

# USQ

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**Unreviewed Safety Question  
Activity Report  
2005-01**



**January - March 2005**

**Office of Facility Safety (EH-2)**

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**Office of Environment, Safety and Health**

*Helping the Field Succeed with  
Safe and Reliable Operations*

**U.S. Department of Energy**

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## Introduction

The Unreviewed Safety Question (USQ) process alerts the Department of Energy (DOE) to events, conditions, or actions that are not within the DOE-approved safety basis of a facility or operation and ensures appropriate DOE line management action. Figure 1 shows the steps in the USQ process.

Part of the mission and function of the Office of Facility Authorization Bases (EH-23), which is a part of the Office of Facility Safety (EH-2), is to maintain operational awareness of the Department's USQ activities. EH-23 staff members prepare a quarterly *USQ Activity Report* showing the status of USQs across the DOE complex. To prepare the activity report and develop complex-wide statistics and insights, staff members:

- review and analyze Occurrence Reporting and Processing System (ORPS) reports on USQs identified at DOE sites,
- determine the causes of USQs related to safety basis documents, and
- maintain a USQ database for monitoring and tracking purposes.

Since 2001, EH-23 has produced more than 20 periodic reports and catalogued over 250 USQs in a database. USQs identified from January 2005 through March 2005 are summarized in the current report.

## USQ

**Unreviewed Safety Question (USQ)** means a situation where

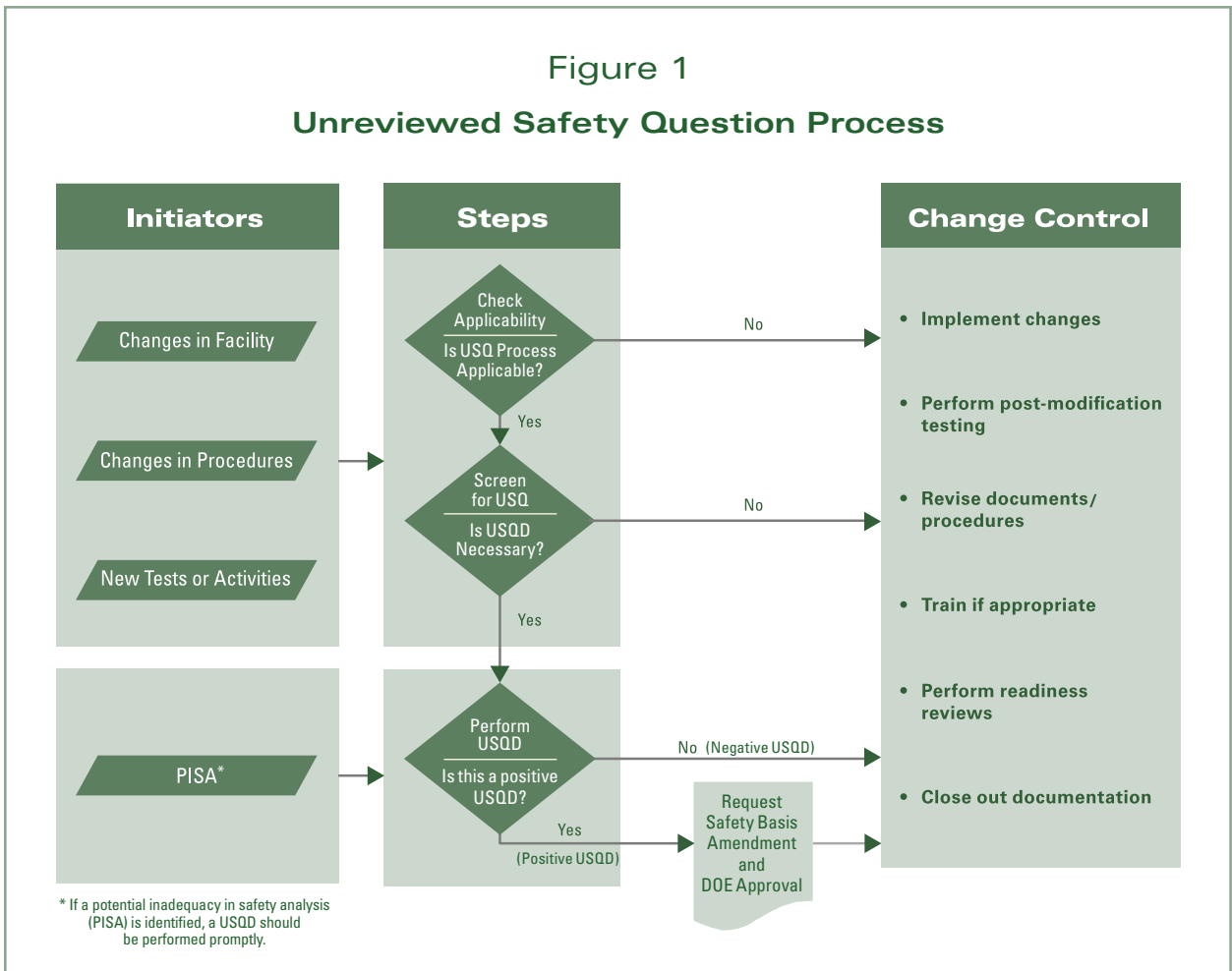
- (1) The probability of the occurrence or the consequences of an accident or the malfunction of equipment important to safety previously evaluated in the documented safety analysis could be increased;
- (2) The possibility of an accident or malfunction of a different type than any evaluated previously in the documented safety analysis could be created;
- (3) A margin of safety could be reduced; or
- (4) The documented safety analysis may not be bounding or may be otherwise inadequate.

10 CFR 830.3

The existence of a USQ does not mean that the facility or operation is unsafe. The USQ process alerts DOE to events, conditions, or actions that affect the approved facility safety basis and ensures that DOE line management takes appropriate action.



**Figure 1**  
**Unreviewed Safety Question Process**



**Purpose of the USQ Process**

The Unreviewed Safety Question process means the mechanism for keeping a safety basis current by reviewing potential unreviewed safety questions, reporting them to DOE, and obtaining approval from DOE prior to taking any action addressing them.

10 CFR 830.3

The USQ process is primarily applicable to the Documented Safety Analysis (DSA). The DSA must include conditions of approval in safety evaluation reports and facility specific commitments made in compliance with DOE Rules, Orders or Policies.

DOE G 424.1-1



## Background

Requirements for USQs are detailed in Title 10, *Code of Federal Regulations* (CFR) Part 830.203, “Unreviewed Safety Question Process.” They are as follows.

1. The contractor responsible for a hazard category 1, 2, or 3 DOE nuclear facility (hereafter referred to as contractor) must establish, implement, and take actions consistent with a USQ process that meets DOE requirements.
2. The contractor must implement the DOE approved USQ procedure when there is (a) temporary or permanent change in the facility, procedures, (b) test or experiment not described in the Documented Safety Analysis (DSA), or (c) a potential inadequacy of the DSA.
3. The contractor must obtain DOE approval prior to taking any action addressing any of the conditions in requirement 2 above.

DOE G 424.1-1, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*, provides information to assist in implementation and interpretation of the Rule.

The existence of a USQ does not mean that the facility or the operation is unsafe. However, when a change is proposed or a condition is discovered that could increase the risk of operating a facility beyond what was established in the current safety basis, a potential USQ exists. The contractor then must prepare a USQD report. If the existence of USQ is confirmed, the contractor must submit the USQD report to the local DOE office, which reviews it for acceptability prior to issuing the approval, following which the safety basis document must be revised by the contractor.

## USQD Document

An **Unreviewed Safety Question Determination (USQD)** document contains the review of a change or a situation where there is reason to believe that the facility’s existing safety analysis may be in error or is otherwise inadequate. It records the scope of the determination and an explanation of the technical basis for the conclusions reached.

DOE G 424.1-1



## Background (continued)

If more USQs are identified at one facility than at another, it does not indicate that the risk from operating that facility or site is greater. In fact, identifying a USQ that originates from a PISA provides an opportunity to correct past errors and indicates thoroughness in assessing the planned changes.

DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*, requires that any USQ originating from a PISA must be reported to the Department's Occurrence Reporting and Processing System (ORPS). The EH-23 USQ Activity Report is based on a review of USQ information available in the ORPS database. Any USQ that is not reportable to ORPS (as defined in DOE M 231.1-2) is outside the scope of this report. This is not a limitation because the purpose of this report is to document required improvements to existing safety basis documents.

### PISA

A **Potentially Inadequate Safety Analysis (PISA)** exists if the original analysis that supported the DOE-approved safety basis is not bounding or may be otherwise inadequate or inappropriate. The intent is to ensure that operations are conducted in a safe manner consistent with the safety basis. A PISA may result from (1) a discrepant as-found condition, (2) an operational event or incident, or (3) new information, including discovery of an error. The main consideration is that the analysis does not match the current physical configuration of the facility, or the analysis is inappropriate or contains errors.

DOE G 424.1-1

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:

- (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;
- (2) Notify DOE of the situation;
- (3) Perform a USQ determination and notify DOE promptly of the results; and
- (4) Submit the evaluation of the safety of the situation to DOE prior to removing any operational restrictions initiated.

10 CFR 830.203



## Report Preparation

The EH-23 USQ Review Team searches the ORPS database, collects USQ data, and enters all critical items from the ORPS report in a table (Appendix A) that is prepared for each USQ. The team then assesses the completeness of the ORPS report and makes related observations. A list of positive, currently open USQs and any actions taken is maintained until the final ORPS reports are issued (Appendix B). The team determines the cause of each USQ (as related to the safety basis documents) using the codes shown in Table 1 (see Appendix C for details) and presents the information in a graphical format (Figures 2, 3a, and 3b). Contact with site personnel and site visits are made, as necessary, to obtain additional information and to validate the contents of the report.

**Table 1**  
**Definitions of Cause Codes\***

Cause Code Description	Cause Code ID
Nonexistent Safety Document	A1
Unanalyzed Material Inventory	A2
Unanalyzed Material Properties	A3
Unaddressed Mission Change	A4
Unassessed Equipment Change	A5
Inadequate Safety System	A6
Unanalyzed Accident	A7
Lack of Depth/Details in Accident Scenario	B1
Inadequate or Flawed DSA Analysis	B2
Safety Program Deficiencies	B3
Equipment Malfunction/Failure	B4
Misapplication of DOE Standards	B5
Incorrect Accident Analysis	B6
Inadequacy of Controls	B7

\* For more details, see Appendix C.





## Summary of Results

Highlights of the positive USQDs reported from January 1, 2005, to March 31, 2005, are described below.

**Albuquerque Operations — 1 Positive USQD** Safety analyses related to worker exposures, decreased pool water level, ozone release from the cell, and design basis earthquake were inadequate (ALO-KO-SNL-6000-2005-0004).

**Idaho Operations — 2 Positive USQDs** The analyses inadequately addressed the limitation of cask centering device at very low temperature (ID--BBWI-FUELCSTR-2005-0001) and failed to consider all fissionable material in the storage vault (ID--BEA-FMI-2005-0001).

**Nevada Test Site — 1 Positive USQD** The number of unvented drums in the Waste Management Complex exceeded the upper limit assumed in the Safety Analysis (NVOO--BN-NTS-2005-0003).

**Oakland Operations — No Positive USQD** No positive USQDs were declared.

**Oak Ridge Operations — 4 Positive USQDs** The seismic analysis was inadequate at High Flux Isotope Reactor (ORO--ORNL-X10HFIR-2005-0004). Various facilities (ORO--ORNL-X10NUCLEAR-2005-0001), (ORO--BJC-X10STEMRA-2005-0001), (ORYS-YSO-BWXT-Y12NUCLEAR-2005-0002) stored radioactive material in excess of the Safety Analysis limits.

