

**Facility:** Hanford Tank Farm/Hanford

**Best Practice Title:** Regulatory Summary for 10 CFR 830 Part B

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**Brief Description of Best Practice:** The Price Anderson Amendment Act (PAAA) involves several CFRs (e.g., 10 CFR 830, 10 CFR 835, 10 CFR 851, etc.). PAAA Enforcement Coordinators are expected to understand the PAAA regulations and determine whether issues identified within their contract are a PAAA noncompliance. The Regulatory Summary for 10 CFR 830 Part B provides a resource for PAAA Enforcement Coordinators to use by providing examples of noncompliances associated with each citation, and by providing a brief summary of what constitutes a nuclear nexus.

**Why the best practice was used:** Every year there is a new group of PAAA Enforcement Coordinators that often have little to no experience regarding the PAAA CFRs. The subject Regulatory Summary can be used to supplement the inexperience of the new PAAA Enforcement Coordinators and serve as a refresher for the more experienced PAAA Enforcement Coordinators.

**What are the benefits of the best practice:** New PAAA Enforcement Coordinators will have a better understanding of the associated CFR.

**What problems/issues were associated with the best practice:** There were no problems associated with the deployment of the best practice.

**How the success of the Best Practice was measured:** Positive feedback from Enforcement Coordinators.

**Description of process experience using the Best Practice:** The known operating experience to date is limited to the 2 sites associated with the development of the product since this is the initial deployment of the Best Practice. The best practice supports a better understanding of the subject nuclear safety regulation.

**Regulatory Summary**  
**10 CFR 830 Part B**

**Introduction:**

The Regulatory Summary for the 10 CFR 830 Part B relies on the introduction presented in the Regulatory Summary for 10 CFR 830 Part A. The introduction in 10 CFR 830 Part A provides:

- Caveats for use of the Regulatory Summary;
- Discussion/examples of nuclear nexus;
- Description for how the Regulatory Summary is organized;
- How to use the Regulatory Summary.

Similar to the Regulatory Summary for 10 CFR 830 Part A, this summary does not address all citations from Part B rather it is intended to provide the citations for the most frequent Safety Basis noncompliances. If a user of this document has an example that the user believes is interesting or would help other PAAA Enforcement Coordinators please submit these examples to the Chair of the EFCOG Regulatory & Enforcement Technical Subgroup.

Row#	Noncompliance Examples
<b>1</b>	<b>830.201 Performance of Work</b>
<b>2</b>	<p><b>Example:</b> Every site has a different DSA/TSR; therefore providing specific examples may have little value. If a TSR violation<sup>1</sup> or a Violation of Credited Hazard Control<sup>2</sup> is declared at your site in accordance with DOE O 232.2A as shown below, then a NTS report should be submitted that cites 830.201 as a minimum. There may be other citations from 10 CFR 830.122 that apply, see notes below.</p> <p><sup>1</sup>Occurrence Reporting Criteria 3A(1): <i>“Any violation or noncompliance of a <b>Technical Safety Requirement (or Operational Safety Requirement) Safety Limit, Hazard Category 1, 2, or 3 nuclear facility’s Technical Safety Requirement (or Operational Safety Requirement) Limiting Control Setting, Limiting Condition for Operation, Specific Administrative Control, or Surveillance Requirement.</b>”</i></p> <p><sup>2</sup>Occurrence Reporting Criteria 3A(2): <i>“Any violation or noncompliance of a <b>credited hazard control specified in a Hazard Category 1, 2, or 3 nuclear facility’s DOE approved Documented Safety Analysis [issued pursuant to 10 CFR Section 830.204, Documented Safety Analysis, and including Basis for Interim Operation, etc.], or DOE issued Safety Evaluation Report that are not addressed by Criterion 3A(1).</b>”</i></p> <hr/> <p><b>Key Words:</b> TSR Violation; Credited Hazard Control; LCO; SAC; SR</p> <hr/> <p><b>PAAA Noncompliance(s):</b> <b>830.201:</b> <i>“A contractor must perform work in accordance with the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility and, in particular, with the hazard controls that ensure adequate protection of workers, the public, and the environment.”</i></p> <p><b>Note 1:</b> Many of TSR violations currently in NTS either cite only 830.201 or 830.201 and 830.122(e)(1).</p> <p><b>Note 2:</b> TSR violation<sup>1</sup> or a Violation of Credited Hazard Control<sup>2</sup> can also involve noncompliances with portions of 10 CFR 830.122. For example, the TSR violation may involve:</p> <ul style="list-style-type: none"> <li>• Inadequate design: 830.122(f)(1) thru (f)(5)</li> </ul>

