Operating Mode Applicability:</b> Not Applicable  <b>Example Emergency Action Levels:</b> (1 or 2 or 3 or 4)  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the Alert promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>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.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for</li> </ul>	<p><b>PD-AA1</b>  <b>ECL:</b> ALERT  <b>Initiating Condition:</b> Release of gaseous or liquid radioactivity resulting in off-site dose greater than 10 mRem TEDE or 50 mRem thyroid CDE.  <b>Emergency Action Levels (EALs): (1 or 2 or 3 or 4)</b>  <b>Notes:</b></p> <ul style="list-style-type: none"> <li>The Emergency Director should declare the ALERT promptly upon determining that the applicable time has been exceeded, or will likely be exceeded.</li> <li>If an ongoing release is detected and the release start time is unknown, assume that the release duration has exceeded 15 minutes.</li> <li>If the effluent flow past an effluent monitor is known to have stopped due to isolation of the release path, then the effluent monitor reading is no longer valid for classification purposes.</li> <li>The pre-calculated effluent monitor values presented in EAL #1 should be used for emergency classification assessments until the</li> </ul>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>Removed "Example" from EALs as they are no longer examples</li> <li>Notes, Bullet #3: Replaced "have stopped due to actions to isolate the release path" with "have stopped due to isolation of the release path"</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison																				
<p>emergency classification assessments until the results from a dose assessment using actual meteorology are available.</p>	<p>results from a dose assessment using actual meteorology are available.</p>																					
<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 <b>EITHER</b> of the following at or beyond (site-specific dose receptor point):</p> <ul style="list-style-type: none"> <li>Closed window dose rates greater than 10 mR/hr expected to continue for 60 minutes or longer.</li> <li>Analyses of field survey samples indicate thyroid CDE greater than 50 mrem for one hour of inhalation.</li> </ul>	<p>1. Reading on <b>ANY</b> of the following effluent radiation monitors greater than the reading shown for 15 minutes or longer.</p> <table border="1" data-bbox="741 670 1358 1019"> <thead> <tr> <th colspan="3">Effluent Monitor Classification Thresholds - ALERT</th> </tr> <tr> <th></th> <th>Monitor</th> <th>ALERT</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Gaseous</td> <td>U2 R-27</td> <td>1.4E+02 µCi/cc 3.6E+09 µCi/sec</td> </tr> <tr> <td>U2 R-44</td> <td>4.2E-01 µCi/cc</td> </tr> <tr> <td>U3 R-27</td> <td>9.5E+01 µCi/cc 3.1E+09 µCi/sec</td> </tr> <tr> <td>U3 R-14</td> <td>1.5E-01 µCi/cc</td> </tr> <tr> <td rowspan="2">Liquid</td> <td>U2 R-54 WDST</td> <td>3.8E-02 µCi/cc</td> </tr> <tr> <td>U3 R-18 Monitor Tanks</td> <td>3.8E-02 µCi/cc</td> </tr> </tbody> </table> <p><b>OR</b></p> <p>2. Dose assessment using actual meteorology indicates doses greater than 10 mRem TEDE or 50 mRem thyroid CDE at or beyond the site boundary.</p> <p><b>OR</b></p> <p>3. Confirmed 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 the site boundary for one hour of exposure.</p> <p><b>OR</b></p>	Effluent Monitor Classification Thresholds - ALERT				Monitor	ALERT	Gaseous	U2 R-27	1.4E+02 µCi/cc 3.6E+09 µCi/sec	U2 R-44	4.2E-01 µCi/cc	U3 R-27	9.5E+01 µCi/cc 3.1E+09 µCi/sec	U3 R-14	1.5E-01 µCi/cc	Liquid	U2 R-54 WDST	3.8E-02 µCi/cc	U3 R-18 Monitor Tanks	3.8E-02 µCi/cc	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>EAL #1: Provided IPEC site-specific effluent radiation monitors and calculated threshold values</li> <li>EAL #2: Provided "the site boundary" as the site-specific dose receptor point</li> <li>EAL #3: Added "Confirmed"</li> <li>EAL #3: Provided "the site boundary" as the site-specific dose receptor point</li> <li>EAL #4: Provided "the site boundary" as the site-specific dose receptor point</li> </ul>
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	<p>4. Field survey results indicate <b>EITHER</b> of the following at or beyond the site boundary:</p> <ul style="list-style-type: none"> <li>• Closed window dose rates greater than 10 mRem/hr expected to continue for 60 minutes or longer.</li> </ul> <p>Analyses of field survey samples indicate thyroid CDE greater than 50 mRem for one hour of inhalation.</p>	