**Richland Hanford Site — 3 Positive USQDs** There are radioactive materials not considered in the safety analyses (RL--PHMC-CENTPLAT-2005-0003) and inadequate treatment of fuel trucks delivering flammable materials to K-Basin (RL--PHMC-SNF-2005-0002).

**Savannah River Site — 2 Positive USQDs** There was inadequate treatment of the flammable drums on TRU Pads (SR-WSRC-SW&I-2005-0010) and consequences to the workers (SR--WSRC-CLAB-2005-0002).

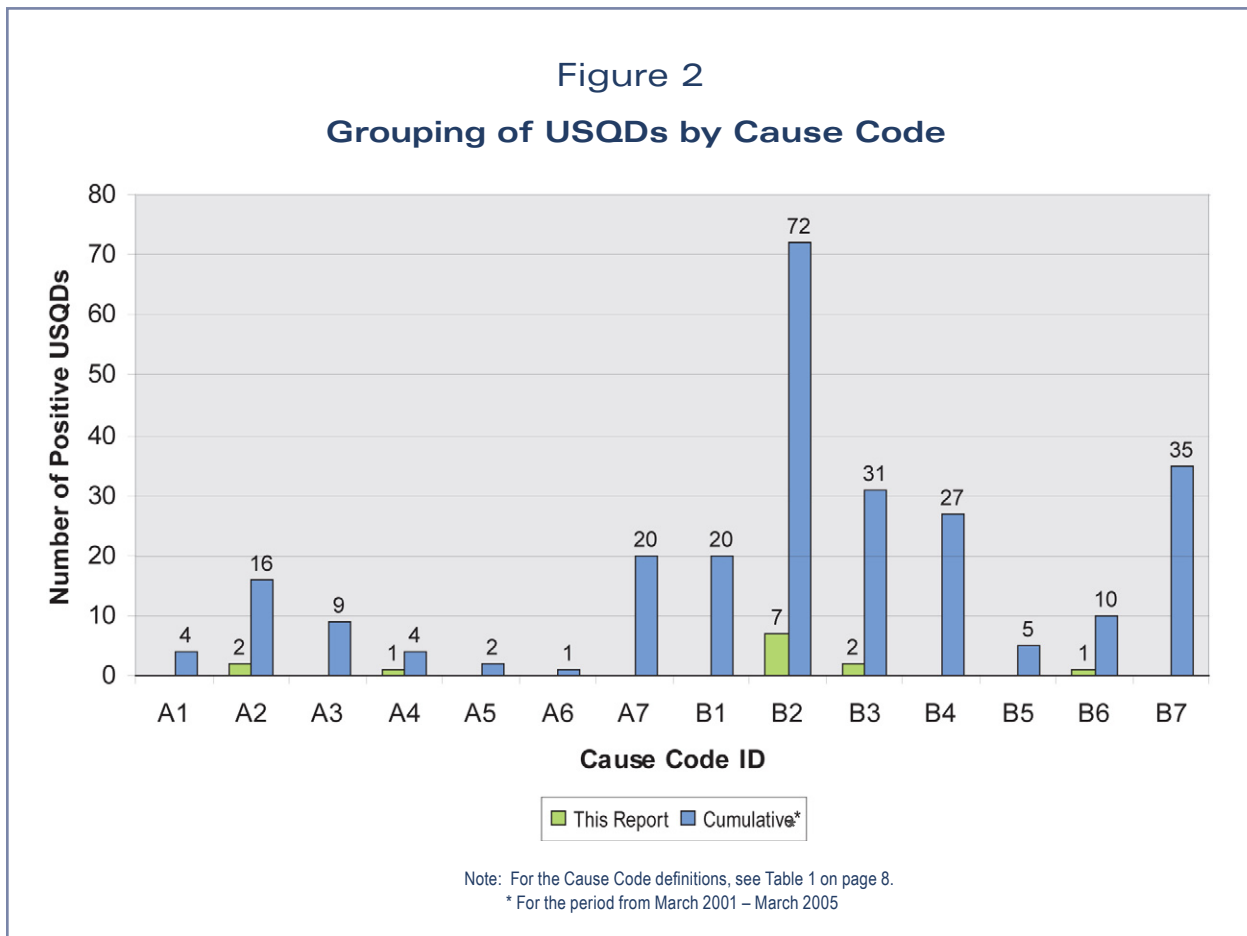
## Dominant Causes

Of the 13 USQDs identified in this reporting period, the main causes were inadequate safety analyses or safety program deficiencies.



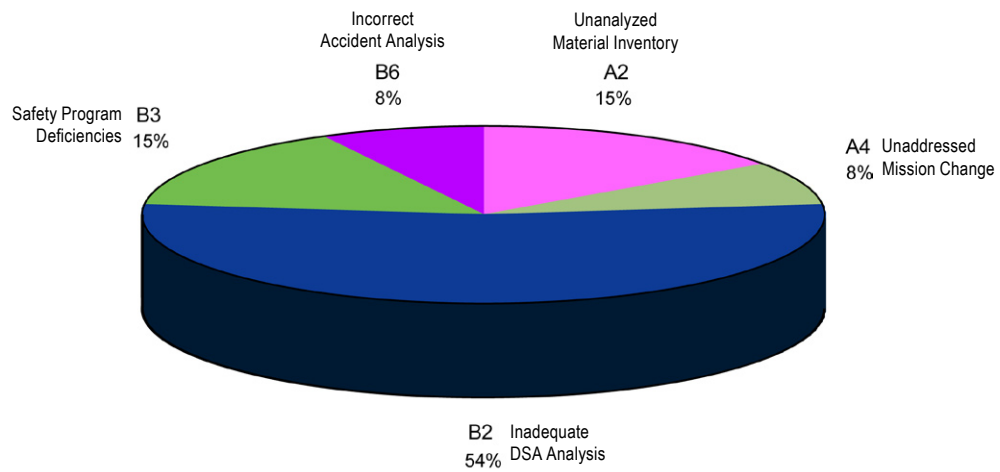
## Results

From January through March 2005, there were 13 positive USQDs across the DOE Complex. The results of the team’s review of the USQDs are discussed below. Specific details for each USQ (in tabular form) are provided in Appendix A. Figure 2 shows USQs reported for this period and the cumulative period from March 2001 through March 2005, grouped by the cause codes defined in Table 1 (page 8). Figure 3a shows the percentages of USQs by cause code for the period of January through March 2005, and Figure 3b shows the percentages of USQs by cause code for the cumulative period of March 2001 through March 2005.

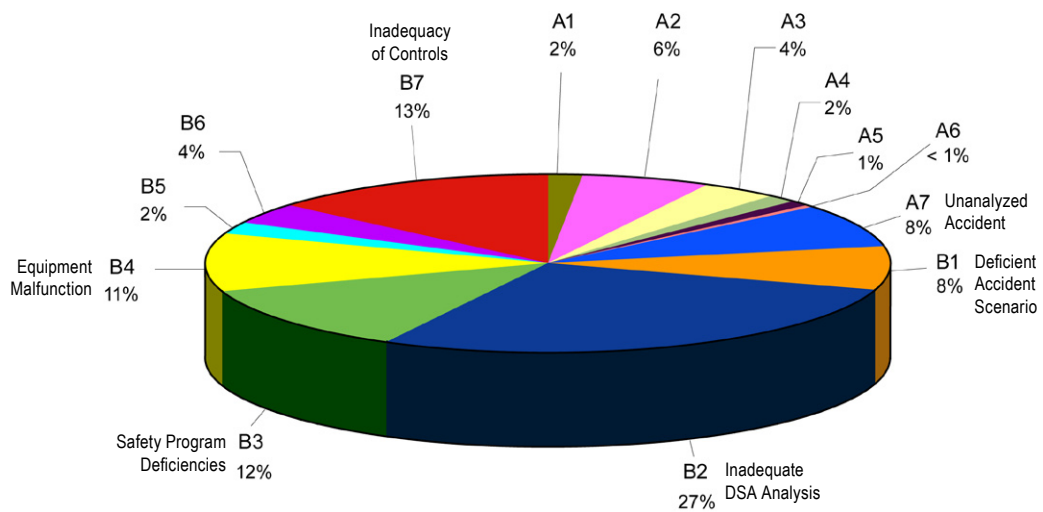


## Results (continued)

**Figure 3a**  
**Percentages of USQs by Cause Code**  
**(This Period)**



**Figure 3b**  
**Percentages of USQs by Cause Code**  
**(Cumulative\*)**



Note: For the Cause Code definitions, see Table 1 on page 8.  
 \* For the period from March 2001 – March 2005



## Results for the Current Period

### Albuquerque Operations — 1 Positive USQD

Albuquerque Operations identified the following positive USQD.

- 1 Declaration of Potential Inadequacy in Safety Analysis (PISA) for Gamma Irradiation Facility (GIF).  
(ALO-KO-SNL-6000-2005-0004) Cause: *Flawed DSA Analysis*

### Currently Open USQs

- ALO-LA-LANL-2004-0007 (April 2004), Inadequate Documented Safety Analysis Concerning Type A Designated Packaging Used for Fissile Content
- ALO-LA-LANL-TA55-2004-0009 (September 2004), Modification to TA-55 Fire Detection System Results in Positive USQ, Update
- ALO-LA-LANL-WASTEMGT-2004-0009 (November 2004), USQ at the Radioassay and Nondestructive Testing (RANT) Facility, Update
- ALO-LO-SNL-6000-2005-0004 (March 2005), Declaration of PISA for Gamma Irradiation Facility (GIF), Final



## Results for the Current Period (continued)

### Idaho Operations — 2 Positive USQDs

Idaho Operations identified the following two positive USQDs.

- 1 Safety Basis Documents did not discuss the limitation of cask-centering device at low temperatures. (ID-BBWI-FUELCSTR-2005-0001) *Cause: Flawed DSA Analysis*
- 2 The enveloping design basis accident did not include all of the fissionable material stored in the vault. (ID-BEA-TMF-2005-0001) *Cause: Flawed DSA Analysis*

The completion of ongoing corrective actions will have to be followed separately.

### Currently Open USQs

- ID-BBWI-ATR-2004-0004 (March 2004), Core Feedback During Loss of Commercial Power
- ID-BBWI-FUELCSTR-2004-0002 (August 2004), Potential Inadequacy in Safety Analysis, FAST TRIGA Fuel Storage
- ID-BBWI-FUELCSTR-2004-0003 (September 2004), PISA for ATR Fuel Unloading Bucket and Stand, Initial-Final, Rev. 1, Issue
- ID-BNFL-AMWTF-2004-0024 (October 2004), Positive USQ Reveals Inadequacy in the Documented Safety Analysis, Notification
- ID--BBWI-FUELCSTR-2005-0001 (January 2005), Potential Inadequacy in Safety Analysis, Cask Centering Device's Low-temperature Brittle Failure Not Considered
- ID--BEA-TMF-2005-0001 (February 2005), Exclusion of Some Fissionable Materials in the Vault Storage from Total Material at Risk



## Results for the Current Period (continued)

### Nevada Test Site — 1 Positive USQD

The Nevada Test Site identified the following positive USQD.