**Regulatory Summary**  
**10 CFR 830 Part B**

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	<ul style="list-style-type: none"> <li>• Inadequate or missing training: 830.122(b)(1) or (b)(2)</li> <li>• Not following DSA/TSR: Many sites always include 830.122(d)(1) and/or (e)(1)</li> </ul> <p><b>Note 3:</b> The following NTS reports are examples of 830.201 (TSR violations) that include other citations:</p> <ul style="list-style-type: none"> <li>• NTS-NPO--CNS-Pantex-2016-0004 (Includes Design and Testing noncompliance)</li> <li>• NTS-NSO--NST-NNSS-2011-0001 (Includes Design and Testing noncompliance)</li> <li>• NTS--LASO-LANS-LANL-2011-0008 (Includes Design noncompliance)</li> <li>• NTS--LASO-LANS-LANL-2011-0010 (Includes Design and Calibration noncompliance)</li> <li>• NTS--LASO-LANS-WASTEMGT-2017-0002 (Includes Training noncompliance)</li> <li>• NTS-NPO--B&amp;WP-Pantex-2014-0004 (Includes Records noncompliance)</li> <li>• NTS-NSO--NST-NTS-2010-0006 (Includes Training and Records noncompliance)</li> <li>• NTS--LASO-LANS-LANL-2007-0003 (Includes TSR, Degradation, Positive USQ, 851 Fire Protection, Maintenance, OSHA)</li> </ul> <p><b>Note 4:</b> As a reminder, a Credited Hazard Control is a control such as a Design Feature, Limiting Condition for Operations, and some Administrative Controls, that prevent or mitigate a hazard. Both 3A(1) and 3A(2) involve credited hazard controls. At some sites a complete failure of a Safety Management Program (SMP) could be considered a TSR violation therefore 3A(1) would then apply; however, if it was not considered a TSR violation then the complete failure of the SMP would then fall under the 3A(2) reporting criteria. The credited hazard controls are site/DSA specific and the determination as to whether DOE O 232.2A reporting criteria 3A(1) or 3A(2) applies is beyond the scope of this document and should be determined by the respective sites Nuclear Safety Organization.</p> <p><b>Note 5:</b> If a 3C(1), 3C(2) and 3C(3) is declared at your site in accordance with DOE O 232.2A the subject CFR (830.201) very likely applies.</p>
<b>3</b>	<b>830.202 Safety Basis</b>
<b>4</b>	<p><b>Example 1:</b> A Hazard category 1, 2 or 3 facility does not have the required Documented Safety Basis. <b>Example 2:</b> A Hazard category 1, 2 or 3 facility is not maintaining the Documents Safety Basis.</p> <hr/> <p><b>Key Words:</b> Establish Safety Basis; Missing Safety Basis</p> <hr/> <p><b>PAAA Noncompliance(s):</b>  <b>830.202(a):</b> <i>"The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish and maintain the safety basis for the facility."</i>  <b>830.202(c)(1):</b> <i>"In maintaining the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must:</i>  <i>(1) Update the safety basis to keep it current and to reflect changes in the facility, the work and the hazards as they are analyzed in the documented safety analysis;"</i></p>
<b>5</b>	<p><b>Example 1:</b> The Risk Reduction and Environmental Stewardship group identified that an inactive solid waste management unit (SWMU) had not been categorized using the DOE-STD-1027-92 "Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports".</p> <p><b>Example 2:</b> Legacy Glove box disposal process reveals levels of contamination in 2 glove boxes that exceed Hazard Category 3 limits.</p>