<p><b>Basis:</b></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 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><b>Basis:</b></p> <p>This IC addresses a release of gaseous or liquid radioactivity that results in projected or actual off-site 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 facility 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 facility conditions alone. The inclusion of both facility 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 isolation of</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Replaced “plant” with “facility”</li> <li>• Replaced "have stopped due to actions to isolate the release path" with "have stopped due to isolation of the release path"</li> <li>• Provided IPEC site-specific basis information and references</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p>isolate the release path, then the effluent monitor reading is no longer valid for classification purposes.</p>	<p>the release path, then the effluent monitor reading is no longer valid for classification purposes.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>None</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-AA1</li> <li>2. IP-CALC-20-00019 (ENTGIP144-CALC-001), Revision 2</li> </ol>	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-AU2</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> UNPLANNED rise in plant radiation levels.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b> (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><b>AND</b></p>	<p><b>PD-AU2</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> UNPLANNED rise in facility radiation levels.</p> <p><b>Emergency Action Levels (EALs): (1 or 2)</b></p> <ol style="list-style-type: none"> <li>1. a. UNPLANNED water level drop in the SFP as indicated by <b>ANY</b> of the following:           <ul style="list-style-type: none"> <li>• LC-650</li> <li>• Visual observation of SFP water level</li> <li>• Manual SFP water level measurement</li> </ul> </li> </ol> <p><b>AND</b></p> <p>b. UNPLANNED rise in area radiation levels as indicated by the following radiation monitor:</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>• Initiating Condition: Replaced “plant” with “facility”</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples</li> <li>• Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>• EAL #1.a: Provided IPEC site-specific SFP level indications</li> </ul>

<b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b>	<b>Proposed Permanently Defueled EAL for IPEC</b>	<b>Comparison</b>
<p>b. UNPLANNED rise in area radiation levels as indicated by <b>ANY</b> of the following radiation monitors:</p> <p>(Site specific level indications).</p> <p>(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"> <li>• R-5 Fuel Storage Building (FSB) Area Radiation Monitor</li> </ul> <p><b>OR</b></p> <p>2. Area radiation monitor reading or survey result indicated an UNPLANNED rise of 25 mRem/hr over NORMAL LEVELS.</p>	<ul style="list-style-type: none"> <li>• EAL # 1.b: Provided IPEC site-specific area radiation monitors</li> </ul>
<p><b>Basis:</b></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><b>Basis:</b></p> <p>This IC addresses elevated facility 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 facility or radioactive materials. Either condition is a potential degradation in the level of safety of the facility.</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 facility 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><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Replaced "plant" with "facility"</li> <li>• Provided IPEC site-specific basis information and references</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p>Escalation of the emergency classification level would be via IC PD-AA1 or PD-AA2.</p>	<p>Escalation of the ECL would be via IC PD-AA1 or PD-AA2.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>Loss of inventory from the SFP may reduce water shielding above spent fuel and cause unexpected increases in plant radiation. Classification as an UNUSUAL EVENT is warranted as a precursor to a more serious event.</p> <p>The IP2 SFP Technical Specification minimum water level is 92' 2". The SFP low water level alarm setpoint is 93' 3". High and low SFP water level is indicated by LC-650 and alarmed in the IP2 Control Room.</p> <p>The IP3 SFP water level is required to be 23 feet over the top of the irradiated fuel assemblies seated in the storage racks. LC-650 actuates the SFP level alarm in the IP3 Control Room.</p> <p>For the IP2 and IP3 R-5 area radiation monitors, remote readouts are located in each of the IP2 and IP3 Fuel Storage Buildings (FSBs). For the IP3 R-5 area radiation monitor, a remote readout is also located in the PAB. Remote readouts and audible alarms are provided for R-5 in each respective Control Room.</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-AU2</li> <li>2. 2-AOP-FH-1, "Fuel Damage or Loss of SFP/Refueling Cavity Level"</li> <li>3. 3-AOP-FH-1, "Fuel Damage or Loss of SFP/Refueling Cavity Level"</li> <li>4. 2-SOP-12.3.3, "Radiation Monitor Set-Point Control"</li> </ol>	