- 1 Area 5 Radioactive Waste Management Complex has stored 26 unvented drums in excess of the maximum number permitted (14) in the safety analysis. This is a positive USQ. (NVOO-BN-NTS-2005-0003) *Cause: Inadequate or Flawed DSA Analysis*

### Currently Open USQs

- NVOO--BN-NTS-2005-0003 (February 2005), More Unvented Drums stored in Area 5 Radioactive Waste Management Complex than Allowed by DSA (USQ)

### Oakland Operations — No USQs this period

### Currently Open USQs

- OAK--LLNL-LLNL-2004-0053 (October 2004), Potential Inadequacy in the Building 332 Safety Analysis
- OAK--LLNL-LLNL-2004-0056 (October 2004), Potential Inadequacy in the Building 332 Safety Analysis



## Results for the Current Period (continued)

### Oak Ridge Operations — 4 positive USQDs

Oak Ridge Operations identified the following four USQDs.

- 1 The radioactive material inventory used in the safety basis analysis for Building 9204-4, Y-12 National Security Complex, was in excess of the Maximum Anticipated Quantity (MAQ) listed in the Hazards Material Identification Document (HMID). (ORYS-YSO-BWXT-Y12NUCLEAR-2005-0002)  
*Cause: Incorrect Accident Analysis*
- 2 The discovery of a second discrepant condition in the seismic analysis basis calculation for a High Flux Isotope Reactor support resulted in declaration of a USQ. (ORO-ORNL-X10HFIR-2005-0004)  
*Cause: Inadequate or Flawed DSA Analysis*
- 3 A discrepancy was discovered in the current DSA for Melton Valley Solid Waste Storage Facilities. The stored metal containers in 7822J and 7822K outdoor storage pads are not allowed to be stored there; only concrete vaults are permitted by the TSRs. (ORO-BJC-X10WSTEMRA-2005-0001)  
*Cause: Safety Program Deficiencies*
- 4 The source term for the Balance of Plant infrastructure (charcoal beds for Iodine retention) for ORNL non-reactor facilities in Building 7920 DSA appears to be underestimated. This PISA resulted in a positive USQ finding due to exceeding the 2 CI 244Cm equivalent source term in Building 7920. (ORO-ORNL-X10NUCLEAR-2005-0001) *Cause: Unaddressed Mission Change*

### Currently Open USQs

- ORO--ORNL-X10HFIR-2004-0014 (September 2004), Pool Floor Structural Loading Calculation Errors (Positive USQ)
- ORO--ORNL-X10HFIR-2004-0015 (October 2004), New Information on Check Valve Induced Water Hammer (Positive USQ)
- ORO-ORNL-X10HFIR-2005-0004 (February 2005), Seismic Analysis Deficiency Identified in DSA



## Results for the Current Period (continued)

### Richland Hanford Site — 2 Positive USQDs

Richland Hanford identified the following two positive USQDs.

- 1 During the annual update, new documents were discovered that resulted in additional retroactive inventory not addressed in the safety analysis. (RL-PHMC-CENTPLAT-2005-0003) *Cause: Unanalyzed Material Inventory*
- 2 New concern that fuel trucks delivering flammable material to K-Basins may not have been considered properly in safety analysis. (RL-PHMC-SNF-2005-0002) *Cause: Flawed DSA Analysis*

### Currently Open USQs

- RL-PHMC-PFP-2004-0027 (August 2004), Tank D-8 Block is Spalled and is Structurally Inadequate to Support Additional Weight
- RL-PHMC-PFP-2004-0028 (August 2004), Updated Version of CFAST Fire Modeling Yielded Greater-than-predicted Fire Temperature
- RL-PHMC-PFP-2004-0030 (September 2004), New Assay of Empty Drums Stored in PFP Tunnels Showed Increased Hold-up Values, Update
- RL-PHMC-PFP-2004-0031 (September 2004), Procedure Allowed More Plutonium per 55-Gallon Drum than Assumed in the DSA, Update
- RL-PHMC-PFP-2004-0032 (September 2004), Errors in Safety Systems, Descriptions, Equipment List, and Essential Drawings, Update
- RL-PHMC-PFP-2004-0033 (September 2004), TSR Controls for 241-Z Tank Cells are Insufficient, Initial-Final issue
- RL-BHI-REMACT-2004-0015 (October 2004), Potential Inadequacy of the Safety Analysis at the 100 B/C Burial Grounds Remedial Action Project, Initial-Final, Rev. 1, Issue
- RL-PHMC-PFP-2004-0040 (November 2004), (X/Qs) Utilized for Analyses of External Fires May Not Be Appropriate, Update
- RL-PHMC-SWOC-2004-0002 (November 2004), USQ: Entrainment Effects in an Outdoor Fire Event, Update Issue
- RL-PHMC-SNF-2004-0036 (November 2004), Concern over the Outside Storage of Low Level and CERCLA Waste at 100K, Initial-Final Issue
- RP-CHG-TANKFARM-2004-0060 (November 2004), Declaration of a Potential Inadequacy in the Safety Analysis, Initial-Issue
- RL-PHMC-GENSERVICE-2004-0002 (December 2004), Positive USQt Related to the Transportation Safety Document, Update





## Results for the Current Period (continued)

### Richland Hanford Site (continued)

#### Currently Open USQs (continued)

- RL-PHMC-PFP-2004-0043 (December 2004), Documented Safety Analysis Doesn't Consider Effects of Vehicle Fuel Fire, Update
- RL-PHMC-CENTPLAT-2005-0003 (March 2005), Revise Fire Hazard Analysis and Documented Safety Analysis Regarding Apparent Cause of Fire Event, Update
- RL-PHMC-SNF-2005-0002 (February 2005), Revise Documented Safety Analysis for use of Fuel Trucks in 100K Area, Update
- RP--CHG-TANKFARM-2005-002 (January 2005), Concerns with C200 Series Tanks Exhauster Variable Frequency Drive

### Savannah River Site — 2 Positive USQDs

Savannah River Site identified the following two positive USQDs.

- 1 The cumulative effects of flammable drums on the TRU Pads were inadequately assessed. (SR-WSRC-SW&I-2005-0010) *Cause: Flawed DSA Analysis*
- 2 A PISA exists due to inadequate analysis of hazard to facility workers from deflagration of accumulated hydrogen in the head space of drums. (SR-WSRC-CLAB-2005-0002) *Cause: Inadequate or Flawed DSA Analysis*

Progress on corrective actions for both is being tracked in the site STAR tracking system, with verification of contractor actions reviewed by assigned site DOE professionals. These approved reports state that neither problem poses a compromise to public safety.

#### Currently Open USQ

- SR-WSRC-CLAB-2005-0002 (March 2005), PISA: Positive USQ for Worker Safety Issues, TRU Waste Drums (U)



## Glossary

**Code of Federal Regulations (CFR)** The codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the Federal Government. The Code is divided into 50 titles that represent broad areas subject to Federal regulation. Title 10 is *Energy*, and 10 CFR 830 contains rules for nuclear safety management.

**Documented Safety Analysis (DSA)** Analysis that defines the extent to which a nuclear facility can be operated while ensuring the safety of workers, the public, and the environment. The document includes a description of conditions, boundaries of operations, and hazard controls.

**Occurrence Reporting and Processing System (ORPS)** A database used to document daily operational occurrences at all DOE sites.

**Potentially Inadequate Safety Analysis (PISA)** A condition that exists if the original analysis that supported the DOE-approved safety basis is not bounding or may be otherwise inadequate or inappropriate. A PISA may result from a discrepant as-found condition, an operational event or incident, or new information, including discovery or error. The main consideration is that the analysis does not match the current physical configuration of the facility, is inappropriate, or contains errors. The intent is to ensure that operations are conducted in a safe manner consistent with the approved safety basis.

**Safety Basis** Documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated in a manner that adequately protects workers, the public, and the environment. Safety Basis is a subset of **Authorization Basis** in that the Authorization Basis may include corporate operational and environmental requirements.

**Unreviewed Safety Question (USQ)** means a situation where (1) the probability of the occurrence or the consequences of an accident or the malfunction of equipment important to safety previously evaluated in the documented safety analysis could be increased; (2) the possibility of an accident or malfunction of a different type than any evaluated previously in the documented safety analysis could be created; (3) a margin of safety could be reduced; or (4) the documented safety analysis may not be bounding or may be otherwise inadequate.

**USQ Determination (USQD) Document** A USQ Determination document contains the review of a change or situation where there is reason to believe that the facility's existing safety analysis may be in error or is otherwise inadequate. The Code of Federal Regulations requires that USQ evaluations be documented, including recording the scope of the determination and the technical basis for concluding that an unreviewed safety question does, indeed, exist.



## **Appendix A**

Summary Descriptions of USQs  
for the Reporting Period

ORPS ID Status	ALO-KO-SNL-6000-2005-0004 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B.2.v
Title	Declaration of Potential Inadequacy in Safety Analysis (PISA) for Gamma Irradiation Facility (GIF)			Date and Time Discovered		03/24/2005 14:30 (MTZ)			
Site/Facility	Sandia National Laboratories/Energy, Info & Infrastr Surety Div			DOE Secretarial Office		NA - National Nuclear Security Administration			
Facility Manager Phone	Roland F. Seylar (505) 844-5699			Local DOE Contact Phone		John Cormier DOE/SSO Not available			
Originator Phone	Jewelee A. Lucero (505) 845-4727			Contractor		Sandia National Laboratories			
<b>Description:</b>									
<p>At the preliminary outbrief on 3/24/05 at 1430 hours of the DOE/OA ES&amp;H assessment of the Gamma Irradiation Facility (GIF), various preliminary issues were raised regarding design and safety-basis issues. After initial review of these issues, it has been determined that some of them are worthy of consideration for the "Potential Inadequacy in the Safety Basis" (PISA) process, and are therefore submitted as a PISA. The PISA is based on the potential inadequacy of analyses of four events in the GIF Hazards Analysis: (1) exposure of worker entering cell with source in cell; (2) decrease in pool water level; (3) Ozone release to building from cell; and (4) design basis earthquake.</p> <p>As an update, the draft DOE/OA assessment report was made available for review on 4/4/05. This draft report identified five findings (18, 19, 20, 21, and 22) that relate to the four Hazard Analysis events identified in the Draft Notification Report. The correlation of each event to the findings is added at the end of each event description. Also added is the corresponding USQD number, and identification of USQD questions that result in an Unreviewed Safety Question. This update also changes the Significance Category to 2, which is required upon determination of a positive USQ that reveals an inadequacy in the DSA. The final report was issued on 6/22/05.</p>									
<b>Contractor Action:</b>							<b>Safety Basis Document Corrective Actions (CA):</b>		
<p>The following operational restrictions have been implemented to ensure personnel protection and the continued safe, stable condition of the facility: Entry into a cell after an irradiation is completed shall not be made until the operator has observed or verified that the source has reached the bottom of the pool. A physical check shall be made of the distance between the pool grating and the pool water surface. The crane shall not be operated under load until a crane operating procedure is prepared and approved. Irradiation operations in the cells shall be permitted only if the cell ventilation system is in operation. The circular array shall be returned to Cell 2 and the rectangular and single pin arrays returned to Cell 3. If there is a significant earthquake to this area, site will inspect the facility for damage to ensure the integrity of the source storage pool, irradiation cell structures, and the crane support structures, prior to resuming operations. These operational restrictions will be maintained until the PISA process is completed and appropriate processes are implemented to incorporate applicable portions of these restrictions and other considerations determined from the formal PISA process.</p>							<p>Five corrective actions were identified. The first has been completed; remaining four are scheduled to be completed later in 2005 and in 2006.</p>		
<b>DOE Field Office Action:</b>							<b>All CA Status:</b>		
Not provided.							One CA is complete. Four others are scheduled for 2005 and 2006.		
<b>EH-23 Assessment:</b> Will follow activities to closure of the USQ.									