**Regulatory Summary**  
**10 CFR 830 Part B**

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	<p><b>Example 3:</b> Fissile materials stored in unauthorized areas.</p> <hr/> <p><b>Key Words:</b> Facility Categorization; DOE-STD-1027-92; No DSA;</p> <hr/> <p><b>PAAA Noncompliance(s):</b>  <b>830.202(b)(3):</b> <i>“In establishing the safety basis for a hazard category 1, 2, or 3 DOE nuclear facility, the contractor responsible for the facility must: Categorize the facility consistent with DOE-STD-1027-92 (“Hazard Categorization and Accident Analysis Techniques for compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports,” Change Notice 1, September 1997);”</i></p> <p><b>Note 1:</b> The following NTS reports did not categorize a facility and cited 830.202(b)(3):</p> <ul style="list-style-type: none"> <li>• NTS-CH-AA-ANLW-ANLW-2002-0001</li> <li>• NTS-ALO-LA-LANL-LANL-2003-0001</li> <li>• NTS--LASO-LANL-LANL-2006-0006</li> <li>• NTS--ASO-ANLE-ANLE-2009-0001</li> <li>• NTS--SS-SNL-NMSITE-2013-0004</li> <li>• NTS--ASO-ANLE-ANLE-2006-0001 (Note, associated Occurrence Report Categorized as Positive USQ)</li> <li>• NTS--ASO-ANLE-CSE-2013-0001</li> </ul> <p><b>Note 2:</b> There is a case to be made that if a facility was never categorized as a nuclear facility and it is discovered later that the facility should have been a CAT 1, 2, or 3 facility that the lack of a required DSA is a positive USQ. NTS--ASO-ANLE-ANLE-2006-0001 shown above is an example of this scenario being declared.</p>
<b>6</b>	<b>830.203 Unreviewed Safety Question Process</b>
7	<p><b>Example 1:</b> Documents are being issued without the required USQ review.  <b>Example 2:</b> Documents are incorrectly being exempted from the required USQ review.  <b>Example 3:</b> The USQ review process incorrectly exempted documents from USQ review.  <b>Example 4:</b> The USQ process cannot be implemented as written.  <b>Example 5:</b> The USQ process is missing required information/direction.</p> <hr/> <p><b>Key Words:</b> Not following USQ process; USQ exemption process; Inadequate or Missing USQ Process</p> <hr/> <p><b>PAAA Noncompliance(s):</b>  <b>830.203(a):</b> <i>“The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must establish, implement, and take actions consistent with a USQ process that meets the requirements of this section.”</i></p> <p>May want to combine with 10 CFR 830.122(d)(1) or 10 CFR 830.122(e)(1)</p>
8	<p><b>Example:</b> A PISA is discovered and in response to the PISA the Contractor puts Compensatory Measures in place until the PISA can be evaluated. However, before the PISA is completed the Compensatory Measure is inadvertently stopped.</p>