<b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b>	<b>Proposed Permanently Defueled EAL for IPEC</b>	<b>Comparison</b>
	5. 3-SOP-RM-010, Radiation Monitor Set-Point Control"	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison		
<p><b>PD-AA2</b></p> <p><b>ECL:</b> Alert</p> <p><b>Initiating Condition:</b> UNPLANNED rise in plant radiation levels that impedes plant access required to maintain spent fuel integrity.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b> (1 or 2)</p> <p>(1) UNPLANNED dose rate greater than 15 mR/hr in <b>ANY</b> 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 style="padding-left: 40px;">(site-specific area list)</p> <p>(2) UNPLANNED Area Radiation Monitor readings or survey results indicate a rise by 100 mR/hr in <b>ANY</b> of the following areas needed to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity.</p> <p style="padding-left: 40px;">(site specific area list)</p>	<p><b>PD-AA2</b></p> <p><b>ECL:</b> ALERT</p> <p><b>Initiating Condition:</b> UNPLANNED rise in facility radiation levels that impedes facility access required to maintain spent fuel integrity.</p> <p><b>Emergency Action Levels (EALs): (1 or 2)</b></p> <p>1. UNPLANNED dose rate greater than 15 mRem/hr in <b>ANY</b> 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"> <li>• Control Room (Area Radiation Monitor R-1)</li> <li>• Central Alarm Station (CAS) (by survey)</li> </ul> <p><b>OR</b></p> <p>2. UNPLANNED Area Radiation Monitor readings or survey indicate a rise by 100 mRem/hr over <b>NORMAL LEVELS</b> that impedes access to <b>ANY</b> of the following areas needed to maintain control of radioactive material or operation of systems needed to maintain spent fuel integrity.</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><u>Unit 2</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 80' elevation</li> <li>• PAB 98' elevation</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <p><u>Unit 3</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 55' elevation</li> <li>• PAB 73' elevation</li> </ul> </td> </tr> </table>	<p><u>Unit 2</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 80' elevation</li> <li>• PAB 98' elevation</li> </ul>	<p><u>Unit 3</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 55' elevation</li> <li>• PAB 73' elevation</li> </ul>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Initiating Condition: Replaced “plant” with “facility”</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples</li> <li>• Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>• EAL #1: Provided applicable IPEC site-specific areas</li> <li>• EAL #2: Re-worded to better align with the IC without changing the intent of the EAL</li> <li>• EAL #2: Eliminated the word "results" because the use of survey results is implied</li> <li>• EAL #2: Provided applicable IPEC site-specific areas</li> </ul>
<p><u>Unit 2</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 80' elevation</li> <li>• PAB 98' elevation</li> </ul>	<p><u>Unit 3</u></p> <ul style="list-style-type: none"> <li>• Fuel Storage Building (FSB)</li> <li>• Control Building 33' elevation</li> <li>• PAB 55' elevation</li> <li>• PAB 73' elevation</li> </ul>			



NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>Basis:</b></p> <p>This IC addresses increased radiation levels that impede necessary access to areas containing equipment that must be operated manually or that 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><b>Basis:</b></p> <p>This IC addresses increased radiation levels that impede necessary access to areas containing equipment that must be operated manually or that 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 facility access. It is this impaired access that results in the actual or potential substantial degradation of the level of safety of the facility.</p> <p>This IC does not apply to anticipated temporary increases due to planned events.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>Areas that meet this threshold include the IP2 and IP3 Control Rooms and the Central Alarm Station (CAS). The Control Room Area Radiation Monitor (ARM) R-1 provides indication of area radiation levels in the Control Room.