ORPS ID Status	ID--BBWI-FUELRCSTR-2005-0001 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B2.ii
Title	Potential Inadequacy in Safety Analysis, Cask Centering Device			Date and Time Discovered		01/04/2005 13:00 (MTZ)			
Site/Facility	Idaho National Engineering Lab ICPP Fuel Receipt & Storage Act.			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	B. L. Swanson (208) 526-1160			Local DOE Contact Phone		K. Hugo Not Available			
Originator Phone	Hughie R. Lepage (208) 526-3100			Contractor		Bechtel BWXT Idaho, LLC.			
<p><b>Description:</b>  On 1/4/2005 a potential inadequacy in the safety analysis (PISA) was identified regarding use of the cask centering device used at CPP-749. This centering device is used during the transfer of irradiated fuel from the Peach Bottom cask to the underground storage vaults located in 749. Calculations in the analysis show that there is a possibility of brittle fracture of the centering device as a result of a seismic event with the Peach Bottom cask installed in the device. As a result of this analysis it has been recommended that the cask centering device only be used when the material temperature (cask centering device) is 3 degrees F or above. This device has not been used since 1999 and the potential problem identified was part of a preparatory effort for future use of this equipment.  On 1/5/05, a positive USQ determination was made. There is no discussion in the safety basis concerning brittle fracture of the cask-centering device at low ambient temperatures; hence no control is derived limiting the use of the centering device. For that reason, it is judged there is an increase in the probability that personnel could be exposed to direct radiation. Based on a positive USQ determination, this was upgraded to a significance category 2 event.</p>									
<p><b>Contractor Action:</b>  1. BBWI management was notified.   2. The centering device and the associated equipment were taken out of service.</p>						<p><b>Safety Basis Document Corrective Actions (CA):</b>  Revise the safety basis (SAR-112) to ensure that operational limitations concerning the use of the Cask Centering Device are addressed. Target Completion Date: 10/05/2005 Tracking ID: AI 35867   Perform a detailed review to determine if other SAR-112 safety significant SSCs exist that are not adequately analyzed for operating temperature ranges. Target Completion Date: 05/05/2005 Tracking ID: AI 35869</p>			
<p><b>DOE Field Office Action:</b>  None specified. However, a HQ Summary exists which confirms the contractor's assessment given above.</p>						<p><b>All CA Status:</b>  On going.</p>			
<p><b>EH-23 Assessment:</b> Since the PRPS report has been finalized, the CAs would have to be followed by EH-23 separately.</p>									

ORPS ID Status	ID--BEA-FMF-2005-0001 Update	Reporting Criteria	3B(1)	Category	2	ES&H Impact	Possible	USQ Cause Code	B2.v
Title	Relative to the Exclusion of Material in the Vault Storage from Material at Risk			Date and Time Discovered		02/16/2005 10:45 (MTZ)			
Site/Facility	Idaho National Laboratory Fuels Mfg. / Fuels Assembly Storage			DOE Secretarial Office		NE - Nuclear Energy, Science and Technology			
Facility Manager Phone	Susan D. Mousseau (208) 533-7156			Local DOE Contact Phone		J. Geringer, DOE-ID Not Available			
Originator Phone	Susan D. Mousseau (208) 533-7156			Contractor		Battelle Energy Alliance, LLC			
<p><b>Description:</b>  The Fuel Manufacturing Facility (FMF) includes two primary areas: an operating area, in which fissionable material is handled, processed, and packaged to meet customer needs, and a fissionable material storage vault for longer-term storage of significant quantities of fissionable material. Fissionable material to be stored in the vault must be packaged in accordance with the FMF Documented Safety Analysis (DSA), which states that, "Material stored in the vault is not considered material-at-risk," or material that can contribute to a design basis accident (DBA). Consequently, instead of involving all of the significant quantities of fissionable materials stored in the vault in the DBA, the enveloping accident is defined as a fire in a breached glove box that involves 2.7 kg of a specific plutonium fuel mixture outside of its inner container, or 2.7 kg MAR.</p> <p>A USQ Safety Evaluation was conducted and concluded that, "the potential inadequacy in the DSA that arises from the material-at-risk (MAR) issue constitutes a USQ. There is a potential increase in risk of previously evaluated accidents and equipment malfunctions, and a potential reduction in the margin of safety." Based on the discovery of a USQ, this occurrence report is being upgraded to a significance category 2.</p>									
<p><b>Contractor Action:</b>  1. Effective immediately, vault storage containers will not be accessed except as needed to support required facility surveillance activities.  2. Effective immediately, the total inventory of fissionable material in the FMF workroom, excluding certified sealed sources, is limited to the MAR limit specified in the DSA.  3. Effective immediately, no new fuel inventory will be added to that already existing in the FMF Vault.  4. Walkthroughs of the vault will be conducted whenever the vault is accessed, prior to securing the vault door to ensure minimum combustible loading is maintained. Combustible loading walkthroughs of the workrooms will also be conducted at the end of each shift the facility is opened. These walkthroughs will be performed until the FMF Combustible Loading procedure is implemented.</p>						<p><b>Safety Basis Document Corrective Actions (CA):</b>  Is Further Evaluation Required?: Yes  If YES - Before Further Operation? No  By whom? Safety Engineering  By when?</p>			
<p><b>DOE Field Office Action:</b>  None specified. A HQ Summary is presented.</p>						<p><b>All CA Status:</b>  To be determined.</p>			
<p><b>EH-23 Assessment:</b> EH-23 will follow the CAs developed and their status.</p>									

ORPS ID Status	NVOO--BN-NTS-2005-0003 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B3.viii
Title	Unvented Drums - USQ			Date and Time Discovered		02/01/2005 16:00 (PTZ)			
Site/Facility	Nevada Test Site/ Nuclear Waste Operations			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	Terry Ploeger (702)295-9718			Local DOE Contact Phone		Pat Cook Not Available			
Originator Phone	Andrea L. Gile (702) 295-7438			Contractor		Bechtel Nevada			
<p><b>Description:</b> Operational events at the Bechtel Nevada (BN) Area 5 Radioactive Waste Management Complex have resulted in storage of unvented drums in excess of the number bounded by the current safety analysis. In preparation for repair work on the Head Space Gas Sampling (HSGS) Unit, several transuranic (TRU) waste containers were moved from the HSGS tent to the Transuranic Pad Cover Building (TPCB) for interim storage. A number of these containers were not vented or overpacked resulting in a Potential Inadequacy in the Safety Analysis (PISA). The discrepant, 'as-found' condition consists of 26 TRU waste containers stored inside the TPCB that are neither vented nor overpacked. Currently, only 14 drums are allowed to exist under these conditions. This physical configuration is not consistent with the safety analysis. 02/17/2005: Upgrade of Reporting Criteria. PISA new information number RWMC-NI-2005-001 resulted in a positive unreviewed safety question determination (USQD) number RWMC-USQ-2005-27. The reporting criteria, significance category, and occurrence title have been upgraded to reflect the positive USQ determination under the Documented Safety Analysis Inadequacies Group 3B(1), cat. 2 .</p> <p>Reference BN Price-Anderson Amendments Act Noncompliance Report, NTS-NVOO--BNOO-NTS-2005-0001, "Unvented, Non-Overpacked TRU Waste Drums Stored in Bldg. 5-24 Without Lid Restraint Devices Installed.</p>									
<p><b>Contractor Action:</b> Because an inadequacy in the safety analyses has the potential to call into question information relied on for authorization of operations, BN is taking the following actions in accordance with CD-NENG.019, Unreviewed Safety Question Process.</p> <ul style="list-style-type: none"> <li>- Place and maintain the facility in a safe condition;</li> <li>- Evaluate occurrence report criteria;</li> <li>- Initiate New Information (NI)/PISA process;</li> <li>- Notify DOE when the information is discovered;</li> <li>- Perform USQ determination and submit results promptly; and</li> </ul> <p>As a compensatory measure, BN is placing lid restraints on the affected TRU waste containers to achieve a safe, stable configuration. These same lid restraints were previously evaluated in the 2004 Documented Safety Analysis annual update and found to be an acceptable preventive control for the storage of unvented TRU waste drums.</p>						<p><b>Safety Basis Document Corrective Actions (CA):</b> Issue revision to OP-2151.507 Revision 8a, TRU Operations Storage Container Management (SBI) to implement Area 5 RWMC 2004 Annual DSA/TSR update controls regarding storage of unvented, non-overpacked TRU waste drums. Responsible Manager: Waste Facilities &amp; Operations Manager BN Contractor Assurance and Compliance to perform assessment to ensure all actions have been satisfactorily completed. Responsible Manager: Contractor Assurance and Compliance Manager (Completed)</p>			
<p><b>DOE Field Office Action:</b> None specified.</p>						<p><b>All CA Status:</b> Action completed.</p>			
<p><b>EH-23 Assessment:</b> No further action required.</p>									

ORPS ID Status	ORO--BJC-X10WSTEMRA-2005-0001 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B3.ii
Title	Discrepancy Between Melton Valley Solid Waste Storage Facilities Documented Safety Analysis			Date and Time Discovered		01/11/2005 12:32 (ETZ)			
Site/Facility	Oak Ridge National Laboratory			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	C. E. Frye (865) 574-9999			Local DOE Contact Phone		Bryan Neal Not Available			
Originator Phone	Lisa A. Russell (865) 574-3282			Contractor		Oak Ridge National Laboratory			
<b>Description:</b> A potential discrepancy between the Melton Valley Solid Waste Storage Facilities (MVSWSF) Documented Safety Analysis (DSA) and the Technical Safety Requirements (TSR) was discovered regarding the storage of metal containers at the 7822J and 7822K outdoor storage pads. The TSR allows the storage of concrete vaults or metal containers, but the analyses provided in the DSA only support the storage of concrete vaults. The DSA did not analyze for the storage of metal containers outside a concrete container although the TSR states that metal containers, as well as concrete containers, may be stored at these facilities. This identified mismatch constituted a Potential Inadequacy in the Safety Analysis (PISA) on 1/15/05 by the USQD due to potential for different types of accidents than what is analyzed in the SAD.									
<b>Contractor Action:</b> A. An Unreviewed Safety Question Determination (USQD) was initiated to adequately analyze the storage of waste in metal containers at the facilities. The results of the evaluation revealed a positive Unreviewed Safety Question Determination (USQ). B. Four metal boxes, one 55-gallon drum and one sea-land container were removed from the 7822J pad. The remaining metal box was placed inside a concrete vault in order to comply with the Documented Safety Analysis analyzed conditions, and remains in storage at the 7822J pad.						<b>Safety Basis Document Corrective Actions (CA):</b> Ensure the Waste Distribution Services Subcontractor completes training on the revised operating procedure. WD-OP-X501.35, Revision 7, which prohibits the storage of wastes in metal containers at the 7822J and 7822K facilities.			
<b>DOE Field Office Action:</b> None specified.						<b>All CA Status:</b> Action completed.			
<b>EH-23 Assessment:</b> No further action required.									