**Regulatory Summary**  
**10 CFR 830 Part B**

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	<p><b>Key Words:</b> Compensatory Measure incorrectly stopped; PISA;</p> <hr/> <p><b>PAAA Noncompliance(s):</b>  <b>830.203(g)(1):</b> <i>“If a contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility discovers or is made aware of a potential inadequacy of the documented safety analysis, it must:</i></p> <p style="padding-left: 40px;"><i>(1) Take action, as appropriate, to place or maintain the facility in a safe condition until an evaluation of the safety of the situation is completed;”</i></p> <p><b>Note:</b> The focus of this CFR citation/example is that immediate action may need to be taken related to the PISA. The following NTS report is an example of this noncompliance:</p> <ul style="list-style-type: none"> <li>• NTS--LASO-LANS-TA55-2017-0003</li> </ul>
<b>9</b>	<b>830.204 Documented Safety Analysis</b>
<b>10</b>	<p><b>Example:</b> Every site has a different DSA/TSR; therefore providing specific examples has little value. If a positive USQ<sup>1</sup> is declared at your site in accordance with DOE O 232.2A, then a NTS report should be submitted that cites the CFR(s) listed below.</p> <p><sup>1</sup>Occurrence Reporting Criteria 3B(2): <i>“Determination of a positive Unreviewed Safety Question (USQ) that reveals a currently existing inadequacy in the Documented Safety Analysis.”</i></p> <p><b>Note:</b> If a Contractor has a process that declares a Positive USQ for a proposed/future design change, then in this situation the Positive USQ would not be a noncompliance; therefore, no NTS report should be submitted.</p> <hr/> <p><b>Key Words:</b> Positive USQ</p> <hr/> <p>Sometimes regulations state virtually the same requirement in multiple locations as is the case with Section 830.202(b) and Section 830.204(b). Rather than citing both sections, it is recommended that when identifying noncompliances that may be associated with a Positive USQ that only Section 830.204(b) citations be used. It appears that 830.204(b) is more focused on the contents of a documented/completed Safety Basis in contrast to 830.202(b) that appears to be more focused on the initial development of the Safety Basis.</p> <p>A Positive USQ is a confirmed inadequacy of the Safety Basis. The inadequacy is related to the required content and the required content is based upon Section 830.204(b) shown in blue text below. Although, any of the sections of 830.204(b) are potential candidates for citing, the 3 most likely citations related to a positive USQ are:</p> <ul style="list-style-type: none"> <li>• 830.204(b)(2): Missed identifying a hazard</li> <li>• 830.204(b)(3): Inadequate evaluation/analysis of hazards.</li> <li>• 830.204(b)(4): Inadequate hazard controls</li> </ul>

**Regulatory Summary  
10 CFR 830 Part B**

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	<p>Table 1 below contains the USQ Determination questions from DOE G 424.1-1B. If the USQ Determination answers yes to any of the questions, then there is as a minimum a noncompliance with 830.204(b)(3), and there may be noncompliances with other CFRs. After reading the USQ Determination questions in Table 1, it becomes apparent that any yes answer was caused by an inadequate evaluation/analysis which is why 830.204(b)(3) always applies.</p>																									
	<table border="1"> <thead> <tr> <th data-bbox="233 493 305 527">No.</th> <th colspan="2" data-bbox="305 493 1490 527">Table 1: DOE G 424.1-1B USQ Determination Questions</th> </tr> </thead> <tbody> <tr> <td data-bbox="233 527 305 636">1</td> <td data-bbox="305 527 1149 636">Could the proposed change increase the probability of an accident previously evaluated in the facility's existing safety analysis?</td> <td data-bbox="1149 527 1490 636">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 636 305 745">2</td> <td data-bbox="305 636 1149 745">Could the proposed change increase the consequences (to workers or the public) of an accident previously evaluated in the facility's existing safety analyses?</td> <td data-bbox="1149 636 1490 745">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 745 305 854">3</td> <td data-bbox="305 745 1149 854">Could the proposed change increase the probability of a malfunction of equipment important to safety previously described in the facility's existing safety analyses?</td> <td data-bbox="1149 745 1490 854">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 854 305 963">4</td> <td data-bbox="305 854 1149 963">Could the proposed change increase the consequences of a malfunction of equipment important to safety described in the facility's existing safety analyses?</td> <td data-bbox="1149 854 1490 963">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 963 305 1073">5</td> <td data-bbox="305 963 1149 1073">Could the proposed change create the possibility of an accident of a different type than any previously evaluated in the facility's existing safety analyses?</td> <td data-bbox="1149 963 1490 1073">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 1073 305 1182">6</td> <td data-bbox="305 1073 1149 1182">Could the proposed change create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the facility's existing safety analyses?</td> <td data-bbox="1149 1073 1490 1182">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> <tr> <td data-bbox="233 1182 305 1291">7</td> <td data-bbox="305 1182 1149 1291">Could the proposed change reduce a margin of safety?</td> <td data-bbox="1149 1182 1490 1291">830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe</td> </tr> </tbody> </table>		No.	Table 1: DOE G 424.1-1B USQ Determination Questions		1	Could the proposed change increase the probability of an accident previously evaluated in the facility's existing safety analysis?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	2	Could the proposed change increase the consequences (to workers or the public) of an accident previously evaluated in the facility's existing safety analyses?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	3	Could the proposed change increase the probability of a malfunction of equipment important to safety previously described in the facility's existing safety analyses?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	4	Could the proposed change increase the consequences of a malfunction of equipment important to safety described in the facility's existing safety analyses?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	5	Could the proposed change create the possibility of an accident of a different type than any previously evaluated in the facility's existing safety analyses?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	6	Could the proposed change create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the facility's existing safety analyses?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe	7	Could the proposed change reduce a margin of safety?	830.204(b)(2): Maybe 830.204(b)(3): Applies 830.204(b)(4): Maybe
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	<p><b>830.204(b):</b> <i>“(b) The documented safety analysis for a hazard category 1, 2, or 3 DOE nuclear facility must, as appropriate for the complexities and hazards associated with the facility:</i></p> <p><i>(1) Describe the facility (including the design of safety structures, systems and components) and the work to be performed;</i></p> <p><i>(2) Provide a systematic identification of both natural and man-made hazards associated with the facility;</i></p> <p><i>(3) Evaluate normal, abnormal, and accident conditions, including consideration of natural and manmade external events, identification of energy sources or processes that might contribute to the generation or uncontrolled release of radioactive and other hazardous materials, and consideration of the need for analysis of accidents which may be beyond the design basis of the facility;</i></p> <p><i>(4) Derive the hazard controls necessary to ensure adequate protection of workers, the public, and the environment, demonstrate the adequacy of these controls to eliminate, limit, or mitigate identified hazards, and define the process for maintaining the hazard controls current at all times and controlling their use;”</i></p>																									