</p> <p>The Central Alarm Station (CAS) is included in this EAL because of its importance to permitting access to areas required to assure safe plant operations. There are no permanently installed CAS area radiation monitors that may be used to assess this EAL threshold. Therefore, these thresholds must be assessed via local radiation survey for the CAS.</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-AA2</li> </ol>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Replace “plant” with “facility”</li> <li>• Provided IPEC site-specific basis information, instrumentation and documented references</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-HU1</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> Confirmed SECURITY CONDITION or threat.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b> (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><b>PD-HU1</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> Confirmed SECURITY CONDITION or threat.</p> <p><b>Emergency Action Levels (EALs): (1 or 2 or 3)</b></p> <p>1. A SECURITY CONDITION that does not involve a HOSTILE ACTION as reported by the Security Shift Supervisor.</p> <p><b>OR</b></p> <p>2. Notification of a credible security threat directed at the site.</p> <p><b>OR</b></p> <p>3. A validated notification from the NRC providing information of an aircraft threat.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition.</li> <li>Removed “Example” from EALs as they are no longer examples</li> <li>Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>EAL #1: Provided the Security Shift Supervisor as the IPEC "site-specific security shift supervision"</li> </ul>
<p><b>Basis:</b></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 essential for proper classification of a security-related event. Classification of these events will initiate appropriate threat-related notifications to plant personnel and OROs.</p>	<p><b>Basis:</b></p> <p>This IC addresses events that pose a threat to facility personnel or the equipment necessary to maintain cooling of spent fuel, and thus represent a potential degradation in the level of facility 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 the Security Shift Supervisor 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 facility personnel and OROs.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Replaced “plant” with “facility”</li> <li>Changed "Security Shift Supervision" to "Security Shift Supervisor" and "Security Plan" to "IPEC Safeguards Contingency Plan" to reflect IPEC site-specific nomenclature</li> <li>Provided IPEC site-specific basis information and documented references</li> </ul>

<p><b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b></p>	<p><b>Proposed Permanently Defueled EAL for IPEC</b></p>	<p><b>Comparison</b></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 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>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 the Security Shift Supervisor 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 the IPEC Safeguards Contingency Plan (Reference 2).</p> <p>EAL #3 addresses the threat from the impact of an aircraft on the facility. 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 by calling the NRC or by other approved methods of authentication.</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 IPEC Safeguards Contingency Plan</p> <p>Escalation of the ECL would be via IC PD-HA1.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p>	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	<p>The intent of these EALs is to ensure that notifications for the aircraft threat are made in a timely manner and that OROs and plant personnel are at a state of heightened awareness regarding the credible threat. It is not the intent of this EAL to replace existing non-hostile related EALs involving aircraft.</p> <p>Only the plant to which the specific threat is made need declare the UNUSUAL EVENT.</p> <p>The determination of “credible” is made through use of information found in the IPEC Safeguards Contingency Plan (Reference 2).</p> <p>0-AOP-SEC-1, “Response to Security Compromise” (Reference 3) provides guidance for response to security related events based on contingency events at IPEC, including validation of the threats. Hostile Action should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on IPEC. Non-terrorism-based EALs should be used to address such activities (i.e., this may include violent acts between individuals in the OWNER CONTROLLED AREA).</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-HU1</li> <li>2. IPEC Safeguards Contingency Plan</li> <li>3. 