ORPS ID Status	ORO--ORNL-X10HFIR-2005-0004 Update	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B2.ii
Title	Discovery of Second Discrepant Condition in Seismic Analysis Bases Calculation (USQ)			Date and Time Discovered		02/11/2005 13:00 (ETZ))			
Site/Facility	Oak Ridge National Laboratory/High Flux Isotope Reactor			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	D.J. Newland (865) 574-1301			Local DOE Contact Phone		Doug Reed Not Available			
Originator Phone	Lisa A. Russell (865) 574-3282			Contractor		Oak Ridge National Laboratory			
<p><b>Description:</b>  A subcontractor supporting an update to the HFIR seismic analysis discovered an error in assumptions supporting the model for the reactor pressure vessel support structure. During subsequent evaluations of later versions of this model, a second error was discovered. Update 2/24/2005 at 1145: This report is being recategorized as a 3b (1) (Category SC 2) because the USQD determined that this is a positive USQ. Two issues have not been resolved and in order to meet timeliness guidelines, a positive USQ was declared. .</p>									
<p><b>Contractor Action:</b>  The facility is shutdown as a result of the previous PISA. As required, an unreviewed safety question determination has categorized the conditions as positive 3b (1) for a SC2 facility.</p>						<p><b>Safety Basis Document Corrective Actions (CA):</b>  Plant shut down to analyze if any additional hazard. A safety evaluation of the structural model will be submitted for approval to DOE prior to restart.</p>			
<p><b>DOE Field Office Action:</b>  None specified.</p>						<p><b>All CA Status:</b>  Reanalysis of structural model in progress.</p>			
<p><b>EH-23 Assessment:</b> EH-23 will follow it to closure.</p>									

ORPS ID Status	ORO--ORNL-X10nuclear-2005-0001 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	A4
Title	Potential Inadequacy in the Safety Analysis (PISA) for Building 7920 Documented Safety Analysis			Date and Time Discovered		02/11/2005 13:00 (ETZ))			
Site/Facility	Oak Ridge National Laboratory			DOE Secretarial Office		NE - Nuclear Energy Science Technology			
Facility Manager Phone	Ken Wilson (865) 574-6926			Local DOE Contact Phone		Larry Boyd Not Available			
Originator Phone	Amanda J. Denton (865) 576-9991			Contractor		Oak Ridge National Laboratory			
<b>Description:</b>									
<p>On February 9, 2005, in preparation for performing a maintenance activity to remove the hopcalite and two charcoal beds from the Iodine Retention System (IRS) for the Building 7920 Vessel Off-Gas (VOG) system, the shielding blocks over the area that houses the IRS were removed. Radiation readings were taken in close proximity to the hopcalite and charcoal housings to assist in development of the work package. The radiation readings are also used to provide an estimate of activity in the hopcalite bed and the charcoal filters that were being removed for waste management purposes.</p> <p>The radiation readings obtained were significantly higher than those experienced during several recent readings when this particular maintenance activity had been performed. This raised some questions as to the quantity of activity present in the hopcalite bed and charcoal filters.</p>									
<b>Contractor Action:</b>						<b>Safety Basis Document Corrective Actions (CA):</b>			
<p>Once the radiation readings were reported and realized to be higher than typically experienced in the past, the appropriate facility personnel were engaged to determine if any additional actions were required for continued operations. The shielding blocks had already been set back in place over the Iodine Retention System (IRS), and the facility continued normal operations. No additional actions were identified and Building 7920 operations were not impacted. This event posed no impact to the public or the environment. The appropriate facility personnel, coordinating with support personnel, evaluated the radiation readings and determined that a Potential Inadequate Safety Analysis existed in the Building 7920 DSA regarding the IRS source term.</p>						<p>Perform a review of the Building 7920 Safety Analysis Report to evaluate all source terms to determine if they reflect current operating conditions. Perform an assessment to determine the effectiveness of corrective actions taken to correct and prevent recurrence of this event.</p>			
<b>DOE Field Office Action:</b>						<b>All CA Status:</b>			
None specified.						Action completed.			
<b>EH-23 Assessment:</b> No further action required.									

ORPS ID Status	ORYS-YSO-BWXT-Y12NUCLEAR-2005-0002 - Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B6.ic
Title	Potential Inadequacy in the Safety Analysis (PISA) for Building 7920 Documented Safety Analysis	Date and Time Discovered		02/11/2005 13:00 (ETZ))					
Site/Facility	Y12 Nuclear OperationsY12/ National Security Complex	DOE Secretarial Office		NNSA - National Nuclear Security Administration					
Facility Manager Phone	S. Laggis (865) 574-1774	Local DOE Contact Phone		J. Lipsky Not Available					
Originator Phone	Denise D. Large (865) 576-3952	Contractor		BWXT Y12					
<p><b>Description:</b>  On February 4, 2005, it was determined that the inventory of a material used in the safety basis analysis was in excess of the amount used for the analysis. The quantity in 9204-4 was in excess of the maximum anticipated quantity (MAQ) listed in the Hazardous Material Identification Document (HMID).</p> <p>Due to classification concerns and the ongoing investigation, additional information associated with this event can not be provided at this time.</p> <p>Update, February 10, 2005:</p> <p>The purpose of this update is to upgrade this occurrence from identifier 3B-2, category 3 to a 3B-1, category 2 occurrence. The Unreviewed Safety Question Determination (USQD) process showed this to be a positive USQ. The material in question was determined to be in excess of the quantity used in the safety basis analysis.</p>									
<p><b>Contractor Action:</b>  Suspended additional receipt of the material and Conducted a Critique.  Notified the Plant Shift Superintendents (PSS) Office.  Update, February 10, 2005:  1530: 9204-4 Acting Operations Manager signed USQD-05-9204-4-009. This USQD identified a positive USQ related to the excess material in the building.  1550: Les Reed, Acting Manufacturing Division Manager, was notified and concurred with upgrading the occurrence from a category 3 to a category 2.  1555: Occurrence number ORYS-YSO-BWXT-Y12NUCLEAR-2005-0002 was upgraded from identifier 3B-2, category 3 to a 3B-1, category 2 occurrence. PSS notified.  1557: 9204-4 NNSA facility rep. notified of the occurrence upgrade.</p>							<p><b>Safety Basis Document Corrective Actions (CA):</b>  A0100736 An evaluation and review of material inventory controls will be conducted for Manufacturing facilities that contain safety basis key assumptions for material limits. The evaluation and review will include recommendations for needed improvements in material inventory control procedures and methods in order to reduce the potential for exceeding safety basis material limits. The evaluation and review will consider the development and implementation of specific administrative controls.</p>		
<p><b>DOE Field Office Action:</b>  None specified.</p>							<p><b>All CA Status:</b>  Action completed.</p>		
<p><b>EH-23 Assessment:</b> No further action required.</p>									

ORPS ID Status	RL--PHMC-CENTPLAT-2005-0003 Update	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	B2
Title	Unreviewed Safety Question (USQ) at 209-E, Nominal Inventory in the DSA Increased by 90g Plutonium			Date and Time Discovered		3/16/2005 10:45 (PTZ)			
Site/Facility	Hanford/209E Building, Central Plateau Remediation Project			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	M. S. Wright (509) 373-5864			Local DOE Contact Phone		E. D. MacAlister Not Available			
Originator Phone	Kenneth W. Davis (509) 376-3030			Contractor		Project Hanford Management Contractor			
<p><b>Description:</b>  As part of the review process for development of the 209E Annual Update, personnel were looking for copies of a letter referenced in the Documented Safety Analysis (DSA). During this process, the personnel found copies of additional nondestructive analysis (NDA) reports that were not used in the DSA development. As a result of these new NDA reports, the nominal inventory in the DSA may increase by 90 grams. The current bounding inventory in the DSA is greater than the revised nominal inventory with the new material.</p> <p>An analysis of the newly discovered NDA reports was performed and it was concluded that the nominal facility inventory should increase by 90 grams of Pu. It was also concluded that the isotopic distribution should change from the 6% Pu 240 assumed in the DSA to 12% Pu 240. Both of these changes result in the potential for greater dose consequences. Therefore it was concluded the discovery results in a positive USQ.</p> <p>Further evaluation is ongoing; it is possible documentation will show only an 80 gram inventory increase.</p>									
<p><b>Contractor Action:</b>  DOE notification and perform USQD.</p>						<p><b>Safety Basis Document Correction Actions (CA):</b>  1. The facility Documented Safety Analysis (DSA) will be revised to incorporate the applicable changes. (09/01/2005)  2. The facility Fire Hazard Analysis (FHA), HNF-8510, 209-E Facility Fire Hazard Analysis, will be reviewed and revised, as appropriate, based on the applicable changes. (09/01/2005)  3. A Trained Investigator will perform a causal analysis to determine an Apparent Cause. (07/01/2005)</p>			
<p><b>DOE Field Office Action:</b>  Presumably, revise SER; otherwise not specified.</p>						<p><b>All CA Status:</b>  Incomplete.</p>			
<p><b>EH-23 Assessment:</b> They appear to be on track to update DSA. EH-23 will follow the USQ resolution to closure.</p>									

ORPS ID Status	RL--PHMC-SNF-2005-0002 Update	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None provided	USQ Cause Code	A2
Title	Concern Over Use of Fuel Trucks at 100K Area - Inadequacy in the Safety Analysis			Date and Time Discovered		2/9/05 19:35 (ETZ)			
Site/Facility	Hanford/FH/K Basins Closure (KBC) Project/100K Basins /Fuel Truck			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	Chris Lucas (509) 373-1006			Local DOE Contact Phone		Tom Davies Not Available			
Originator Phone	Mitchell J. Vitulli (509) 373-1555			Contractor		Project Hanford Management Contractor			
<p><b>Description:</b>  Fuel trucks bring fuel to the K Basins facilities and Cold Vacuum Drying Facility (CVDF) regularly to supply fuel (diesel or gasoline) to diesel engines, diesel powered lights, government vehicles, etc. The fuel trucks typically travel on paved and unpaved roadways around all buildings at the 100K Area Basins and CVDF facilities.</p> <p>Investigation has determined that a Potential Inadequacy in the Safety Analysis (PISA) exists because the hazards associated with the use of fuel trucks in close proximity to the K Basins facilities are not currently analyzed in the K Basins Hazard Analysis (HA) or Fire Hazard Analysis (FHA). In addition, the fuel trucks have kinetic/linear energy, carry large loads of highly flammable materials (fluid), and, when in close proximity to the K Basins facilities, may present potential hazards not currently analyzed in the Authorization Basis.</p> <p>On 3/31/2005, the KBC Project Plant Review Committee (PRC) declared a Positive USQ regarding the use of fuel trucks in the 100 K area. The PRC determined that the controls that were put in place as a result of the original PISA determination were still adequate and will remain in place.</p>									
<p><b>Contractor Action:</b>  1) Convened the KBC Project Plant Review Committee (PRC) on 02/09/2005.  2) The PRC determined that a PISA did exist.  3) K Basins will prohibit entry of the refueling vehicle until the controls identified by the PRC to limit the proximity of fuel trucks at K Basins have been implemented.</p>						<p><b>Safety Basis Document Corrective Actions (CA):</b>  Issue a Justification for Continued Operations (JCO) to allow the K Basins Closure Project to continue the use of fuel trucks in the 100K area. Note: The JCO is applicable to the use of fuel trucks in the 100K area. The JCO applies only to the K Basins Safety Basis because the hazards associated with the use of fuel trucks around the Cold Vacuum Drying Facility (CVDF) are adequately addressed in the CVDF Safety Basis. (4/2/05)</p>			
<p><b>DOE Field Office Action:</b>  None reported.</p>						<p><b>All CA Status:</b>  Ongoing.</p>			
<p><b>EH-23 Assessment:</b> The USQ resolution appears to be on track.</p>									