**Regulatory Summary  
10 CFR 830 Part B**

Row#	Noncompliance Examples
	<p><i>(5) Define the characteristics of the safety management programs necessary to ensure the safe operation of the facility, including (where applicable) quality assurance, procedures, maintenance, personnel training, conduct of operations, emergency preparedness, fire protection, waste management, and radiation protection; and</i></p> <p><i>(6) With respect to a nonreactor nuclear facility with fissionable material in a form and amount sufficient to pose a potential for criticality, define a criticality safety program that:</i></p> <p><i>(i) Ensures that operations with fissionable material remain subcritical under all normal and credible abnormal conditions,</i></p> <p><i>(ii) Identifies applicable nuclear criticality safety standards, and</i></p> <p><i>(iii) Describes how the program meets applicable nuclear criticality safety standards.</i></p> <p><b>Note 1:</b> The previous discussion focused on the primary candidates for noncompliances associated with a positive USQ; however, it is important to note that there could be other ancillary noncompliances within 830 Subpart B that may also apply. For example see Rows 4, 5, and 12.</p> <p><b>Note 2:</b> Positive USQs can also involve noncompliances with portions of 10 CFR 830.122. Typically, 10 CFR 830.122(d)(1) is coupled with the 830.204 citations.</p>
<b>11</b>	<b>830.205 Technical Safety Requirements</b>
<b>12</b>	<p><b>Example 1:</b> Required TSR requirements were never develop to address hazards identified in DSA.</p> <hr/> <p><b>Key Words:</b> Lack of TSR Requirements;</p> <hr/> <p><b>PAAA Noncompliance(s):</b>  <b>830.205(a)(1):</b> <i>“A contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility must develop technical safety requirements that are derived from the documented safety analysis.”</i></p> <p><b>Note 1:</b> The following NTS reports did not develop TSR requirements and cited 830.205(a)(1):</p> <ul style="list-style-type: none"> <li>• NTS-ID--BEA-ATR-2011-0005</li> <li>• NTS-NSO--NST-NNSS-2015-0006</li> </ul>