0-AOP-SEC-1, "Response to Security Compromise"</li> </ol>	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-HA1</b></p> <p><b>ECL:</b> Alert</p> <p><b>Initiating Condition:</b> HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b> (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><b>PD-HA1</b></p> <p><b>ECL:</b> ALERT</p> <p><b>Initiating Condition:</b> HOSTILE ACTION within the OWNER CONTROLLED AREA or airborne attack threat within 30 minutes.</p> <p><b>Emergency Action Levels (EALs): (1 or 2)</b></p> <p>1. A HOSTILE ACTION is occurring or has occurred within the OWNER CONTROLLED AREA as reported by the Security Shift Supervisor.</p> <p><b>OR</b></p> <p>2. A validated notification from NRC of an aircraft attack threat within 30 minutes of the site.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>Removed "Example" from EALs as they are no longer examples</li> <li>Added "OR" between the EALs as an operator aid to facilitate EAL navigation.</li> <li>EAL #1: Provided the Security Shift Supervisor as the IPEC "site-specific security shift supervision"</li> </ul>
<p><b>Basis:</b></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 facility and staff for a potential aircraft impact.</p> <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><b>Basis:</b></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 facility and staff for a potential aircraft impact.</p> <p>Timely and accurate communications between the Security Shift Supervisor 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><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Replaced "plant" with "facility".</li> <li>Changed "Security Shift Supervision" to "Security Shift Supervisor" and "Security Plan" to "IPEC Safeguards Contingency Plan" to reflect IPEC site-specific nomenclature</li> <li>Provided IPEC site-specific basis information and documented references</li> </ul>

<p><b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b></p>	<p><b>Proposed Permanently Defueled EAL for IPEC</b></p>	<p><b>Comparison</b></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>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>As time and conditions allow, these events require a heightened state of readiness by the facility staff and implementation of onsite protective measures (e.g., evacuation, dispersal or sheltering). The ALERT declaration will also heighten the awareness of OROs, 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>EAL #2 addresses the threat from the impact of an aircraft on the facility, 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 facility 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 the IPEC Safeguards Security Plan (Reference 2.).</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><b>NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs</b></p>	<p><b>Proposed Permanently Defueled EAL for IPEC</b></p>	<p><b>Comparison</b></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>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 IPEC Safeguards Contingency Plan.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p><b>HOSTILE ACTION:</b> An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (i.e., this may include violent</p>	

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	<p>acts between individuals in the OWNER CONTROLLED AREA).</p> <p>0-AOP-SEC-1, "Response to Security Compromise" (Reference 3) provides guidance for response to security related events based on contingency events at IPEC.</p> <p><b>IPEC Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-HA1</li> <li>2. IPEC Safeguards Contingency Plan</li> <li>3. 0-AOP-SEC-1, "Response to Security Compromise"</li> </ol>	



NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-HU2</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> Hazardous event affecting SAFETY SYSTEM equipment necessary for spent fuel cooling.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b></p> <p>(1)</p> <p>a. The occurrence of <b>ANY</b> of the following hazardous events:</p> <ul style="list-style-type: none"> <li>• Seismic event (earthquake)</li> <li>• Internal or external flooding event</li> <li>• High winds or tornado strike</li> <li>• FIRE</li> <li>• EXPLOSION</li> <li>• (site-specific hazards)</li> <li>• Other events with similar hazard characteristics as determined by the Shift Manager</li> </ul> <p><b>AND</b></p> <p>b. The event has damaged at least one train of a SAFETY SYSTEM needed for spent fuel cooling.</p> <p><b>AND</b></p> <p>c. The damaged SAFETY SYSTEM train(s) cannot, or potentially cannot, perform its design function based on <b>EITHER</b>:</p> <ul style="list-style-type: none"> <li>• Indications of degraded performance</li> </ul>	<p><b>PD-HU2</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> Hazardous event affecting equipment necessary for spent fuel cooling.