ORPS ID Status	RP--CHG-TANKFARM-2005-0002 Update	Reporting Criteria	3B(1)	Category	2	ES&H Impact	None	USQ Cause Code	A2
Title	Concerns With C 200 Series Tanks Exhauster Variable Frequency Drive			Date and Time Discovered		01/13/2005 15:45 (PTZ)			
Site/Facility	Hanford Site/Tank Farms			DOE Secretarial Office		EM - Environmental Management			
Facility Manager Phone	Ronald P. Tucker, Director, Closure Facilities (509) 376-6399			Local DOE Contact Phone		R. C. Sorensen Not Available			
Originator Phone	Shaun F. Waters, Operations Specialist (509) 373-3457			Contractor		CH2M Hill Hanford Group, Inc.			
<p><b>Description:</b>  The safety analysis for 200-Series single shell tank (SST) vacuum retrieval system documented in RPP-17190 based the consequences for the Filtration Failures Leading to Unfiltered Release accident on a maximum ventilation rate of 425 cfm (cubic feet per minute). Although the calculated onsite radiological consequences of 1.1 rem are well below Temporary Emergency Exposure Limit (TEEL-2) guidelines, the onsite toxicological consequence is only slightly below "moderate" guidelines at 0.9. Discussions with System Engineering indicate ventilation flow rates may be as high as 650 cfm with the variable frequency drive (VFD) operating at 60 Hertz (Hz).</p> <p>The accident consequences (as analyzed) increases with increasing ventilation flow rates. Therefore, a flow rate of 650 cfm is outside the analyzed condition for this system and could exceed guidelines (without controls). Therefore, this situation is considered a potential inadequacy in the safety analysis (PISA).</p> <p>This event was categorized as Group 3B(2)SC3. On March 24, 2005, it was recategorized as 3B(1)SC2.</p>									
<p><b>Contractor Action:</b>  Red Arrow placed in Closure Operations and Waste Feed Operations logbook which states, "Do not operate C-200 Retrieval System until Nuclear Safety &amp; Licensing question regarding maximum exhauster flow rates has been resolved. Exhauster operations may continue."</p> <p>March 24, 2005; justification for continued operation was completed and approved by the Office of River Protection documented in DOE-OPR:05-TED-007</p> <p>Management directed a suspension of the C-200 Vacuum Retrieval System, pending PISA resolution.</p>							<p><b>Safety Basis Document Corrective Actions (CA):</b>  None specified to date.</p>		
<p><b>DOE Field Office Action:</b>  None.</p>							<p><b>All CA Status:</b>  A further Update or Final Report will be submitted no later than June 16, 2005.</p>		
<p><b>EH-23 Assessment:</b> Will evaluate the final report.</p>									

ORPS ID Status	SR--WSRC-CLAB-2005-0002 Update/Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	No	USQ Cause Code	B2.iii
Title	Positive USQ for Worker Safety Issues, TRU Waste Drums (U)		Date and Time Discovered		03/23/2005 17:00 (ETZ)				
Site/Facility	Savannah River Site --772-F/TRU Drum Repackaging		DOE Secretarial Office		EM - Environmental Management				
Facility Manager Phone	L. Vaught (802) 952-2500		Local DOE Contact Phone		B. Barnette (803)725-1356				
Originator Phone	Robert Abshire (803) 208-3026		Contractor		Westinghouse Savannah River Company				
<p><b>Description:</b>  F/H Laboratory performs repackaging of Transuranic (TRU) drums in support of Solid Waste and Infrastructure (SW&amp;I) under a Justification for Continued Operations (JCO) (WSRC-TR-2004-00310, rev 0). The JCO did not consider the impact to workers during handling of repackaged drums due to the potential of a lid ejection during deflagration because deflagration was to be prevented by head space gas analysis and vent path. All drums were verified to have headspace gas below the Lower Flammability Limit (LFL) prior to shipment to F/H Laboratory. On 3/18/05, SW&amp;I reported a positive Unreviewed Safety Question Evaluation (USQE) under occurrence report number SR--WSRC-SW&amp;I-2005-0010 for drums which may have a flammable headspace. Because of the SW&amp;I information, a review of the JCO was performed and concluded the hazard to the facility worker for handling repackaged drums which could deflagrate due to the Volatile Organic Concentration (VOC) is not adequately addressed. A Potential Inadequacy in the Safety Analysis (PISA) was declared for the F/H Labs for TRU repackaging operation authorized by the JCO.</p> <p>On 4/18/05, it was determined that the F/H Labs JCO and Documented Safety Analysis (DSA) did not specifically address the physical consequences from a lid ejection involving TRU drum repackaging. A lid ejection event poses a significant physical hazard to the facility worker resulting in a Discovery USQ.</p> <p>NOTE: SR--WSRC-SW&amp;I-2005-0010 is included in this USQ Report.</p>									
<p><b>Contractor Action:</b>  1. All TRU repackaging activities were suspended December 2004 pending resolution of potential issues. Twelve repackaged drums remain in the facility awaiting return to SW&amp;I. Barricades were established in December 2004 to prevent any disturbance of the drums prior to authorization being granted for drum handling and return shipment to SW&amp;I.</p> <p>2. This occurrence was originally categorized as a 3B(2), declaration of a potential inadequacy of the documented safety analysis. Due to a Discovery USQ on 4/18/05, the original report was up-graded to a 3B(1), determination of a positive USQ, at 1000 hours on 4/18/05.</p>					<p><b>Safety Basis Document Corrective Actions (CA):</b>  Revise the JCO to return the TRU drums to SWMF.  Tracking ID: 2005-CTS-002653 CA # 1  Target Completion Date: 06/30/2005</p>				
<p><b>DOE Field Office Action:</b>  (DOE HQ) The JCO did not consider worker hazards. Repackaged drums remain in the F/H Laboratory facilities awaiting transfer. TRU repackaging activities will remain suspended pending issue resolution.</p>					<p><b>All CA Status:</b>  Need separate follow-up.</p>				
<p><b>EH-23 Assessment:</b> Stated corrective actions should be adequate.</p>									

ORPS ID Status	SR--WSRC-SW&I-2005-0010 Final	Reporting Criteria	3B(1)	Category	2	ES&H Impact	Worker possible-Public no	USQ Cause Code	B2.v
Title	Positive USQ for Worker Safety Issues, TRU Waste Drums		Date and Time Discovered		03/18/2005 15:00 (ETZ)				
Site/Facility	Savannah River Site -- SWMF/TRU Waste Drum		DOE Secretarial Office		EM - Environmental Management				
Facility Manager Phone	Keith A. Stone (803) 208-8421		Local DOE Contact Phone		S. Goff (803)208-8563				
Originator Phone	Bruce G. Aycock (803) 725-2024		Contractor		Westinghouse Savannah River Company				
<p><b>Description:</b> Over the past several months, the Solid Waste Management Facility (SWMF) has identified five discovery conditions that resulted from detecting flammable concentrations of Volatile Organic Compounds (VOCs) or hydrogen in the headspace of TRU waste drums.</p> <p>A Discovery USQD was performed to evaluate the cumulative effect of flammable drums on the TRU Pads utilizing recent engineering evaluations of the discovery conditions stated above to determine the global impact on the SWMF safety basis. On March 18, 2005, the SWMF Facility Operations Safety Committee (FOSC) evaluated the results of this USQD. The FOSC determined that a positive Unreviewed Safety Question exists which reveals a currently existing inadequacy in the SWMF Documented Safety Analysis. The USQD is positive for worker safety issues but challenges no public safety guidelines.</p> <p>The SRS STAR record for this occurrence is 2005-CTS-002435. Similar occurrence report numbers: SR--WSRC-SW&amp;I-2004-0010, SR--WSRC-SW&amp;I-2004-0011, SR--WSRC-SW&amp;I-2004-0013, SR--WSRC-SW&amp;I-2004-0015, SR--WSRC-SW&amp;I-2004-0019, SR--WSRC-SW&amp;I-2005-0003</p>									
<p><b>Contractor Action:</b> At the time of the discovery, the SWMF facility was operating under a DOE-approved Justification for Continued Operation (WSRC-TR-2004-00618 Revision 2) which was issued to address inadequacies in worker safety controls based on the previously identified Potential Inadequacies in the Safety Analysis (PISAs) discussed in the Description of Event.</p> <ol style="list-style-type: none"> <li>1. For accidents associated with activities in WSRC-TR-2004-00618 Revision 2, the CA's were sufficient.</li> <li>2. For accidents associated with culvert retrieval, the Facility Standby mode status restricted all culvert handling activities. This was determined to be a sufficient compensatory measure for these activities.</li> <li>3. For the High Energy Vehicle Impact accident, the facility Technical Safety Requirements contained a requirement for a Traffic Control Program. This program was determined to be sufficient.</li> <li>4. For Aircraft/Helicopter impact accidents and Natural Phenomena, the existing DSA controls were adequate.</li> </ol>							<p><b>Safety Basis Document Corrective Actions (CA):</b> The corrective actions included in WSRC-RP-2005-01427, "TRU Waste Corrective Action Plan," address the causal factors of this occurrence and will aid in the prevention of recurrence. The corrective actions developed will be tracked through closure in the Savannah River Site (SRS) Site Tracking, Analysis, and Reporting (STAR) System. (Associated STAR records: 2005-CTS-002227, "Site Level Improvements"; 2005-CTS-002230, "Management Oversight"; 2005-CTS-002249, "Project Risk Manag</p>		
<p><b>DOE Field Office Action:</b> The DOE Facility Representative concurs in this report and the referenced TRU Waste Corrective Action Plan. The positive USQ does not challenge public safety guidelines.</p>							<p><b>All CA Status:</b> Need separate follow-up.</p>		
<p><b>EH-23 Assessment:</b> EH-23 should follow-up the developments separately.</p>									



**Appendix B**  
Status of Open USQs

## Appendix B: Status of Current Positive USQ Occurrences Including January-March 2005 Declarations

**Note: “Initial-Final Issue” means that Final ORPS Report was issued before it was noted in this report.**

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
March 2004	Idaho National Engineering Lab/ Advanced Test Reactor	ID--BBWI-ATR-2004-0004 Core Feedback During Loss of Commercial Power Update issued 4/14/2005	<p>Last update 04-14-05: USQ Evaluations have continued on 12 USQs. Eight out of 11 USQs either did not result in any operational restriction or are shown to be adequately addressed. The remaining three are continuing to be worked on. The last date for submittal of additional analyses is October 31, 2005. Referring to the latest update:</p> <p>#8, discovered on 1-03-05: The USQ concerns with the discovery of a significantly greater than analyzed measure of instrument error in the ATR Surge Tank Level instrumentation.</p> <p>#9, discovered on 02-03-05: The potential failures would contribute to both an increase in the net LOCA break size currently analyzed in the safety basis and unexpected firewater system losses that could challenge the ability of the EFIS supply to deliver the assumed EFIS flow rate to the ATR vessel.</p> <p>#11, discovered on 04-04-05: The time allowance between the initiation of complete loss of flow and actuation of the ATR vessel vent valves specified in the procedures may be non-conservative.</p> <p>#12, discovered on 04-07-05: The flow rate from Pump M-11 of coolant during certain accident conditions may be less than that assumed in the DSA.</p>
April 2004	Los Alamos National Laboratory/ LANL	ALO-LA-LANL-LANL-2004-0007 Inadequate Documented Safety Analysis Concerning Type A Designated Packaging used for Fissile Content Update	<p>05-13-04: The reporting criteria was upgraded from 3B(2) to 3B(1), i.e., the positive USQD was declared.</p> <p>Last update 7/1/04. Additional analyses needed and are continuing.</p>
August 2004	Hanford/ PFP	RL--PHMC-PFP-2004-0027 Tank D-8 block is spalled and is structurally inadequate to support additional weight Update	<p>Final report was issued on 01-26-05. However, it was revised on 01-27-05. Primary open item is to define structures and components for addition to inspection program.</p> <p>Target Completion Date: 06/30/2005</p>
August 2004	Hanford/ PFP	RL--PHMC-PFP-2004-0028 Updated version of CFAST fire modeling yielded greater predicted fire temperature Update	<p>Final report was issued on 12-22-04. However, a revision was issued on 01-06-05. Corrective actions should be completed in the next update.</p> <p>Target Completion Date: 03/31/05</p>
August 2004	INEL/ IFM Storage	ID--BBWI-FUELCSTR-2004-0002 Potential Inadequacy in Safety Analysis, FAST TRIGA Fuel Storage Update	<p>Last update: 12-07-04. Five corrective actions (two completed) are scheduled for completion by 6/13/05. Corrective actions focus on developing an appropriate lessons learned program including insights of similar sprinkler heads in other facilities.</p>