</p> <p><b>Emergency Action Level (EAL):</b></p> <p>1. a. The occurrence of <b>ANY</b> of the following hazardous events:</p> <ul style="list-style-type: none"> <li>• Seismic event (earthquake)</li> <li>• Internal or External flooding event</li> <li>• High winds or tornado strike</li> <li>• FIRE</li> <li>• EXPLOSION</li> <li>• Other events with similar characteristics as determined by the Shift Manager</li> </ul> <p><b>AND</b></p> <p>b. The event has damaged at least one train of a system needed for spent fuel cooling.</p> <p><b>AND</b></p> <p>c. The damaged system train(s) cannot, or potentially cannot, perform its design function based on <b>EITHER</b>:</p> <ul style="list-style-type: none"> <li>• Indications of degraded performance</li> </ul>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples</li> <li>• EAL #1 (b and c): The term “SAFETY SYSTEM” was excluded because only those systems required to maintain spent fuel cooling are necessary in the permanently shut down and defueled condition. These systems, by definition, are not SAFETY SYSTEMS.</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<ul style="list-style-type: none"> <li>VISIBLE DAMAGE</li> </ul>	<ul style="list-style-type: none"> <li>VISIBLE DAMAGE</li> </ul>	
<p><b>Basis:</b></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><b>Basis:</b></p> <p>This IC addresses a hazardous event that causes damage to at least one train of a system needed for spent fuel cooling. The damage must be of sufficient magnitude that the system(s) train cannot, or potentially cannot, perform its intended 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 facility.</p> <p>For EAL 1.c., the first bullet addresses damage to equipment 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 equipment 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 ECL would be via IC PD-AA1 or PD-AA2.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>None</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>NEI 99-01 Rev. 6, PD-HA1</li> <li>2-AOP-FLOOD, "Flooding"</li> <li>3-AOP-FLOOD, "Flooding"</li> </ol>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>Replaced “plant” with “facility”</li> <li>The term “SAFETY SYSTEM” was excluded because only those systems required to maintain spent fuel cooling are necessary in the permanently shut down and defueled condition. These systems, by definition, are not SAFETY SYSTEMS.</li> <li>Replaced "design function" with "intended function" to better align with the IC Without changing the intent of the EAL.</li> <li>Provided IPEC site-specific basis information and references</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-HU3</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of a (NO)UE.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b></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><b>PD-HU3</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of an UNUSUAL EVENT.</p> <p><b>Emergency Action Level (EAL):</b></p> <p>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 facility 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 systems needed to maintain spent fuel integrity occurs.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples</li> <li>• Removed numbering from EAL, because there is only one EAL is associated with the IC</li> <li>• Replaced “plant” with “facility”</li> <li>• Replaced “SAFETY SYSTEMS” with "systems needed to maintain spent fuel integrity" as the term "safety systems" is not applicable in the permanently shut down and defueled condition</li> </ul>
<p><b>Basis:</b></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><b>Basis:</b></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 ECL description for an UNUSUAL EVENT.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>None</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-HU3</li> <li>2. IPEC Permanently Defueled Emergency Plan, Part 2, Section B, Emergency Response Organization"</li> </ol>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Change "NOUE" to "UNUSUAL EVENT" to maintain continuity with the previous IPEC EAL scheme</li> <li>• Provided IPEC site-specific basis information and references</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
<p><b>PD-HA3</b></p> <p><b>ECL:</b> Alert</p> <p><b>Initiating Condition:</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of an Alert.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b></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><b>PD-HA3</b></p> <p><b>ECL:</b> ALERT</p> <p><b>Initiating Condition:</b> Other conditions exist which in the judgment of the Emergency Director warrant declaration of an ALERT.</p> <p><b>Emergency Action Level (EAL):</b></p> <p>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 facility 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><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed "Example" from EALs as they are no longer examples</li> <li>• Removed numbering from EAL, because there is only one EAL is associated with the IC</li> <li>• Replaced "plant" with "facility"</li> </ul>
<p><b>Basis:</b></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><b>Basis:</b></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 ECL description for an ALERT.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>None</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-HA3</li> <li>2. IPEC Permanently Defueled Emergency Plan, Part 2, Section B, Emergency Response Organization"</li> </ol>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Provided IPEC site-specific basis information and references</li> </ul>

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Enclosure, Attachment 3

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<p><b>PD-SU1</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> UNPLANNED spent fuel pool temperature rise.</p> <p><b>Operating Mode Applicability:</b> Not Applicable</p> <p><b>Example Emergency Action Levels:</b></p> <p>(1) UNPLANNED spent fuel pool temperature rise to greater than (site-specific ° F).</p>	<p><b>PD-SU1</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> UNPLANNED spent fuel pool temperature rise.</p> <p><b>Emergency Action Level (EAL):</b></p> <p>UNPLANNED spent fuel pool temperature rise to greater than 140° F.</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples</li> <li>• Removed numbering from EAL, because there is only one EAL is associated with the IC</li> <li>• Provided IPEC site-specific temperature for the SFP</li> </ul>
<p><b>Basis:</b></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><b>Basis:</b></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 facility. 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 ECL would be via IC PD-AA1 or PD-AA2.</p> <p><u>Additional IPEC Site-Specific Bases Information</u></p> <p>The IP2 and IP3 SFPs have large capacities for heat absorption. The normal SFP water level is maintained greater than or equal to 23 feet above the top of the irradiated fuel assemblies seated in the storage racks in accordance with the Technical Specifications. Normal SFP temperature is procedurally maintained below 125° F for the IP2 SFP and below 135° F for the IP3 SFP.</p> <p>Based on IP-CALC-19-00032 (Reference 2), using the normal SFP water level and a conservative initial</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Replaced "plant" with "facility"</li> <li>• Provided IPEC site-specific basis information and documented references for the bases and justification for 140° F EAL threshold provided in the EAL</li> </ul>

NEI 99-01 Rev 6 Appendix C – Permanently Defueled Station ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	<p>SFP temperature of 140° F, at 12 months after final core offload, 89 hours are available to mitigate a loss of SFP cooling event before the water in the SFP were to boil down to 10 ft above top of fuel, and 125 hours are available before the water in the SFP were to boil down to 3 ft. above top of fuel (Reference 3).</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, PD-SU1</li> <li>2. IP2 Technical Specifications Section 3.7.11, Spent Fuel Pit Water Level</li> <li>3. IP3 Technical Specifications Section 3.7.14, Spent Fuel Pit Water Level</li> <li>4. Indian Point Energy Center Calculation No. IP-CALC-19-00032, Revision 0, "Evaluation of Spent Fuel Pool Boil Off Time," issued September 25, 2019</li> <li>5. IPEC Letter to NRC, NL-19-092, "Request for Rescission of Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)"</li> </ol>	

<p align="center"><b>NEI 99-01 Rev 6, Section 8 ISFSI ICs/EALs</b></p>	<p align="center"><b>Proposed Permanently Defueled EAL for IPEC</b></p>	<p align="center"><b>Comparison</b></p>