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
August 2004	LLNL/ BOP	OAK-LLNL-LLNL-2004-0040 Potential cracking in Glove box Exhaust Ducting in Bldg. 332 RMA Update	Latest Update: 05-05-05: 11/22/04: The USQD has been completed for this OR and it is positive. This will change the categorization of the OR to Group 3, Nuclear Safety Basis, B. Documented Safety Analysis Inadequacies, (1) Determination of a Positive Unreviewed Safety Question (USQ), with a Significance Category of 2. The USQD was done in response to the PISA that was filed. Facility Manager: Several ORs are all currently being worked in parallel and will require additional time to complete and review for signature. The date for evaluation 07-30-05.
September 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0030 New assay of empty drums stored in PFP tunnels showed increased hold- up values Update	Four corrective actions developed (one on a DSA update and the remainder focusing on lessons learned) due by 5/31/05.
September 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0031 Procedure allowed more plutonium per 55-gallon drum than assumed in the DSA Update	Five corrective actions (one on a DSA update) identifier. The remainder deal with lessons learned. Due 5/31/05.
September 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0032 Errors in Safety Systems, Descriptions, Equipment List, and Essential Drawings Update	Seven corrective actions developed. Due 7/30/05.
September 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0033 TSR controls for 241-Z tank cells are insufficient Initial-Final Issue	Four corrective actions focusing on DSA and lessons learned, due by 7/30/05.
September 2004	Hanford Site/ Spent Nuclear Fuels Project	RL--PHMC-SNF-2004-0030 Conversion Error Identified Related to Mass/Reaction Surface Area of Fuel Chip Canisters Initial-Final Issue	Seven corrective actions identified (several completed). All should be completed in the next reporting period.
September 2004	Idaho National Engineering Lab./ ICPP Fuel Receipt & Storage Act.	ID--BBWI-FUELCSTR-2004-0003 Potential Inadequacy Safety Analysis for ATR Fuel Un-loading Bucket and Stand Initial-Final Rev. 1 Issue	1. Revise SAR-113/TSR-113 to provide controls that will allow the use of fuel packaging equipment to package ATR aluminum fuel. Target Completion Date: 3/28/2005  2. Revise SAR-113/TSR-113 to allow use of the BS-FS-901/901A repackaging stands in their existing configuration (October 2004). Target Completion Date: 03/31/2005  3. Perform an analysis of FSA fuel packaging equipment to ensure it will perform its intended function for planned fuel movement activities. Target Completion Date: 12-24-2004

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
September 2004	Los Alamos National Laboratory/ Plutonium Proc & Handling Fac	ALO-LA-LANL-TA55-2004-0009 Modification to TA-55 Fire Detection System Results in Positive Unreviewed Safety Question Update (2/18/2005)	Add Second Fire Alarm Wiring Path. Add a second path for fire alarm transmission to the CAS through concentrator 009 in PF-3. Responsible Group/Division FM-TA-55. Target Completion Date: 7-15-05 Completion Date: 04/20/2005  Reconnect PF-10 and PF-11 Fire Alarms to FCS. Use the second wiring path to reconnect the PF-10 and PF-11 fire alarms to the FCS Responsible Group/ Division FM-TA-55. Target Completion Date: 7-15-05 Completion Date: 04/20/2005
September 2004	Oak Ridge National Laboratory	ORO--ORNL-X10HFIR-2004-0014 Pool Floor Structural Loading Calculation Errors (Positive USQ) Update	No further action required. DOE approved operations via a JCO on 9/30/2004.
September 2004	Oak Ridge National Laboratory/ ORNL Nonreactor Nuclear Facilities	ORO--ORNL-X10NUCLEAR-2004-0011 Unreviewed Safety Question for Building 7982 Update	Final. Procedures for staging and handling waste at ORNL non-reactor facilities developed and implemented; 3/30/05.
October 2004	East Tennessee Technology Park/ ETTP S&M & Cylinders	ORO--BJC-K25GENLAN-2004-0013 Determination of a Positive Unreviewed Safety Question Update	Final. Identification of two USQDs and DOE approval of JCO completed. Lessons learned implemented; 3/24/05.
October 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0037 Non-compliance with National Fire Protection Association requirements Initial-Final Issue	Seven corrective actions (four completed) due 4/1/05. These should be recorded as completed in the next update.
October 2004	Hanford Site/ Remedial Action Projects	RL--BHI-REMACT-2004-0015 Potential Inadequacy of the Safety Analysis at the 100 B/C Burial Grounds Remedial Action Project Initial-Final Rev. 1 Issue	Although three corrective actions were scheduled for completion by 1/31/05 (including updating the DSA), neither a revised schedule nor confirmation that action was completed was provided as of this reporting period.
October 2004	Idaho National Engineering Lab./ Advanced Mixed Waste Treatment Fac	ID--BNFL-AMWTF-2004-0024 Positive USQ Reveals Inadequacy in the Documented Safety Analysis Latest Update 5/25/2005	Corrective actions have now been listed. They have target dates as late as June 2005. Some of the CAs involve criticality concerns and should be followed by EH-23.

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
October 2004	Lawrence Livermore National Lab./ Lawrence Livermore Nat. Lab. (BOP)	OAK--LLNL-LLNL-2004-0050 Potential Inadequacy in the Bldg. 332 Safety Analysis Final	Is Further Evaluation Required?: No DSA upgrade to be resubmitted by 10-30-05
October 2004	Lawrence Livermore National Lab./ Lawrence Livermore Nat. Lab. (BOP)	OAK--LLNL-LLNL-2004-0051 Potential Inadequacy in the Bldg. 332 Safety Analysis Final issued on 6-21-05	Is Further Evaluation Required?: No System description will be completed by 10-30-05 for DSA resubmittal.
October 2004	Lawrence Livermore National Lab./ Lawrence Livermore Nat. Lab. (BOP)	OAK--LLNL-LLNL-2004-0053 Potential Inadequacy in the Bldg. 332 Safety Analysis Latest issue 7-25-05	Is Further Evaluation Required?: Yes If YES - Before Further Operation? No By whom? Facility Management By when? 09/30/05
October 2004	Lawrence Livermore National Lab./ Lawrence Livermore Nat. Lab. (BOP)	OAK--LLNL-LLNL-2004-0056 Potential Inadequacy in the Bldg. 332 Safety Analysis Update, latest issue 05-05-05	Is Further Evaluation Required?: Yes If YES - Before Further Operation? No By whom? Facility Management By when? 08-15-05
October 2004	Oak Ridge National Laboratory/ High Flux Isotope Reactor	ORO--ORNL-X10HFIR-2004-0015 New Information on Check Valve Induced Water Hammer (Positive USQ) Update	Is Further Evaluation Required?: Yes If YES - Before Further Operation? No By whom? Safety Analysis Staff By when? Simultaneous operation of all four primary coolant pumps is prohibited by the new administrative controls pending further evaluations; 10/9/04.
November 2004	Hanford Site/ Plutonium RL--PHMC-PFP-2004-0040 Update Finishing Plant	RL--PHMC-PFP-2004-0040 (X/Q)s utilized for analyses of exterior fires may not be appropriate Update	Remaining three corrective actions due for completion by 04/01/05 or earlier. No confirmation these are complete.
November 2004	Hanford Site/ Solid Waste Operations Complex	RL--PHMC-SWOC-2004-0002 USQ:Entrainment Effects in an Outdoor Fire Event Initial-Final Issue	Seven corrective actions identified. All due 4/4/05 or earlier. No indication any were completed. No new completion schedules provided.

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
November 2004	Hanford Site/ Tank Farms	RP--CHG-TANKFARM-2004-0060 Declaration of a Potential Inadequacy in the Safety Analysis Final Issue	The Office of River Protection approved a higher frequency for conducting surveillance of flammable gas generation (TSR Change). No further compensatory actions are required. ORPS Report closed on 2/2/2005.
November 2004	Hanford Site/ Spent Nuclear Fuels Project	RL--PHMC-SNF-2004-0036 Concern Over the Outside Storage of Low Level and CERCLA Waste at 100K Area Initial-Final Issue	1. Revise the KBC Project Authorization Basis to address potential accidents at CERCLA Waste Staging Areas outside of KBC Project facilities. No indication of whether completed.  Target Completion Date: 04/15/2005
November 2004	Los Alamos National Laboratory/ Waste Management	ALO-LA-LANL-WASTEMGT-2004-0009 Unreviewed Safety Question at the Radioassay and Nondestructive Testing (RANT) Facility Update (4/20/05)	Corrective Actions #1 and #2 completed on 3/8/2005 and 4/5/2005 respectively.
November 2004	Oak Ridge National Laboratory/ ORNL Facilities at Y12	ORO--ORNL-X10ATY12-2004-0004 Thorium 230 (Th-230) Quantity Exceeds Facility Classification Final	Final. Plan for interim storage of the Th-230 and its removal from Building 9204-3 to ORNL has been implemented.
December 2004	Hanford Site Generator Services	RL--PHMC-GENSERVICE-2004-0002 Positive USQt Related to the Transportation Safety Document Update	Seven corrective actions identified, latest due date 8/1/05. Remaining six due prior to 4/1/05. No indication any completed, and no revision made to earlier schedule.
December 2004	Hanford Site/ Plutonium Finishing Plant	RL--PHMC-PFP-2004-0043 Documented Safety Analysis doesn't consider effects of vehicle fuel fire Update	Target completion of 2/9/05 for submitting a JCO. Not completed, and no schedule update provided. Two other corrective actions focusing on lessons learned are due 4/29/05.
January 2005	Hanford Site/ Tank Farms	RP--CHG-TANKFARM-2005-0002 Positive Unreviewed Safety Question Determination Declared Due To Concerns With C 200 Series Tanks Exhauster Variable Frequency Drive (USQ) Final	The inadvertent credit for Variable Frequency Drive (VFD) operation resulted in accident consequences "without controls" being below guidelines and therefore, no control (safety structures, systems, and components or Technical Safety Requirements (TSR)) was identified for the filtration failures leading to unfiltered release for accident for 200-Series single shell tank vacuum retrieval systems. Controls are present in the system (e.g., exhaust fan controls systems, VFD speed limit interlocks, High Efficiency Particulate Air Filtration, elevated release through an exhaust stack) but none of these controls was designated safety significant or included in the TSR. Lessons learned to be issued by 6/15/2005.