<p><b>E-HU1</b></p> <p><b>ECL:</b> Notification of Unusual Event</p> <p><b>Initiating Condition:</b> Damage to a loaded cask CONFINEMENT BOUNDARY.</p> <p><b>Operating Mode Applicability:</b> All</p> <p><b>Example Emergency Action Levels:</b></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><b>E-HU1</b></p> <p><b>ECL:</b> UNUSUAL EVENT</p> <p><b>Initiating Condition:</b> Damage to a loaded cask CONFINEMENT BOUNDARY.</p> <p><b>Emergency Action Level (EAL):</b></p> <p>Damage to a loaded cask CONFINEMENT BOUNDARY as indicated by an on-contact radiation reading greater than <b>EITHER</b> of the following:</p> <ul style="list-style-type: none"> <li>• 40 mRem/hr (gamma + neutron) on the top of the OVERPACK</li> <li>• 220 mRem/hr (gamma + neutron) on the side of the OVERPACK, excluding inlet and outlet ducts</li> </ul>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• ECL: Changed “Notification of Unusual Event” to “UNUSUAL EVENT” to maintain continuity with the previous IPEC EAL scheme</li> <li>• Removed "Operating Mode Applicability" as it does not apply in the permanently defueled condition</li> <li>• Removed “Example” from EALs as they are no longer examples.</li> <li>• Removed numbering from EAL, because there is only one EAL is associated with the IC</li> <li>• Included the cask-specific technical specification values</li> </ul>
<p><b>Basis:</b></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 Recognition Category A IC AU1, is used here to distinguish between non-emergency and emergency conditions. The emphasis for this classification is the</p>	<p><b>Basis:</b></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 Recognition Category A IC PD-AU1, is used here to distinguish between non-emergency and emergency conditions. The emphasis for this classification is the</p>	<p><input type="checkbox"/> No Change    <input checked="" type="checkbox"/> Difference    <input type="checkbox"/> Deviation</p> <ul style="list-style-type: none"> <li>• Provided IPEC site-specific and cask-specific basis information and references</li> </ul>



<p><b>NEI 99-01 Rev 6, Section 8 ISFSI ICs/EALs</b></p>	<p><b>Proposed Permanently Defueled EAL for IPEC</b></p>	<p><b>Comparison</b></p>
<p>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>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 PD-HU1 and PD-HA1.</p> <p><u>Additional IPEC Site Specific Bases Information</u></p> <p>The results of the ISFSI Safety Analysis Report (SAR) [per NUREG 1536], or a SAR referenced in the cask Certificate of Compliance (CoC) and the related NRC Safety Evaluation Report, identify the natural phenomena events and accident conditions that could potentially affect the CONFINEMENT BOUNDARY. This EAL addresses damage that could result from the range of identified natural or man-made events (e.g., a dropped or tipped over cask, EXPLOSION, FIRE, EARTHQUAKE, etc.).</p> <p>An UNUSUAL EVENT in this EAL is categorized on the basis of the occurrence of an event of sufficient magnitude that a loaded cask confinement boundary is damaged or violated. This includes classification based on a loaded fuel storage cask confinement boundary loss leading to the degradation of the fuel during storage or posing an operational safety problem with respect to its removal from storage.</p> <p>CONFINEMENT BOUNDARY means the outline formed by either: (1) the sealed, cylindrical enclosure of the Multi-Purpose Canister (MPC) shell welded to a solid baseplate, a lid welded around the top circumference of the shell wall, the port cover plates welded to the lid, and the closure ring welded to the lid and MPC shell providing the redundant</p>	

NEI 99-01 Rev 6, Section 8 ISFSI ICs/EALs	Proposed Permanently Defueled EAL for IPEC	Comparison
	<p>sealing; or (2) the sealed, cylindrical enclosure of the Shielded Transfer Canister (STC) inner shell welded to a solid base plate and an upper flange, with the upper flange bolted to a solid closure lid with the lid to flange interface having a double elastomeric o-ring seal, and with the lid having vent and drain ports with bolted solid cover plates with each cover plate having an elastomeric o-ring seal.</p> <p>The on-contact radiation readings equate to 2 times the value presented in Appendix A of the Holtec International HI-STORM 100 Cask System CoC No. 72-1014, Technical Specification 5.7.4 (Reference 2). Because the IPEC ISFSI contains casks loaded under Amendments 2, 4, 6, and 9 of the Holtec International HI-STORM 100 Cask System CoC No. 72-1014, this EAL utilizes the allowable levels of Amendment 2 as these would be the first to be reached in the case of a confinement boundary failure issue. On-contact radiation readings are defined in Amendment 2 as 20 mRem/hr on the top of the overpack, and 110 mRem/hr on the side of the overpack, excluding near the inlet and outlet ducts per the cask system technical specifications (Reference 2).</p> <p>Minor surface damage that does not affect storage cask boundary is excluded from the scope of this EAL.</p> <p><b>Basis Reference(s):</b></p> <ol style="list-style-type: none"> <li>1. NEI 99-01 Rev. 6, E-HU1</li> <li>2. Holtec International HI-STORM 100 Cask System CoC No. 72-1014 Amendments 2, 4, 6, and 9</li> <li>3. Technical Specifications for the HI-STORM 100 Cask System, Administrative Control 5.7.4</li> </ol>	