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
January 2005	Idaho National Engineering Lab/ICPP Fuel Receipt & Storage Act	ID--BBWI-FUELRCTR-2005-0001 Potential Inadequacy in Safety Analysis, Cask Centering Device Update	Revise the safety basis (SAR-112) to ensure that operational limitations concerning the use of the Cask Centering Device are addressed. Target Completion Date: 10/05/2005 Tracking ID: AI 35867  Perform a detailed review to determine if other SAR-112 safety significant SSCs exist that are not adequately analyzed for operating temperature ranges. Target Completion Date: 05/05/2005 Tracking ID: AI 35869
January 2005	Oak Ridge National Laboratory	ORO--BJC-X10WSTEMRA-2005-0001 Update	Discrepancy Between Melton Valley Solid Waste Storage Facilities Documented Safety Analysis and Technical Safety Requirements  Status: Storage of waste in metal containers at the facilities resulted in a positive Unreviewed Safety Question Determination (USQ). Four metal boxes, one 55-gallon drum and one sea-land container were removed from the 7822J pad. The remaining metal box was placed inside a concrete vault in order to comply with the Documented Safety Analysis analyzed conditions, and remains in storage at the 7822J pad.
February 2005	Hanford Site 105K Basin	RL-PHMC-SNF-2005-0002 Concern Over Use of Fuel Trucks at 100K Area - Inadequacy in the Safety Analysis Update	Issue a Justification for Continued Operation (JCO) for using fuel trucks in 100K area. Due 4/2/05.
February 2005	Idaho National Laboratory/Fuels Manufacturing/Fuel Assembly Storage	ID--BEA-TMF-2005-0001 Relative to the Exclusion of Materials In the Vault Storage from Material at Risk Update	Is Further Evaluation Required?: Yes If YES - Before Further Operation? No By whom? Safety Engineering By when?
February 2005	Nevada Test Site, Nuclear Waste Operations/Disposal	NVOO--BN-NTS-2005-0003 Un-vented Drums – USQ Final 3/30/2005	PISA new information number RWMC-NI-2005-001 resulted in a positive. Unreviewed safety question determination (USQD) number RWMC-USQ-2005-27. The reporting criteria, significance category, and occurrence title have been upgraded to reflect the positive USQ determination under the Documented Safety Analysis Inadequacies Group 3B(1)2 criteria. 03/30/2005
February 2005	ORNL/ High Flux Isotope Reactor.	ORO--ORNL-X10HFIR-2005-0004/ Discovery of Second Discrepant Condition in Seismic Analysis Bases Calculation (USQ) Update	Occurrence report ORO-ORNL-X10HFIR-2005-0004 reporting the second PISA was submitted on February 11, 2005. Due to the inability to resolve the additional anomalies in a timely manner, the occurrence was upgraded to a positive USQ on February 24, 2005. A safety evaluation and justification for continued operation of the HFIR was prepared considering the USQ and was approved by DOE-OR on April 1, 2005, with an expiration date of September 30, 2005.

Reported in Month	Site/Facility	ORPS ID No. Title of Occurrence Issue Level	Status
February 2005	Balance of plant infrastructure at ORNL	ORO--ORNL-X10NUCLEAR-2005-0001/ Potential Inadequacy in the Safety Analysis (PISA) for Building 7920 Documented Safety Analysis (DSA) Iodine Retention System Source Term Final	The radiation readings obtained were significantly higher than those experienced during several recent readings when this particular maintenance activity had been performed. This raised some questions as to the quantity of activity present in the hopcalite bed and charcoal filters. A review of the Building 7920 Safety Analysis Report to evaluate all source terms to determine if they reflect current operating conditions is underway. The source term in the charcoal beds is shielded but will be updated.
February 2005	Y12 Nuclear Operations	ORYS-YSO-BWXT-Y12NUCLEAR-2005-0002 Actual Unreviewed Safety Question (USQ) - Excess Material in 9204-4 Final	An evaluation and review of material inventory controls will be conducted for Manufacturing facilities that contain safety basis key assumptions for material limits. The evaluation and review will include recommendations for needed improvements in material inventory control procedures and methods in order to reduce the potential for exceeding safety basis material limits. This will be completed by 7/2005. The report is considered as Final.
March 2005	Hanford Site 209 E Building	RL-PHMC-CENTPLAT-2005-0003 Unreviewed Safety Question (USQ) at 209-E, Nominal Inventory in the DSA Increased by 90g Plutonium Update	Update DSA, revise Fire Hazard Analysis, and determine apparent cause of event. Two corrective actions due 9/1/05 and one 7/1/05.
March 2005	Sandia National Laboratories	ALO-KO-SNL-6000-2005-0004	Is Further Evaluation Required?: Yes If YES - Before Further Operation? No By whom? Causal Analysis Team By when? 05/09/2005
March 2005	Savannah River, Central Laboratories, 772-F	SR--WSRC-CLAB-2005-0002, Positive USQ for Worker Safety Issues, TRU Waste Drums (U)  Initial-Final Issue	Initial-Final Issue. Updated 04-18-05: The reporting criteria was upgraded from 3B(2) to 3B(1), following determination of a positive USQ. Latest Update: 5/5/05: This update is identified as "UPDATE/FINAL" however, final date and time blocks are blank.  06-23-05: Awaiting completion of CA "Revise the JCO to return the TRU drums to SWMF". Tracking ID: 2005-CTS-002653 CA # 1 Target Completion Date: 06/30/2005
March 2005	Savannah River, SWMF/TRU Waste Drums	SR--WSRC-SW&I-2005-0010, Positive USQ for Worker Safety Issues, TRU Waste Drums  Initial-Final Issue	Initial-Final Issue. Final report was issued on 05-26-05.  06-23-05: DOE-SR concurs in this report and the referenced TRU Waste Corrective Action Plan. The positive USQ does not challenge public safety guidelines.



## **Appendix C**

USQ Safety Basis Document Cause Codes

## Unreviewed Safety Questions (USQs) Cause Codes

Potential Unreviewed Safety Questions (USQs) for a facility arise in situations involving events, discoveries, proposed changes in operations to conduct new tests, experiments, D&D, changes in or removal of existing equipment or equipment specifications or introducing new equipment etc., each of which may have safety implications that either are not addressed or are inadequately addressed in the facility's documented safety analysis (DSA), such as: SAR (including SER), BIO, JCO, etc. Any of these situations would trigger a USQ determination process.

Naturally, for a facility without any DSA, virtually every proposed activity in the facility with the potential for an accident constitutes a USQ situation.

There are mainly two types of USQ situations as indicated below:

- A. Potential new accident scenarios that are not analyzed in the DSA
- B. Potential accident scenarios that are not fully analyzed in the DSA and may have
  - potentially higher likelihood of occurring or
  - potentially higher consequences from occurrence of the accident than those estimated in the DSA.

In the following tables, a compilation of causes for the potential USQ situations is developed. A code is assigned to each of these causes for simplicity of tracking.

**Table 1: Type A USQs**

Cause Description	Assigned Code
<b>Nonexistent DSA</b>	A1
<b>Discovery of certain radioactive or other hazardous material in the facility inventory that may cause an event scenario with potential for a radiological release that is not analyzed in the DSA</b>	A2
<b>Recognition of chemical and physical properties of radioactive or other hazardous material in the facility inventory that may cause an event scenario with potential for a radiological release that is not analyzed in the DSA</b>	A3
<b>Mission or procedure change during facility operations or change to facility itself which is not addressed in the DSA</b>	A4
<b>Proposed change in the equipment specifications, removal of equipment, or introduction of new systems or equipment into the facility for change in mission, activity or operating procedure, such as during D&amp;D, new experiments, tests, etc.</b>	A5
<b>Inadequate or missing safety systems or barriers to radioactive material release</b>	A6
<b>Potential accident scenarios missed in the DSA</b>	A7

**Table 2: Type B USQs**

Cause Description	Assigned Code
<b>Accident scenario lacks depth and details: An accident scenario identified in the DSA is not pursued in detail from the initiating event (including its frequency) through: the safety systems response, accident phenomenology and progression, radioactive material behavior, and potential radioactivity release into the work areas inside and to the environment outside of the facility and the consequences of such releases.</b>	B1
<b>Inadequate or flawed analysis (including errors in analysis softwares):</b>	B2.i - xi
i. Seismic, and other natural phenomena and external hazards	
ii. Structural	
iii. Fire	
iv. Criticality	
v. Chemical and/or radiological safety	
vi. Packaging/storage/waste tanks/transportation	
vii. Shielding	
viii. Equipment design, sizing, and qualification specifications	
ix. Airborne exposure pathway to the work areas inside and the environment outside the facility	
x. Liquid exposure pathway to the inside and outside the facility	
xi. Hazards, including explosion, electrical and other	
<b>Deficiencies in programs</b>	B3.i - viii
i. Maintenance (active and passive systems), surveillance, testing, inspection	
ii. Training	
iii. Radiological	
iv. Criticality safety	
v. Fire protection	
vi. Configuration management	
vii. Quality assurance	
viii. Conduct of operation and others	
<b>Equipment malfunction/failure – random failure, maintenance failure (includes safety structure, systems and components, valves, pumps, filters, fans, blowers, resin beds, hardwares, etc.)</b>	B4.i - v
i. Equipment aging, rusting, broken, suspect parts	
ii. Equipment unavailable	
iii. Equipment unreliable	
iv. Equipment out of calibration or alignment (sensors, detectors, meters, CAMs, etc.), interlock non-functional	
v. Others	

**Table 2: Type B USQs  
(continued)**

<b>Incorrect application of Standards, such as STD-1027, STD-3011, STD-3009, DOE-HDBK-3010-94, STD-1120, etc.</b>	B5
<b>Incorrect assumptions in the accident analysis in the DSA</b>	B6.i(a-f) - ii
i. Underestimated source term due to:	
a. Overestimate of credit for packaging/barrier/confinement/waste tank/ESF integrity	
b. Underestimate of Material at Risk (MAR), Damage Ratio, Airborne Release Fraction, Respirable Fraction, Leak Path Factor	
c. Introduction of additional material at risk into, or identification of additional material at risk in the facility, not included in the DSA.	
d. Overestimate of credit for: filter efficiency, clogged filter, saturated resin beds, etc.	
e. Underestimate of spill into the facility or release to the ground or groundwater	
f. Improper binning of source terms, inadequate source term for bounding analysis.	
ii. Underestimate of $\frac{X}{Q}$ and other factors for dose estimates	
<b>Inadequacy of TSR elements that result in undermining or invalidating the assumptions in the DSA</b>	B7.i - ix
i. Safety Limit (SL), Limiting Control Setting (LCS), Limiting Condition of Operation (LCO)	
ii. Interlock configuration, setting, set point, alarm systems.	
iii. Pressure differentials across air- volume compartments for air leakage/flow control.	
iv. Redundancy (established invoking single failure criterion).	
v. Double contingency for criticality safety	
vi. Hazard control/safety systems, system specs, hardwares, operability.	
vii. Administrative controls, surveillance requirements.	
viii. Work procedure.	
ix. Others.	

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Office of Facility Safety (EH-2)  
Office of Environment, Safety and Health  
**Unreviewed Safety Question Activity Report**  
January – March 2005